Glickman	Martin (NC)	Rousselot
Gonzalez	Martin (NY)	Rudd
Gore	Matsui	Russo
Gradison	Mattox	Sabo
Gramm	Mavroules	Santini
Gray	Mazzoli	Sawyer
Green	McClory	Schneider
Gregg	McCollum	Schroeder
Grisham	McCurdy	Schumer
Guarini	McDade	Seiberling
Gunderson	McDonald	Sensenbrenner
Hagedorn	McEwen	Shamansky
Hall (OH)	McGrath	Shannon
Hall, Ralph	McHugh	Sharp
Hall, Sam	McKinney	Shaw
Hamilton	Mica	Shelby
Hammerschmidt	Michel	Shumway
Hance	Mikulski	Shuster
Hansen (UT)	Miller (CA)	Siljander
Harkin	Miller (OH)	Skeen
Hartnett	Mineta	Skelton
Hatcher	Minish	Smith (AL)
Hawkins	Mitchell (MD)	Smith (IA)
Heckler	Mitchell (NY)	Smith (NE)
Hefner	Moakley	Smith (NJ)
Heftel	Molinari	Smith (OR)
Hendon	Mollohan	Snowe
Hertel	Montgomery	Snyder
Hightower	Moore	Solarz
Hiler	Moorhead	Solomon
Hillis	Morrison	Spence
Hollenbeck	Mottl	St Germain
Holt	Murphy	Stangeland
Hopkins	Murtha	Stanton
Horton	Myers	Stark
Howard	Napier	Staton
Hoyer	Natcher	Stenholm
Hubbard	Neal	Stokes
Huckaby	Nelligan	Studds
Hughes	Nelson	Stump
Hunter	Nichols	Swift
Hutto	Nowak	Synar
Hyde	O'Brien	Tauke
Ireland	Oakar	Tauzin
Jacobs	Oberstar	Thomas
Jeffords	Obey	Traxler
Jeffries	Ottinger	Trible
Johnston	Oxley	Udall
Jones (NC)	Panetta	Vander Jagt
Jones (OK)	Parris	Vento
Jones (TN)	Pashayan	Volkmer
Kastenmeier	Patman	Walgren
Kazen	Patterson	Walker
Kennelly	Paul	Wampler
Kildee	Pease	Washington
Kindness	Pepper	Watkins
Kramer	Perkins	Waxman
LaFalce	Petri	Weaver
Lagomarsino	Peyser	Weber (MN)
Lantos	Pickle	Weber (OH)
Latta	Porter	Weiss
Leach	Price	White
Leath	Pritchard	Whitehurst
LeBoutillier	Pursell	Whitley
Lee	Rahall	Whittaker
Lehman	Railsback	Whitten
Leland	Rangel	Williams (MT)
Lent	Ratchford	Williams (OH)
Levitas	Regula	Wilson
Lewis	Reuss	Winn
Livingston	Rhodes	Wirth
Loeffler	Rinaldo	Wolf
Long (LA)	Ritter	Wolpe
Long (MD)	Roberts (KS)	Wortley
Lott	Roberts (SD)	Wright
Lowery (CA)	Robinson	Wyden
Lowry (WA)	Rodino	Wylie
Lujan	Roe	Yates
Lundine	Roemer	Yatron
Lungren	Rogers	Young (AK)
Madigan	Rose	Young (FL)
Markey	Rosenthal	Young (MO)
Marlenee	Rostenkowski	Zeferetti
Marriott	Roth	
Martin (IL)	Roukema	

NAYS—6

Conyers	Emerson	Quillen
Dingell	McCloskey	Taylor

NOT VOTING—38

AuCoin	Carney	Ertel
Beard	Chisholm	Evans (IN)
Biaggi	Clay	Ginn
Blanchard	Collins (TX)	Goldwater
Bolling	Coyne, James	Goodling
Breaux	Dowdy	Hansen (ID)
Broomfield	Edwards (OK)	Holland
Brown (OH)	Erlenborn	Jenkins
Kemp	Richmond	Simon
Kogovsek	Roybal	Smith (PA)
Luken	Savage	Stratton
Marks	Scheuer	Zablocki
Moffett	Schulze	

□ 1145

Mr. RAILSBACK and Mr. COELHO changed their votes from "nay" to "yea."

So the resolution was agreed to.

The result of the vote was announced as above recorded.

A motion to reconsider was laid on the table.

MESSAGE FROM THE SENATE

A message from the Senate, by Mr. Sparrow, one of its clerks, announced that the Senate agrees to the following resolution:

S. RES. 409

That it is the sense of the Senate that the plan submitted on March 26, 1982, by the Secretary of the Interior pursuant to the Indian Judgment Funds Act of October 19, 1973 (87 Stat. 466), for the distribution of judgment funds to the Gros Ventre Tribe of the Fort Belknap Reservation awarded by the Court of Claims in Docket 649-80L be disapproved.

SMALL BUSINESS INNOVATION DEVELOPMENT ACT OF 1981

Mr. LAFALCE. Mr. Speaker, I move that the House resolve itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H.R. 4326) to amend the Small Business Act to strengthen the role of the small, innovative firms in federally funded research and development, and to utilize Federal research and development as a base for technological innovation to meet agency needs and to contribute to the growth and strength of the Nation's economy.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from New York (Mr. LAFALCE).

The question was taken; and the Speaker pro tempore announced that the ayes appeared to have it.

RECORDED VOTE

Mr. CORCORAN. Mr. Speaker, I demand a recorded vote.

A recorded vote was ordered.

The vote was taken by electronic device, and there were—ayes 383, noes 5, not voting 44, as follows:

[Roll No. 156]

AYES—383

Addabbo	Barnard	Bouquard
Akaka	Barnes	Bowen
Albosta	Bedell	Breaux
Alexander	Beilenson	Brinkley
Anderson	Benedict	Brodhead
Andrews	Benjamin	Brooks
Annunzio	Bennett	Brown (CA)
Anthony	Bereuter	Brown (CO)
Applegate	Bethune	Broyhill
Archer	Bevill	Burgener
Aspin	Bingham	Burton, John
Atkinson	Bliley	Burton, Phillip
Badham	Boggs	Butler
Bafalis	Boner	Byron
Bailey (MO)	Bonior	Campbell
Bailey (PA)	Bonker	Carman
Chappell	Hall, Ralph	Mottl
Chappie	Hall, Sam	Murphy
Cheney	Hamilton	Myers
Clausen	Hammerschmidt	Napier
Clinger	Hance	Natcher
Coats	Hansen (UT)	Neal
Coelho	Harkin	Nelligan
Coleman	Hartnett	Nelson
Collins (IL)	Hatcher	Nichols
Conable	Hawkins	Nowak
Conte	Heckler	O'Brien
Corcoran	Hefner	Oakar
Coughlin	Heftel	Oberstar
Courter	Hendon	Obey
Coyne, William	Hertel	Ottinger
Craig	Hightower	Oxley
Crane, Daniel	Hiler	Panetta
Crane, Philip	Hillis	Parris
Crockett	Hollenbeck	Pashayan
D'Amours	Holt	Patman
Daniel, Dan	Hopkins	Patterson
Daniel, R. W.	Horton	Paul
Dannemeyer	Howard	Pease
Daschle	Hoyer	Pepper
Daub	Hubbard	Perkins
Davis	Huckaby	Petri
de la Garza	Hughes	Peyser
Deckard	Hutto	Pickle
Dellums	Hyde	Porter
DeNardis	Ireland	Price
Derrick	Jacobs	Pritchard
Derwinski	Jeffords	Pursell
Dicks	Jeffries	Quillen
Dixon	Jones (NC)	Rahall
Donnelly	Jones (OK)	Railsback
Dorgan	Jones (TN)	Rangel
Dornan	Kastenmeier	Ratchford
Dougherty	Kazen	Regula
Downey	Kennelly	Reuss
Dreier	Kildee	Rhodes
Duncan	Kindness	Rinaldo
Dunn	Kramer	Ritter
Dwyer	LaFalce	Roberts (KS)
Dymally	Lagomarsino	Roberts (SD)
Dyson	Lantos	Robinson
Early	Latta	Rodino
Eckart	Leach	Roe
Edgar	Leath	Roemer
Edwards (AL)	LeBoutillier	Rogers
Edwards (CA)	Lee	Rose
Emerson	Lehman	Rosenthal
Emery	Leland	Rostenkowski
English	Lent	Roth
Erdahl	Levitas	Roukema
Evans (DE)	Lewis	Rousselot
Evans (GA)	Livingston	Roybal
Evans (IA)	Loeffler	Rudd
Fary	Long (LA)	Russo
Fascell	Long (MD)	Sabo
Fazio	Lott	Santini
Fenwick	Lowery (CA)	Sawyer
Ferraro	Lowry (WA)	Scheuer
Fiedler	Lujan	Schneider
Fields	Lundine	Schroeder
Findley	Lungren	Schumer
Fish	Madigan	Seiberling
Fithian	Markey	Sensenbrenner
Flippo	Marlenee	Shamansky
Florio	Marriott	Sharp
Foglietta	Martin (IL)	Shaw
Foley	Martin (NC)	Shelby
Ford (MI)	Martin (NY)	Shumway
Ford (TN)	Matsui	Shuster
Forsythe	Mattox	Siljander
Fountain	Mavroules	Simon
Fowler	Mazzoli	Skeen
Frank	McClory	Smith (AL)
Frenzel	McCollum	Smith (IA)
Frost	McCurdy	Smith (NE)
Fuqua	McDade	Smith (NJ)
Garcia	McDonald	Smith (OR)
Gaydos	McGrath	Snowe
Gejdenson	McHugh	Snyder
Gephardt	Mica	Solarz
Gibbons	Michel	Solomon
Gilman	Mikulski	Spence
Gingrich	Miller (CA)	St Germain
Glickman	Miller (OH)	Stangeland
Gonzalez	Mineta	Stanton
Goodling	Minish	Stark
Gore	Mitchell (MD)	Staton
Gradison	Mitchell (NY)	Stenholm
Gramm	Moakley	Stokes
Gray	Molinari	Studds
Green	Mollohan	Stump
Grisham	Montgomery	Swift
Guarini	Moore	Synar
Gunderson	Moorhead	Tauke
Hagedorn	Morrison	Tauzin

Martin (IL) Roukema

NAYS—6

Conyers Emerson Quillen
Dingell McCloskey Taylor

NOT VOTING—38

AuCoin Carney Ertel
Beard Chisholm Evans (IN)
Biaggi Clay Ginn
Blanchard Collins (TX) Goldwater
Bolling Coyne, James Goodling
Breaux Dowdy Hansen (ID)
Broomfield Edwards (OK) Holland
Brown (OH) Erlenborn Jenkins

Addabbo Barnard Bouquard
Akaka Barnes Bowen
Albosta Bedell Breaux
Alexander Beilenson Brinkley
Anderson Benedict Brodhead
Andrews Benjamin Brooks
Annunzio Bennett Brown (CA)
Anthony Bereuter Brown (CO)
Applegate Bethune Broyhill
Archer Bevill Burgener
Aspin Bingham Burton, John
Atkinson Bliley Burton, Phillip
Badham Boggs Butler
Bafalis Boner Byron
Bailey (MO) Bonior Campbell
Bailey (PA) Bonker Carman

Gibbons Michel Solomon
Gilman Mikulski Spence
Gingrich Miller (CA) St Germain
Glickman Miller (OH) Stangeland
Gonzalez Mineta Stanton
Goodling Minish Stark
Gore Mitchell (MD) Staton
Gradison Mitchell (NY) Stenholm
Gramm Moakley Stokes
Gray Molinari Studds
Green Mollohan Stump
Grisham Montgomery Swift
Guarini Moore Synar
Gunderson Moorhead Tauke
Hagedorn Morrison Tauzin

Taylor	Weaver	Wolf
Thomas	Weber (MN)	Wolpe
Traxler	Weber (OH)	Wortley
Trible	Weiss	Wright
Vander Jagt	White	Wyden
Vento	Whitehurst	Wylie
Volkmer	Whitley	Yates
Walgren	Whittaker	Yatron
Walker	Whitten	Young (AK)
Wampler	Williams (OH)	Young (FL)
Washington	Wilson	Young (MO)
Watkins	Winn	Zeferetti
Waxman	Wirth	

NOES—5

Conyers	Johnston	Shannon
Dingell	McCloskey	

NOT VOTING—44

AuCoin	Edwards (OK)	Marks
Beard	Erlenborn	McEwen
Biaggi	Ertel	McKinney
Blanchard	Evans (IN)	Moffett
Boland	Ginn	Murtha
Bolling	Goldwater	Richmond
Broomfield	Gregg	Savage
Brown (OH)	Hall (OH)	Schulze
Carney	Hansen (ID)	Skelton
Chisholm	Holland	Smith (PA)
Clay	Hunter	Stratton
Collins (TX)	Jenkins	Udall
Coyne, James	Kemp	Williams (MT)
Dickinson	Kogovsek	Zablocki
Dowdy	Luken	

□ 1200

So the motion was agreed to.

The result of the vote was announced as above recorded.

IN THE COMMITTEE OF THE WHOLE

Accordingly the House resolved itself into the Committee of the Whole House on the State of the Union for the consideration of the bill, H.R. 4326, with Mr. BRODHEAD in the chair.

The Clerk read the title of the bill.

The CHAIRMAN. Pursuant to the rule, the first reading of the bill is dispensed with.

The gentleman from New York, Mr. LAFALCE, will be recognized for 30 minutes, and the gentleman from Pennsylvania, Mr. MCDADE, will be recognized for 30 minutes, and the following Members for 15 minutes each:

The gentleman from Georgia, Mr. MCDONALD;

The gentleman from Alabama, Mr. DICKINSON;

The gentleman from Michigan, Mr. DINGELL;

The gentleman from North Carolina, Mr. BROYHILL;

The gentleman from New York, Mr. BINGHAM;

The gentleman from California, Mr. LAGOMARSINO;

The gentleman from Florida, Mr. FUQUA;

The gentleman from Kansas, Mr. WINN;

The gentleman from Mississippi, Mr. MONTGOMERY;

The gentleman from Arkansas, Mr. HAMMERSCHMIDT;

The gentleman from Massachusetts, Mr. BOLAND; and

The gentleman from Virginia, Mr. ROBINSON.

The Chair will attempt to reach the committees engaging in general debate in the order listed, but will at the same time attempt to accommodate Members who cannot be present when called.

The Chair recognizes the gentleman from New York (Mr. LAFALCE).

Mr. LAFALCE. Mr. Chairman, I yield myself 5 minutes.

(Mr. LAFALCE asked and was given permission to revise and extend his remarks.)

Mr. LAFALCE. Mr. Chairman, today the House has before it landmark legislation that has the support of the current administration, the past administration, all Federal agencies, 90 Senators, 200 House Members, and the small-business and high-technology communities. This legislation is the Small Business Innovation Development Act.

This bill has such universal support because it is needed now. The United States faces its most serious economic crisis since the Great Depression. Unemployment stands at more than 10 million—the highest level in over 40 years. Our basic industries that sustained us for so long are collapsing and have lost their ability to compete and create new jobs. Productivity has fallen dramatically. Even the high-technology sector, the one bright spot in our economy, finds it difficult to keep ahead of the Japanese, our main challenger.

Most serious of all, we are losing our ability to innovate. Many scientific, technological, and economics experts warn that our ingenuity and our ability to capitalize upon scientific findings and create new technologies that lead to new products is faltering.

We cannot afford to lose our ability to innovate. If we lose that, we lose our ability to increase U.S. productivity; we lose our ability to maintain U.S. technological preeminence; we lose our ability to create many of the 20 million new jobs essential for a full employment recovery; we lose our ability to compete in world markets; and we lose our ability to prevent permanent damage to our economy and society.

We do not have time to waste. The Japanese realize that the only way to sustain their economic miracle is to move from being master imitators to being master innovators. Innovation is one of the few areas where we still are a world leader. The Japanese Government has embarked on a major program to stimulate scientific innovation. To accomplish that, it has set upon a policy of sharp increases in research and development spending. It is also consolidating physically some of its research in order to improve efficiency. Japanese companies, too, are increasing their R. & D. efforts, especially in such industries as electronics.

We must act, and act now, if we are to preserve our position as the world's leading innovator. The action we must take is before us today—the Small Business Innovation Development Act. This bill will tap the innovation and job creation abilities of the tens of thousands of small-science and high-technology firms in our nation.

Their record is impressive. The National Science Foundation has found that small-science and high-technology firms produce 24 times as many major innovations per R. & D. dollar as large firms, and four times as many as medium-sized firms. Gellman Associates reports that small firms are 2½ times more innovative per employee than large firms and bring innovations into the market sooner. Yet it finds that large firms are nearly three times as likely to receive assistance from public funds for their innovative efforts than small companies.

Other studies show that small business created many of the millions of new jobs that put a record number of people to work in the last decade. Moreover, new high-technology firms have an average annual employment growth rate of 30 percent.

Clearly, small-science and high-technology firms are the most cost-effective generators of innovation and the most prolific creators of new jobs in our economy. These small companies are an essential element if we are to revitalize our economic and technological base. They are a resource that we have no choice but tap at this critical time.

This is easier said than done. For there are many obstacles which make it difficult to fully utilize this resource. One obstacle is capital. Many small-science and high-technology firms find it difficult to raise the funds not only to get started, but to develop their new ideas and then take them to the marketplace. Venture capital and tax breaks simply do not help these firms. Fledgling firms have neither the management team nor a demonstrated capability or feasibility that can be assessed. Nor do they have profits that can be written off on taxes. All they have is an innovative idea.

The second obstacle is government. Federal R. & D. agencies have long neglected and ignored small-science and high-technology firms. A study by the Office of Management and Budget's Office of Federal Procurement Policy concluded that only 3.5 percent of total Federal R. & D. funds go to small firms despite the fact that they are such cost-effective innovators. The National Science Foundation reports that although 85 percent of all U.S. companies conducting R. & D. are small firms, these firms receive only 2 percent of Federal R. & D. funds going to industry.

A recent study by the Research and Planning Institute of Cambridge, Mass., on the growth of innovative high-technology companies reported that small firms are unable to receive basic research support from agencies like the National Institutes of Health and the National Science Foundation. "In fact," the report said, "their ideas are not even given a fair hearing * * * While most people were in favor of Government support of basic research,

MONTGOMERY;

The gentleman from Arkansas, Mr. HAMMERSCHMIDT;

The gentleman from Massachusetts, Mr. BOLAND; and

The gentleman from Virginia, Mr. ROBINSON.

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there was resentment that in those cases where a profit-making business could do the work better than another institution at no additional cost, it still was denied the opportunity to do so."

The third obstacle is largeness. Prof. Walter Adams, a distinguished economist and former president of Michigan State University, recently warned of the dangers of industrial giantism. His comments apply to universities too. Let me quote Professor Adams:

Industrial giantism, whether or not accompanied by monopoly power in specific markets, is not benign and therefore cannot be ignored. At the very least, it breeds an arrogance of power which ultimately causes those who wield it to lose touch with reality—to their own detriment and the detriment of the society they are supposed to serve. It also tends to divert entrepreneurship from risk-taking, investment, research and development, productivity enhancement, and market expansion into efforts to manipulate the state for protectionist ends. It transforms the firm from an economic organism seeking to maximize profits by excelling in the marketplace into a quasi-political institution seeking the quiet life in "orderly markets" protected and guaranteed by the state.

The strength of America's scientific and economic system has been its openness. We need this openness even more today if we are to overcome our serious economic problems.

More important, we need a mechanism to insure that the Federal Government fosters that openness by fully utilizing the unique ability of small businesses to generate innovation.

The Small Business Innovation Development Act is that mechanism. It mandates that all Federal agencies with R. & D. budgets of more than $100 million a year establish Small Business Innovation Research programs to develop innovative products and ideas. These programs would be funded by earmarking a very small percentage of each agency's R. & D. budget that goes for extramural R. & D. That budget totaled $30.3 billion for fiscal 1982. The earmarking will start with a mere two-tenths of 1 percent in the first year, rising to 1¼ percent in the fourth year. The Defense Department will have a 5-year phasein that begins with one-tenth of 1 percent.

The program will have three phases. Under phase I, the most technically and economically feasible proposals would be awarded grants of up to $50,000 to perform feasibility studies. Those projects which demonstrate their technical and economic viability could then qualify for phase II awards of up to $500,000. Commercialization of the results would be left entirely to the private sector in phase III.

Unlike other Government R. & D. programs, this one will rely on ideas generated in the private sector rather than on specific projects requested by Government agencies. The grants will be awarded strictly on a competitive basis and will go only to ideas of scientific and technical merit. All of these requirements are spelled out in the act.

The legislation also would require Federal agencies with annual R. & D. budgets of more than $20 million to establish small business R. & D. goals. These goals would not be less than the percentage of the total R. & D. funds awarded to small businesses in the preceding year. The bill clearly states that SBIR programs could be counted toward meeting these goals.

WHAT THE SMALL BUSINESS INNOVATION DEVELOPMENT ACT WOULD DO

The bill contains congressional findings: That technical innovation contributes to job creation, increased productivity and economic growth, and that small business is a major source of innovation when compared to large business, universities, and Government-owned laboratories; that there is a disproportionately minor involvement of small business concerns in federally funded research and development; and that it is in the national interest to strengthen the role of small business in innovation and commercialization of innovations derived from Federal R. & D.

The bill's stated purpose is to increase the efficiency of federally funded R. & D. by providing a long-needed mechanism—the small business innovation research program—to enable agency personnel to tap the resources of small, innovative firms; to facilitate the conversion of federally funded research results into commercially viable products and services; and to increase the share of the Federal R. & D. budget awarded to small businesses.

1. CHARACTER OF THE SMALL BUSINESS INNOVATION RESEARCH PROGRAM

The key element in the effort to stimulate the innovative potential of small-science and high-technology companies is the small business innovation research program that Federal agencies with large R. & D. budgets would be required to establish.

The agency SBIR programs are to be modeled on the highly successful small business innovation research program at the National Science Foundation. The general approach of the NSF program has already been adopted by the Department of Defense in its small business advanced technology program. The program also has been endorsed by Presidents Carter and Reagan. As a matter of fact, the Reagan administration reaffirmed its support in writing for the Small Business Innovation Development Act.

The application of the SBIR programs to Federal agencies is straightforward. Any agency whose total R. & D. budget exceeds $100 million annually would be required to establish a program to assist small business in obtaining a more equitable share of Federal R. & D. expenditures. The bill would use the same definition of "research" and "research and development" that is used in the Office of Management and Budget Circular A-11, section 44. This is the definition agencies currently use in reporting to OMB.

The bill would define Federal agency in a way that differs from that used for other Small Business Administration programs. The committee feels that a separate definition is necessary to insure that the broadest application of "agency" with title 5 of the United States Code would be used. In addition, the bill would provide that work under SBIR programs may be conducted through contracts, grants, or cooperative agreements.

A. PROGRAM PHASES

The bill defines the small business innovation research program and describes the program's three phases. For purposes of this bill, language describing the first phase of the SBIR program has been changed from requiring phase I proposals to be evaluated according to "technical and economic feasibility" to requiring that they be judged principally upon their "scientific and technical merit." Phase I is often too early to accurately evaluate economic feasibility in R. & D. efforts. Phase II, however, can introduce both technical and economic feasibility for Government needs. Further, the commercial potential of proposals is assessed effectively at the second phase through the follow-on funding commitment.

The most scientifically and technically feasible proposals would be awarded small grants ($30,000-$50,000) in phase I to fund a feasibility research or R. & D. effort. Those projects judged most promising in the first phase could then qualify for a second phase of funding (which currently ranges from $100,000-$500,000). Not only does the Federal Government obtain the free use of any invention developed, but it also obtains tax revenue resulting from commercialization of any such patented invention by the R. & D. recipient.

Commercialization of the results of the R. & D. would be left in most cases to the private sector under phase III. The definition of the third phase was changed to clarify the committee's intent that commitments for follow-on private funding to pursue commercial applications receive extra consideration in the evaluation process. The Committee also wanted to clarify its intent that follow-on production contracts may be competitively procured, and added language to this effect.

B. EARMARKED FUNDING

The bill does not authorize or require that any new Federal money be authorized for these programs. Rather, 0.2 percent in the first fiscal year, 0.6 percent in the second fiscal year, 1 percent in the third fiscal year, and 1.25 percent in all subsequent fiscal years of every qualifying agency's R. & D. budget, other than defense, would be reallocated to fund the agency's SBIR program. For the Defense Department, the phase in

could then qualify for phase II awards of up to $500,000. Commercialization of the results would be left entirely to the private sector in phase III.

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period would last for 5 years, starting at 0.10 percent in the first year, followed by 0.30 percent in the second year, 0.50 percent in the third year, 1.00 percent in the fourth year, and reaching the 1.25 percent maximum in the fifth year. The following chart sets out Federal R. & D. expenditures estimated for fiscal 1982 and the funding for each agency's SBIR program:

1982 RESEARCH AND DEVELOPMENT BUDGETS

[Dollars in millions]

	Total	Inhouse	Extramural	1¼ percent SBIR (extramural)
Defense	$21,523	$5,586	$15,937	199.2
NASA	6,017	1,381	4,636	58.0
Energy	4,690	367	4,323	54.0
HHS	4,169	894	3,275	40.9
(NIH)	(3,571)	(650)	(2,921)	(36.5)
NSF	1,000	82	918	11.5
Agriculture	860	563	297	3.7
Transportation	404	134	270	3.4
Interior	398	272	126	1.6
EPA	303	113	190	2.4
Commerce	288	242		
Nuclear Regulatory Commission	225	19	206	2.6
Veterans' Administration	153	151		
AID	151	8	[1] 143	0
Total	40,181	9,812	30,321	377.3

[1] Excluded from program as AID falls below $100 million threshold due to compromise * * *.

Note.—Senate 881 affects 6 agencies (Defense, NASA, Energy, HHS, NSF and Agriculture) with an SBIR program level of approximately $293 million. House Small Business Committee proposed compromise would include these 6 and 4 more (Transportation, Interior, EPA and Nuclear Regulatory Commission) with an SBIR program level of approximately $377.3 million.

The committee believes that a statutory allocation is essential if Federal SBIR programs are to succeed. The committee feels that there is ample flexibility in each agency's R. & D. budget to target the required percentage of their funds to implement the SBIR programs. It is left to the agencies' discretion to decide which funds to use for this purpose. However, the committee expects agencies to exercise this discretion in a manner that will not result in significant disproportionate taxing of any componment of the R. & D. budget. For example, concern has been expressed that basic research may, in some instances, be required to bear a greater share of the burden of funding SBIR programs. It is the committee's intent that this not occur, and it has consequently included a provision which limits to only 1.25 percent the SBIR share that can come from basic research funds. I should add that OMB's analysis for fiscal year 1982 and 1983 reflects a 9-percent increase in basic research obligations.

In order to insure that allocation of funds to SBIR programs does not lead to reduction in current levels of small business R. & D. funding agreements with the agency, the bill specifies that funding agreements with small businesses resulting from competitive or single-source selections other than under an SBIR program shall not be counted as meeting any portion of the percentage requirements set forth in the bill for overall agency R. & D. funding awards to small business.

2. FUNCTION OF THE AGENCIES

The bill includes several provisions that give Federal agencies the flexibility needed to design and operate their SBIR programs within the context of a Government-wide format. The following are examples of how the committee expects that this flexibility will be applied:

Agencies are given full discretion to decide the R. & D. topics they want to include in their SBIR programs. In outlining those topics, the committee expects that emphasis will be on describing agency needs and any controlling parameters rather than any specific or design approach to the problem to encourage innovative and more effective solutions.

While each agency is allowed to set the release dates of its own SBIR program solicitations, the committee expects the agencies to coordinate the release of these solicitations with SBA and other agencies conducting SBIR programs so as to maximize small business opportunities to participate in these programs. The committee recommends that the major procuring agencies, such as the Departments of Defense, Energy, and Health and Human Services, and the National Aeronautics and Space Administration, conduct more than one solicitations annually due to the size of their budgets—such as quarterly for DOD and semi-annually for the other three major agencies.

Agencies should also attempt to disseminate these solicitations as broadly as possible in order to promote maximum participation in the SBIR programs.

Although the bill requires each qualifiying agency to administer its own SBIR funding agreements or to delegate such administration to another agency, the committee expects that delegation will occur only where it would facilitate the cost-effective accomplishment of the goals of the bill.

Agencies are given the flexibility to establish their own payment schedules for SBIR funding agreements and to consider the cash flow needs of recipients in making the payments.

3. COORDINATION OF AGENCY SBIR PROGRAMS

A. ROLE OF SBA AS LEAD AGENCY

The bill provides for the establishment of uniform policy directives for the general conduct of SBIR programs within the Federal Government. The Small Business Administration is required to establish these directives within 120 days of the enactment of the bill, but only after consultation with the Administrator of the Office of Federal Procurement Policy, the Director of the Office of Science and Technology Policy, and the Intergovernment Affairs Division of the Office of Management and Budget.

SBA's primary function is to insure that the needs of small science and technology-based firms are protected. The consultation process, overseen by SBA, is essential to insure that the directives are based upon a well-informed understanding of the requirements for improving the excellence of federally funded R. & D. and upon a sensitivity to ongoing efforts to insure uniformity throughout Federal contracting, grants, and cooperative agreement procedures under the Office of Federal Procurement Policy Act, Public Law 95-507, and the Federal Grants and Cooperative Agreements Act (Public Law 95-244).

SBA's role in issuing the policy directives is essential to insure uniformity in the operation of the SBIR programs. Such uniformity is important to facilitate participation by small businesses in the program. The agency has been given this coordinating and supervisory function as it has had almost 30 years of small business Federal procurement experience, which means that SBA is sensitized to the needs of both the small business concern and the procuring agency.

B. ROLE OF OSTP

The primary responsibility of the Office of Science and Technology Policy is to insure that the quality of Federal R. & D. is protected. The committee does not intend that OSTP actually audit agencies conducting SBIR programs but rather that it review the reports on the SBIR programs submitted by the agencies.

C. AGENCY REPORTING

OSTP and SBA would report to Congress not less than annually to allow Congress to oversee the SBIR programs and have the opportunity to make improvements when necessary.

D. POLICY DIRECTIVES

The policy directives are designed to facilitate participation by small business in SBIR programs and to insure that only the highest quality R. & D. is conducted. Policy directives are to include, but are not limited to, the following:

A uniform solicitation format. The committee expects agencies to make every effort to adopt, in as timely a manner as possible, uniform program solicitations including standardized formats for submissions of phase I and phase II proposals.

Timely receipt and review of proposals. This is essential if the SBIR programs are to achieve the goals of the bill. The committee therefore recommends that no more than 6 months elapse between the deadline for the receipt of phase I proposals and the granting of SBIR awards, and no more than 6 months pass between the completion of phase I funding agreements and the funding of phase II proposals.

Outside peer review. The committee urges agencies to use outside peer review for both phase I and phase II proposals where appropriate. At the very least, agencies should adhere to their existing review standards, provided they do not fundamentally discriminate against small business applicants, in evaluating the type of R. & D. which will be funded under phase I.

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Where these review standards include outside peer review, utilize them for phase II as well.

Protection of proprietary information. Where existing agency procedures provide such protection, they should be applied in SBIR programs as well. Where current procedures do not provide adequate protection, at the very least the agencies should be required to hold confidential, clearly labeled proprietary information provided in proposals and reports for an extended period of time so that the proposer may seek patent protection where appropriate.

Selection of awardees under SBIR programs. The committee expects that the directives will harmonize with the requirements that SBIR proposals be reviewed and received in a timely manner and complement the efforts to establish a single, simplified procurement policy.

Protection of data generated by small business in the performance of funding agreements. For many years it has been the practice of the Federal Government in awarding R. & D. grants to nonprofit organizations to require periodic and final performance reports, or both. However, detailed technical data and information which is unnecessary to an understanding of the scientific findings disclosed in the performance reports has not been required. This practice is consistent with the theory of grants embodied in the Federal Grants and Cooperative Agreements Act (Public Law 95-244) in that the performance report is intended to explain the results of the research without burdening the grant recipients with the administrative requirements of maintaining and delivering technical information which is of little or no value to the Government. Further, to the extent that such technical data may gain some value in the commercial marketplace, the committee believes that its possession by the grant recipient would be more likely to result in its ultimate use than its possession by the Government. This is also consistent with the general view that grants are often awarded for the purpose of meeting a public need rather than for obtaining a service or product for Government use.

While past practices support only the submission of performance reports as a condition of a grant, in some circumstances a contract may require the negotiation and delivery of technical data generated in performance of the contract. Where such information is necessary for an agency to fulfill its mission through the purchase of services or a product through competitive procurement, the committee urges that this information be kept confidential by the agency and under no circumstances disclosed to competitors of the sudmitting company or use the information to produce future technical procurement specifications which would harm the small business which discovered and developed the innovative product, process, or idea. This practice is consistent with the theory of contracts embodied in the Patent Trademark Amendments of 1980 and the Federal Grant and Cooperative Agreement Act of 1977, Public Law 95-224, in that the acquisition of technical data and its future use is intended to directly benefit the Federal Government.

It is the committee's expectation that the requirement to submit technical data will be used very sparingly and that this approach will be reflected in the directives.

Transfer of title of property provided by an agency to a small business concern under the funding process where such transfer would be more cost effective than the recovery of the property by the agency. Under current procedures, the transfer of property provided by agencies for purposes of extramural research and development tends to be limited to funding agreements with nonprofit entities. The committee recognizes the basic validity of this approach and believes that, in most instances, profit-seeking organizations should bear the costs associated with the market-related activities. However, the reclamation of property provided to profitmakers has not always been cost effective for the Government. For this reason, the committee strongly believes where the Federal Government can purchase new equipment for the same amount or less than the cost of recovering equipment provided to small businesses under SBIR programs, that title should be transferred to small businesses.

Cost principles. In contrast with many large-profit and non-profit institutions which often achieve "economies of scale" by participating in several Federal programs at one time, small businesses tend to focus on a single contract with a correspondingly greater overhead. For this reason, cost principles established for SBIR programs should take into account the importance of providing full and adequate remuneration for R. & D. services provided to the Federal Government.

Exemptions from policy directives in circumstances where an agency's national security or intelligence functions clearly would be jeopardized. To assure that our national security interests are not compromised, the committee has explicitly exempted the Central Intelligency Agency, the National Security Council, and the Defense Intelligence Agency from compliance with the SBIR requirements. For all other agencies, the committee expects that the Administrator of the Small Business Administration will require clear and convincing evidence of such jeopardy before granting an exemption.

4. SMALL BUSINESS R. & D. GOALS

The bill requires all Federal agencies with R. & D. budgets exceeding $20 million a year beginning in fiscal 1982 to unilaterally establish goals for funding agreements for R. & D. with small business. These goals shall not be less than the percentage of the total R. & D. funds awarded by the agency to the small businesses in the preceding fiscal year.

The committee expects that this new requirement will lead to steady and significant increases in the percentage share of each agency's R. & D. budget received by small businesses. The committee recognizes that Public Law 95-507 requires Federal agencies to establish annual goals for total dollars going to small business. However, the committee is concerned that small businesses' share of agency R. & D. awards remains at a very low figure—4 percent—and that the more specific requirement in the bill targeted at R. & D. awards is essential. As with the other goals, the committee would expect the new goals would be set in a timely fashion, certainly no later than 120 days after the date of enactment.

High technology, innovative small businesses have been found not only to provide some of the greatest advances in the country's technology base but to be the most cost-effective innovators. We have seen over the past three decades that small, high-technology companies, free of the bureaucratic fetters and institutional inertia of larger enterprises, have been the generators of most pioneering innovations. Their involvement in the innovation process is greatest at the earliest and riskiest stage and in what initially appears to be small markets, but this is where major new breakthroughs are often made. Promoting the involvement of the small business sector in R. & D., and specifically in federally funded efforts, can provide significant benefits to Government R. & D. and the economy at virtually no additional cost. It is time to take that initiative.

Directing a larger share of Federal R. & D. to small firms also increases needed competition in Federal R. & D. The resulting private sector benefits may also increase such competition in the marketplace. Both should benefit the public and stimulate innovation.

These changes in Federal R. & D. policy would help achieve several important social and economic goals. The goals include increased productivity, job creation, new products for export, and the generation of significant additional tax revenues without an increase in price or in Federal spending. We believe the SBIR program will increase the Nation's return on investment from federally funded research and development, and this statement is based on fact, not wishful thinking.

The Small Business Committee has every reason to believe that the multiagency SBIR program will be every bit as successful as the one being currently administered by the National Science Foundation. Using that program as a model, it is noteworthy that

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NSF awarded $5 million to small technology firms in its first SBIR solicitation. These firms have since generated more than eight times that amount—$41 million in follow-on private funding to pursue commercial applications from the Government research. The total number of jobs with firms that received follow-on private funding has increased by more than 300 percent, more inventions have been made, and new products have been introduced in the marketplace. All of these accomplishments have been achieved at almost no additional cost to the Government, since Federal funds were spent solely on NSF's research program objectives.

Multiply this effect by 75 times, as this bill would do, and we will see a major stimulant to new products, job creation, competition, and innovation.

SMALL BUSINESS COMMITTEE SUBSTITUTE AMENDMENT

The Small Business Committee reported a bill that it felt was strong and would result in a meaningful program. However, arguments have been raised against the original version. The committee has always been reasonable in listening to those who have concerns. It wants to fashion a bill that can attract the broadest support. In the interest of harmony, the committee unanimously adopted a substitute amendment on May 18 that addresses many of the concerns expressed and includes many of the suggestions for modifications that would strengthen the legislation. The substitute would:

First, reduce the percentage required in the program. The revised percentages would be: 0.20 percent in the first year; 0.60 percent in the second year; 1 percent in the third year; and 1.25 percent in the fourth and all subsequent years; except that an agency with an annual R. & D. budget in excess of $10 billion; namely, Defense would be phased in over 5 years: 0.10 percent in the first year; 0.30 percent in the second year; 0.50 percent in the third year; 1 percent in the fourth year; and 1.25 percent in the fifth and all subsequent years.

Second, exclude in-house R. & D. from the base against which the percentages are applied.

Third, prohibit any agency from including more than the stated percentages of basic R. & D. in the program.

Fourth, exclude intelligence agencies from the program—CIA, the National Security Agency, and the Defense Intelligence Agency.

Fifth, exclude AID international research centers and grants to foreign governments from the base against which the precentages are applied.

These changes being H.R. 4326 closer to the Senate version of the innovation bill, while keeping the bill much simpler and more direct than the Senate bill. This is an eminently reasonable compromise that we feel all can support in the interest of strengthening American research and development efforts.

We already know what the small business innovation research program will do. The National Science Foundation has had its own small business innovation research program for 6 years, which has had impressive results. The 21 firms that received $5 million in the first two phases of the NSF program today have attracted $41 million in follow-on private capital to develop their ideas. That translates into $8 of private investment for $1 of Government investment. The grants were for such important work as laser optics, genetics, agricultural, drilling, and robotics research. This is just the type of leverage that is needed to expand limited Government resources. This also demonstrates what small firms can contribute.

Everyone agrees that the SBIR concept works. The House Science and Technology Oversight and Science, Research, and Technology Subcommittees hailed the NSF program as "an outstanding example of how a Federal agency can encourage and promote innovation." They recommended, after exhaustive hearings in 1980, that "Federal agencies should examine NSF's SBIR program and implement similar types of programs which comport with their needs."

A report by the General Accounting Office last year found that small business innovation research programs meet all the criteria for innovation to occur.

The Department of Defense recognizes the importance of SBIR programs, and last year established its own SBIR program, which it calls the defense small business advanced technology program (DESAT). DOD said in its program solicitation:

Recognizing that small business has an established record for innovation, the DOD is interested in increasing the participation of this important national resource in DOD research and development to meet national defense needs. . . . The DESAT program seeks to increase the incentive and opportunity for small firms to undertake high-risk research and development that has a high potential payoff if successful.

The Small Business Innovation Development Act deliberately uses the NSF small business innovation research program as its model. The key attribute of this program—the attribute that has made it such a striking success—is that it has the same flexibility and openness that has allowed small science firms to be so creative and productive.

Ordinarily, this bill would pass quietly. But that is not to be the case because of the opposition of the administrators of a few large universities and a lone trade association that is dominated by big companies. They have taken it upon themselves to wage a relentless campaign of misrepresentation and innuendo against the bill. They know that they cannot defeat the bill if the issue is stimulating innovation and tapping the most effective generators of innovation.

Let me take a few moments to review the arguments raised against the Small Business Innovation Development Act.

ARGUMENTS

1. BASIC RESEARCH

It is alleged that the Small Business Innovation Development Act is a raid on basic research and will undermine excellence in science.

The fact is that basic research is an amorphous term that has been much misused in the debate over the bill by those who want to protect the status quo.

The National Science Foundation said the following on basic research in its Science Indicators 1980 report:

There is not always a clear distinction between "basic" and "applied" research. A particular research effort may be identified as "basic" or "applied" depending on whether the classification is made by the research sponsor, by the performing organization, or by the individual performing the work.

I want to emphasize that there is no inherent conflict between basic research and a small business innovation research program. In fact, all the testimony I have seen clearly demonstrates that they complement one another and that SBIR programs enhance public support for scientific research.

Listen to Dr. Arthur Obermayer, a prominent chemist who is a member of the Advisory Council of the National Science Foundation:

In the long run this legislation will lead to significantly increased support for basic research at universities. This bill is designed to focus on the linkage between basic research and practical application. This linkage. . . we call innovation. . . . The public supports basic research at universities because it expects that it will ultimately benefit mankind, and it is the innovative entrepreneur who is best at converting the laboratory curiosity into a product or process that will benefit mankind. When the government invests in academic research without the corresponding support for technology transfer and small business innovation, it is doing a disservice to academia and society as a whole because it is not providing the mechanism for eventual public utilization.

Paul Grey and Derek Bok, the presidents of the Massachusetts Institute of Technology and Harvard University, respectively, stress the need to transfer the results of research from the laboratory to the marketplace. Paul Grey, said:

Creative thought does not in itself insure the transfer of invention to the world in a useful way. Consequently, it is important that we continue to foster cooperative activities between universities and industry that will help assure the vitality of important research progress, the rapid and effective transfer of new technologies and the relevance of educational programs to important problems in society.

Derek Bok wrote in his annual report to Harvard's Board of Overseers last year:

We must work harder at the process referred to somewhat clumsily as technology transfer. . . . Academic officials and scientists are certainly aware that massive feder-

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al appropriations for campus-based research are largely based on the conviction that this work will eventually lead to practical results. Hence, it is only prudent for universities to take serious interest in the process of translating scientific knowledge into commercial uses.

The Small Business Committee appreciates the concerns fo those who feel that Federal support for basic research may be affected by the Small Business Innovation Development Act. We do not feel that will be the case, but we support an amendment to the bill that would limit the amount of funds that could be taken from basic research programs to the overall percentage amount earmarked to support SBIR programs. This is known popularly as the Schmitt amendment.

2. LIFE SCIENCES

It is alleged that there is not a sufficient number of qualified small science and high technology firms to fully utilize funds for small business innovation research programs.

The fact is that there are many qualified small science and high technology firms. Listen to Richard DiCicco, president of Technology Catalysts, a company in the business of matching up large companies with small high technology research firms. This one company alone has developed a data base which shows 2,636 small high technology firms in the life sciences field. They are divided into the following categories: 144 in biomedical engineering; 162 in biochemistry; 168 in pure cancer research; 164 in cell biology; 173 in genetics; 206 in immunology; 211 in medical electronics and instruments; 180 in molecular biology; 157 in nutrition; 295 in pharmacology; 109 in recombinant DNA; 195 in toxicology; 55 in tumors; 198 in virology; and 291 in other categories. All of these are critical areas of research that will be at the cutting edge of technology and science in this decade.

In contrast, Mr. DiCicco found on the basis of inquiries to the Department of Health and Human Services that "the total mailing list for HHS bids by small business for basic research grants is less than 100 firms." When one small business can develop a high technology resource list over 2,600 firms and a massive Federal department can only find fewer than 100 firms, the need for a mandatory SBIR program becomes readily apparent, as well as demonstrating that there are thousands of firms eligible and qualified to participate in such a program.

3. NIH AND SMALL R. & D. FIRMS

It is alleged that NIH is doing everything possible to increase funding of R. & D. at small high-technology firms.

The facts are that on June 28, 1978, the NIH small business specialist stated in a memorandum to the Director of Contracts and Grants at NIH:

> New vigor can be added to the NIH research program by eliminating some of the barriers which have tended to be an inhibiting factor and by taking some new initiatives to stimulate this sector of the economy.

Among the barriers facing small firms highlighted were: Exclusion of small firms from NIH grants, the predominate NIH award instrument for research; a lack of policies and procedures to facilitate the submission and evaluation of unsolicited proposals; the denial of independent research and development work costs as an allowable cost for reimbursement under NIH contracts; the lack of any set-asides for small firms; and preclusion of small firms from receiving advanced payments under NIH letters of credit even though nonprofit institutions could receive such payments. In an August 2, 1978, memorandum to the Director of NIH, the contract specialist for the Contract and Evaluation Branch, Division of Contracts and Grants, Office of Administration, NIH, also noted these obstacles and stated:

> It is not enough to say that there is not a strong base of profit-making concerns engaged in biomedical research from which to draw. It is HEW/NIH policy which has actually erected barriers to the federal acquisition of research from profit-making concerns.

Although NIH recently opened up its competition for grants to for-profit firms, HHS Secretary Schweiker certified in connection with the new regulation: "This rule will not have a significant economic impact on a substantial number of small entities."

4. SMALL BUSINESS UNSUITED TO DO BASIC RESEARCH

It is alleged that the work funded by NIH is not of interest to for-profit firms or is not appropriate for commericalization because it is "basic" biomedical research.

The facts are that the percentage of scientific and technical articles concerning basic biomedical research written by scientists and engineers rose from 32 percent of the total articles in 1973 to 49 percent in 1979. These figures are taken from Science Indicators 1980, published by the National Science Board. Basic research articles in biology by industrial scientists and engineers rose from 32 percent of the total articles in 1973 to 49 percent in 1979. In a May 6, 1982, editorial, Nature, the prestigious British scientific journal, wrote concerning this legislation:

> In objecting to the legislation, spokesmen for universities and for basic research have been anxious to preserve their own turf at the expense of everyone else's . . . What is missing here is any perspective from the scientists that they are part of any large effort . . . Small firms are also part of the "fund" from which practical applications are drawn, both those which do basic research and those which do not. If the university spokesmen are truly concerned about national productivity, creating new inventions, and economic health—as they have said they were in selling their own budget requests to Congress in the past—they should support any measures that further that goal. At least they should offer constructive alternatives. But they do the image of science—and the U.S. economy—no good by limiting their comments to paranoiac fears that their particular sector will be hurt.

To underscore this belief, the Small Business Administration estimates that there are between 15,000 and 20,000 small firms whose principal work is in the research and development field. There are estimated to be between 20,000 to 30,000 small firms which have R. & D. capability as part of their principal function, such as manufacturing. As of January 31, 1982, of the 62,000 small firms listed in the agency's procurement data base (PASS), 12,607 are either R. & D. firms or possess R. & D. capability.

5. PERCENT REQUIRED

It is alleged that the funds earmarked for SBIR programs are really much larger than the percentage included in the bill and will seriously squeeze agency R. & D. budgets. For example, the impact on the Defense Department of the set-aside will not be 1.25 percent, but more on the order of 26 percent.

The fact is that simply because a large percentage of funds is committed in advance to certain projects does not mean that these projects should be exempted before figuring the impact of the SBIR earmarking. NASA, in a report prepared for the Science and Technology Committee, performed the following mathematical wonders:

	Thousands
Fiscal year 1980 R. & D. and R. & P.M. appropriation	$5,084,054
Institutional costs	996,000
Total R. & D. awards to private sector	3,572,000
Less fiscal year 1980 funding of preexisting programs	2,789,000
Private sector awards for new requirements	783,000
Less fiscal year 1980 small business R. & D. and R. & P.M. awards	301,146
Unappropriated funds uncommitted to preexisting programs and current level of small business	481,854
Maximum SBIR set-aside required in H.R. 4326 (31.7 percent	152,522

A number of issues must be raised. First, from a $5,084,000,000 budget, NASA has subtracted out funds for preexisting programs in fiscal year 1980 of $2,789,000 to bring the base to which the SBIR program will be applied down extremely low.

Second, NASA applies the maximum 1.25 percent set-aside to a remaining base of just over $480,000. The bill does not envision that this level will be reached until 1984 and probably not until 1985. There is no discussion of what level of 1984 or 1985 funds will be committed to preexisting programs.

Third, NASA does not discuss whether portions of these preexisting programs could be made available for the SBIR programs. Is it not possible that some of the R. & D. in these programs could be performed by small business?

Finally, if NASA is going to subtract out funding of preexisting programs in

fiscal year 1980, and if we are to accept their contention that a like sum will be committed to preexisting programs upon enactment of this legislation, then fairness would require that the first year set-aside be applied to the remaining uncommitted balance.

Applying 0.2 percent, the percentage required in the committee amendment, to the total private sector awards of $3,572 billion results in making $7,144,000 available for the balance, or 1.25 percent of the "uncommitted" balance.

The fact that such a large percentage of funds is "previously committed" speaks to the need for this legislation. Since NASA subtracted out both funding for preexisting programs and small business R. & D. and R. & P.M. awards, it must be assumed that small business is not receiving access to $2.789 billion, or 54.9 percent of NASA's R. & D. budget.

This same convolution of the numbers was performed by NIH and DOD to indicate the much larger impact of the SBIR program on agency R. & D. budgets.

6. UNWISE POLICY

It is alleged that mandatory earmarking of funds for SBIR programs is unwise and bad policy.

The fact is that the highly acclaimed National Science Foundation small business innovation research program was initially supported with earmarked funds. The research funded under that program is of only the highest quality. In addition, no one can say that NSF suffered because of that; on the contrary, the Foundation has broadened its impact on American science and technology with its SBIR program.

We have no choice but adopt a mandatory funding approach to insure that SBIR programs are established and adequately funded. We have to do this because of the ingrained resistance of Federal agencies to this type of effort. According to testimony before the House Small Business Oversight Subcommittee, the Office of Management and Budget recommended in 1977 that Federal agencies sharply increase their use of small science and high-technology firms. The agencies ignored that recommendation.

Two years later, Federal agencies ignored President Carter's directive to establish small business innovation research programs.

Dr. Ernest Blase, formerly head of the Office of Advanced Technology Projects in the Department of Energy, described in a letter to the House Small Business Oversight Subcommittee how two Secretaries of the Department of Energy—Charles Duncan and James Edwards—refused to establish an agency SBIR program after telling Congress that the Department would.

Thus, we are left with no choice but to mandate the establishment of SBIR programs and funding mechanisms if we are to overcome entrenched bureaucratic intransigence and thereby effectively reverse the decline in innovation in the United States.

7. VENTURE CAPITAL

It is alleged that SBIR programs are not needed because there is adequate venture capital. Moreover, tax breaks can help fledgling R. & D. firms.

The fact is that venture capital is categorically not available for the type of research envisioned to be performed through SBIR programs. Venture capitalists require that development be advanced to the point of a prototype before they will ever consider investing in a small firm. To suggest otherwise is a red herring, for the facts will not support it. Let me state again that venture capitalists will not fund phase I and II types of research and development. This is borne out by the fact that NSF's phase II awards are made to develop prototypes and develop innovative ideas to the point where venture capitalists and other private sector investors will consider investing in them.

The SBIR program is designed to provide the necessary funding to bring small businesses to this point of development so they can then attract follow-on private venture capital funding.

It should be noted that since enactment of the Small Business and University Patent Reform Act of 1980, this is increasingly what Federal R. & D. funds are providing to universities. Universities develop a product or process to a point where they can obtain a patent and they then may license the technology or process to commercial ventures. It is only at this stage of development of an idea in a small business that private venture capital can be attracted. Tax breaks do not help new R. & D. firms. Businesses at the startup point do not have profits that they can write off on taxes and cannot look forward to them for a while. Without a tax liability, tax deductions or credits are worthless. They instead need front-end seed money.

OVERSPENDING ON SMALL BUSINESS

It is alleged that the bill will force agencies to spend a certain percentage on top of what they currently devote to small business.

The fact is that H.R. 4326 would extend to all agencies a proven program that enhances the ability of small science and high technology firms to develop innovative ideas and products. The program will expand the small amount of Federal R. & D. funds already received by our Nation's small businesses. The amount will be $60 million in the first year of the program and will reach $380 million in the fourth year. These are all small amounts, even when compared with the $2 billion or 5 percent of the $40 billion Federal R. & D. budget that small business now receives. However, it should be reemphasized that the intent of the bill is not to establish another small business program but to set up an effective mechanism to reverse the decline in innovation.

9. SPECIAL INTEREST LEGISLATION

It is alleged that the Small Business Innovation development Act is just another piece of special interest legislation and duplicates existing small business programs.

The fact is that the purpose of the bill is to stimulate the development of innovation in the United States. That is why it is titled the Small Business Innovation Development Act. It is also a fact that the sector of the economy that has the most impressive rate of innovation—a rate recognized by the National Science Foundation—is the small science and high technology sector. All we are doing in this bill is creating a new program that would target a small percentage of Federal R. & D. funds to stimulate innovation by the most productive and cost-effective generators of innovation. This bill does not duplicate existing programs that set aside R. & D. contracts for small business.

I do not want to get involved in an argument over the share of R. & D. work that small business currently receives from Federal agencies. The figures are dismal. The National Science Foundation reported that despite the fact that small R. & D. firms represent 85 percent of all firms carrying out R. & D., they receive only about 2 percent of the total Federal R. & D. funds allotted to industry. Overall, small firms receive only 4 percent of total Federal R. & D. funds and 6 percent of Federal R. & D. contracts of more than $10,000. It is a paltry amount however you cut it.

10. ADMINISTRATIVE COST

It is alleged that the small business innovation research program will cost at least $193 million to administer over 5 years.

The fact is that the SBIR program will cost nowhere near that amount to administer. I cannot understand how various numbers have been developed on the cost of running this program. All you really need do is look at the NSF experience in administering its SBIR program, since the NSF program is the model for the legislation.

The NSF SBIR program is funded at $5 million for fiscal year 1982. It has received 2,000 proposals and currently oversees 150 phase I and phase II awards. According to NSF, the program is administered by a staff of two program managers who are GS-15's, a secretary, and a student aide. Their salaries come to about $115,000 a year. If we add printing and telephone expenses that total annually $10,000 to the personnel costs, we would find that a $5 million program is being administered at a cost of $125,000 a year.

The program relies on NSF staff to handle each of the 24 topic areas in which the SBIR program is assisting research. This would follow along with the work they are already doing. The NSF tells me that the administrative

Dr. Ernest Blase, formerly head of the Office of Advanced Technology Projects in the Department of Energy, described in a letter to the House Small Business Oversight Subcommittee how two Secretaries of the Department of Energy—Charles Duncan and James Edwards—refused to establish an agency SBIR program after telling Congress that the Department would.

Thus, we are left with no choice but to mandate the establishment of SBIR programs and funding mechanisms if we are to overcome entrenched bu-

products. The program will expand the small amount of Federal R. & D. funds already received by our Nation's small businesses. The amount will be $60 million in the first year of the program and will reach $380 million in the fourth year. These are all small amounts, even when compared with the $2 billion or 5 percent of the $40 billion Federal R. & D. budget that small business now receives. However, it should be reemphasized that the intent of the bill is not to establish another small business program but to

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costs of its SBIR program would be $125,000, regardless of whether the program were at a $5 or $10 million funding level.

If we were to apply this administrative cost percentage to an SBIR program at a 1¼-percent funding level that costs $380 million Government-wide, we could expect the administrative costs to be about $4.75 million annually when it reached full funding. That is a very efficient use of Government funds.

I fully expect that congressional committees will keep close tabs on the SBIR programs of various agencies that will be established when the bill is enacted.

11. AMERICAN ELECTRONICS ASSOCIATION

It is alleged that the American Electronics Association speaks for the Nation's small R. & D. firms in opposing the innovation bill.

The facts are just the opposite. What AEA does not say is that it is a house that is deeply divided over the Small Business Innovation Development Act. That trade association has taken it upon itself to speak for all of its members on this bill, when actually many of AEA's small R. & D. members strongly support the bill. In fact, AEA's small R. & D. members are up in arms over AEA's position and the association's refusal to poll them before taking a position against the bill.

We have received letters of protest from numerous small R. & D. firms that are AEA members saying that the association does not speak for them.

Let us set the record straight on AEA. The association does not speak for research and development firms. It really is a trade association representing electronics manufacturers. Of the approximately 1,800 member companies in AEA, only 140 have identified themselves under the single category "R. & D., Consulting, Management Services" in the AEA directory. Prior to 1978, AEA was named the Western Electronic Manufacturers Association.

A MAJORITY OF THE R. & D. COMPANIES IN AEA FAVOR PASSAGE OF THE SMALL BUSINESS INNOVATION DEVELOPMENT ACT

Ned Rasor of Rasor Associates, a small R. & D. firm in Sunnyvale, Calif., polled AEA's small R. & D. member firms to find out their position on the bill. He found that 59 percent of AEA's small R. & D. member firms favor passage of the legislation.

We must remember that AEA speaks for the largest electronics manufacturers which oppose small business set-asides because of the competitive threat from small business. They are instead content to push for more and more tax breaks for themselves. These tax breaks are nothing more than a set-aside for the multibillion-dollar giants of the electronics industry.

In contrast, the Electronics Association of California strongly supports the Small Business Innovation Development Act. EAC was set up 5 years ago because AEA was not meeting the needs of its small R. & D. members. Today, EAC has almost 500 members. Until now, it has never taken a position on legislation. But AEA's relentless campaign against the innovation bill has changed that. Before it acted, EAC polled its members on their position on the bill. Its poll found support running 2 to 1 in favor of the bill. The question thus is, who legitimately speaks for whether this measure is needed and can be effectively used by small business: AEA, which is dominated and controlled by Fortune 500 electronics firms, or the Electronics Association of California, which is comprised solely of smaller companies.

In addition, the Smaller Business Association of New England, which represents hundreds of New England high technology firms, strongly backs the Small Business Innovation Development Act.

It is fair to conclude that small science and high technology firms strongly favor the bill and that AEA's position should certainly be discounted.

12. SET-ASIDES

It is alleged that set-asides skew a procurement system that is competitive. In addition, Government set-aside programs for small business are riddled with scandal.

The facts are as follows:

First, those who would compare the proposed SBIR program with the much abused 8(a) minority business program simply are showing their ignorance of the procurement process. First of all, 8(a) is not a set-aside; it more accurately could be called a "put-aside" of Government contracts for exclusive and noncompetitive award to minority businesses as subcontractors.

In contrast, the SBIR program is not a business development program, as is the 8(a) program. The design and purpose of SBIR arises from the conviction of proponents, supported by empirical data, that small businesses are the most innovative sector of our economy. These innovative businesses are proven performers who have been denied the ability to compete for Federal R. & D. funding in the past.

The design of the SBIR program positively precludes abuses similar to those which have occurred in the 8(a) program. The SBIR program is competitive; in other words, firms will respond to agency solicitations and awards will be based on the quality of the proposals submitted. Agencies are expected to carefully review proposals, as they would in such instance, and make awards based on quality and agency mission needs.

Second, currently, a significant share of Federal procurement funds are awarded through negotiation on a noncompetitive basis.

In the more specific area of research and development, awards also reflect this noncompetitive track record.

SEVENTY PERCENT OF R. & D. CONTRACTS ARE AWARDED NONCOMPETITIVELY

These facts should put to rest any belief that Government procurement is by its nature a competitive process. The Government does not buy like the private sector buys. Differences are insignificant, and successful marketing with the Government requires a substantial effort on the part of the proposers.

Third, committees of the Congress which considered this bill have made oblique references to the wasteful nature of set-aside programs generally and have further inferred that this will also be the result of the SBIR program.

It is noteworthy that not one committee has supported this conclusion with even a scintilla of data, very clearly because the data is not there. The committees have preyed on a general impression of set-asides as protectionist measures for special interests while disregarding the record of performance under set-asides and their purposes.

It again must be pointed out that comparisons with the 8(a) program are not legitimate and in fact are spurious.

Set-asides as designed by the Congress and implemented by procuring agencies are not business development programs, do not result in less quality in products or processes provided, and do not result in additional costs to the Government.

Set-asides are designed to counter the impediments which preclude small business from participating on an equal footing with other Government procurement performers. What exactly are these impediments?

First, there is a market impediment which is solely a result of business size. Small business resources are spent more productively because they cannot afford to carry significant overhead costs. This means that a small business cannot mount a Government marketing effort equal to that of its big business or university competitors. Of course, this fact makes it more difficult for small businesses to comply with necessary paperwork and regulation, a fact which the Congress recognized in passing the Regulatory Flexibility Act during the 96th Congress.

Second, small businesses have been excluded from participation in many agencies' R. & D. projects because of their "for-profit" standing. Only in December 1981 did HHS and specifically NIH open their grant procedures to for-profit entities.

Certain examples can prove conclusively that set-asides do not result in additional costs to the Government.

13. FAIR SHARE

It is alleged that small business already receives more than its fair share of Federal R. & D. contracts. To support that, opponents of the bill claim that small business employs 5.5 percent of the scientists and engineers

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and receives 6.8 percent of Federal contracts.

That argument is just another example of how the opponents have twisted and manipulated figures to make it appear that small business is receiving more than its fair share of Federal R. & D. funds when, in fact, it is not. It further illustrates a thorough lack of understanding of the Federal R. & D. procurement process.

The facts are that the 5.5-percent figure on small business employment of scientists and engineers cannot be compared to the 6.8-percent figure on small business's share of Federal R. & D. contracts. These figures cannot be compared because they are taken from different sources and are based on definitions of R. & D. that have widely differing bases. The 5.5-percent figure is taken from NSF. The 6.8-percent figure comes from the Federal Procurement Data Center, which uses a much broader definition of R. & D. in classifying contract actions, thus inflating small business's participation in Federal R. & D. contracting.

This is what the data really shows:

Federal funds for R. & D. in industry—including subcontracts—totaled $12.46 billion in 1979, of which $288 million went to firms with fewer than 1,000 employees. This means that smaller firms received only 2.3 percent of the private sector awards. At the same time, firms with fewer than 1,000 employees had 7 percent of industrial R. & D. scientists and engineers. Comparing small firms to the entire private sector, including universities and other nonprofit entities, yields a small firm's meager share of private sector Federal funds of only 1.5 percent. This figure is comparable to the 5.5 percent share of scientists and engineers quoted by the American Electronics Association. Thus, if employment is a satisfactory measure of small business capability, use of comparable data shows that small business is being utilized at a rate of less than one-third of its current capabilities.

What is most disturbing is the broad acceptance of the figures and citing and National Science Foundation as their source. The NSF has indicated that the 5.5/6.8 comparison is an inconsistent application of disparate data. NSF has also indicated that the comparisons cited earlier, that is small business performs only 1.5 percent of the R. & D. work, are an appropriate and consistent application of the figures included in their report.

Furthermore, employment of scientists and engineers may not be a satisfactory measure of small businesses' ability to perform Federal R. & D. In a report titled "Consistent Criteria Are Needed to Assess Small Business Innovation Initiatives," GAO concluded:

> This measure is biased toward labor-intensive R. & D. activity and it covers only employees formally or exclusively employed to conduct R. & D. activities. At best, this measure is only a partial indicator of potential to innovate.

14. FREE MARKET

It is alleged that the Small Business Innovation Development Act will upset the operation of the free market. The opponents say, "Allow the free market to work."

The fact is that the free market will not work unless this bill is enacted. The small business innovation research programs, with their seed money awards, lower the barriers to entry of small science and high technology firms into the marketplace. These barriers include lack of capital and lack of a competitive Federal R. & D. contracts and awards system. Without this bill, small firms with innovative ideas will not be able to develop those ideas to the point where private capital will become available for full scale development and commercialization.

The opposition to the bill comes from the giants of industry and the giants of academia, who feel threatened by any program to encourage competition in research and development.

15. INADEQUATE OVERSIGHT

It is alleged that the Small Business Innovation Research programs will divert management attention from an agency's total research and development objectives.

The fact is that the Small Business Innovation Research program is designed to complement agency needs and research objectives. The small business advanced technology program at the Defense Department is the first SBIR program in a mission-oriented agency. Under that program, small firms are invited to submit R. & D. proposals on topics selected by the agency in accordance with its R. & D. objectives. Thus, the SBIR program fits right in with what the agency is doing and what the agency needs.

16. MARGINAL RESEARCH

It is alleged that potential remaining funds in small business innovation research programs will be committed to marginal research.

The fact is that the small business innovation research programs will be phased in starting with 0.2 percent in the first year and reaching 1.25 percent in the fourth year. The exclusion of in-house research from the funding base reduces the dollar size of the program by about 25 percent. Thus, on an agency-by-agency basis, you are talking about very small amounts of money.

The 4-year phase-in allows the agencies to start off with the smaller phase I awards for feasibility studies. These awards are expected to be in the $20,000 to $50,000 range. As the program expands, so do the amounts of the awards, which are expected to range up from $500,000 for phase II development grants. Thus, the program will not be overloaded with money in the early stages.

The experiences of the NSF SBIR program and the Defense Department's small business advanced technology program show the respones that can be expected to agency SBIR programs. The NSF has had a surfeit of applicants and has selected 1 out of 8 applications. The DOD program received 1,103 proposals in response to its first solicitation last year. It made awards to only 100 firms.

As it is, the awards are small. Many of the recipients of NSF awards have applied their own funds to the SBIR grants because those grants are so low.

17. UNIVERSITIES

It is alleged that the bill discriminates against universities by not allowing them to participate in the SBIR program.

The fact is that the bill allows all individuals with innovative ideas to compete for SBIR awards. This includes scientists and engineers who work for universities, corporations, or nonprofit institutes.

Only government laboratories, companies with over 500 employees, and nonprofit institutions are excluded from participation in the program, not their employees.

The purpose of the SBIR program—ultimate commercialization of innovations—is not compatible with the research conducted by universities. The SBIR program helps take innovations into the marketplace.

18. AGRICULTURE

It is alleged that the Department of Agriculture's R. & D. effort will be harmed by the SBIR program and that only 20 firms perform research for USDA.

The fact is that an SBIR program at USDA will have minimal impact on existing R. & D. programs under the substitute amendment. The Agriculture Department has an $860 million R. & D. budget for fiscal year 1982. Under the Small Business Committee substitute amendment that excludes in-house research, two-tenths of 1 percent will be earmarked for the SBIR program for its first year; six-tenths of 1 percent for the second year; 1 percent for the third year; and 1¼ percent for the fourth and all subsequent years. That means $500,000 in the first year; $1.8 million in the second year; $3 million in the third year; and $3.7 million in the fourth year. That is far less than the $23 million that has been alleged would be set aside from the USDA R. & D. budget.

The argument that since only 20 firms perform research for USDA, there is not a sufficient number of qualified firms to participate in an SBIR program. That is as dishonest as the argument of NIH that there are not enough qualified small R. & D. firms in the life sciences. The simple fact is that the agencies have not in the past sought out and do not now seek out qualified small R. & D. firms. If they did, they would find many.

COMMITTEE AMENDMENTS

The innovation bill was referred sequentially to six committees in addi-

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The innovation bill was referred sequentially to six committees in addi-

tion to Small Business. They were the Energy and Commerce, Science and Technology, Veterans' Affairs, Foreign Affairs, Armed Services, and Select Intelligence Committees. These committees held hearings on the legislation and reported amendments.

The Small Business Committee has reviewed the proposed amendments and feels that many of the concerns embodied in them are resolved in the committee substitute. Let me review the amendments:

1. VETERANS' AFFAIRS

The Veterans' Affairs Committee proposes to exclude any in-house research and research done at Government-owned, Government-operated facilities. In-house research accounts for $9.8 billion or about 25 percent of the Federal R. & D. budget of $40.4 billion for fiscal year 1982.

We do not see any problems with including in-house research in the funding base for Small Business Innovation Research programs. But, as I have stated many times during the debate, the goal of the Small Business Committee is to see the adoption of the Small Business Innovation Development Act and to include the small business community in the effort to reverse the decline in innovation. Reducing the R. & D. funding base for SBIR programs would meet the concern expressed that SBIR programs would be too costly if a larger funding base were used. We have included the thrust of the amendment of the Veterans' Affairs Committee in our committee substitute. It in no way weakens the purpose of the legislation—to establish SBIR programs that are assured of steady and adequate funding.

2. INTELLIGENCE

The Select Committee on Intelligence proposes to exclude R. & D. by any agency within the intelligence community. That specifically includes the Central Intelligence Agency, the Defense Intelligence Agency, and the National Security Agency.

We never considered that R. & D. conducted by the intelligence community would be covered by the Small Business Innovation Development Act. While we feel small business is capable of making an important contribution to the many facets of intelligence R. & D., we have no problems with the intent of the Intelligence Committee's amendment and have included language to that effect in our committee substitute.

3. FOREIGN AFFAIRS

The Foreign Affairs Committee has not issued specific recommendations prior to the floor debate on H.R. 4326. Nevertheless, the Small Business Committee recognizes the unique aspects of R. & D. conducted by the Agency for International Development that falls within the requirements of the Small Business Innovation Development Act. We thus have included in our substitute an exclusion of AID international research centers and grants to foreign governments from the base against which the bill's funding percentages are applied. The effect is to remove AID from the SBIR program and coverage of the legislation.

The Small Business Committee believes that all of the major Federal R. & D. agencies must be included in the Small Business Innovation Development Act and that the small business innovation research programs must have mandatory funding to be effective. Thus, the committee strongly opposes the following amendments.

4. ENERGY AND COMMERCE

The Energy and Commerce Committee proposes to exclude any health-related R. & D. conducted by or through the Department of Health and Human Services.

We feel very strongly that this is bad public and science policy. If the Small Business Innovation Development Act is to stimulate the development of the innovation that the United States desperately needs today, it must include all aspects of science in this effort. There are over 2,000 and as many as 3,500 small, high technology, biomedical and life science research firms in the United States that have important contributions to make. They should be working with the National Institutes of Health. Most of them have not been utilized by NIH because of that agency's longstanding bias against working with these types of firms.

This bias has very harmful consequences. We are entering a new era where the life sciences are exploding as the electronics industry did in the 1960's and 1970's. As small firms were critical to that explosion, so they are critical to this new explosion. We must insure that their abilities will be tapped and that HHS and NIH establish and fund an SBIR program.

The Small Business Committee substitute recognizes the deeply felt concerns of the university and basic research communities that the United States basic research effort not be harmed by this bill. We feel this legislation will only increase support for basic research. We have made every effort to work with the universities to find means of assuring that basic research will not be hurt. Regrettably, the university spokesmen refused to engage in a serious effort with our committee and to propose concrete ways of resolving their concerns.

We have not ceased our efforts. We have included in our substitute a provision that caps that amount of money that can be used from the extramural budget for basic research at the percentages included in the Small Business Innovation Development Act to fund the SBIR programs.

We feel this should satisfy the concerns of the universities and the National Institutes of Health. The Senate version of the innovation bill includes the same provision. These changes make the Energy and Commerce Committee amendment unnecessary.

5. ARMED SERVICES

The Armed Services Committee proposes to exclude the Department of Defense and atomic energy defense programs conducted under the Department of Energy from participation in the Small Business Innovation Research program.

We find it very difficult to understand the rationale for the Armed Services Committee's amendment since the Department of Defense established an SBIR program on its own—the defense small business advanced technology program. That program mailed out 30,000 brochures for its first solicitation in April 1981, inviting proposals from small R. & D. firms in a wide variety of research areas. Over 1,000 proposals were submitted and 100 winners were selected. The Department of Defense clearly recognizes the contribution an SBIR program can make to national defense.

The Department has expressed concerns about the size of the SBIR program under the 3-percent earmarking included in the original version of the Small Business Innovation Development Act reported by the Small Business Committee. We appreciate the concerns of the Defense Department and the Armed Services Committee and have included modifications in the Small Business Committee substitute to deal with them. We have excluded in-house R. & D. from the SBIR funding base. We have reduced the amount of funding earmarking to 1¼ percent. Moreover, we provide for a 5-year phase-in of an SBIR program at the Defense Department. We have done all these things to facilitate the Department of Defense's participation in the SBIR program and in recognition of the department's unique situation. These changes bring the Small Business Innovation Development Act much closer to the Senate version of the bill, which the Defense Department has testified in support of.

We feel very strongly that it would be bad public and science policy to exclude the defense programs from the small business innovation research program. The defense-oriented R. & D. budget accounts for half of the Federal R. & D. budget. Clearly, United States R. & D. has a large defense-oriented component. We have found many civilian spin-offs from that research. It would be unwise to remove the Government agency that influences the direction of so much American research and development from the one Government program that is directly aimed at stimulating innovation.

6. SCIENCE AND TECHNOLOGY

The Science and Technology Committee proposes a substitute for the Small Business Innovation Development Act reported by the Small Business Committee. We find the Science and Technology Committee's substi-

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tute unacceptable. Its purpose is to gut the Small Business Innovation Development Act and establish a meaningless small business innovation research program that would not be assured of adequate or long-term funding. It would strike at the heart of the innovation bill by eliminating the provision mandating earmarked funding for the programs. As we have said countless times during the debate on the bill, earmarked funding is the only way that the SBIR program will be assured, given the ingrained resistance of government agencies to establishing SBIR programs on their own and to utilizing small science and high technology firms in the Federal R. & D. effort. Let me point out once again that the highly acclaimed NSF SBIR program was established only after Congress mandated it and provided for earmarked funding.

Other provisions of the Science and Technology Committee substitute would seriously weaken the SBIR program. It proposes removing requirements that the regulatory burden on small business be minimized and that a simplified, standardized and timely annual report be submitted by agencies to the Small Business Administration and the Office of Science and Technology Policy. It proposes to remove the requirement for peer review from Phase II proposals. It proposes to remove the requirement that policy directives, procedures, and objectives for the program be issued within 120 days of the enactment of the Small Business Innovation Development Act. It proposes, in effect, an SBIR program in name but not in fact.

It also proposes to remove the requirement that small business R. & D. for agencies not be less than the actual R. & D. expenditures by the agencies with small business in the immediately preceding fiscal year. This is ludicrous. We are talking about goals which are important to encouraging agencies to do what they should, as a matter of efficient use of the taxpayer's money, be doing.

It also proposes removing the Small Business Administration as the lead agency to issue policy directives for the SBIR programs and the requirement that the Office of Science and Technology Policy report to the Committees on Small Business on the SBIR program. We feel that SBA has been given the general type of leadership role required by this legislation to oversee a decentralized program. We see no need to change that. We also welcome all committees to conduct vigorous oversight of the SBIR program. But we feel that the Small Business Committees have a major role to play in overseeing the operation of the program. We have been working on this legislation for three Congresses and are the leaders in the effort to get the Federal Government to effectively and fully use the abilities of small science and high technology companies.

We feel there is merit in the Science and Technology Committee's recommendation that basic research funding be given special consideration in the funding of SBIR programs and that the earmarked funding percentages be reduced. We have included these changes in the Small Business Committee substitute and feel that they achieve a middle ground that all of us can support.

CONCLUSION

The week of May 10 was Small Business Week. Many of you used that time to tell your small businessmen how important they are to our Nation's well-being. Now we have the opportunity to vote our rhetoric by enacting the Small Business Innovation Development Act.

The national interest demands that a very small portion of Federal R. & D. funds be reallocated to the most productive generators of innovation. This will mean some slight pain for certain special interests. But the crisis we face today demands that we fully involve all components of our national science system in the effort to rebuild our economic and technological base and create the new jobs we desperately need. Nature, the prestigious scientific journal, has endorsed this bill for just these reasons.

The beauty of the Small Business Innovation Development Act is that it establishes a linkage between research done in the laboratory and practical application. This linkage is called innovation. Innovation is what made the U.S. economy and U.S. technology such a powerful engine for the past century and will power us into the next century

□ 1215

Mr. McDADE. Mr. Chairman, I yield 5 minutes to my distinguished friend, the gentleman from Ohio (Mr. STANTON) who has worked for many, many years in building a platform upon which this bill can come to the floor. He has done yeoman work. I am delighted to yield 5 minutes to my friend, the gentleman from Ohio (Mr. STANTON).

(Mr. STANTON of Ohio asked and was given permission to revise and extend his remarks.)

Mr. STANTON of Ohio. Mr. Chairman, I would like to add a few words to those of my colleague from New York concerning this very important piece of legislation which is before us today. H.R. 4326, now amended as H.R. 6587, presents this Congress with a unique opportunity to take a stand on behalf of small business in this country.

We have just been through an agonizing effort to reduce the size of our Federal budget; we have had to cut spending in almost every program run by this Government. It is more urgent than ever before that we make the very most productive use of our Federal dollars.

Thus, Mr. Chairman, when we have an opportunity to channel some of the $40 billion in Federal funds which goes to research and development through various federally sponsored programs, if we can channel just 1.25 percent of this amount—only about $44 million the first year—into more productive use, we will have contributed toward getting the most bang for our Federal bucks.

Particularly in these times of great economic hardship, with high interest rates, high unemployment, inflation, limited access to equity capital, and a slowdown in our national economic growth, it is more important than ever before to insure that we spend these dollars in the most economically productive way we can. This bill provides us with an opportunity to increase productivity in research and development and to open up for competitive bidding among small businesses some of the research and development which has heretofore been the exclusive territory of large corporations and universities.

It has been proven over and over again that the cost per innovation in a small firm is far less than in a large one; that small firms produce up to 24 times more innovations per R. & D. dollar than large ones; that small business receives a miniscule amount of those funds; and that 80 percent of the research in industry is done by only 200 firms.

This legislation is not a set-aside program like the SBA 8(a) program. This legislation would ask each Federal agency with R. & D. budgets over $100 million to review its research and development needs, and to come up with those needs which can be reasonably addressed by small businesses, and then to open up those project proposals to competition from among the small business community. There is no attempt in this legislation to either reduce the amount of basic research conducted by the private sector—universities or corporations—nor is there any mandate which would increase beyond 1.25 percent the amount of R. & D. to be performed by small business. And there is no attempt here to set up one more bureaucratic program run by Uncle Sam. Each agency is responsible for running its own small business program within its already established R. & D. needs.

Mr. Chairman, during the past decade we have watched our country gradually slide backwards in terms of world leadership in the area of technological innovation and productivity. The annual rate of increase of productivity for the United States has declined tenfold over the past 10 years and now lags behind that of the rest of the world's major industrial nations.

We all know that small business makes up 99 percent of our economy, produces 86 percent of new jobs created, and over half of the gross nation-

oversee a decentralized program. We see no need to change that. We also welcome all committees to conduct vigorous oversight of the SBIR program. But we feel that the Small Business Committees have a major role to play in overseeing the operation of the program. We have been working on this legislation for three Congresses and are the leaders in the effort to get the Federal Government to effectively and fully use the abilities of small science and high technology companies.

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We all know that small business makes up 99 percent of our economy, produces 86 percent of new jobs created, and over half of the gross nation-

al product. If we are going to address the economic problems of our Nation, we must start with small business, where the economic hardships hit first and hardest and where the productivity is highest. To solve our economic problems we need only to address the problems of small business, and here in this bill, we have an excellent opportunity to kill two birds with one stone—to increase our national technological and innovative know-how, and our international prestige, and to address our economic problems which begin with small business.

Mr. LAFALCE. Mr. Chairman, I yield 5 minutes to the distinguished chairman of the full Committee on Small Business, the gentleman from Maryland (Mr. MITCHELL).

(Mr. MITCHELL of Maryland asked and was given permission to revise and extend his remarks.)

Mr. MITCHELL of Maryland. Mr. Chairman, I want to follow up on something that my colleague, the gentleman from Ohio (Mr. STANTON) just said. He indicated the needs and the hurt of small business right now are great and said that this bill would help small businesses. And indeed it will. But there is a much larger issue.

The larger issue relates to the fact that this country has slipped from first to dead last among industrialized nations in the rate of productivity increase. At one time we were No. 1 in productivity increase; we are now dead last.

The Committee on Small Business has been examining this issue since 1978, and over those years we have heard more and more expressions of concern that the leadership in some technologies had shifted to Japan and West Germany and would stay there permanently. I say it will unless we begin to give small businesses an opportunity to participate in research.

I also want to comment very briefly on the matter of the universities which are in opposition. The problem there is, as my colleague, the gentleman from Ohio, had indicated, that they simply have not read the bill.

We are talking about 1.25 percent of all R. & D. money over a 5-year period. How can two-fifths of 1 percent in R. & D. going to small business hurt any university? How indeed could 5 percent hurt? It will not. But we are so modest. It is only 1.25 percent over a 5-year period.

There are several factors that have impeded the involvement of small firms in Government-sponsored R. & D. First, unquestionably, there is a bias in Government agencies in favor of large firms and research labs. Second, the agencies are motivated by an antirisk attitude. They are afraid to get out there and dare to take a risk.

Well, if we do not take a risk, we are going to stay dead last in productivity. There is a general kind of inertia in the agencies. They have been doing the same things the same way over and over again, and they just do not want to change. And, finally, most of the agencies are just unfamiliar with the capabilities of small business firms.

I must confess that I was unaware of the fact that it was a small business firm that created the first oral contraceptive. I did not know that. The famous CAT scanner that is sought after assiduously by almost every hospital of any size came out of the small business community.

Without Government relations and marketing staff, small firms are consistently overlooked and underutilized. The bill, as the subcommittee chairman, the gentleman from New York (Mr. LAFALCE) has said, simply establishes the mechanism whereby we can effectively tap these resources. By redirecting a small portion of the R. & D. budget, 1¼ percent phased in over the next 5 years, our Federal research dollar will be used in such a way as to maximize returns to the economy.

So really in this bill we are getting the best of two worlds. We are getting a chance to help the small businesses of this Nation, and we are getting a chance to help the Nation in its entirety by letting these small businesses take a lead role in beginning to raise us from being dead last in productivity and try to move us to first where we were for such a long period of time.

The concept of the bill is sound. The SBIR program has proven itself in terms of returns to the economy and by successfully stimulating innovation.

As has been indicated, the bill is supported by every small business organization, by the past Administrators and the current Administrator of the Small Business Administration, by the first Chief Counsel of Advocacy, and by the present Chief Counsel of Advocacy. As was pointed out, this was the only legislation specifically endorsed in the White House Conference in 1980.

I would urge my colleagues to ignore all of the misconceptions, all of the half truths, and all of the quarter truths that are being put out about this bill. I would urge my colleagues to listen very carefully to the arguments that are going to be raised that the budget has been cut and, therefore, R. & D. has been cut and the agencies might be in difficulty. I would say that when we hear those arguments, we should just bear in mind that we are talking about 1¼ percent over a 4- or 5-year period.

Mr. Chairman, we have made many compromises in this legislation. I urge the Members to support it fully and completely.

Mr. McDADE. Mr. Chairman, I yield myself 5 minutes.

(Mr. McDADE asked and was given permission to revise and extend his remarks.)

Mr. McDADE. Mr. Chairman, I rise to support this bill.

Mr. Chairman, the House at long last today debates a bill that has been discussed, studied, reviewed, and argued about for 4 years. It was first introduced in 1979 by my colleague NEAL SMITH from Iowa. It is based on a highly successful model at the National Science Foundation that since 1977 has tested and proven the principle that small businesses are an innovative power that has remained untapped for far too long.

In 1979 the President directed that agencies develop their own SBIR program. In 1980 the White House Conference on Small Business made this one of their top 15 priorities, along with the Small Business and University Patent Act that this body already has passed. In 1981 the President went on record supporting the companion bill in the Senate, which passed 90 to 0. In 1982 the President committed to this concept in his State of Small Business Report.

Here we are today, debating this bill because no agency except DOD has moved an inch to begin an SBIR program. What we are doing here today is what should not be necessary. But asking, requesting, promoting—all has done no good.

We know we need a change. Look at what we have now. Of all Federal R. & D., 95 percent goes to big business and nonprofit organizations—foreign contracts and State/local equals 1.5 percent; small business equals 3.5 percent. What have we received for this highly centralized program where 60 percent of all contracts are sole source?

A Department of Commerce report cites 36 firms doing 60 percent of all U.S. industrial research, 20 universities receive 40 percent of all Federal funds to such institutions. Patent filings by U.S. firms have dropped by 13 percent in the last decade. Now 40 percent of all U.S. patents are from foreign firms. In 1980 alone 11 percent of all U.S. patents went to Japanese firms and individuals—Business Week. Productivity rates, an area where America was once the leader, have decreased ten-fold in the last decade.

What this bill is all about is competition and free enterprise. This bill brings to an almost closed system an opportunity for small business to apply its innovative, creative entrepreneural force.

Why do we need this bill that the President and every small business group I know of clearly supports? We must open up the doors of competition. Until January of this year, no for-profit business could even apply for an NIH grant—none. But in 1979 my committee received a letter from the Director at NIH stating that the agency would change its regulations. But those regulatory changes came just this year, only after the Senate passed this bill and the House committee reported it out unanimously. The Secretary of Energy testified in 1980 that he would voluntarily start an SBIR program. None yet exists. Let us give small business a chance.

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Well, if we do not take a risk, we are going to stay dead last in productivity. There is a general kind of inertia in the agencies. They have been doing the same things the same way over and over again, and they just do not compromises in this legislation. I urge the Members to support it fully and completely.

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Small businessmen and individual inventors have a great record of innovation. A National Science Foundation study shows that during a 20-year period ending in 1973, almost half of all major U.S. innovations came from smaller firms.

Look back to xerography, Polaroid cameras, and the laser. These are only a few of the major technological breakthroughs that have come from small business.

These small businesses do more than just develop innovations—they make jobs. Small high-tech firms have an 88 percent greater employment rate than the average of all businesses—17-year study by DOC—and they pay taxes—34 percent more per dollar of sales than mature companies. And, they decrease product prices, not increase them—44 percent less price increases than the average firm.

The question is, How long must we sit before we recognize what is right in front of us? Our Nation needs to unleash the innovative, job creative, tax paying power of small business.

In 1975 the President created a blue ribbon panel to look at why our Nation's technological base was deteriorating. Their findings support what we are trying to do here today and were the basis for the NSF test. The report found "that small businesses face impediments in Federal R. & D. procurement not found in the private sector." The report, agreed to by every senior cabinet department official, directs that changes be made. But they have not occurred.

We must now do by statute what could have been done years ago. Why must this program be mandatory? Because 6 years of inaction make it clear that the bureaucracy will not change unless required to do so. It is too easy for them to just wait it out. We know from the NIH example that they will not change unless forced to do it.

We want to open the door, providing a way to bring innovative ideas into use. In testimony given by a small anticancer drug manufacturer who had five derivitives that proved positive in initial tests, we heard that this for-profit business did not qualify at NIH. So they formed a nonprofit subsidiary and got funding on two out of three proposals. Is this the way we must do business?

Just the other day a small business that testified before our committee announced that it has perfected the commercial production of interferon from gene-spliced yeast. Its seed money came not from NIH. It could not qualify.

Here is how our program will work. Each agency decides what its own research priorities are. Then, in phase I of the SBIR program, the agency decides on which research topics, among these priorities, small business can submit proposals. These proposals are evaluated on the basis of scientific and technical merit and feasibility. They are eligible for up to $50,000 for feasibility research.

In phase II, awards up to $500,000 are available but merit and feasibility are the keys.

Our competition is based on merit and feasibility.

Will there be competition? Yes. Our two-line tests show that there were eight qualifying projects for each one funded at NSF and 10 to 1 at DOD. That is competition.

This idea works. Since the Korean war, when DOD realized how important small business was to the defense effort, we have had a small business set-aside. Our most recent test (1982) shows that when the Air Force set-aside 181 contracts for high-tech spare parts, it saved 38.5 percent per contract average. Savings on some contracts ran as high as 99.5 percent. Test savings were 6.7 million taxpayer dollars—that is competition.

We want competition. We want opportunity. We want a chance for America's entrepreneurial spirit to be put to use. We do not want broken promises, broken commitments or last-minute patchwork solutions.

We are asking for a mandatory program that in its first year sets-aside for small business competition 20 percent of the amount of R. & D. funds we now give to foreign contractors.

This country needs the new ideas, new jobs, and new tax revenues that will result from this bill. My colleagues, it is time to act.

□ 1230

Mr. LAFALCE. Mr. Chairman, I yield 2 minutes to the gentleman from New York (Mr. NOWAK).

(Mr. NOWAK asked and was given permission to revise and extend his remarks.)

Mr. NOWAK. Mr. Chairman, I wish to speak in support of H.R. 4326, the Small Business Innovation Development Act of 1982. This bill was reported by the Small Business Committee in recognition of the contributions smaller firms have made to the economic prosperity of the Nation.

A study conducted by David Birch and the Massachusetts Institute of Technology indicates that 80 percent of all net new jobs were created by firms with 100 or fewer employees. Along with being the Nation's job creator, small business is in the vanguard of innovation and invention.

A National Science Foundation study for the period between 1953 and 1973 concludes that small firms are about four times as innovative as medium-sized firms and about 24 times as innovative as large firms, on a per-research-dollar basis.

We talk about helping small business, but we often do very little to help them substantively. Today, the Congress has a chance to pass legislation which will require Federal agencies with R. & D. budgets of greater than $100 million to set aside 1.25 percent of these budgets for small businesses, once the measure is fully phased in.

This R. & D. program will provide small high-technology and growth firms with much needed funds for new product development. The Small Business Innovation Development Act does not provide a substitute for venture capital money. In converse, venture capital money is not a substitute for the legislation before us today.

H.R. 4326 will insure that smaller firms receive important R. & D. funds at the earliest stages of new product development. Once new product development for a firm reaches a mature stage, venture capital firms will begin making private investments in that company. At that juncture, the venture capitalist will provide much needed funds for managerial expertise, product marketing, and plant expansion.

Recently, a Wall Street Journal article reported 11 isolated incidents of abuse with respect to the small business investment company program of the SBA. SBIC's are private venture capital firms, as licensed by the SBA. What disturbs me is that the article presents a distorted picture of the SBIC program. In contrast to these few abusive situations, the SBIC program has provided over $4 billion in financing to more than 48,000 small concerns. Some of these firms are nationally known, and have become big success stories. Examples of such firms are Federal Express, Memorex, and Teledyne.

A recent study by the international accounting firm of Deloitte Haskins & Sells indicates that the SBIC program resulted in the payment in 1979 of approximately $441.3 million to the Federal Government in taxes. This is in contrast to the mere $4 million cost to the Federal Government of the program in 1979. I would like to emphasize that this is a direct return to the Treasury of $110 for each $1 spent. There are not many other Federal programs which provide as much bang for the buck as the SBIC program does.

I believe that the Innovation Act will prove to be as cost-effective and efficient as the SBIC program. Both programs are important vehicles for moving the Nation to increased prosperity and economic growth. In closing, I urge the House to vote today in favor of H.R. 4326.

Mr. McDADE. Mr. Chairman, I yield 5 minutes to my distinguished colleague, the gentleman from Massachusetts (Mr. CONTE).

(Mr. CONTE asked and was given permission to revise and extend his remarks.)

Mr. CONTE. Mr. Chairman, first of all I want to congratulate my good friend, the gentleman from New York (Mr. LAFALCE) for his leadership on this bill, and I also commend my good friend, the gentleman from Pennsylvania (Mr. MCDADE).

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(Mr. CONTE asked and was given permission to revise and extend his remarks.)

Mr. CONTE. Mr. Chairman, first of all I want to congratulate my good friend, the gentleman from New York (Mr. LAFALCE) for his leadership on this bill, and I also commend my good friend, the gentleman from Pennsylvania (Mr. MCDADE).

Mr. Chairman, I rise in strong support of H.R. 4326, the Small Business Innovation Research Act, but I rise with some trepidation. I fear that amidst the boisterous debate over this bill, the truly significant issues have gotten lost.

The first issue is industrial productivity. It is not a new issue. We have been living with it for the past decade and a half, and it is a problem we have not licked, not by any account. Our national productivity growth, so strong after World War II, slowed in late 1960's, turned negative in the late 1970's, and has now finally turned around slightly. We are now growing again, but still very, very slowly. And our competitors continue to grow faster than us. We must reverse that trend.

I hope one fact has gotten through the debate on this issue. Small businesses are up to 24 times—I repeat 24 times—more productive with research and development dollars than big businesses. The reason is that small businesses have to innovate to survive. If you are worried about our industrial productivity, and you think the Federal Government should use its research and development dollars as wisely as possible, then vote for this bill.

The second significant issue is whether Congress can learn from history. Increasing small business' share of Federal R. & D. is not a new idea. As far back as 1967, the Commerce Department produced a widely read report recommending an increased role for small business in Federal R. & D. Nothing came of it. Nine years later another study made similar recomendations. Again, nothing happened. In 1978, an OMB task force did it again, to no avail.

Then Congress entered the picture. The Senate and House Small Business Committees held joint hearings resulting in, you guessed it, another comprehensive domestic policy review on innovation. Finally, President Carter in 1979 directed all agencies to set up small business innovation research programs. So all agencies now have an SBIR program, right? Wrong. There are two, one in the National Science Foundation and one in the Department of Defense.

So here we are today, 15 years later, with a stack of studies to our credit. The time for studies is over. The time for directives is over. The time for begging is over. Panel after panel, now President after President—including President Reagan—Small Business Committees of two Congresses, a 90-0 vote in the Senate, and over 200 cosponsors here in the House have endorsed this legislation. History makes it unmistakably clear that unless Congress takes affirmative action on this bill, the same thing will happen that has happened for the last 15 years—nothing.

Given the need for increasing productivity, given the potential that small business has to do the job, and it will create a lot of jobs at the same time, I guarantee you, we cannot afford to pass up the opportunity we have here today. Let's stop playing games and get this show on the road.

Mr. LAFALCE. Mr. Chairman, I yield 2½ minutes to the gentleman from Massachusetts (Mr. MAVROULES).

(Mr. MAVROULES asked and was given permission to revise and extend his remarks.)

Mr. MAVROULES. Mr. Chairman, I would like to take this opportunity to associate myself with those Members who have long supported this legislative initiative.

It has been widely recognized that technological innovation creates new jobs, increases productivity, enhances the competitiveness of products in foreign markets, and stimulates economic growth. It also has served as a valuable countermeasure to inflation and this Nation's balance-of-payments deficit. There is legitimate cause for concern when innovation lags.

I believe that our Nation is missing a great opportunity by not involving small business to a greater extent in the area of innovation. Despite being the Nation's leading innovator and job generator, small businesses receive only a small percentage of the Federal research and development funds.

Incredibly, the latest figures indicate that this percentage is actually declining. By trying to minimize the risk inherent in research and development activity, Federal agencies have shown an amazing bias against giving contracts and grants to our Nation's major innovators—small business.

We are at a point in time in this Nation where we must look beyond our parochial interests, and toward individuals and institutions cooperating for the betterment of society. The advancement of our society and the health of our economy must come first. The world of ideas and the world of practice must join hands in the spirit of cooperation. My support for the Small Business Innovation and Research Act stems from the growing need for such cooperation.

I believe that we can strengthen our national economy by making better use of the ingenuity that resides in America's small business sector. Their superior efficiency and startling rate of innovation assures us that our national economic efforts will be getting more results for every dollar spent.

To encourage the individual entrepreneur and small business firm to engage in the kind of productive, innovative activity that our economy so desperately needs, we must change the policies that have virtually excluded them from federally funded research and development. I urge my colleagues, on both sides of the aisle, to support this needed legislation.

Mr. McDADE. Mr. Chairman, I yield 2 minutes to the gentleman from Ohio (Mr. WEBER).

(Mr. WEBER of Ohio asked and was given permission to revise and extend his remarks.)

Mr. WEBER of Ohio. Mr. Chairman, I rise in strong support of H.R. 4326 because this bill addresses the cost effectiveness of public funding of research.

I would like to call attention to the Gellman Report, a study of 635 innovations developed and brought to market in the United States.

This study discovered that there is a rule of two and a half in the matter of small business innovation. First, small businesses per employee are two and a half times as innovative as large businesses. Second, large businesses are two and a half times more likely to receive public funding for innovation.

In addition, small firms bring innovations to market faster than large companies.

The Gellman Report reaches the following conclusions which I would like to quote.

First of all, "the finding that small firms produce significantly more innovations than large firms per employee, coupled with earlier findings that small firms are more efficient in their use of R. & D. dollars, indicates that public R. & D. funding of small technologically aware firms will be significantly more cost effective than the funding of larger firms." Second, "The cost effectiveness of public funding of small firm R. & D. is further enhanced because small firm innovations are brought to market sooner than those of large firms."

If my colleagues are concerned about cost effectiveness of taxpayers' dollars they will vote for the bill.

Mr. Chairman, we are aware that according to recent studies, 66 percent of all new jobs in the Nation are created by firms with fewer than 20 employees: 77 percent of all new jobs are created by firms with 50 or fewer employees.

Are we also aware of the following? That in addition, the National Science Foundation reports that small businesses are 4 to as much as 24 times more innovative than medium- or large-sized companies per dollar spent on research and development. Per employee, small business is two to three times as innovative as the larger companies.

These statistics are very important. There is considerable evidence, and we are all aware of it—especially in the industrial Northeast-Midwest—that our preeminent position as a world leader in technological innovation has changed to that of a follower. From 1970 to 1980, the number of patents filed with the U.S. Patent Office has dropped 13 percent. Yet the percent of U.S. Patents issued to residents of foreign countries has risen from 25 percent to over 40 percent in just one decade.

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the past 10 years, and has been surpassed by several European countries and Japan. In 1980 alone, Japanese firms and individuals received close to 11 percent of all U.S. patents issued. I believe that this decline is the most critical long-range problem of this country. The answer lies not with penalizing those foreign countries, but rather to support domestic innovation.

The low rate of participation by small business in Federal R. & D. funds is clearly documented. Of Federal R. & D. funds awarded in contracts and grants in fiscal year 1981, small business received the following:

Only 1 percent of the grant funds;

Only 6 percent of the contract funds in contract actions of $10,000 and over; and

Only 5 percent of the total grant and contract funds awarded.

The other 95 percent goes to large firms, universities, Government laboratories, and other entities. Many of these firms are very large. Just 70 firms do 80 percent, 80 percent of this research. Roughly 60 percent of these funds are awarded non-competitively. Thus, for the most part, small business could not increase its share of these funds regardless of how hard it collectively worked or competed or proved itself. Adjusting upward the small business share of Federal R. & D. funds is another critical purpose of this legislation.

I wish to point out that H.R. 4326 is not, as some Members contend, a small business welfare bill. Rather, it is a reasoned effort to respond to the national problem of declining productivity by harnessing the creative, productive, and innovative capabilities of small R. & D. firms to national needs.

I urge my colleagues to support this bill because technological innovation creates jobs, increases productivity, stimulates competition, causes economic growth, combats inflation, and helps to reduce our balance of payments deficit.

Some people fail to recognize what an innovative and dynamic economic force small business can be.

Mr. LAFALCE. Mr. Chairman, I yield 5 minutes to the gentleman from Tennessee (Mr. GORE) who was so helpful in the drafting and framing of the substitute that is before us today.

(Mr. GORE asked and was given permission to revise and extend his remarks.)

Mr. GORE. Mr. Chairman, to my colleagues on the Small Business Committee, the gentleman from New York, the gentleman from Maryland, the gentleman from Iowa, the other gentleman from New York, the gentleman from Florida, and others who have played such an important role in bringing this bill to the floor: I want to pay my compliments and tell them how much their efforts are appreciated by so many in this country.

I speak on this bill today in this Chamber not merely out of some feeling of obligation to small business people in my district, although certainly all of us feel that kind of obligation. I am here talking about this bill because I believe that this bill is truly in the best interests of this country.

Let me say, too, that I have five universities in my district and I have been contacted by the university community about this legislation. They are opposed to it. We all know that.

□ 1245

Many of our colleagues will say about this measure that "the small business community is pushing the bill but really the universities need the money, and we do not like the idea of a set-aside. Therefore, do not vote for it."

Well, oftentimes there are deeper reasons behind the short little story that you hear on the way in to vote. And in this case, I hope my colleagues will listen carefully to the arguments in favor of this bill. I believe in them very deeply.

A subcommittee that I chair over in the Science and Technology Committee had a series of hearings on the NSF program on which this legislation is based. I came to this issue as a skeptic, and I came away from those hearings as a believer.

Let me tell you why. We are in the middle of an accelerating scientific revolution that is unlike anything this world has ever seen before. We are going through a period of change comparable in magnitude to the Industrial Revolution that is going to occur not over 200 years but between now and the end of this century. How is the United States going to remain competitive in that kind of business environment? If we are to succeed, the advantages we have had in the past must serve as well again.

What are our advantages? Our No. 1 advantage, our "hole card," is the inovative genius of our people. But there is something unique about innovative genius in America. It does not always thrive well inside a suffocating, large bureaucracy or institution, whether it is a Government institution or a corporate institution.

Look at the history of the laser. The man who invented the laser was in A.T. & T., at Bell Laboratories. He went to his superiors, and he said, "I have got this great idea and I need a commitment of resources and a little time to work on it."

"Sorry," they said. "It does not fit with our corporate priorities. We do not see how it fits in."

So he said, "All right. I am going to do it on my own."

And he went off on his own. Luckily, in this case, he was able to attract the support and the time that he needed, and he brought forward this great new invention that has had such dramatic implications for our country.

Look also at this fellow in Tennessee who invented the brandnew socket wrench. He was working for Sears and Roebuck. And he has been in the courts for years and years and years, trying to get a fair allocation of the resources created as a product of his own inventiveness, his own imagination. What kind of incentive does his experience give to others in large corporations?

We have got to make it possible for American inventors in the tradition of Bell and Edison and others who have worked on their own, with small groups and few resources in the beginning, and make it possible for them to let their imaginations and spirits soar, as can happen so frequently in this country, to make it possible for the United States to take advantage of this hole card. This legislation makes that possible.

The NSF program on which it is based has been an unparalleled success. All of the witnesses said that this is an idea that works, it is an idea that makes it possible for America to reach out to the small inventors, to reach out to the inventive genius that rests in some of the small firms, most of them centered around a single figure, or a single group that works well together.

We have got so much money being spent by the Federal Government on research and development, and if you look at the overwhelming amount that goes to these large institutions, it is incredible. And they just sort of crank it out and they keep on going. We get some money back on the investment, sure; but if you look at the payoff from the small firms, if you look at what we get in return for their efforts, you will support this bill.

Mr. WEBER of Minnesota. Mr. Chairman, I yield 1 minute to the gentleman from California (Mr. DREIER).

Mr. DREIER. Mr. Chairman, I rise in strong support of this legislation. Next to substantially reducing interest rates, which of course is a top priority of ours, I believe that passage of this bill is the most important thing that we can do for America's small businesses. This act will finally ensure that small businesses will receive their fair share of Federal research and development dollars. This act makes perfectly good sense when one recalls that the cost per innovation in a small firm is far less than in a larger firm. There is a proven relationship between the decline in U.S. productivity and the decrease in American innovation as compared to other nations. Small high-technology firms have one of the fastest rates of growth in net new employment.

Now, no one has said that this bill is the panacea for America's economic problems. I do not think that anyone would make that claim. But, simply, it is an attempt to harness America's most ingenious source of innovation, the small business sector.

I represent many colleges and universities, and I, too, am very concerned about them. By enacting this bill we will not be saying that universities,

Mr. GORE. Mr. Chairman, to my colleagues on the Small Business Committee, the gentleman from New York, the gentleman from Maryland, the gentleman from Iowa, the other gentleman from New York, the gentleman from Florida, and others who have played such an important role in bringing this bill to the floor: I want to pay my compliments and tell them how much their efforts are appreciated by so many in this country.

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I represent many colleges and universities, and I, too, am very concerned about them. By enacting this bill we will not be saying that universities,

nonprofit labs and big businesses do not have a unique and valuable role to play with regard to research and innovation. We are saying that small businesses have a similarly unique role and valuable role, and they deserve the opportunity to fulfill that role.

I urge support of this bill.

Mr. LAFALCE. Mr. Chairman, I yield 2 minutes to the gentleman from New York (Mr. ADDABBO).

(Mr. ADDABBO asked and was given permission to revise and extend his remarks.)

Mr. ADDABBO. I thank my colleague for yielding, and I thank the chairmen of the subcommittee and the full committee for bringing this legislation forward.

The need for this legislation has been upon us for may years. H.R. 4326 did not come about just by chance. I have sat as a member of the Small Business Committee for many years now and chaired the oversight committee. And for many years we have tried and urged the various agencies to do more, to do more to break out small business contracts to help all parts of our economy.

We know that small business is at least 96 percent of our total economy. The biggest buyer is the Government, and in that Government the biggest buyer is the Department of Defense. We have urged them to break out, take large contracts, look at them, review them for division into smaller parts. There is much that can be done to help competition by helping to build small businesses. We have found where that has happened, the cost to the Government has gone down.

There is a question as far as DOD set-aside. I tell my colleagues, and my colleagues on the Armed Services Committee in particular, the Deputy Under Secretary of Defense for R. & D. stated:

> We wholeheartedly support this concept, as we believe it is the most far-reaching initiative to bring small innovative high-technology firms into the Federal Government's procurement process for R. & D. Our conviction of the soundness of the SBIR program is evidenced by the fact that we initiated the development of an almost identical program approximately a year ago.

As many of my colleagues are aware, at that time the Department felt it could not support our bill as it felt that the percentage of the R. & D. budget earmarked for the SBIR program was too high and the in-house R. & D. budget was not excluded from the SBIR base. It was supporting legislation which would be along the lines of the Senate's bill, S. 881. I am pleased to say that the substitute amendment before you today is in accordance with the Department's position, and that this version has the wholehearted support of the President.

It is not difficult to understand why the Department of Defense would find the SBIR program embodied in this legislation attractive. The administration's budget calls for a large defense buildup. Many, however, have raised questions about the ability to the existing defense industry to support this buildup. The SBIR program is an excellent way for the Department to become part of the communication network which flows between small, innovative high-technology firms. Not only does the Department have the advantage of the work conducted under its SBIR program, it also has the advantage of finding out about new technologies and firms due to the large number of proposals submitted for the limited number of SBIR funding awards. In its first competition last year, DOD received over 10 proposals for each award it made. As one Air Force officer noted:

> The limited number of awards means that many of the losing proposals are also of very high quality. We find that we are learning about new technologies we never knew existed before.

The SBIR approach is no doubt also attractive to the Department because of the proven cost efficiency and innovativeness of small high-technology companies. A study for NSF found "Any given R. & D. project would cost 3 to 10 times as much to develop by a large firm as by a small one." Another NSF study found that small firms produce 24 times as many major innovations per R. & D. dollar as large firms and 4 times as many as medium-size firms. For a Department trying to eliminate inefficiency and waste in its R. & D. funding, those are important findings.

Small firms can conduct a wide variety of research and development for the Department of Defense. Under SBIR programs, the agency retains total control over the topics to be chosen, the proposals to be funded, and the administration of those projects. As the Department testified, the topics listed in its first SBIR solicitation were chosen by the Army, Air Force, Navy, and the Defense Advanced Research Project Agency in accordance with their assessment of where small firms could make major contributions to that Agency's mission. The list of topics is instructive of the potential contributions small firms can make. It included: Acoustics, aerodynamics, artificial intelligence and stochastic processes, chemical detection and decontamination, combustion processes, computer architecture and software development, computer graphics and control displays, disease prevention and treatment, biotechnology, electromagnetics, electronic communications, and noise suppression, fluid mechanics, human performance and productivity measurements, lasers and photo-optics, manufacturing processes, materials and coatings, navigation, nuclear burst and radiation detection, ocean physics and engineering, ocean science, solar and electrical power, and solid lubrication.

It is revealing to compare these topics with the areas highlighted as vital for national security in the latest 5-year outlook on science and technology which was submitted to Congress in January of this year. These topics were developed by an interagency task group on national security. They are microelectronics, electronic systems, materials technology, aeronautics, space defense and surveillance, nuclear test detection, and human resources. The correspondence between these topics and the Department of Defense's SBIR topics cannot be taken as accidental. In all parts of our economy, small firms have become the scientific and technological pathfinders, often developing totally new industries such as biotechnology, computer software, and artificial intellegence in the process.

As the 5-year outlook notes: "The strength and productivity of a nation's advanced technological capability have become major elements in any geopolitical calculation." Small high-technology firms are the primary source of major innovations in the United States. They are among the most cost efficient performers of R. & D. and have one of the fastest rates of productivity growth. This legislation will provide an important and vital stimulus to this key part of our defense industries. And since these firms also have one of the fastest U.S. rates of growth in net new jobs, and tax dollars, it will also provide an essential shot in the arm for our ailing economy.

Mr. McDADE. Mr. Chairman, I yield such time as she may consume to the gentlewoman from Maine (Mrs. SNOWE).

Mrs. SNOWE. I thank the gentleman from Pennsylvania for yielding me this time.

Mr. Chairman, I rise in support of H.R. 4326, the Small Business Innovation Act. This bill will unquestionably aid the small business sector of our American economy. New production innovation is essential to the growth of the U.S. economy. It is a proven fact that small businesses produce these innovations at a rate 24 times greater per research dollar than larger firms. Currently, small businesses nationwide receive only an estimated 3.5 percent of all Federal research and development funds. Given the fact that small firms are much more productive when it comes to producing results in the field of research and development, does it not follow that we should channel more Federal money to that sector? I think we have a responsibility to the U.S. taxpayer to insure that his money is spent where it will produce the best results.

The Small Business Innovation Act targets, after a 4-year phasein, a maximum of 1.25 percent of the $43 billion of the Federal research and development budget to fund initial work on innovative concepts by small companies. If the Small Business Committee's substitute amendment is agreed to, the set-aside in 1982 dollars would

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It is not difficult to understand why the Department of Defense would find the SBIR program embodied in this legislation attractive. The administration's budget calls for a large defense graphics and control displays, disease prevention and treatment, biotechnology, electromagnetics, electronic communications, and noise suppression, fluid mechanics, human performance and productivity measurements, lasers and photo-optics, manufacturing processes, materials and coatings, navigation, nuclear burst and radiation detection, ocean physics and engineering, ocean science, solar and electrical power, and solid lubrication.

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amount to $377 million of the $43 billion budget for research and development. I might emphasize that we are not asking for increased outlays for this program, but for a rechanneling of a small segment of total funds to a highly productive, efficient component of the economy with a proven track record.

Also, I think it important to note that the method of awarding these research and development funds under the small business innovation program will be carried out on a truly competitive basis. Small businesses will be solicited to submit their research and development proposals to appropriate agencies. After analysis, those proposals which are deemed worthy will be partially funded so the companies involved will be able to further demonstrate the economic and technological feasibility of their concept. Review of proposals at this point will determine which are the most promising among the applicants, but final development and marketing of the projects will be left to the private sector.

This same highly competitive review process has been successfully used by the National Science Foundation where 400 awards were made from 3,800 proposals. That is true competition. Mr. Chairman, this bill will give the United States a proven, systematic approach to increase innovation and aid the small business sector while not requiring increased appropriations. It will be the catalyst for increasing our Nation's productivity via innovation. Mr. Chairman, I strongly endorse the passage of H.R. 4326, the Small Business Innovation Act.

Mr. LAFALCE. Mr. Chairman, I yield such time as he may consume to the gentleman from Florida (Mr. IRELAND).

(Mr. IRELAND asked and was given permission to revise and extend his remarks.)

Mr. IRELAND. Mr. Chairman, I rise to speak in support of H.R. 6587. Why are we here today? The answer is simply that small business is the Nation's innovator yet Federal policies pay only lipservice to that fact. First, some facts if you will indulge me. A National Science Foundation study, "Science Indicators," NSF, 1979, disclosed that, for every R. &. D. dollar, small companies produce 4 times more innovations than medium-sized companies and 24 times more innovations than large companies.

A study by the Office of Management and Budget has shown that more than half of the major technological advances this century originated from individual inventors and small companies. Many of these inventions sparked major new U.S. industries and growth companies.

If we have tended to disregard American's inventive talents, other nations have not. One disturbing trend is that foreign interests have been buying control of several of our small high-technology companies. Moreover, Federal R. & D. expenditures relative to GNP have slipped gradually while the R. & D. ratios of such countries as Japan and West Germany have been rising. One reflection of this is that foreign companies and inventors have been claiming a rising proportion of U.S. patents. In 1964, only 22 percent of the patents issued by the U.S. Patent and Trademark Office went to foreign applicants. In 1979, that share reached 38 percent.

Innovation has always been a hallmark of America's strength. "Technology transfer" to other countries has been a bulwark of our international trade. Yet the Nation risks losing its leadership in innovation.

The most productive target for R. & D. dollars is unquestionably small businesses. Polaroid, Xerox, and countless other growth companies of the 1960's and 1970's were, after all, once small entities themselves. A more recent success story is small business' development of the microelectronic industry. I think that says enough about the need for the bill.

Now let us discuss who opposes the bill. It is no secret that large universities and other large institutions have fought this bill. They do not want to give up a share of their pie. We know that.

But let me talk about another group—That is, those in our Federal agencies who are reluctant to change their ways and direct their attention to small and medium-size businesses. Whether by design or inertia they have not responded to the many requests, supported by serious studies, to include the innovative small businesses of America in their research and development plans. With this legislation we will be able to exercise the necessary oversight to see that the public requests of the past 15 years are honored. I urge support of this important legislation.

The CHAIRMAN. The gentleman from New York (Mr. LAFALCE) has 9 minutes remaining, and the gentleman from Pennsylvania (Mr. MCDADE) has 11 minutes remaining.

Mr. LAFALCE. Mr. Chairman, I reserve the balance of my time.

Mr. MCDADE. Mr. Chairman, I yield 1½ minutes to my distinguished colleague, the gentleman from New Jersey (Mr. SMITH), who has done so much on this bill and on so many other matters in the committee.

Mr. SMITH of New Jersey. I thank the gentleman from Pennsylvania for yielding and for his kind comments.

Mr. Chairman, I rise in strong support of H.R. 4326, the Small Business Innovation Research Act. As a sponsor of this legislation, I believe this bill present us with an opportunity to revitalize small business—the most innovative and productive sector of our economy.

Support for this legislation has been very strong—it was endorsed by the Small Business Committee by 40–0, and passed in the Senate by 90–0. I also want to remind my colleagues that H.R. 4326 would earmark a modest 1.25 percent of each Federal agency's R. & D. budget for small business. It would phase in this amount over a 4-year period, beginning with 0.2 percent the first year. Clearly, however, this modest amount of Government funding would be a strong and beneficial investment in small business research.

Mr. Chairman, between 1977 and October 1981, the National Science Foundation small business research program received over 2,000 research proposals and funded 286 of them. According to the Small Business Committee report on this program, the results have been very impressive. Twenty one phase II grantees in the 1977 solicitation received $23 million in private follow on funding. Major investments have included two small firms by a major chemical company and a small business investment company, and six smaller one in six other firms. These 21 firms have since doubled their employment.

The National Science Foundation has reported a number of new firms started as a result of the program, and some 15 inventions reported. There are now a number of new products and processes under development, including an instrument to measure the fracture toughness of metal which is already on a worldwide market. This impressive list of accomplishments is a tribute to the great success of this program.

Mr. Chairman, there is a proven relationship between the drop in our Nation's productivity and the decrease in innovation we have experienced in our national economy. I firmly believe that the expansion of small business is the key to turn the burden of unemployment around, and get productivity on the move again. We should remind ourselves of the vital contributions which small business makes to our economy—86 percent of the new jobs created in our economy and over half of the private sector gross national product.

The opportunity to pass this legislation comes at a time when small business has been suffering in our economy. High interest rates, unemployment, inflation, and a slowdown in economic growth have hit the small businessman the first and hardest. Small businesses are failing at a rate of 25,000 per year. All of this adds on more and more numbers to the unemployment rolls, and further decreases tax revenues. Mr. Chairman, we need to act now in order to turn this situation around.

The Small Business Innovation Research Act is the answer to many of these problems. Without the additional bureaucratic redtape associated with other set-aside programs, at least 1.25 percent of research and development funds will be awarded on a highly competitive basis to small business. The legislation requires that an

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agency determine within its research and development needs the categories of projects to be opened up for bidding by small business. There is no reappropriation of funds from one program area to another without direct authorization and appropriation of those funds.

It is time, Mr. Chairman, that Congress took a strong stand in favor of small business in this country. We must make the most productive use of our limited Federal dollars. High technology is the hope of America in the future, and as we have seen from the past success of this program, the Small Business Innovation Research Act is the first step to help pull us through.

Mr. Chairman, I yield back the balance of my time.

Mr. McDADE. Mr. Chairman, I reserve the balance of my time.

Mr. LAFALCE. Mr. Chairman, I yield 2 minutes to the gentleman from Louisiana (Mr. ROEMER).

(Mr. ROEMER asked and was given permission to revise and extend his remarks.)

Mr. ROEMER. I thank the gentleman for yielding.

Mr. Chairman, I have heard a lot of conversation today about this bill. I think it is a good bill. I think it is the kind of bill that we need.

Some people have critcized the bill, saying it is a protectionism bill, that by the set-aside of this small amount of our research and development money, we are somehow protecting small business to the harm of free enterprise and a competitive America.

Nothing could be further from the truth. The evidence presented here today and in our committee shows clearly that both on the yardstick of innovation and on the yardstick of job creation, small business stands No. 1, far outstripping big business. This small set-aside is not for small business. It is for our country. The fact is that the bureaucrats and the agencies, as currently constructed, like to deal eye to eye with component parts, other large agencies in private industry, that is, big business, bureaucrat to bureaucrat.

What we are trying to do here is let small business get a toe in the door. The fear of the opponents is not so-called protectionism. Their real fear is the ultimate competition for research dollars rising from this bill will mean a great deal for our country in terms of innovation. And job creation, and a loss of monopoly advantage for big business and big universities.

Mr. Chairman, I urge the support of the Members for this fine bill.

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Mr. McDADE. Mr. Speaker, I reserve the balance of my time.

Mr. LAFALCE. Mr. Speaker, I reserve the balance of my time.

The CHAIRMAN. Both the gentleman from Pennsylvania (Mr. McDADE) and the gentleman from New York (Mr. LAFALCE) reserve their time to the end of the debate.

The gentleman from Georgia (Mr. McDONALD) is recognized for 15 minutes.

Mr. McDONALD. Mr. Chairman, I rise in support of the Committee on Armed Services amendments to the legislation cited as the Small Business Innovation Act of 1982. The amendments proposed by the Committee on Armed Services:

First, would exclude the Department of Defense (DOD) and the Central Intelligence Agency from the term "Federal agency" for the purposes of H.R. 6587; and second, would exclude the funds appropriated for atomic energy defense programs of the Department of Energy from the research and R. & D. budget of that department for the purposes of the small business innovation research program defined in H.R. 6587.

Mr. Chairman, the stated purpose of H.R. 6587 is to amend the Small Business Act to strengthen the role of the small, innovative firm in federally funded research and development; to utilize Federal research and development as a base for technological innovation to meet agency needs; and to contribute to the growth and strength of the Nation's economy. The Committee on Armed Services strongly agrees with this purpose.

However, the committee does not agree with the approach incorporated in this legislation. In fiscal year 1981 the Department of defense awarded 7.4 percent of its prime research and development contracts to small business. Almost all of those awards were for hard-core research and development. The vast majority of these contracts were awarded as a result of open fair competition. Thus, small innovative businesses have successfully competed in the marketplace when pitted against medium- and large-sized businesses.

The bill considered would allow only small businesses to bid on certain contracts; thus, H.R. 6587 would thwart the efforts currently undertaken to maximize competition.

In the hearings before the Research and Development Subcommittee, the witnesses were in agreement that this program is a beneficial program for small business, although some believe various changes should be made. The small business programs in the Department of Defense and the Department of Energy are very effective in stimulating small business participation in these agencies' activities. H.R. 6587 would disrupt these highly successful programs and require that they be completely restructured.

Furthermore, essentially all of the funding for the Department of Energy atomic energy defense program must be provided directly to the federally funded Government-owned contract-operated (GOCO) facilities that include seven fabricating facilities and three weapons laboratories. Research, development, design, and testing of nuclear weapons prototypes and the manufacture of nuclear weapons on the Department of Energy atomic energy defense program take place at the GOCO's. Small business is not equipped to handle the highly classified equipment and radioactive materials necessary in the design, development, and testing of nuclear weapons. However, due largely to the efforts of the Department of Energy, more than 500 highly qualified and certified small businesses are awarded subcontracts each year for specialized parts and equipment for use in the nuclear weapons and naval propulsion programs.

In addition to the receipt of prime contract awards, small businesses are receiving an increasing share of subcontract research and development awards. The Department of Defense recently surveyed 36 of its largest prime contractors. Of the dollars received by these prime contractors, small business received 6.6 percent of that money in subcontract awards.

Furthermore, both the Department of Defense and the Department of Energy have established small business programs. For example, the Department of Defense has instituted the defense small business advanced technology program, known as the DESAT program. The purpose of DESAT is to exploit the innovative capabilities of this Nation's small science- and technology-based companies in providing solutions to some of the difficult research and development problems confronting the Department of Defense. In support of this program, DOD recently mailed approximately 32,000 copies of the program opportunities brochure (holdup brochure). The small business R. & D. community responded with 1,103 proposals. To date 100 firms have been selected for contract awards as a result of this program.

The Committee on Armed Services is fully supportive of increasing the Nation's overall technology and enhancing the environment for small business; but the Department of Defense and the Department of Energy should be able to continue to expand their already successful small business programs as presently structured.

I would strongly urge, therefore, that you support the Committee on Armed Services amendments to allow these programs to continue as they currently exist.

Mr. Chairman, I yield 3 minutes to the gentleman from California (Mr. McCLOSKEY).

(Mr. McCLOSKEY asked and was given permission to revise and extend his remarks.)

Mr. McCLOSKEY. Mr. Chairman, I would like to speak against this bill. In the 15 years that I have been in the House I have rarely seen better intentions with a worse result.

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Mr. McDADE. Mr. Speaker, I reserve the balance of my time.

Mr. LAFALCE. Mr. Speaker, I reserve the balance of my time.

The CHAIRMAN. Both the gentleman from Pennsylvania (Mr. McDADE) and the gentleman from New York

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Armed Services amendments to allow these programs to continue as they currently exist.

Mr. Chairman, I yield 3 minutes to the gentleman from California (Mr. McCLOSKEY).

(Mr. McCLOSKEY asked and was given permission to revise and extend his remarks.)

Mr. McCLOSKEY. Mr. Chairman, I would like to speak against this bill. In the 15 years that I have been in the House I have rarely seen better intentions with a worse result.

Every report that the Government Accounting Office has ever given to us about the effectiveness of the expenditures of Federal moneys in set-aside programs has indicated grave concern over the use of the set-aside program to accomplish a good purpose.

Now last year, in 1982, so far as we know, about 5.5 percent of the Nation's engineers and scientists were engaged in companies that qualify as small businesses, yet 6.8 percent of the Federal research and development awards went to such small businesses around the country. In other words, they received more awards for research and development than the number, percentagewise, of scientists and engineers employed by those small businesses.

Second, this assistance to small business does not go to the small businesses that are in difficulty in this country, the mom and pop groceries, the small manufacturing plants. This assistance is set aside for a particular kind of small business, the high technology research and development companies.

I represent a district in California known as Siliconce Valley. For good reason, it is the headquarters of the American Electronic Association, the largest professional association of small high technology businesses in the country.

That association has come and testified against this bill and said in effect if small businesses want to succeed in this country, the last thing they want is government assistance. What hurts small business is the paperwork and compliance with government regulations, including those dealing with Federal Government contracts. Small businesses are successful, when they are, in par because they do not have to maintain the overhead to comply with complex governmental regulations.

When Congress changed our tax law in 1978 to reduce capital gains ceilings from 48 to 28 percent, and this last July when we reduced it further to 20 percent, we did more for small high technology businesses than we could possibly do by a set-aside program. In the year 1977, for example, only $75 million was available for capital investment in high technology research companies.

By the changes we have made in the tax law this year about $1.8 billion will be invested in small high technology businesses. There is no segment of small business today that is more successful with private enterprise and private dollars, or less needing of government subsidy, than high technology businesses.

Take the high technology, for example, that developed the Apple computer or the Atari games or the semiconductor or the laser companies.

The CHAIRMAN. The time of the gentleman from California (Mr. McCLOSKEY) has expired.

Mr. McDONALD. Mr. Chairman, I yield 3 additional minutes to the gentleman from California (Mr. McCLOSKEY).

Mr. McCLOSKEY. In not one of those businesses has mandated Federal research money been an essential, necessary or even a desired part of the development of those businesses. Small high-technology business today can attract capital because if you or I or any other investor had been privileged, for example, to get 100 shares of Atari stock, or 100 shares of Apple or 100 shares of a similar small company, we would be millionnaires today because a high-risk investment in high technology can pay off many times the investment dollar. If we wanted to give a subsidy to a small building contractor, if we wanted to give a subsidy to the small manufacturer, it would be understandable, but no proponents of this bill would deny that in this bill we are setting aside 1¼ percent, that would be $377 million this year, we are setting aside $377 million as a subsidy to small high-technology companies. At a time of diminishing research dollars we are assigning some of those dollars to one of the most flourishing parts of the small business economy. It does not make sense. Now one other thing. What does this bill do.

It sets up by its very nature a required small business innovative research program in every Federal agency that is assigning out money for Federal research and development over the $100 million level. The Congressional Budget Office indicates—and the administration concurs—that this program will cost $14 million to administer. Note that the bill says no more than 1.25 percent and no less. So that in effect, if we have a $40 billion research budget, each agency with a piece of that budget must say that 1¼ percent will be administered under this particular program. And note on page 7 of the bill, that that is in addition to whatever the 6.8 percent that small businesses may presently get by free competition or sole source awards. So, if small businesses last year got 6.8 percent, next year they must get additional awards until they get an additional 1.25 percent.

Note the difficulty that each agency that gets dollars awarded by Congress to do research must estimate what will ordinarily be received by small businesses and then set aside a specific sum of money in addition to that to go out and seek for awards to small businesses.

In my judgment, this perverts the entire research process. We are trying to spend research money for the Government's benefit, not for the benefit of small business. If small business successfully competes for some of that benefit to the Government, as it obviously has in the past, then there is no need for this bill.

In 1978, we amended the law to specifically say that each Government agency dealing with research must not discriminate against small business and must make the opportunity to compete available to small business. This bill now goes further and requires that 1¼ percent be granted to small businesses, regardless of the Government's needs or preferences.

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Mr. McDONALD. Mr. Chairman, I yield 3 additional minutes to the gentleman from California (Mr. McCLOSKEY).

Mr. McCLOSKEY. Mr. Chairman, let me go back to one other thing and take up the impact this has on the universities of this country.

All of us have gone through this painful budget process where we have had to cut back the moneys awarded to the universities for the maintaining of the scientific base in the university system of this country. We are having to cut back student loan guarantees and the administration has asked that we end completely the program for loans to graduate students. With inflation diminishing the amount of money available to the great science programs in universities of this country——

Mr. WEBER of Ohio. Mr. Chairman, will the gentleman yield?

Mr. McCLOSKEY. I yield to the gentleman from Ohio.

Mr. WEBER of Ohio. I thank the gentleman for yielding.

Is it not true that small business produces 39 percent of the GNP of our country but receives only 3½ percent of the Federal R. & D.?

Mr. McCLOSKEY. I would not contest those figures at all. I would say that is probably correct and that the small businesses that are most successful in producing those jobs and that GNP are small businesses that are not dealing with the Federal regulations that will be applied under this program.

Mr. WEBER of Ohio. If the gentleman will yield further, how can it, therefore, be said that small business already is receiving its fair share of R. & D. under the present system where it is not receiving its fair share based on the GNP?

Mr. McCLOSKEY. But there is not the particular instance involved. What we were talking about is that the engineers, the scientific community in the business, big businesses as opposed to small, the figures we have from the National Science Foundation are that 5½ percent of the engineers and scientists who do high technology research are employed today by small business and last year they got more than 5.5 percent of the awards. They got 6.8 percent.

The Defense Department, which deals with the largest of all of these R. & D. programs, under current practices last year gave small businesses 7.4 percent of the R. & D. contracts awarded by the Federal Government. So clearly these small businesses are not receiving less than their fair share.

cessful with private enterprise and private dollars, or less needing of government subsidy, than high technology businesses.

Take the high technology, for example, that developed the Apple computer or the Atari games or the semiconductor or the laser companies.

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□ 1315

As I say, when we talk about small business, we run the gamut all across the country. Small businesses which employ engineers and scientists are not exactly impoverished; but that particular profession is getting more than their share of Government awards.

I would be glad to yield to anybody to continue this debate. I had wanted this debate when the committee had its time; but unfortunately, there was no one on the committee that opposed the bill.

Mr. LAFALCE. Mr. Chairman, will the gentleman yield?

Mr. McCLOSKEY. I yield to the gentleman from New York.

Mr. LAFALCE. If the gentleman will yield on that point, the gentleman and I both share a desire for accuracy. I would, therefore, like to quote from a special report done by the National Science Foundation, document NSF 81-305, done in the year 1981. I do not know where the gentleman gets his figures, but I am quoting from a report——

Mr. McCLOSKEY. We got ours from the National Science Foundation. It was in the testimony before the gentleman's committee of Ed Zschau, the former chairman of the American Electronics Association. The gentleman recalls where I got the testimony.

Mr. LAFALCE. He was the chairman of that association. I am quoting now——

The CHAIRMAN. The time of the gentleman from California has expired.

Mr. McDONALD. Mr. Chairman, I yield 1 additional minute to the gentleman.

Mr. McCLOSKEY. Mr. Chairman, if the gentleman will take no more than 30 seconds, so I could at least answer his question.

Mr. LAFALCE. Fine. Referring to NSF report 81-305, they have a chart indicating that the R. & D. scientists and engineers by company size, firms with 500 or less, have 6 percent; yet when it comes to the Federal R. & D. expenditures by company size, they are getting 2 percent, and it is right here in black and white.

Mr. McCLOSKEY. The figures that I used on the 6.8 percent came from a Government report.

Mr. LAFALCE. I have the Government report in my hand from which I am quoting this minute.

Mr. McCLOSKEY. Well, in this Government and in this administration, as prior administrations, you can get conflicting views from different agencies; but would not the gentleman concede that the only small business innovation research program conducted by NSF, when asked should this program be extended Government wide, the General Counsel of NSF said no, that there was no indication from NSF's procedures and experience that this could be extended profitably on a nationwide basis. Will the gentleman concede that from that General Counsel letter from NSF?

Mr. LAFALCE. I am unaware of that particular letter, but I am aware that the NSF does support this bill, the Reagan administration supports this bill, and the Carter administration supported this bill.

Mr. McCLOSKEY. The gentleman knows how the Reagan administration came to support this bill. It opposed it until the AWACS vote and then changed its position.

Mr. LAFALCE. Well, that is the gentleman's opinion. All I know is what the official position and the testimony of the administration and its representatives has been.

The CHAIRMAN. All time has expired.

PARLIAMENTARY INQUIRY

Mr. WEBER of Ohio. Mr. Chairman, a parliamentary inquiry.

The CHAIRMAN. The gentleman will state his inquiry.

Mr. WEBER of Ohio. Mr. Chairman, I have an inquiry. In the absence of the gentleman from Alabama (Mr. DICKINSON), will the Chair recognize me to control the time which would have been allocated to the gentleman from Alabama (Mr. DICKINSON)?

The CHAIRMAN. No; the time belongs to the Armed Services Committee minority.

The Chair will recognize the gentleman from Alabama (Mr. DICKINSON) if and when the gentleman is able to be here; but the Chair will recognize Members as indicated in the order in which they are on the list, the order which the Chair read.

The next speaker on the list is the gentleman from Michigan (Mr. DINGELL), the chairman of the Energy and Commerce Committee.

At this point, the gentleman is in the Chamber. The Chair recognizes the gentleman from Michigan (Mr. DINGELL) for 15 minutes on behalf of the Committee on Energy and Commerce.

Mr. DINGELL. Mr. Chairman, I yield myself 4 minutes.

(Mr. DINGELL asked and was given permission to revise and extend his remarks.)

Mr. DINGELL. Mr. Chairman, this is a bad bill. It should be defeated. It is rare that I take the well to denounce legislation coming from other committees, but I think in this instance it is deserved.

We must look at the bill and look at the framework against which it functions. We are concerned about our great national goals.

The Energy and Commerce Committee has for many years, more than the time that I have been here, been concerned about the great National Institutes of Health and the health research programs of this country. In the next 3 years, under the budget which was adopted by the House of Representatives just recently research for health will be cut by one-third. This proposal would level against those research programs additional cuts of 1 percent or better a year. That means that a shrinking salami will be continued to be sliced thinner and thinner.

Now, it might be observed that this proposal is not going to hurt research, but it is going to help small business. In point of fact, in health research, which is highly complicated work, done on a very carefully integrated basis. All of the national health organizations and research organizations are involved. This bill will reduce the amount of money by 1 percent per year which is going into our national coordinated program of health research supported by such organizations as the American Cancer Society, the American Lung Association, and all of the other great voluntary health and health research organizations.

This proposal, were it to originate from the Small Business Committee, setting out a research program which would be dedicated and oriented toward small business and which would be carried out as a separate program might have merit. It might be that the House could or should support that kind of program. This is nothing of the sort. The Small Business Committee does not have the power or the capacity or a situation in which we could expect that they could pass such a piece of legislation. So what that committee does now is to seek to attach a set-aside of existing research. This research, which is desperately important to the national health is now being curtailed by budget constrictions. The Small Business Committee seeks to make a set-aside against just those moneys.

Now, let us look at where in fact we are. Imposing a mandatory set-aside on health research programs was always a bad idea and is more so in the light of budget decisions made last week which will cut real dollars by the end of the next 3-year period by one-third.

The small business bill would remove $50 million alone from the National Institutes of Health budget over the next 3 years. That is the equivalent of ending 350 national institutes of national health grants.

The CHAIRMAN. The time of the gentleman from Michigan has expired.

Mr. DINGELL. I yield myself 2 additional minutes.

The bill would cut into the effectiveness of national health research programs. What it would do would be to cause people who are now doing research work at our colleges and universities to set up private profit or nonprofit businesses. These would be right across the street from the college or university where they do their work. The same work, perhaps less well done, perhaps less in quality or quantity, and I would suspect that would be the case, would be done. It would be done in many instances, if

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not most instances, by the same people; but it would cost more because the salaries and the payments and the emoluments under these circumstances would be vastly larger.

The National Institutes of Health have always awarded grants on the basis of merit. This system of grant selection would be on the basis of the fact that somebody was a small businessman. The system of grant selection has a magnificent record of chosing excellent research programs and projects and which have found cures and ways to reduce and eradicate the serious diseases that afflict Americans.

The set-aside would establish a loophole through which NIH would be forced to fund projects of lesser promise simply to meet an arbitrary set-aside provision.

So if you are interested in health, if you are interested in health research, then at all costs oppose this outrageous piece of legislation.

Researchers who would be attracted by the mandatory availability of funds under the set-aside and under less stringent criteria would certainly move to acquire use and control of these funds and would move across the street, as I have said, to set up sham research corporations.

What this would do would be to establish a new race of beltway bandits.

The CHAIRMAN. The time of the gentleman from Michigan has again expired.

Mr. DINGELL. I yield myself 1 additional minute.

This would establish a new race of beltway bandits to procure advantages and benefits for themselves, without the careful scrutiny that goes on at NIH.

This legislation is opposed by almost everyone in the health field, from the American Medical Association, to all of the voluntary organizations and associations which research and which concern themselves with the problems of cancer, heart, lung, and the general health of the American people.

There is no excuse for this kind of an unjustified raid to reduce the quality of our health research and to diminish the availability of funds to serious research programs at the time most serious research programs are now undergoing the greatest cuts in history.

I would say that if the Small Business Committee wishes to set up a research program of their own, then let them do so, but let them not come down here with some kind of parasitic program which will drain moneys from useful, intelligent, and worthwhile research programs.

The CHAIRMAN. The Chair recognizes the gentleman from Illinois (Mr. MADIGAN).

Mr. MADIGAN. Mr. Chairman, I yield 3 minutes to the gentleman from Michigan (Mr. SILJANDER).

(Mr. SILJANDER asked and was given permission to revise and extend his remarks.)

Mr. SILJANDER. Mr. Chairman, small business has made a great contribution to America. Two out of three new jobs are created by small business. Eighty percent of all minority jobs in America are created by small business and over half of our GNP is created by small business.

Government tax policies of the past have deterred innovation of small business; yet between 1969 and 1976 smaller firms have created over 7.4 million new jobs, even though Government has done its best to squelch incentives.

A study by the Commerce Department indicates that young, high-technology companies have been growing at a rate of 40 percent annually, which I think is significant in terms of what we are trying to do here, that is, setting aside a miniscule portion of R. & D. moneys to help create incentive to small businesses.

It is time that we recognize that small business is, in fact, the backbone of our economy; the backbone of this country's economy.

As an innovator, it ranks at the top. As an employer, it ranks at the top, and as a supplier toward the capital growth of our Nation, small business again is right on top.

We have given incentive to individuals last year in our economic recovery program through tax cuts, IRA's, and all-saver's plans. We have given accelerated depreciation for larger businesses. I think it is time we matched that kind of philosophy and those types of incentives now for small business.

It is also time for this country to see the reality that other countries have given all the incentives needed to help their small business, which has put our small business at a disavantage in terms of competition.

This program would help in a small way with the competitive nature of small business in America to the foreign countries abroad.

Last, I think we should look at the fact that large corporations are not the sole creators of new ideas, but rather new ideas by small businesses have created many of the larger corporations.

I rise in support of this bill and encourage my colleagues to do as such.

Mr. DINGELL. Mr. Chairman, I reserve my time for the moment.

Mr. MADIGAN. Mr. Chairman, I yield 7 minutes to the gentleman from Utah (Mr. MARRIOTT).

(Mr. MARRIOTT asked and was given permission to revise and extend his remarks.)

□ 1330

Mr. MARRIOTT. Mr. Chairman, I would like to rise in support of this legislation.

I want to simply say that I think the Small Business Committee has done a pretty good job. They have had hours and hours of testimony on this issue. We have listened to everybody from across this great country, and we have come to the conclusion that this, in fact, is a good bill.

I am interested in the argument of my good friend, the gentleman form Michigan (Mr. DINGELL), who tries to show that somehow small businesses are dishonest and that they hurt the research effort. The gentleman implies that of course the universities and Government agencies and big business would not be.

I think that opinion simply strikes in the face of reality. I think history points out small businesses have done more for new innovations in this country than either universities, Government agencies, or big business.

Small business has a very good record in terms of technology. Sixty percent, now, of all Federal R. & D. contracts and grants are sole-source. That means they are negotiated or granted outright with no competition.

Big businesses and big universities basically have a lock on funding. They have gobbled up about 95 percent of these awards. And that is not really my definition of competition. Major universities and large businesses have teams of lobbyists running around Washington.

One such university, I believe, has 23 lobbyists who wire contracts and grants before they even get to their peer review process.

Mr. DINGELL. Mr. Chairman, will the gentleman yield?

Mr. MARRIOTT. In a moment.

Before they even get to the peer review process. And many times this peer review group contains the university and big business people.

So, I wonder what chance small business really has in competing for these Government programs.

If you believe in competition, if you believe small business ought to have a share, then this 1.25 percent set-aside is a very small price to ask.

Mr. DINGELL. Mr. Chairman, will the gentleman yeild?

Mr. MARRIOTT. I would be happy to yield to my friend, the distinguished gentleman from Michigan (Mr. DINGELL).

Mr. DINGELL. I thank the gentleman for yielding to me.

First of all, I am not talking about defense research; I am talking about research in the area of health. There, contracts are given on the basis of peer review and they compete against hundreds of thousands of other applications. There is a special preference now in the rules at NIH to take care of small business applicants and to permit commercial, small business applicants to have fair access.

But there is nothing which would prefer big business. What we are talking about with regard to NIH is basically the question of health research conducted by colleges, universities, and nonprofit associations which have a long history of careful work in this

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area under the most intense and careful scrutiny.

Mr. McDADE. Mr. Chairman, will the gentleman yield?

Mr. MARRIOTT. I would be happy to yield to my distinguished friend.

Mr. McDADE. I thank the gentleman for yielding to me.

Mr. Chairman, I just want to point out that when my dear friend from Michigan was addressing the House, he used the figure of 3 percent as a set-aside. That is not, of course, what the figure actually is. The record ought to be clarified.

Mr. DINGELL. One percent for 3 years.

Mr. McDADE. 1.25 is the set-aside. My colleague, unfortunately, has misstated the case. I may say he has engaged in a bit if hyperbole, which is sometimes his way.

The gentleman's amendment wants to exclude all HHS research, health-related, not just NIH. The gentleman tries ot obscure the issue and say we are somehow trying to destroy the cancer program at NIH.

The fact of the matter is that until January of this year, if you were a for-profit organization, you could not even submit an application of NIH; they would not even accept it.

A witness before our committee testified, a small, for-profit, job-creating, tax-paying free enterprise business, that the business had developed a platinum-based derivative anti-cancer drug effectively marketed all over the world.

When that small business tried to qualify for a NIH grant, they were rejected because they were a for-profit organization. So, guess what they had to do? They had to go out and form a nonprofit corporation. Subsequent to that, because they are so good, NIH gave the nonprofit corporation two grants, but not for a for-profit.

Mr. DINGELL. Mr. Chairman, will the gentleman yield?

Mr. McDADE. I am delighted to yield to my friend, the gentleman from Michigan.

Mr. DINGELL. I thank my good friend for yielding to me.

That has changed; for-profit institutions are now eligible.

Mr. McDADE. In what year was it changed?

Mr. DINGELL. It has changed.

Mr. McDADE. What year? They did it in January of this year because they saw this bill coming; that is the only reason they changed.

Mr. MARRIOTT. Mr. Chairman, I would just simply conclude by saying that I have as much confidence in small business' ability in this area as I do universities, big business, and other Government agencies; and I am convinced that this 1.25-percent set-aside will do much more good and will, in fact, create more jobs and ultimately wind up with better innovations.

Mr. BEDELL. Mr. Chairman, will the gentleman yield?

Mr. MARRIOTT. I would be happy to yield to the gentleman from Iowa.

Mr. BEDELL. Mr. Chairman, I think it should be pointed out the gentleman from Michigan pointed out the peer review system; people should be well aware that there are 2,000 peer reviewers in the NIH grants, 8 of them are business persons, and almost all of the balance are college-related people.

If that is the peers we want to review this thing, we had better be well aware of exactly what that peer review system is.

Mr. DINGELL. Mr. Chairman, I yield 3 minutes to the distinguished chairman of the Subcommittee on Health and the Environment, the gentleman from California (Mr. WAXMAN) who is known for his concern for health.

(Mr. WAXMAN asked and was given permission to revise and extend his remarks.)

Mr. WAXMAN. Mr. Chairman, I rise in support of the amendment to H.R. 4326 reported by the Committee on Energy and Commerce. This amendment would exempt biomedical research supported by the National Institutes of Health from the requirements of the bill.

The committee extensively considered the possible impact of H.R. 4326 on the Nation's health research programs. In our deliberations it quickly became evident that three factors were the most important:

First, existing NIH policies regarding the award of biomedical research grants;

Second, recent changes in NIH policies regarding grant award to small business; and

Third, evidence of a shortage of funds to support the development of new health care technologies.

The first purpose of the Commerce Committee amendment is to maintain the long-standing NIH policy of awarding Federal biomedical research grants strictly on the merit of the proposed research. This policy has served the Nation well by assuring the public that its money has always been invested in the very highest quality science. Our rapid progress in the understanding and treatment of conditions as diverse as leukemia, coronary artery disease, and diabetes testifies to the wisdom of this approach.

A set-aside of funds provided for one class of scientists would be the very antithesis of this traditional NIH policy. H.R. 4326 would divert over $50 million during just the next 3 years from promising investigator initiated projects. This $50 million—enough to support 350 highly rated research projects—would intensify the disruptions in the Nation's best research laboratories due to the President's fiscal year 1982 and 1983 budgets.

The second reason for the Commerce amendment is that a set-aside of NIH funds for small businesses is not necessary at this time. NIH has not ignored the need for greater attention to the small business community. Within the past year NIH has established three new policies with regard to small business firms:

First, scientists from for-profit firms are now eligible to receive NIH research grants for the first time;

Second, scientists from for-profit firms are now being appointed to NIH peer review committees; and

Third, for-profit firms are now allowed to retain the rights to patents developed with Federal funds.

These new policies will insure that scientists associated with small business firms will play a greater role in the NIH's future research program. This greater role, achieved through the traditional competitive process, will not compromise our Nation's tradition of scientific excellence.

To insure that these policies are actively pursued by NIH, yesterday the Energy and Commerce Committee reported H.R. 6457, the Health Research Extension Act of 1982. H.R. 6457 includes specific provisions requiring the NIH to publicize the new rules making for-profit entities eligible for NIH grants and to appoint individuals affiliated with small business firms to NIH peer review committees.

Finally, the major argument made in support of H.R. 4326 is that there is a need for additional funds to support the development of new technologies in the United States. It is suggested that increased applied technological research would improve the economy.

The committee has reviewed the evidence regarding this argument and believes that, no matter how it may apply in other sectors of the economy, it does not hold in the health care field. Most biomedical research supported by NIH does not result in a marketable product but in knowledge which is used to change medical practice or as the basis for further research.

The majority of health research supported by the Department of Health and Human Services is basic investigator initiated research. By definition, basic research is inherently different from applied or developmental research which small businesses have historically conducted. Basic research is rarely, if ever, initiated for its commercial potential.

In the two health care fields in which marketable products are produced, drugs and medical devices, industry surveys do not indicate a lack of financial support for research or of a lack of new products. Private sector support is so well established that the Federal Government, by and large, avoids supporting work in these two areas.

Evaluations of the role of technology in the health care field suggest that better managed, rather than more, technology is the critical need. Studies show that up to 75 percent of hospital cost increases is attributable to new technologies and procedures. With hospital costs now increasing at the rate of over 18 percent per year,

reason they changed.

Mr. MARRIOTT. Mr. Chairman, I would just simply conclude by saying that I have as much confidence in small business' ability in this area as I do universities, big business, and other Government agencies; and I am convinced that this 1.25-percent set-aside will do much more good and will, in fact, create more jobs and ultimately wind up with better innovations.

Mr. BEDELL. Mr. Chairman, will the gentleman yield?

Mr. MARRIOTT. I would be happy to yield to the gentleman from Iowa.

from promising investigator initiated projects. This $50 million—enough to support 350 highly rated research projects—would intensify the disruptions in the Nation's best research laboratories due to the President's fiscal year 1982 and 1983 budgets.

The second reason for the Commerce amendment is that a set-aside of NIH funds for small businesses is not necessary at this time. NIH has not ignored the need for greater attention to the small business community. Within the past year NIH has estab-

a lack of new products. Private sector support is so well established that the Federal Government, by and large, avoids supporting work in these two areas.

Evaluations of the role of technology in the health care field suggest that better managed, rather than more, technology is the critical need. Studies show that up to 75 percent of hospital cost increases is attributable to new technologies and procedures. With hospital costs now increasing at the rate of over 18 percent per year,

medical technologies and procedures will add as much as $3 billion to the cost of Federal health programs in the fiscal year 1983 budget.

Mr. Chairman, my criticism of this legislation and support for the Commerce Committee amendment should not be construed as opposing small business or the well-intended purposes of this legislation. I am well aware of the integral role these institutions have played in the growth and productivity of this Nation.

Small business can contribute to our Nation's health research effort but it must do so constructively and in keeping with our traditional policy of scientific merit and competitive peer review. Administrative changes at NIH have already opened the grant process to applications from small business.

The proposed quota system of grants to small business contemplated by this legislation is simply not necessary. Support for the amendment is a vote of confidence in the National Institutes of Health and a commitment of this Congress to maintaining the high standards of biomedical research in which we have lead the world.

Mr. Chairman, I urge that later, when we have the opportunity, we adopt the amendment coming out of the Committee on Energy and Commerce. I will personally vote against the bill even if this amendment is adopted for the reasons so eloquently articulated by my colleague, the gentleman from California (Mr. McCLOSKEY) in his comments earlier.

Mr. MADIGAN. Mr. Chairman, I yield such time as he may consume to the gentleman from Wisconsin (Mr. ROTH).

(Mr. ROTH asked and was given permission to revise and extend his remarks.)

Mr. ROTH. Mr. Chairman, I am very much in favor of this legislation. I think it is going to be good for research, good for development, good for jobs, revenue enhancing, and most of all, it is going to increase some productivity in this country.

Mr. Chairman, it has been said, "Research is exploration of the unknow, the untried, the unheard of; resources to do this job should be carefully and deliberately allocated."

That is what we are doing here. In my view and that of nearly 200 cosponsors of the bill in the House and nearly unanimous support for the Senate version of this legislation, America's small businesses are "exploring the unknown, the untried, the unheard of." Therefore as a former member of the Small Business Committee, I am pleased to finally see this bill come before us today. This bill "allocates resources to do this job"—researching and developing.

This is a jobs bill. Small businesses create 69 percent of the new jobs in our country. We are talking about a level of funding insignificant in comparison to the Federal budget we have spent months past authorizing and months ahead appropriating. This is $40 million this year to go to small business to create jobs.

This is a revenue-enhancing bill, too. These R. & D. funds will be allocated to small businessmen and women who pay taxes. As we know all too well, small business survives by finding new products, making new products, and creating a market for new products: Seldom is this done as expeditiously and efficiently in the public sector or in academia.

This is a productivity bill. A quick look at the past 10 years domestic and foreign patent awards gives one a true picture of the decline in innovation and productivity. Small business can and will create the new "whatits" and "gidits" that will propel us into the 21st century.

Let us view this legislation in the proper perspective. What is good for America's economy today is what is good for small business. Let us get on with it. Let us pass the Small Business Innovation Development Act and see small business lead the way to more jobs for American workers, more Federal revenue to balance the budget, and greater innovation and productivity to renew America's image and reputation abroad. Let us pass this very timely and important legislation.

Mr. MADIGAN. Mr. Chairman, I yield 3 minutes to the gentleman from Ohio (Mr. WEBER).

(Mr. WEBER of Ohio asked and was given permission to revise and extend his remarks.)

Mr. WEBER of Ohio. Mr. Chairman, I probably will not need to take my full 3 minutes, but I just want to rise again to assert my strong support for this bill and to point out that this is not a budget cut. It is a set-aside, or a put-aside; it is an allocation of only 1 percent out of the budgets of the different agencies that are affected to make these agencies more cost effective in the utilization of their funds.

It is not a cut in the budget; it is simply a direction as to how these funds are to be spent in order to make them more cost effective.

The second point I want to make is that it is news to me that the National Institutes of Health is suddenly so cost effective as to be an example of the way in which Federal dollars should be spent. I have read reports in the newspapers that would say just the opposite.

We need this legislation. We need to vote for it. We need to defeat the weakening amendments that have been suggested here today, in order to make agencies such as the National Institutes of Health utilize their dollars in a more cost-effective way.

Mrs. SNOWE. Mr. Chairman, will the gentleman yield?

Mr. WEBER of Ohio. I would be happy to yield to the gentlewoman from Maine.

Mrs. SNOWE. I think it is also important to point out the fact is that even at the maximum rate, 1¼ percent, at the end of 4 years, because we are talking about gradual increments in the next few years in which this money would be set aside for research and development. This bill would set aside $377 million out of a $43 billion research and development budget here in the Federal Government.

So that is all we are talking about, and I do not think that figure is a lot of money when you consider the overall research and development budget.

Mr. WEBER of Ohio. I thank the gentlewoman for pointing that out.

Mr. McCLOSKEY. Mr. Chairman, will the gentleman yield for a question to the gentlewoman?

Mr. WEBER of Ohio. I would be happy to yield to the gentleman for that purpose.

Mr. McCLOSKEY. I thank the gentleman for yielding.

Mr. Chairman, this debate, I think, is crucial, and some of the people I respect most in the House favor this bill. But note what the Members are doing. They are setting up a $377 million program to make money for small business. It is that specific goal that this bill has in mind.

On page 5, they make it clear that they set up a three-phased program: First, the Government will seek out small businesses to determine the merit of ideas submitted to the program; second, to develop those proposed ideas to meet the Government need; and third, where appropriate, a third phase in which non-Federal capital pursues commercial applications of the research and development, which may follow on.

Now, if it is desired to set up this program separately, if we want to set up a program to give $377 million to stimulate small business, we could not do it. But we have done it in this bill by taking it out of the existing research programs.

Why?

The CHAIRMAN. The time of the gentleman has expired.

Mr. McCLOSKEY. Mr. Chairman, I would ask for 2 additional minutes. I did not mean to ask the question and submit an argumentative statement.

The CHAIRMAN. The gentleman from Illinois (Mr. MADIGAN) controls the time.

Mr. MADIGAN. I do not believe the gentleman has that much time to yield at this point. I believe I have only 2½ minutes remaining.

The CHAIRMAN. The time of the gentleman from Ohio (Mr. WEBER) has expired. The gentleman from Illinois (Mr. MADIGAN) has 2½ minutes remaining. The gentleman from Michigan (Mr. DINGELL) has 4 minutes remaining.

Mr. DINGELL. I will yield 1 minute to my good friend, the gentleman from California (Mr. McCLOSKEY).

Mr. McCLOSKEY. I thank the gentleman for yielding.

For that 1 minute, I wonder if I could ask the gentlewoman from

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Mr. DINGELL. I will yield 1 minute to my good friend, the gentleman from California (Mr. McCLOSKEY).

Mr. McCLOSKEY. I thank the gentleman for yielding.

For that 1 minute, I wonder if I could ask the gentlewoman from

Maine to come back: If this program has merit, why not a separate bill to set up a $377 million program to help small business? Why take it out of the existing programs for the benefit of the Government?

Mr. DINGELL. If the gentleman from California will yield, I would observe that the reason the Small Business Committee is doing this is that they have as much chance getting elected Pope as they do have of getting a program of this kind through without riding on the backs of other programs that are not only desperately important to the national interest, but that are being also badly cut.

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Mrs. SNOWE. I would be happy to respond.

The CHAIRMAN. The time of the gentleman has expired.

Mr. DINGELL. Mr. Chairman, I yield 30 seconds to my good friend the gentleman from Wisconsin (Mr. OBEY).

Mr. OBEY. Mr. Chairman, I would simply like to say that I think it would be a great mistake if we do not adopt the Dingell amendment. I know this is well intentioned, but it reminds me of something Archie the Cockroach once said. He said, "Did you ever notice that when a politician does get an idea, he gets it all wrong?"

This is all wrong as it relates to NIH. The programs are important, too important to begin the process by which the politicians take over the direction of money rather than having it spelled out straight through peer review, with no other considerations.

Mr. MADIGAN. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, I think the gentleman from Michigan (Mr. DINGELL) in his opening remarks said this as well as it could possibly be said. Mr. MCDADE from Pennsylvania has talked about the particular circumstances where a company, in order to get money, had to go out and form a nonprofit corporation. I think just the reverse would happen if this legislation were enacted, and that is what Mr. DINGELL has said, that universities and other people now involved in doing this kind of work are going to form for-profit corporations.

I think what we should be looking at here is accomplishments rather than who is doing this or who may be doing it in the future.

A very noted cardiologist, very well-known to every Member of this House, has told me that 70 percent of what we know about medicine today we have learned in the last 30 years, and almost all of that knowledge has been generated as a result of research efforts funded by the Government of the United States. The question is, do we want to continue making that kind of progess, or do we want to reverse our direction altogether, and instead of looking at what is done, try to award money on the basis of who is going to do it? It does not seem to me that that makes any sense at all. If we have made all these advances in what we know about the practice of medicine today as a result of research efforts undertaken by the National Institutes of Health, why in the world do we want to change that and allocate a portion of that money to people who fundamentally are involved in applied research, when what we are talking about at the National Institutes of Health is basic research? I do not think that is the kind of change that is in the best interests of this country, the taxpayers or the people who will suffer from the various health problems in which the National Institutes of Health has correctly interested itself.

So, I would urge that at the appropriate time the committee support the amendment to remove the National Institutes of Health from the provisions of this bill.

The CHAIRMAN. All time allocated to the gentleman from Illinois has expired.

The gentleman from Michigan (Mr. DINGELL) has 2½ minutes remaining.

Mr. DINGELL. Mr. Chairman, I would like to reserve my time.

The CHAIRMAN. Under the precedents the gentleman will have to use his time at this point or yield it back.

Mr. DINGELL. Mr. Chairman, I will yield to my dear friend from California for 1 minute, and then I will use the balance.

Before I do so, may I inquire of our good friends on the Small Business Committee——

The CHAIRMAN. As the primary managers of the bill, that committee was able to reserve time and has reserved time under the precedents.

Mr. DINGELL. To continue my inquiry, am I not able to reserve time also?

The CHAIRMAN. The Small Business Committee is the primary manager of the bill, and for that reason the Chair has accorded them the privilege of reserving their time and has not agreed to accord that privilege to any of the other committees.

Mr. DINGELL. Is that in the rule, that forecloses the other committees?

The CHAIRMAN. Under the precedents they have the right of close debate.

Mr. DINGELL. Mr. Chairman, I yield 1 minute to my good friend from California (Mr. MCCLOSKEY).

Mr. MCCLOSKEY. Mr. Chairman, I thank the gentleman for yielding. I would like to just make the point that I was trying to make when we ran out of time earlier, that is, this Nation has a tremendous stake in this research being conducted on the university campuses. Clearly, what the Small Business group wants to do with this amendment is take the money away from university research programs and give it to small business. I do not think that is basically right at a time when we are in confrontation with the Soviets on the development of scientists and engineers and when this administration has proposed to cut back entirely the graduate student programs.

Most of the research that has gone from the National Institutes of Health to college campuses has advanced the cause of medicine. Indeed, ever research program except Defense has been cut back in recent years, and the cutback in constant dollars will amount to 10, 20, or 30 percent in all of them except Defense. This means that the great universities which are engaged in graduate programs and which provide our basic research base will be losing funds to profitmaking businesses. I submit that this is unwise.

(Mr. DINGELL asked and was given permission to revise and extend his remarks.)

Mr. DINGELL. Mr. Chairman, the Energy and Commerce Committee, concerned about the Nation's health and its research programs, has by overwhelming vote recommended that an amendment be adopted by this committee which would exclude the budgets of National Institutes of Health from this raid.

Mr. Chairman, this amendment which will be offered is supported by the American Medical Association; it is supported by the Association of American Medical Colleges; it is supported by the American Cancer Society, the American Heart Association, and the American Lung Association. It would preserve intact the great research program in health which now goes on, and which is surrounded by very careful peer review.

Now, complaint was made that there are no small businessmen on those peer review panels. That is entirely proper, because the peer review work is done by scientists who are engaged in the work. It is some of the most successful health legislation in the world, and it is some of the most successful health research that is conducted in the world. To raid that money at a time when it is being cut now by the budget being brought forward; to reduce its levels of expenditure by $50 million in the next 3 years, would be wrong in every sense.

The CHAIRMAN. The time of the gentleman has expired. All time alloted to the Committee on Energy and Commerce has expired.

At this point the Chair will recognize, on behalf of the minority of the Committee on Armed Services, the gentleman from Pennsylvania (Mr. NELLIGAN) for 15 minutes.

Mr. NELLIGAN. Mr. Chairman, I yield myself as much time as I may need.

Mr. Chairman, there has been an awful lot of discussion in this body in the past year or year and a half about small business and the importance of small business to this Nation. I do not think

it in the future.

A very noted cardiologist, very well-known to every Member of this House, has told me that 70 percent of what we know about medicine today we have learned in the last 30 years, and almost all of that knowledge has been generated as a result of research efforts funded by the Government of the United States. The question is, do we want to continue making that kind of progess, or do we want to reverse our direction altogether, and instead of looking at what is done, try to

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Mr. NELLIGAN. Mr. Chairman, I yield myself as much time as I may need.

Mr. Chairman, there has been an awful lot of discussion in this body in the past year or year and a half about small business and the importance of small business to this Nation. I do not think

there is anybody in this body who would say that we should not help small business as much as we possibly can.

I think it is very interesting, if we take a look at the legislation which affects DOD, or amendments which affect DOD, once again we find ourselves saying that we want to help small business, but the Department of Defense should not help small business, and even money for nuclear affairs should not be used to aid small business.

I guess I say, "Here we go again." Once again we are casting the Department of Defense in the image of a sacred cow so that all other programs should help the small businessmen of this country, but not DOD, not the Department of Defense. As one who represents the Northeast, or a portion of the Northeast, I would really like to point out that 50.4 percent of the taxes of this country come from the Northeast and the Midwest part of the United States. Yet, approximately 33 percent of the defense budget goes back to the Northeast and Midwest parts of the United States. The people of these areas, these regions, are beginning to wonder when their huge investment in national defense—and they will understand the importance of this—when it is going to benefit them, when some of this defense money will come back to the Northeast and the Midwest, and when some of this defense money indeed will help the small businesses.

I think it was just yesterday, perhaps, it was said that the largest number of small businesses in the United States went under just a month ago. I maintain that the Department of Defense should not be excluded from the provisions of this proposed legislation. The Department of Defense should be doing all it can to help small business, and I believe that if this legislation passes, we will find ourselves in a position where the defense budget in the Department of Defense can come to the aid of small business.

There have been those who are concerned and say, "Well, a good portion of the defense budget now goes to help small business anyway, so why do we need this legislation?"

I would only point out that that is voluntary; that at any time the Department of Defense can change that, which is my understanding, and I think the Department of Defense should be made to help small business just as much as any other agency of the U.S. Government.

Mr. McDONALD. Mr. Chairman, will the gentleman yield?

Mr. NELLIGAN. I yield to the gentleman from Georgia.

Mr. McDONALD. Mr. Chairman, I appreciate the gentleman yielding for a question.

I ask the gentleman whether or not he is representing the minority position on the Armed Services Committee on this, because the Armed Services Committee is offering amendments to this, because at the present time the DOD in R. & D. has 7.4 percent going to small businesses, and yet the small business base is 5.5. In other words, we are beyond the small business base at this time. The question is, if we are already beyond the 5.5, why do we need a set-aside?

Mr. NELLIGAN. The only way I can answer that is that it is voluntary, and what I am concerned with is that if it is not made a part of this legislation, as I said before, the DOD can change this base any time they wish to do so. My concern is that, as I stated earlier, that I think that where, so far as it is humanly possible, that the northeast and the midwest part of these United States, which pays most of the taxes in this country, get its fair share of this defense budget. That is why I am standing here today making this plea.

Mr. McDADE. Mr. Chairman, will the gentleman yield?

Mr. NELLIGAN. I yield.

Mr. McDADE. Mr. Chairman, the gentleman has answered the question eloquently when he stated that the DOD—and it is to their credit, and should be recognized by all—has created an SBIR. DOD is the only agency that has voluntarily done so. It has exceeded the levels this bill sets for the first year in a program that is responsive to the Presidential directive. Nobody else has, and they are doing it on a voluntary basis. This is why there should not be any disagreement between the Armed Services Committee and us, because, as my friend has pointed out, they have exceeded our floor.

Ours is a floor, not a ceiling. And DOD has exceeded that floor. They are over that, but it is a goal, as my friend has so eloquently said, that opens the doors on a voluntary basis, and all we can do is say there is a statutory floor inserted. The program is so successful that there are 10 fundable applications for every one funded. There were 10 denied for each awarded.

So what my friend says is so important for this House to realize; we are putting in a floor, not a ceiling. The competition is there, it is vibrant. There is no reason to believe that we are in any way interfering with the activities of the Defense Department. In fact, this opens up the door to some competition, but we do not leave it to the whim of somebody down the road to say, "Well, I am just not going to comply with the Presidential directive."

Mr. McDONALD. Mr. Chairman, if the gentleman will yield further, if the DOD now has 7.4 percent, am I therefore to assume that this legislation would not cause an eventual 1.25 set-aside as long as they maintain, say, 7.4? In other words, are we therefore exempted from the set-aside?

Mr. LAFALCE. Mr. Chairman, if I may answer the question, that would not be correct. The 1.25 which we would eventually achieve for DOD over a 5-year period rather than a 4-year period is separate and apart. It may be on top of or it may be a part of the figure that you use, assuming the accuracy of that figure. It does have to be above and beyond that af all.

As long as I have the opportunity to answer that question, let me also point out this very salient fact, especially to the members of the Armed Services Committee: The Department of Defense has testified on behalf of this bill, believing that it would be wise to have this enacted into law for every agency in the Federal Government, including DOD.

Mr. McCLOSKY. Mr. Chairman, will the gentleman yield for a clarifying question?

Mr. NELLIGAN. I yield to the gentleman.

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Mr. McCLOSKEY. Mr. Chairman, the precise language of the bill reads as follows, and I wish our colleagues would read this bill before we vote on it. Let me quote from it at line 16, page 7:

> Funding agreements with small business concerns for research or research and development which result from competitive or single source selections other than under a small business innovation research program shall not be counted as meeting any portion of the percentage requirements of this subsection.

If I may ask this of the gentleman from the committee, that means, as I understand it, that if Defense did 7.4 percent this year, it would have to do 5 years from now an additional 1.25 percent in addition to the 7.4 percent?

Mr. LAFALCE. Not at all. No, not at all.

What we are saying is that you must have a separate SBIR program, but that 1.25 percent could easily be part of the 7.4 percent.

Mr. McCLOSKEY. That is my point, because under the amended bill, not the original bill, if the Defense Department wanted to dismantle its existing program, which is giving 7.4 percent to small business, the only requirement under law then would be the 1.25 percent?

Mr. LAFALCE. No, no. I say to the gentleman from California (Mr. McCLOSKEY) there are still separate goaling requirements as a part of 95-507. Those goalings requirements would not ber negated in any way. However, the earmarking of 1.25 percent for this special type of program, which is not a set-aside program in the traditional sense in which the word is used, allows you to manage those specific contracts in which your request for specific proposals are let.

Mr. McCLOSKEY. But we have done that.

Mr. LAFALCE. No. We have done that.

Mr. McCLOSKEY. There have been no hearings on this amended bill by

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Mr. NELLIGAN. I yield to the gentleman from Georgia.

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Mr. LAFALCE. No. We have done that.

Mr. McCLOSKEY. There have been no hearings on this amended bill by

any of the other committees. I am referring to H.R. 6057, which is in the committee's language.

Mr. LAFALCE. So am I.

Mr. McCLOSKEY. The language of that bill says, "1.25 percent in all subsequent years," and then you say that you shall not make any amount which exceeds that percentage nor any which is less, or in effect you have said that 5 years from now 1.25 percent, no more and no less, must be set aside and that must be worded to small businesses. Is that not correct?

Mr. LAFALCE. What we are saying is that that must be awarded under the SBIR program. It has nothing to do with the total amount that might be awarded to small business in separate programs other than the SBIR program.

Mr. McDADE. Mr. Chairman, will the gentleman yield?

Mr. McCLOSKEY. All right. I am responding to the gentleman from Pennsylvania.

The CHAIRMAN. The Chair will state that the time is controlled by the gentleman from Pennsylvania (Mr. NELLIGAN).

Mr. NELLIGAN. I yield to the gentleman from Pennsylvania (Mr. McDADE).

Mr. McDADE. Mr. Chairman, let me ask, is it not true that what we are talking about is a goal?

Mr. LAFALCE. Anything the gentleman from Pennsylvania says is true today.

Mr. McDADE. Let me tell you about the goal we would like to see agencies achieve. DOD is doing a good job of going toward its own goal under Presidential directive. That directive has been in effect under two administrations now, but our committee is now creating only a floor.

Mr. McDONALD. Mr. Chairman, will the gentleman yield?

Mr. NELLIGAN. I yield to the gentleman from Georgia.

Mr. McDONALD. Mr. Chairman, I appreciate the gentleman's yielding.

I would like to quote the testimony of Mr. Long from DOD. "We have looked into this matter of R. & D. contract awards."

I would like to quote Mr. DeLauer from DOD in testifying on the father of this bill, because this bill was not actually reviewed. We did not have an opportunity to review this before the R. & D. Subcommittee of the Armed Forces Committee.

Mr. DeLauer said:

I am not for forced set asides in any areas. Now, whether we need it in order to stimulate small business is someone else's point of view. I don't think we do. I think we need to set goals. I think we ought to emphasize it. I think we ought to assess how our people, the people we let contracts to, spend their money meeting those goals.

And then further on we had the testimony of Mr. Long, questioned by the gentleman from Alabama (Mr. DICKINSON). Mr. DICKINSON was discussing this, and he said:

Now, in talking to Dr. DeLauer about this he said he did not support H.R. 4326, but he would support S. 881. I have got a feeling we are dealing with semantics here. He would prefer this as the lesser of two evils but would prefer neither. If that were the case, is that your feeling?

Mr. LONG. Well, I think we as part of an administration must recognize, Mr. Dickinson, the position of the administration.

Mr. DICKINSON. I am not asking you the position of the administration. You prefer one over the other, but you would really prefer neither, is that correct?

Mr. LONG. That is Bill Long's personal view.

The CHAIRMAN. The Chair recognizes the gentleman from Alabama (Mr. DICKINSON).

(Mr. DICKINSON asked and was given permission to revise and extend his remarks.)

Mr. DICKINSON. Mr. Chairman, let me say that I am sorry I was not here at the beginning of the debate, but speaking for the chairman of the Committee on Armed Services, who was also the chairman of the Research and Development Subcommittee, and myself, we are very concerned about what is attempted here and what on its face looks like a very good thing. And who could be against small business? Everybody is for small business.

What we are worried about, though, is the effect of what, under the idea of helping small business, would happen, what its ultimate effect would be.

Now, this is something that I have discussed with the members of the Small Business Committee, and there is a differeence of opinion as to the effect of the law. The Department of Defense is awarding 7.4 percent of its business in research and development to small business. This bill would only require 1.25 percent. We have no problem with that, even though it comes out of a very small base, because once you take all the major weapons systems, the MX system, the B-1, and so forth, it gets down to a smaller and smaller amount to deal with. When the in-house R. & D. is removed a very small base remains.

The Department of Defense is already doing 7.4 percent of its research with small business.

Mr. ADDABBO. Mr. Chairman, will the gentleman yield?

Mr. DICKINSON. Yes; I am pleased to yield to my friend, the gentleman from New York.

Mr. ADDABBO. Mr. Chairman, I thank the gentleman for yielding.

If the gentleman would allow me to read this, that is the reason I believe that the Department of Defense supports this bill so wholeheartedly.

We have Mr. William Long, the Deputy Under Secretary of Defense for R. & D., who testified before the Committee on Armed Services on March 10 concerning this very bill, and he said:

The Defense Department strongly supports the position the President has taken in lending his assistance to the passage of the bill, as the Defense Department owes much of its success in military research and development advances to the efforts of small high technology firms.

They are doing it. There is nothing in this bill that is going to cause them to do anything more than what they were doing until 5 years from now. So why do we need the bill? The reason we need the bill is that because over the years—and I had chaired this Subcommittee on Oversight for many years—DOD did absolutely nothing.

They are starting to move ahead, and now we say, "Oh, fine. We commend you for what you are doing. You do not have to do anything more than what you are doing. Just continue what you are doing."

We just want to make sure that they do not lag back.

Mr. DICKINSON. Mr. Chairman, I agree with that. But before my time expires, let me ask, is it the gentleman's understanding—and I will ask the gentleman from Pennsylania (Mr. McDADE) this question also in just a moment—is it the gentleman's understanding that if this bill requires 1.25 percent set-aside for small business and the Department of Defense is already doing over 7 percent, it would not be affected, and this is filling the need the bill would require? Is that the gentleman's understanding?

The CHAIRMAN. The time of the gentleman from Alabama (Mr. DICKINSON) has expired.

Mr. DICKINSON. Mr. Chairman, may I ask unanimous consent to proceed for 2 additional minutes?

The CHAIRMAN. The Chair will state that that request is not in order.

Mr. DICKINSON. May I ask, Mr. Chairman, who has the time?

The CHAIRMAN. The Chair will state that the gentleman from New York (Mr. BINGHAM) is recognized now for 15 minutes. Perhaps the gentleman from New York would yield time to the gentleman.

Mr. BINGHAM. Mr. Chairman, I yield 2 additional minutes to the gentleman from Alabama (Mr. DICKINSON).

Mr. DICKINSON. Mr. Chairman, I thank my colleague, the gentleman from New York (Mr. BINGHAM).

If I may continue my colloquy with the distinguished gentleman from New York (Mr. ADDABBO), are we in accord now, that if DOD is doing more than this bill mandates, which is 1.25 percent, if DOD is doing it at the rate of 7 percent they are more than meeting our obligation and will not be affected by the bill?

Mr. ADDABBO. Mr. Chairman, if the gentleman will yield, we will not be affected because right now in set-aside we are doing 0.08. We do not reach 0.08 until the fifth year, so there is nothing DOD has to do under this bill.

Mr. DICKINSON. So it is the gentleman's understanding the Department of Defense would not be affected until at least 5 years because they are already doing more than is required?

Mr. DeLauer said:

I am not for forced set asides in any areas. Now, whether we need it in order to stimulate small business is someone else's point of view. I don't think we do. I think we need to set goals. I think we ought to emphasize it. I think we ought to assess how our people, the people we let contracts to, spend their money meeting those goals.

And then further on we had the testimony of Mr. Long, questioned by the gentleman from Alabama (Mr. DICKINSON). Mr. DICKINSON was discussing this, and he said:

If the gentleman would allow me to read this, that is the reason I believe that the Department of Defense supports this bill so wholeheartedly.

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Mr. DICKINSON. So it is the gentleman's understanding the Department of Defense would not be affected until at least 5 years because they are already doing more than is required?

Mr. ADDABBO. The gentleman is absolutely correct.

Mr. DICKINSON. Mr. Chairman, I will ask my good friend and colleague, the gentleman from Pennsylvania (Mr. McDADE), is that his understanding?

Mr. BINGHAM. Mr. Chairman, I had yielded to the gentleman from Alabama, but I would now like to reclaim my time.

Mr. DICKINSON. Mr. Chairman, I understood the gentleman gave me 2 minutes, and within those 2 minutes I would like to develop this.

May I ask, is that the gentleman's understanding?

Mr. McDADE. Mr. Chairman, if the gentleman will yield, we already did this up in front of the Rules Committee.

Mr. DICKINSON. Is it correct that if DOD is presently awarding 7 percent to small business they will not be asked anything further because this only requires 1.25 percent?

Mr. McDADE. This is the floor, yes, as far as DOD is concerned, that is what I thought was understood.

Mr. DICKINSON. We did understand that, but the "legal beagles" got behind this and said, "Hey, this is not a set-aside. DOD is doing it already, but this is not a set-aside, so that does not count."

But I want to know if it is the gentleman's understanding that if DOD is in fact doing it, that is enough?

Mr. McDADE. The gentleman will recall when we were before the Rules Committee, I read in the record the position exactly as we stated it. I concur in that position today, and I commend the DOD for meeting its goal. All we are doing is putting in a floor which will require only a 1.25 percent set-aside over 5 years. This program does not impact upon the goal of which he speaks. The goal is not mandatory. Only the 1.25 percent is mandatory.

Mr. DICKINSON. Well, we have to watch these lawyers, you know.

Mr. McDADE. I am delighted to confirm that with my friend, the gentleman from Alabama, and we are glad to have his support of the bill.

Mr. McCLOSKEY. Mr. Chairman, will the gentleman yield?

Mr. DICKINSON. I yield to the gentleman from California.

Mr. McCLOSKEY. Mr. Chairman, let me just read the bill because there are a few lawyers in this House and we are all supposedly lawmakers.

It says specifically, and I quote:

> Funding agreements with small business concerns for research or research and development which result from competitive or single source selections other than under a small business innovation research program shall not be counted as meeting any portion of the percentage requirements of this subsection.

So If you are doing 7.4 percent under the current law, you have got to add 1.25 percent to it.

Mr. BINGHAM. Mr. Chairman, I think I had better reclaim my time.

The CHAIRMAN. The 2 minutes that were yielded to the gentleman from Alabama (Mr. DICKINSON) have expired.

The Chair recognizes the gentleman from New York (Mr. BINGHAM).

Mr. BINGHAM. Mr. Chairman, I appear on behalf of the chairman of the Committee on Foreign Affairs, the gentleman from Wisconsin (Mr. ZABLOCKI), who is in New York with the President.

The Foreign Affairs Committee has an interest in this legislation because of its jurisdiction over the authorization of funds for and policies of the Agency for International Development. Under the original bill, H.R. 4326, all of the R. & D. programs conducted by AID would have been subject to the provisions of the bill.

However, the revised bill, H.R. 6587, addresses certain problems caused by the inclusion of all R. & D. programs and I would just briefly refer to the problems.

A good proportion of AID's R. & D. business is carried out through international agricultural and health research institutions. We do not control the way those institutions do their work, and, therefore, it simply was inappropriate to seek to apply a set-aside of the kind contemplated by this legislation to such contracts.

By the same token, some of AID's R. & D. funds are spent through host country contracts. AID consults with the recipient country on the use of these funds, but they are again controlled by the recipient, in this case the government which has responsibility for selecting contractors.

So the Committee on Small Business has wisely decided that those two types of contracts which AID engages in should not be subject to the set-aside provisions of this legislation. All other R. & D. contracts which AID has that are contracts made with U.S. firms, U.S. enterprises, and U.S. institutions, whether profitmaking or otherwise, are covered by the legislation, and we have no objection to that.

So the Foreign Affairs Committee takes no position officially on the legislation. We welcome the change from the first version to the present version and thank the Committee on Small Business for that consideration.

Mr. Chairman, I have no further requests for time, and I yield back the balance of my time.

□ 1415

The CHAIRMAN pro tempore (Mr. FOGLIETTA). The Chair recognizes the gentleman from California (Mr. LAGOMARSINO), for 15 minutes.

(Mr. LAGOMARSINO asked and was given permission to revise and extend his remarks.)

Mr. LAGOMARSINO. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, I believe that the compromise struck on the Small Business Innovation Act is a considerable improvement over the original version. I am pleased to see that the percentages to be set aside for this program have been reduced. I am also glad to see that AID's overseas funding for International Research Centers, as well as grants for research by foreign governments, have been excluded from the bill. Since the purpose of the bill is to improve small business innovation in the United States, it follows, therefore, that funding for this goal should be derived from domestic programs. AID's overseas research and development programs fall outside this category. They are often under the administration of host goverments, and they often comprise only one component of larger projects. Many of the programs at the International Research Centers are so specialized as to make specific set-asides not realistic—I speak of institutions such as the Tropical Disease Research Institute or the Diarrheal Disease Research Center in Bangladesh.

Even while I agree that the AID overseas exclusion is a good provision of the act, I still have problems with the bill. I find it questionable to mandate that specific portions of any agency's research and development program should be earmarked for a special type or size of business. The significant issue is whether an agency is spending its R. & D. money with firms most qualified to undertake the program, not whether certain firms should receive contracts merely because of their small size. It does lock in agencies to spend a fixed percentage of their money with small firms without comment on quality. And it will not wash to say that the monitoring agencies will insure that each R. & D. program will pick only qualified firms. Some types of research are unique, and limit the range of firms that can realistically undertake projects. And when the end of the year comes, there will be enormous pressure to issue contracts or grants to small firms of marginal ability or utility in order to be in compliance with the law.

Overall, if a bill must be approved, then I am pleased that AID's funding for international research centers and grants to foreign governments are excluded from the bill's provisions.

Mr. Chairman, I yield 2 minutes to the gentleman from California (Mr. McCLOSKEY).

(Mr. McCLOSKEY asked and was given permission to revise and extend his remarks.)

Mr. McCLOSKEY. Mr. Chairman, what the ranking member, speaking for the Foreign Affairs Committee, has said represents what every committee which has looked at this bill within its own jurisdiction has, in effect, said.

Defense has said "Exempt us." Science and technology would like to be exempted. The National Institutes of Health would like to be exempted.

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Defense has said "Exempt us." Science and technology would like to be exempted. The National Institutes of Health would like to be exempted.

This portrays what is basically wrong with this bill. The Small Business Committee, in order to try to advance small profitmaking businesses has, in effect, said let us take $377 million of the roughly $40 billion that is advanced for Federal research, and let us make sure that this 1.25 percent goes to small profitmaking businesses; we would like to transfer the research from whomever is getting it today to small business.

Mr. BINGHAM. Mr. Chairman, will the gentleman yield?

Mr. McCLOSKEY. I yield to the gentleman from New York.

Mr. BINGHAM. I thank the gentleman for yielding. I think the gentleman should be careful to say that the Foreign Affairs Committee asked for exclusion of certain types of contracts entered into by AID and did not ask for the exclusion of contracts made by AID with U.S. firms and institutions.

Mr. McCLOSKEY. But the reason you do not have to do that, I might say to the gentleman from New York, is that by excluding those international programs, you fall below, this year, the $100 million floor that is applicable. Next year or 5 years from now or 10 years from now when you may be above that $100 million threshold then you will have to face that problem.

By excluding your international programs you in essence remove yourself from the bill altogether today. But not necessarily 5 years from now.

Mr. BINGHAM. If the gentleman will yield further, that was not basic to the thinking of the committee. As a matter of fact, AID does much better in meeting percentages in its contracts for goods and services with U.S. institutions today.

Mr. LAGOMARSINO. Mr. Chairman, I yield 3 minutes to the gentleman from Ohio (Mr. WEBER).

(Mr. WEBER of Ohio asked and was given permission to revise and extend his remarks.)

Mr. WEBER of Ohio. Mr. Chairman, I would like to speak to the question about whether there is venture capital to fund innovation by small firms as has been suggested by some of the speakers today.

The availability of venture capital for a completed prototype is not the issue here.

Federal funding for research is the issue that this bill addresses. Our goal in this legislation is to get the best, most cost-effective expenditure for research and development possible for the Federal Government.

Most venture capital today is available to companies that deploy and sell products. It is not generally available to firms which are involved in research. There are very few dollars that are available for funding the type of feasibility and development work that precedes the equity funding of high technology companies.

This bill fills the gap for small companies between funded research work and the commercial exploitation of a product by the venture capital community.

It is very clear that we need this legislation for that purpose, to fill that gap.

I yield back the balance of my time.

Mr. LAGOMARSINO. Mr. Chairman, I yield back the balance of my time.

The CHAIRMAN. The Chair now recognizes the gentleman from Florida (Mr. FUQUA) for 15 minutes.

Mr. FUQUA. Mr. Chairman, I yield myself 6 minutes.

(Mr. FUQUA asked and was given permission to revise and extend his remarks.)

Mr. FUQUA. Mr. Chairman, I want to commend my colleagues from the Small Business Committee, particularly the gentleman from Maryland (Mr. MITCHELL), the gentleman from New York, and my friend from Pennsylvania, and others who have worked so hard to bring this bill to the floor.

I think our motives are all the same, that we support the involvement of small business and what they can do about improving productivity and innovation in our country.

I think in working in behalf of small business that indeed our goals are the same and we are trying to achieve the same things. But the thing that concerns me about this bill is the mandatory set-aside which changes the decisionmaking process from this Congress to the bureaucrats in OMB. That is the basic issue.

It is not a question of whether we have 2 or 3 or 1 percent set-aside. It is a fact that this congress would have no choice in where the priorities should be or participate in the decisionmaking process under the mandatory set-aside.

My colleagues ought to think about that.

Mr. Chairman, I rise to speak about the bill, H.R. 4326, the Small Business Innovation Development Act. The bill contains the very worthwhile goal of broadening the opportunities for small business innovation, but also contains a major problem in giving the power to fund over to OMB instead of to our authorization and appropriations committees.

I want to commend the gentleman from Maryland, the distinguished chairman of the Small Business Committee, for his efforts to bring the Congress attention to the tremendous potential which lies in the Nation's small, high technology businesses. The Committee on Science and Technology has a long-time interest in innovation and productivity, and in particular, in small business innovation. In fact, this legislation is modeled on the successful national science program authorized by our committee. During the 96th and 97th Congresses, the committee has held numerous hearings on the subject of small, high technology firms and innovation. The committee has been particularly interested in finding ways to stimulate the innovative capabilities of the small, high technology firms, particularly as trends reflect declining rates in our Nation's innovation and productivity.

The committee has also been interested in encouraging small business involvement in Federal research and development. During the 96th Congress, our efforts contributed toward the enactment of a major change to Federal patent policy which allows small businesses to retain title to patents conceived under Federal research and development funds.

I want therefore to stress that I am working toward the same goals—to stimulate small business innovation and to encourage small business involvement in Federal R. & D.—as I believe the gentleman from Maryland is seeking to achieve.

The committee's interest in this bill, H.R. 4326, has been long term. I testified at the Small Business Committee's hearing on the bill last September, along with my colleague from Pennsylvania (Mr. WALGREN).

In addition, I requested sequential referral of the small business innovation research legislation which, as reported by the Small Business Committee, set aside 3 percent of the Federal research and development budget for the purpose of supporting a Federal-wide SBIR program. My request was based on several reasons. The influence of a mandated set-aside on the scope and direction of the Federal research and development budget and the bill's implications for the Federal agencies charged with carrying out the Nation's R. & D. responsibilities suggest this bill is a matter of national science policy. The committee also wanted the opportunity to review the set-aside's effect on agencies under the committee's jurisdiction, including NASA, the Department of Energy, the National Science Foundation, Environmental Protection Agency, and NOAA.

The committee had to act quickly on the sequential referral. In January, the committee held 3 days of hearings on the bill, which focused on the following issues: What information exists concerning the role of small companies and the level of their participation in Federal R. & D.; the necessity and feasibility of Federal-wide expansion of the small business innovation research program, whether a set-aside is the optimum mechanism for stimulating small business innovation and increasing small business participation in Federal F. & D., and what type of program, if any, would be most effective.

The committee's hearings resulted in a number of findings and recommendations, on which I will elaborate, and which form the basis of the committee's amendment that I plan to offer at a later time.

It is a commendable effort for the Small Business Committee to take a second look at what it originally reported, and the new substitute is an

most cost-effective expenditure for research and development possible for the Federal Government.

Most venture capital today is available to companies that deploy and sell products. It is not generally available to firms which are involved in research. There are very few dollars that are available for funding the type of feasibility and development work that precedes the equity funding of high technology companies.

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The committee's hearings resulted in a number of findings and recommendations, on which I will elaborate, and which form the basis of the committee's amendment that I plan to offer at a later time.

It is a commendable effort for the Small Business Committee to take a second look at what it originally reported, and the new substitute is an

improvement over the last. However, the new substitute simply does not tackle the major drawback to the bill as currently written. The principle issue in this debate—let there be no doubt about it—is the mandatory set-aside. This debate is not over whether we should set aside 3, 2, or 1 percent of the Federal R. & D. budget. The issue is the set-aside.

The amendment I will offer on behalf of the Science and Technology Committee preserves the intent of the Small Business Committee substitute, yet provides an alternative to the mandatory set-aside for funding a Federal-wide small business innovation research program. It puts the Congress back in the driver's seat, instead of the OMB, and gives us the flexibility to increase the percentages, instead of simply giving away this power.

Let me describe the committee's amendment as reported: First, the bill provides that each Federal agency with an appropriation for R. & D. over $100 million is required to establish a small business innovation research program.

Each agency required to have a program will reserve for expenditure in connection with the SBIR program no less than 1 percent of its R. & D. appropriations. The 1 percent is phased in over a 3-year period. The bill places a 1-percent cap on the amount of an agency's basic research funds which can be used for the SBIR program.

Authorization to fund the SBIR programs will be provided to the extent required in acts authorizing appropriations for each agency.

Agencies with an appropriation for R. & D. in excess of $20 million shall establish goals for funding agreements for research and development to small business concerns.

Each agency authorized to establish a SBIR program is required to establish procedures which are provided in the act, to encourage and facilitate the general conduct of its SBIR program to provide maximum opportunity for small businesses to engage in specified agency research and development objectives.

The Small Business Administration shall coordinate with participating agencies a schedule for the release of SBIR solicitations and provide information to small business concerns about the agency SBIR programs. SBA is required to report to the Office of Science and Technology Policy (OSTP) on the program responsibilities assigned to it. SBA must also report to Congress annually, with appropriate recommendations.

The Comptroller General, not later than 5 years following the enactment of H.R. 4326, shall report to the Congress on the quality, quantity, and nature of research conducted under the amendments made by the act, and the effect the amendments made by the act have on the agencies' research and development programs.

The committee's amendment is based on sound evidence collected during hearings on this subject. The committee's recommendations are responsible; and the amendment would encourage small business innovation and participation in Federal research and development.

The primary mechanism for achieving these goals would be through the establishment of a Federal-wide small business innovation research program. The committee has been closely involved with the SBIR program currently in operation at the National Science Foundation. NSF—not the Congress—developed this program several years ago to stimulate high-quality proposals from small science and technology firms in NSF program areas. At the time, NSF was required to expend 10 percent of its applied research budget to small businesses. The first set-aside of 7½ percent of applied research funds was imposed in 1975. The program structure or other steps taken by NSF for the program's implementation were not specified by the Congress.

The NSF program operates in three phases, as follows: Phase I supports research proposals with awards up to $30,000 for 6 months or important scientific or engineering problems or opportunities of interest to NSF. Those projects found most promising after phase I receive phase II awards, which have averaged $200,000 for 1 to 2 years. This is the principal research project. Phase III involves commerical applications where possible from the NSF research supported in phase I and II. Phase III is funded entirely with private capital.

In addition to the SBIR program supporting advanced research in a wide range of program areas, the 21 phase II grantees in the 1977 solicitation have received $46 million in follow-on funding to date, directly or in part a result of the SBIR awards. These 21 firms also have more than doubled their employment. NSF funding in phases I and II of the 1977 solicitation totaled $5.3 million. There have been new firms started as a result of the program and some 15 inventions reported. A number of new products and processes are under development and one is now being marketed. An increasing number of industrial and venture capital firms are showing interest in the program as the SBIR topics have become more industrially oriented.

Proposers are encouraged to cooperate with university researchers such as through consulting arrangements, subcontracts and the use of special facilities on occasion. Most grantees have done so, particularly in utilizing university scientists and engineers as consultants.

NSF's $5 million program has shown great promise and the committee, through annual authorization of the NSF, has consistently lauded its successes. At the same time, however, the Science and Technology Committee in previous years recommended the elimination of the set-aside as both unnecessary and undesirable. The NSF-SBIR program operates currently without a set-aside.

The committee's amendment provides for the Federal-wide expansion of the SBIR program, but the committee does not believe that a mandatory set-aside is necessary to implement the program.

Assertions that agencies will not establish an SBIR program without the set-aside simply are not true. The Department of Defense 2 years ago established a similar program—on a voluntary basis—to the NSF SBIR program.

If the Congress adopts the mandatory set-aside, we will be expanding a $5 million program which is the current funding level for the NSF program, to a mandatory level of $400 to $500 million, without congressional oversight or scrutiny through the authorization process. Such special treatment is not warranted. In addition, a mandatory set-aside will allow the executive branch to reallocate funds otherwise authorized and appropriated by the Congress.

I have heard several Members say, "but 1 percent is such a minuscule amount." When the Congress thinks that half a billion dollars is minuscule, then I can see why this Congress is unable to get Federal spending under control. In fact, this week's Newsweek has an article entitled "The Battle Over Bailouts," which reports the combined cost of current congressional bailout proposals could undermine the budget agreed to just last week.

The set-aside in this legislation is unwise, and unnecessary. The committee's amendment, however, achieves the same end by requiring authorization for the small business innovation programs. To insure startup of the program, under the committee's amendment agencies will be required to reserve 1 percent of their R. & D. funds to fund the SBIR program. This amount will then be reviewed in the context of the individual agency's authorization.

Through this process, the authorizing committees of Congress can insure the most desirable and realistic level of funding for agency SBIR programs and their consistency with the priorities determined by Congress through the normal budget process.

The committee's amendment will also allow agency programs to be structured in a manner which reflects the inherent differences in agency missions and responsibilities. The imposition of a uniform program structure within all Federal agencies does not encourage an innovative response from the agencies.

I am also concerned about the arbitrary determination of a fixed, percentage amount as a means to encourage small business participation in Federal R. & D. Some have argued

(OSTP) on the program responsibilities assigned to it. SBA must also report to Congress annually, with appropriate recommendations.

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that a set-aside for small business is justified on the basis that small firms have been demonstrably innovative, and yet receive a small share of Federal R. & D. funding. I have heard frequent references of the small business share of Federal R. & D. as 3½ to 4 percent—of a $40 billion Federal R. & D. budget in fiscal year 1982.

The committee has since learned that these figures are not reliable. In fact, during the committee's hearings, the GAO representative indicated that it is unclear whether 3.5- to 4-percent figure is correct. Data made available from the Federal procurement data system (FPDS) indicate that in fiscal year 1980, small businesses received 24 percent of all Federal R. & D. contracts over $10,000, comprising 6.8 percent of total Federal R. & D. contract expenditures. These figures do not include grant or subcontract data, or contracts under $10,000, although the Small Business Admiistration estimates that small businesses receive approximately 60 percent of Federal R. & D. contracts under $10,000.

One witness at the hearings, Dr. Edwin Zschau, suggested that the distribution of 6.8 percent of Federal R. & D. contract funds to small firms may be commensurate with their capabilities. Zschau cited NSF data which indicate that of the 643,000 R. & D. scientists and engineers—in full-time equivalents—in the United States, 5.5 percent are employed in small companies.

Agencies have also defended their records of small business participation. Adm. Stuart Evans, Director of Procurement, NASA, described the space effort as a cooperative effort with industry, especially small business, and academia. Some 7,000 small businesses worked to make the Space Shuttle and its recent flight a reality. In fiscal year 1981, small business participation in NASA's total procurements aggregated some $409 million or 9.6 percent of all prime contracts and some $475 million in subcontracts for a total of $884 million. This constitutes approximately 20 percent of total contract/subcontract awards to business firms. Of the 100 companies in fiscal year 1981 receiving the largest dollar value prime contracts, 24 were small business firms.

The commonly cited figure of 3.5 to 4 percent therefore appears to understate the amount of Federal R. & D. dollars going to the small business sector.

The committee's conclusion is that the state of small business participation in Federal R. & D. does not warrant at this time a set-aside of agency R. & D. funds. For the present time, the committee believes that small business participation in Federal R. & D. will be faciliated to a significant degree by the establishment of small business innovation research programs.

Another aspect of this legislation I know many Members are concerned about involves the impact of the set-aside on basic research and the universities. The committee concluded that basic research funding would be more vulnerable to the set-aside. Consequently, the committee's amendment provides for special precaution by way of a cap on the amount of basic research funds which can be used for agency SBIR programs. Because protection through this mechanism would be limited, the committee anticipates that additional protection would be provided through regular authorization review to insure SBIR programs are funded consistent with congressional intent.

The Congress should be aware that any benefits to be realized through Federal-wide expansion of the SBIR program would be short-lived if achieved at the expense of the Nation's basic research.

About 70 percent of the funds for basic research are provided by the Federal Government, which has assumed responsibility for supporting basic science as a means of producing the knowledge base for future technological and economic growth and assuring that fundamental research is conducted in areas related to its own path as to national needs. Through Federal support, the Nation can continue to maintain strong capabilities in critical areas such as national defense and health. Strong Federal involvement also occurs because the economic gains from pure science are frequently long term and do not necessarily benefit the sponsor of the research for many years, if ever. Consequently, because the industrial sector primarily stresses relatively short-term returns on its investments, it tends to place less emphasis on basic research and allocates most of its resources in more applied areas and in development. Universities cannot place large amounts of their own funds in basic research because of limited financial resources.

Typically, a large portion of Federal R. & D. funds is committed in advance for continuing large scale projects, for instance, the Space Shuttle. In fact, the major portion of Federal R. & D. is concentrated in the development process. A report of the distribution of Federal R. & D. obligations compiled by the National Science Foundation reflects the following concentration of Federal R. & D. dollars in basic, applied and development activities: Basic research—13.7 percent; applied research—19.7 percent; development—66.7 percent. Since there is a previous commitment for much of these development funds, the set-aside provision could cause a greater than anticipated share of funding to be taken from the basic research category in order to fulfill the set-aside requirement.

During the committee's hearings on the bill, the General Accounting Office representative also suggested that the issue of basic research could best be addressed through the traditional budget process.

The Science and Technology Committee's amendment will also insure that Federal funds will not crowd the flow of private capital to small, high technology firms. Recent changes in tax laws have had a tremendous impact on the availability of venture capital.

The Steiger amendment to the 1978 Tax Act which lowered the maximum capital gains tax rate from 49 percent to 28 percent has resulted in the current availability of about $5.8 billion for investment by private venture capital firms, SBIC's and corporate investment subsidiaries. The Economic Recovery Tax Act of 1981 also contains additional incentives to small, innovative firms, including a further reduction in the maximum capital gains tax rate to 20 percent. The result is startling. In 1977, $39 million in private capital was committed to venture capital firms; in 1981, private capital increased to $1.2 billion.

Numerous Members have been concerned about the willingness of the venture capital industry to invest seed capital at the early high-risk stage of startup ventures. However, the committee has received evidence that investments of venture capital were startups, whereas in 1981, 40 percent, or 400 venture investments, were in brandnew companies.

Future growth in private capital can be expected. Through regular authorization of agency SBIR programs, the Congress will be able to respond effectively to future capital fluctuations and trends, and their effect on a Federal-wide SBIR program.

The Science and Technology Committee's amendment also provides for agency peer review, as appropriate. The committee feels that decisions concerning the utilization of the peer review process for evaluation of agency SBIR programs be made by the agency required to have an SBIR program. The committee found little rationale for requiring agencies to depart from traditional review methods and procedures which have evolved in agencies. Thus, whether to use peer review is best determined by the agency in structuring its SBIR program.

Finally, the Science and Technology Committee's amendment provides that agencies will each operate their SBIR programs. This is in contrast to the small business requirement for a central executive agency role, by SBA.

The Science Committee's hearings revealed widespread agreement that the SBA has neither the resources nor the experience to serve as the lead agency for the development and administration of policy vis-a-vis this program.

Under the committee's amendment, the Office of Science and Technology Policy will provide executive oversight. However, due to the explicit guidelines contained in the bill concerning the program structure, no other lead

dollars going to the small business sector.

The committee's conclusion is that the state of small business participation in Federal R. & D. does not warrant at this time a set-aside of agency R. & D. funds. For the present time, the committee believes that small business participation in Federal R. & D. will be faciliated to a significant degree by the establishment of small business innovation research programs.

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agency role is assigned. The committee has found that the NSF SBIR program and the DOD SBAT program, although similar, have operated effectively without the additional involvement of SBA or another agency. The committee believes that autonomy of agency programs is an important feature of the committee amendment, and one which will enhance the efficiency and effectiveness of agency SBIR programs. This should also result in reduced administrative costs.

Mr. Chairman, the Science and Technology amendment is good for the country and good for the entire research community—small business and universities alike. It represents a reasonable compromise approach to the issues which have surfaced in debate on this legislation.

To summarize, the committee's amendment will enable a promising small business program to be expanded Federal-wide, with the purpose of enhancing small business innovation and participation in Federal R. & D. Yet, the committee amendment will achieve the same goals as pursued by the Small Business Committee.

The committee amendment recognizes that a mandatory set-aside removes future congressional involvement and is not necessary to implement a Federal-wide SBIR program.

The committee amendment will involve Congress in the SBIR funding decisions. A mandatory set-aside would allow the executive branch to reallocate funds otherwise authorized and appropriated.

The NSF program is experimental, and is currently funded at $5 million. The expansion of the program to $400 million Federal wide should be done cautiously and with close congressional oversight—through authorization process. The committee's amendment provides for this.

Basic research funds are vulnerable to a set-aside. In addition to placing a cap on basic research, Congress, through the authorization process, can insure no detrimental impact occurs to the Nation's basic research effort. The committee's amendment provides for this.

The committee amendment will enable Congress to insure that Federal funds do not crowd out the flow of venture capital since capital gains tax reductions.

The Science and Technology Committee amendment is a sound, reasonable compromise to the dilemma which currently faces the House. Adoption of the amendment would result in a Small Business Innovation Development Act we can be proud of.

It was reported earlier by my friend form Pennsylvania, Mr. McDADE, that some 60 percent of Federal contracting was let on a noncompetitive basis. In a recent, April 7 of this year, GAO report, I think the record should reflect that on page 10 of that report they said that it is 28 percent that was sole source.

The rest of it was competitive.

Mr. LAFALCE. Mr. Chairman, will the gentleman yield?

Mr. FUQUA. I yield to the gentleman form New York.

Mr. LAFALCE. Is the gentleman referring to the grants part as part of the percentage, or is he referring to contracts as opposed to research grants?

It is my understanding if you include the money, both contracts and grants, that the noncompetitive portion of the total Federal R. & D. dollar would be 70 percent and that the statistics you used excludes grants.

Mr. FUQUA. I am only reporting from the General Accounting Office report that was issued on April 7 of this year. It says it is talking about contract awards. Most grants are contracts that are entered into by agencies that would perform certain functions for the Government.

Mr. LAFALCE. That is what one would assume. But it is my understanding that the bureaucracy uses the words "contracts" and "grants" to distinguish the one from the other and that when you look at the total Federal R. & D. dollar, including both, that about 60 percent would be on a noncompetitive basis.

Mr. FUQUA. I will not dispute the gentleman's word. I am only referring to the report that I have, which is the best information I have.

But I would hope at the appropriate time that Members would seriously consider the amendment I intend to offer.

□ 1430

Mr. WINN. Mr. Chairman, I yield myself 3 minutes.

Mr. Chairman, I rise in support of H.R. 4326, the Small Business Innovation Act. I want to congratulate the Small Business Committee for the extensive work they have done on this bill and their diligence in bringing the legislation to the floor. I look forward to the ensuing debate over the various approaches to the bill.

Mr. Chairman, I have been a strong supporter of the small business community throughout my time in the Congress. Prior to coming to Washington I was a small businessman, so I readily understand the hurdles a small business must overcome to be successful. When economic times are tough—as they are now—it is all the more difficult for a small business to make a go of it. Despite the many obstacles that a small business must face, many do survive and some flourish.

What is most important to note is the tremendous contribution that small business makes to our economy, particularly in the area of innovation. Let me cite some of the figures from the committee report:

Firms with less than 1,000 employees accounted for almost one-half of major U.S. innovations during the period 1953-73.

The ratio of innovations to R. & D. employment is four times greater in firms with less than 1,000 employees than in larger firms.

The total cost per R. & D. scientist or engineer is almost twice as great in firms over 1,000 employees than in smaller firms.

With all of the disadvantages that must be overcome, it is still apparent that the small business community has managed to be more innovative and competitive than your typical big business. Included among the list of important inventions by small business are the jet engine, the gyrocompass, automatic transmissions, penicillin, air-conditioning, insulin and many, many more.

Despite these impressive accomplishments, it is a fact that the Federal Government consistently seems to forget this outstanding small business capability when it comes to awarding the Federal research and development contracts. The concept behind H.R. 4326 will remedy that defect. It will insure that small businesses will get their fair share of Federal research and development dollars. At the same time H.R. 4326 will enable our Nation to tap a resource that for too long has been underutilized—the innovative genius of our small business.

Mr. Chairman, I strongly support this bill and urge my colleagues to give it their support.

Mr. FUQUA. Mr. Chairman, I yield 2 minutes to the distinguished gentlewoman from Tennessee (Mrs. BOUQUARD), a member of the Committee on Science and Technology.

Mrs. BOUQUARD. Mr. Chairman, I rise in support of the science and technology substitute amendment to H.R. 4326. I feel that this substitute is an attractive compromise to the legislation before us. The substitute supports the basic goals of H.R. 4326: To stimulate small business innovation and facilitate small business involvement in federal R. & D. by authorizing agencies to establish SBIR programs. At the same time, this compromise avoids undue hardship on particular sectors of the R. & D. budget—such as the programs at the Government-owned, contractor-operated laboratories of the Department of Energy. The compromise avoids such hardship by allowing SBIR programs to be developed through annual authorization acts. To illustrate my point, I would like you to realize that 67 percent of DOE's research is performed at the national laboratories. The DOE has estimated that if a mandated set-aside program is initiated based on 1.25 percent of the fiscal year 1982 R. & D. budget, the GOCO's would provide $39 million of a $60 million SBIR program. I think this would put a tremendous burden on our national labs—a burden that I am sure none of us want to see placed on these valuable institutions which we in Congress have charged with car-

which currently faces the House. Adoption of the amendment would result in a Small Business Innovation Development Act we can be proud of.

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rying out some of our most critical R. & D. efforts.

I believe the only fair way to institute SBIR programs in our Federal agencies is through the authorization process. In this way only can we insure that the SBIR programs will be responsive to the agencies' missions and at the same time be capable of providing additional opportunities for small business. In this way, the small business community can continue to reward us with increased innovation and productivity in research and development.

Mr. WINN. Mr. Chairman, I yield 3 minutes to the gentleman from Minnesota (Mr. WEBER).

(Mr. WEBER of Minnesota asked and was given permission to revise and extend his remarks.)

Mr. WEBER of Minnesota. Mr. Chairman, since Congress, our Nation's business community, and the American people are currently trying to come to grips with the economic malaise that has gripped us for the past year or so, I think it would be highly appropriate for us to look down the road a bit and consider what kinds of tools the Federal Government has at its disposal for improving the stability, productivity, and profitability of our private sector. I believe the bill we have before us today could be one such tool.

If we look at where our Nation is expected to be going over the next 10 or 20 years in terms of maintaining a competitive and productive position in the world, I do not think there is much doubt that our long-term hopes lie in the development and growth of small, innovative, high-technology firms that can provide us with the technological breakthroughs necessary to maintain our world leadership. I have had firsthand experience with this in my own State of Minnesota, which has a reputation both nationally and internationally as a leader in technological innovation and development. I have worked with a number of these businessmen and women in my State and have been enormously impressed with the quality and scope of their achievements—and I have come to recognize that in an increasingly sophisticated world, small, high-technology firms are going to be the vital link between basic research and the commercialization of applied technologies.

On a broader level, the facts I have seen in support of this concept nationally are even more substantial:

Small businesses provide for over 80 percent of private sector jobs;

Small business activity accounts for about 43 percent of the GNP;

Small firms account for well over half of all new technical innovations in the United States;

In addition to being among the most cost-effective users of Federal R. & D. money, small R. & D. firms have among the fastest growth rates of employment, sales, exports, productivity, and net revenue in our economy, and it has been estimated that if each small business in this country were to hire just one new employee, there would be virtually no unemployment problem.

However, while small firms comprise 85 percent of the firms performing R. & D. work, they receive only a minute fraction on the dollar of Federal R. & D. expenditures—which to me is a gross misallocation of Federal resources—particularly since it has been well demonstrated that Federal R. & D. awards can have a tremendous multiplier effect in terms of private sector growth.

Several years ago the National Science Foundation examined major innovations developed over a two-decade period and found that small firms produced 24 times as many innovations as large firms per R. & D. dollar spent, and 4 times as many as those by medium-sized firms. However, there are still a number of institutional impediments to small firms which need to be redressed before they can adequately and equitably access Federal R. & D. financial support. I believe this bill will help in that redress.

As a member of both the Science and Technology and Small Business Committees, I have had an opportunity to weigh a great deal of evidence on both sides of the bill, and I believe I can offer it my unqualified support. The benefits of increased investments in high-technology research by small firms will not be limited solely to the small business community. The Nation as a whole needs this bill—particularly since it affords those of us in Congress a rare opportunity to address those specific and pressing innovation problems on which this Nation's long-term economic recovery will stand or fall. I would urge my colleague's adoption of the bill.

Mr. FUQUA. Mr. Chairman, I yield 3 minutes to the distinguished gentleman from New York (Mr. LUNDINE).

(Mr. LUNDINE asked and was given permission to revise and extend his remarks.)

Mr. LUNDINE. Mr. Chairman, I rise in support of the Small Business Committee substitute and against weakening committee amendments to this important legislation. I do so because I am convinced that this small business agency set-aside is needed to bring about the kind of small business participation in our Federal research and development program that is needed to help America innovate and compete with our international trade competitors.

America is suffering from a serious innovation gap. Although we have maintained an excellence over the years in the conduct of basic research, and although we dominate our international competitors in Nobel Prize competitions, our competitors in Japan and Western Europe are the ones who have been commercializing American science.

One of the reasons America's innovative capability is sagging is because we have failed to encourage closer working relationship between the major innovators in the private sector, small businesses, and the major providers of research and development funds, the Federal Government. This legislation, by mandating that each major Federal R. & D. agency establish and fund a small business innovation research program, will help address this problem.

Without a set-aside, greater small business participation in Federal R. & D. will not occur. Federal agencies have demonstrated an inclination to fund research in universities and in established laboratories rather than to seek out small innovative businesses to accomplish a research goal. I suppose this is human nature. But the fact of the matter is that there is a desperate need, just as there is in the private sector, for Government R. & D. planners to have a deeper concern for the long-term economic strategy of this country and to be willing to take some additional risk.

At the same time, I think it is important to recognize that there is no lack of talent or capability in our small businesses to conduct good quality research. The National Science Foundation small business innovation research program, after which this bill is patterned, has been identified and praised as an important and successful initiative. Under the NSF program, many small firms have been involved in basic research, so there should be no question about their capability in this regard. Even with respect to health-related research that is conducted by the Department of Health and Human Services, studies have verified that there are at least 2,000 firms in the United States involved in life sciences research. The point that must be emphasized here is that this program has the unique capability to link basic research to private capital, market needs, and commercial application.

During the science and technology hearings, the American Electronics Association argued that this program is not needed by high technology small businesses. When I heard this testimony, I must admit I wondered why an organization that represented small businesses on the cutting edge of technology would oppose this legislation? What I found upon further examination was that AEA is primarily an organization of manufacturing companies, and that only 140 of approximately 1,800 firms in that organization have identified themselves as research organizations. A majority of the 140 research organizations in AEA do favor passage of this set-aside legislation. The AEA decision to oppose this set-aside, as I understand it, was based on a policy of AEA to oppose all set-asides without the benefit of discussion of how the SBIR program in

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this legislation is different from traditional set-aside concepts.

I think it is significant that this set-aside is supported by the California Electronics Association, the National Federation of Independent Businesses, the Small Business Legislative Council, National Council for Industrial Innovation, the Small Business Association of New England, and the U.S. Chamber of Commerce. I also think it is significant that the Department of Commerce Domestic Policy Review on Industrial Innovation concluded that a Government-wide implementation of this program is needed to stimulate innovation, and that the White House Conference on Small Business, President Reagan, and the Senate also agree on the wisdom of this approach.

In summary, there is a crying need for this legislation to improve our innovative capability and to fuel our economic engine forward. Small R. & D. firms are the primary source of major innovations in the United States, they have the fastest rate of growth in employment, and make major contributions to our ability to export, improve productivity performance, and return revenue to the Federal Treasury. The quality of the research and development work the Federal Government will receive from this program will be as good, if not superior, in some cases to what otherwise would have been secured. The set-aside in this bill is reasonable—after a phase-in of 4 years the maximum set-aside for an agency would be 1.25 percent of their research dollars.

Without this set-aside small businesses will continue to be at a disadvantage vis-a-vis universities and larger firms in competition for R. & D. dollars. Among the impediments that have been identified by the Office of Management and Budget's Office of Federal procurement policy affecting small business access to Federal R. & D. dollars include: Cumbersome administrative requirements, stability and efficiency of R. & D. funding, nature and timing of requests for proposal, treatment of proposals, and contact with agency personnel.

I urge you to vote today for progress toward a more open an innovative climate in which to conduct Federal R. & D. by supporting the Small Business Committee recommendated set-aside provisions.

Mr. WINN. Mr. Chairman, I commend the gentleman from New York (Mr. LUNDINE) for his fine remarks.

Mr. Chairman, I yield 4 minutes to the gentlewoman from Massachusetts (Mrs. HECKLER).

(Mrs. HECKLER asked and was given permission to revise and extend her remarks.)

Mrs. HECKLER. Mr. Chairman, I rise in support of H.R. 4326, as amended by H.R. 6587.

I congratulate my colleagues on the Small Business Committee for their work of several years, which has resulted in this legislation. I am heartened by the spirit of compromise evidenced in the amended version of the bill, and I urge all who in this Chamber favor the development of small business in the United States, in recognition of the contribution to the American economy which small business can make, not to compromise further. We have compromised enough.

What more appropriate stimulus to a sagging economy can be made than to aid small business, whose unchallenged record of technological innovation and job creation is one of the free enterprise marvels in this last quarter of the 20th century.

Small business leaders all over the country support this bill because they know what small firms can do for the national economy. The Small Business Association of New England (SBANE), one of the country's most active and outspoken small business associations, has urged me to support this measure. According to SBANE, "Few bills can have more of a multiplier effect on the economy than this one."

A study by the MIT Development Foundation of 16 highly successful firms found that young technology companies created 34,369 new jobs between 1969 and 1974. This was 34 percent more new jobs than those created by mature industry leaders. The study also found that younger innovative companies provided $2.3 billion of income tax revenues compared to $1.5 billion for mature companies.

Since small science and technology based companies have one of the fastest rates of growth in innovation, employment, sales, exports, and productivity in our economy, this program will stimulate the revitalization of America. By providing participating small business with an opportunity to establish a track record of successful R. & D. through the provision of very high risk seed money unavailable through the private sector, it will facilitate their ability to attract venture capital and spur the development of new technologies and their commercial applications.

Scientists and engineers, as well as other workers, will have enhanced career opportunities. Consumers will have the benefits of new, high quality and inexpensive products. Investors will have the benefit of lower risk investment opportunities among small and technology basic firms. Universities will have opportunities for spinoff entrepreneurial development of the results of their basic research and new sources for contributions toward their own research and education activities. Large business will have the benefits of licensing new technology, manufacturing and distributing new products, and receiving follow-on Government contracts.

Most people, including Members of Congress, are surprised to discover that small businesses comprise 97 percent of all U.S. firms, generate 38 percent of the gross national product (GNP), are responsible for 64 percent of wholesaling and 73 percent of retail sales, comprise 76 percent of construction—in dollar volume—and employ 58 percent of the American work force.

In a study of 5.6 million small firms for the Department of Commerce, it was reported that businesses with 20 or fewer employees created 66 percent of all net new jobs in the private sector between 1969 and 1976. And if you include firms of up to 500 employees, they account for 37 percent of all new jobs. In addition, 80 percent of new jobs were generated by businesses under 5 years old.

The figures dealing with innovation are even more impressive. The ratio of innovations to the R. & D. employment is four-fold larger in businesses with fewer than 1,000 employees than for larger firms. If you compare this group with firms employing over 10,000 people, the rate of innovation is 24 times higher for the smaller business. Also, the majority of all patents come from individuals and small enterprises, a reflection of the innovative capacity of small business.

I am going over some of these figures only because I want to contrast them to one other figure; namely, the percent of Federal R. & D. money that is devoted to these most efficient innovators and job creators. That number is disgracefully low: 4 percent. There have been several Federal initiatives to increase this number, but the inbred prejudices in the Federal agencies that divert 96 percent of Federal R. & D. funds away from small firms has yet to be overcome.

One of the primary problems facing small businesses that want to deal with the Government is the Federal procurement system. It has become so tangled and complex with regulations and bureaucratic procedures that small business is choking in the bewildering morass of paperwork. The problem is further complicated by the general failure to implement laws intended to increase the small business share, Government competition with the private sector, and slow and late payments to small contractors costing industry hundreds of millions of dollars a year. It comes as no surprise, then, that the small business share of GNP has declined in all sectors in the last decade.

At the same time the small business share of GNP is declining, this country is experiencing a drop in our levels of innovation and productivity. When the most innovative and productive sector of private industry is in a state of decline, it follows that the economy's overall performance will commensurately suffer.

This is why this legislation is so important. It would insure that a minimum of 1 percent of Federal R. & D. dollars would be spent by that sector of the economy known for its high levels of performance and employment generation. The creative resources and risk-taking nature inherent in the en-

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One of the primary problems facing small businesses that want to deal with the Government is the Federal procurement system. It has become so tangled and complex with regulations and bureaucratic procedures that small business is choking in the bewildering morass of paperwork. The problem is further complicated by the general failure to implement laws intended to increase the small business share, Government competition with the private sector, and slow and late payments to small contractors costing industry hundreds of millions of dollars a year. It comes as no surprise, then, that the small business share of GNP has declined in all sectors in the last decade.

At the same time the small business share of GNP is declining, this country is experiencing a drop in our levels of innovation and productivity. When the most innovative and productive sector of private industry is in a state of decline, it follows that the economy's overall performance will commensurately suffer.

This is why this legislation is so important. It would insure that a minimum of 1 percent of Federal R. & D. dollars would be spent by that sector of the economy known for its high levels of performance and employment generation. The creative resources and risk-taking nature inherent in the en-

trepreneural spirit of small business is the driving force behind their success. Research and development dollars are important because this is precisely where the most productive innovations take place. The bill's intention of directing specific funding levels to science and technology based firms is, therefore, a proven and incredibly efficient means of bolstering employment levels and general economic productivity.

Some Members have raised the issue that small firms do not have the technical capacity to take on basic research, especially in the health sciences. One expert, in testimony before the Senate Small Business Committee, stated that his firm has identified 2,636 small high technology firms involved in the life sciences field. Their expertise could be broken down into the following fields: Biomedical engineering, biochemistry, cell biology, genetics, immunology, medical electronics and instruments, molecular biology, nutrition, pharmacology, toxicology, virology, pure cancer research, and other fields. The witness, Richard DiCicco, president of Technology Catalysts, a company in the business of matching up large companies with small high-technology research firms, stated that his firm has found small business to "have an equal technological capability with universities on basic research projects." I would suggest to my colleagues that small firms can accomplish research of equal value to that of universities in many fields of scientific endeavor.

Many of the arguments raised against the earlier versions of this bill have already been addressed. In the bill before us, the targeted funding level is not the 3 percent previously proposed but a much smaller 1.25 percent phased in over 4 years.

Members will also find protection for basic research and intelligence agencies, and an exclusion of AID money obligated for international research or grants to foreign countries.

As the ranking minority member of the Science, Research, and Technology Subcommittee of the full Committee on Science and Technology, I am convinced that this bill will establish a strengthening of the free enterprise sector of our economy, as well as our overall scientific capabilities.

The legislation puts in place in several Federal agencies a small business innovation research program which has already been proven successful in the National Science Foundation.

The NSF program has been copied by the Defense Department's small business advanced technology program. As a part of the program, all firms would be invited to submit R. & D. proposals to an agency on topics selected by the agency in accordance with its own R. & D. objectives. The most technically and economically feasible proposals would be awarded $30,000 to $50,000 to fund a feasibility study on the proposal.

Those projects which demonstrated their technical and economic viability could then qualify for a second tier of funding ranging from $100,000 to $500,000. This legislation specifies that no new Federal money be authorized for the program. Rather, a small percentage of each qualifying agency's budget would be devoted to this endeavor.

Commercialization of the results of the R. & D. would be left entirely to the private sector. Between proposals of equal merit, however, those which had attracted commitments of private capital to further develop the results of federally funded R. & D. would be given preference. The program is highly competitive with over 2,000 proposals received and 284 awards made to date. Proposals have been received from firms in 49 of the 50 States plus the District of Columbia and awards have been made to firms in 36 States and the District.

In addition to the SBIR program supporting advanced research in a wide range of program areas, the 21 phase II grantees in the 1977 solicitation have received $23 million in follow-on funding to date. These 21 firms also have more than doubled their employment. NSF funding in phases I and II of the 1977 solicitation totaled $5.3 million. There have been new firms started as a result of the program and some 15 inventions reported. A number of new products and processes are under development, and one has reached the market place. An increasing number of the industrial and venture capital firms are showing interest in the program as the SBIR topics have become more industrially relevant.

The procedures of this program enable the agency to avoid the danger associated with "putting all your R. & D. eggs in one basket." The two-tier approach enables agency personnel to explore a variety of alternative solutions to R. & D. problems before committing larger sums of money. In addition, by leaving commercialization decisions to the private sector, while encouraging early commitment of private capital, the funds expended through this program will return with "interest" to the Federal Government through increased individual and corporate income taxes.

In voting for the legislation without amendments, Mr. Chairman, I would say we are voting for the best interests of America in a highly competitive world economy in which we must develop our most advanced skills and encourage every innovative sector to participate to the fullest extent of their capacity.

Mr. FUQUA. Mr. Chairman, I yield such time as he may consume to the distinguished gentleman from Massachusetts (Mr. SHANNON).

(Mr. SHANNON asked and was given permission to revise and extend his remarks.)

Mr. SHANNON. Mr. Chairman, everyone wants to support small business. Small business and the entrepreneurial spirit represents a big part of what made America great.

As much as we want to foster this important sector of the economy, today I want to ask my colleagues to join me in voting against the Small Business Innovation Development Act. The unfortunate truth is that this bill would create some serious long-term problems for this country.

The one I find most disturbing has to do with the effect the bill would have on basic research. We have been told more than once that basic research is the fuel which powers the engine of scientific development. And it is true.

By requiring that a fixed percentage of an agency's R. & D. budget be sent to small businesses, we further undermine our Nation's scientific future.

Let us be honest. Small business is just not interested in long-term, basic research questions. That is not its job. This kind of essential research must be done at our universities, or at our Government research institutions.

Nondefense basic research has already declined by 36.6 percent since 1967. Even basic research in the defense area has fallen—by 6.7 percent.

This bill would lead to an even sharper, more dangerous decline in that important work. It would have the effect of siphoning funds from the kinds of long-range research projects that have traditionally made the greatest scientific breakthroughs. Breakthrough like the laser—which have wide application in both defense and nondefense areas.

Some people say that we should support this bill because of the success of NSF's small business innovation research program. But if we pass this act, by 1986 we will have spent 900 times the amount of that small-scale NSF program. The enormous difference in the size of the two programs means that comparing them is like comparing an acorn with an oak tree.

Even the NSF's General Counsel has told the OMB that, "The proposed permanent legislative extension of the NSF's SBIR program in its present experimental from across the Government without budget scrutiny seems very unwise."

Every person in this Chamber likes to have a good record of support for small business.

But let us go about it in a positive way—a way that does not harm our country's long-term ability to be on the forefront of basic research and technological innovation.

This act is, literally, risky business. We must oppose it.

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Mr. FUQUA. Mr. Chairman, I yield 2 minutes to the gentleman from Pennsylvania (Mr. WALGREN), a member of our committee.

(Mr. WALGREN asked and was given permission to revise and extend his remarks.)

Mr. WALGREN. Mr. Chairman, I rise in support of H.R. 4326.

As the chairman of one of the subcommittees on the Science and Technology Committee, I have had the opportunity to see firsthand, or as close as we see it in this body, the success of the small business innovation research program conducted under the auspices of the National Science Foundation. There is no question that that program has been a spectacular success, especially considering the miniscule Government dollars allocated to this effort. It proves beyond any doubt that it is in the small business of this country that we do realize fuller employment and the most efficient use of resources.

I do confess to having reservations about the set-aside provisions in this bill. Although I know they seem moderate, nonetheless it seems to me that any set-aside may disproportionately reduce basic research. I understand amendments will be proposed to try to assure an equal reduction of both applied and basic research. But we still should be concerned that pressure would remain that would result in the bureaucracy reclassifying research from "applied" to "basic" so that it might escape a set-aside and be able to be funded. I am afraid it is inherent in the concept of a set-aside that, because basic research has no direct constituency, basic research would be disproportionately affected.

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If such a set-aside were to disproportionately affect basic research, we may lose the benefit of valuable progress.

Mr. McCLOSKEY. Mr. Chairman, will the gentleman yield?

Mr. WALGREN. I yield to the gentleman from California.

Mr. McCLOSKEY. I thank the gentleman for yielding.

The reason I asked the gentleman to yield is that I have an amendment to specifically accomplish that objective.

The amendment that I have at the desk would exclude, from the totals to be computed against the 1.25 percent, the money for basic research—basic research being that which has no commercial application—because small businesses, so far as I know, do not engage in research, or want to engage in such research, unless there is some commercial application. Commercial application of R. & D. is the specific purpose of the bill. Out of $44 billion in Federal R. & D., about $5.9 billion is used for basic research. That is 13 percent. If my amendment is adopted, it will exclude the basic research money from the total extramural research budget against which the 1.25 percent is taken.

Mr. WINN. Mr. Chairman, I yield 3 minutes to the gentleman from New Hampshire (Mr. GREGG).

(Mr. GREGG asked and was given permission to revise and extend his remarks.)

Mr. GREGG. Mr. Chairman, I rise to make abundantly clear, as my colleague from Minnesota did, that I oppose the Science and Technology Committee substitute and support the Small Business Committee's proposed bill.

I think we ought to look specifically at the language of the substitute of the Science and Technology Committee, of which I am a member. It has some flaws, in my opinion, not the least of which is that it does not exclude in-house research. It also does not exclude intelligence agency activities. But more importantly than those two problems is the fact that the language is very vague. First, it says it is to reserve for expenditure the set-aside amounts. It does not say the amounts have to be expended. It says they are to be reserved for expenditure. So it is not even clear that the agencies would be required to spend these moneys, rather they could simply reserve them.

Second, it continues the entire program only to the extent authorizing committee authorizes appropriations for each such agency. In other words, it neutralizes and completely guts the language of the small business set-aside in that it requires that small business set-aside to be authorized every year, specifically authorized every year by the authorizing acts for the agencies.

This in effect means that every committee will make a decision as to whether or not it is going to comply with the small business set-aside. If all of the committees in the House were complying with the approach of funding small business activities in the research and development area we would not need the act to begin with. The whole reason that we need this act is because the agencies have basically created such a framework of regulatory activity that it has been impossible for small businesses to penetrate that regulatory activity, and, therefore, they have not been able to participate, and it would be very unlikely if they were given the option to opt out of this act, as would be given by the Science and Technology Committee language, that they would participate in the small business set-aside.

Thus, if we are going to give small businesses a chance to participate in the R. & D. dollars that the Government spends, we should do so by voting up the Small Business Committee's bill.

Mr. WINN. Mr. Chairman, I yield back the balance of my time.

Mr. FUQUA. Mr. Chairman, I yield such time as he may consume to the gentleman from California (Mr. FAZIO).

(Mr. FAZIO asked and was given permission to revise and extend his remarks.)

Mr. FAZIO. Mr. Chairman, I stand in the well as one who has recanted. I was one who initially was caught up in the excitement of the concept of this bill, and having come to understand it more fully have joined in my colleague from California's (Mr. McCLOSKEY) dissent, but I think I find in the Fuqua amendment the solution that we all seek in this regard.

There is an interest obviously in getting more small business involvement in research and development, and I think the gentleman from Florida, whose committee is so deeply involved in this area, has found the proper compromise, and that is to say that we ought to let the authorizing and appropriating committees, who understand the importance of research and development and the various capabilities that exist in their fields, make the judgments that are required.

Mr. Chairman, I am not saying that it is necessarily bad to set up a program to increase the involvement of small businesses with the research and development functions of Federal agencies, I am saying that if the concept seeks to justify itself by making such great contributions to our research effort, why should it not compete with all other research programs in the regular authorization and appropriations process. By wresting a set-aside from the other programs, after they have been ranked and after they have been appropriated for, this bill is simply a way to channel money to an interest group that not only does not want to compete at the agency level for funds but also seems to avoid competition at the congressional level for a reasonable allocation.

The amendments suggested by the Small Business Committee as embodied in its substitute were supposedly in response to concerns expressed about the original version of the bill as passed by the committee. However, many of the authorizing committee chairmen whose concerns were ostensibly satisfied are still opposed to the bill. Why? Because it persists in establishing this set-aside mechanism which tears money for the SBIR program away from other research programs after Congress has carefully apportioned funds among them.

It may make sense to harness the special skills of the small business community to help fulfill the highly individual missions of various Federal agencies. Let the authorizing committees do it; let this SBIR program compete.

The administration is reportedly in favor of this bill. Look at its statement of position, however, and you see that its support is so heavily circumscribed that it can hardly be called support so much as a plea that the bill be heavily amended further.

The problems that the Small Business Committee addresses in its substitute, generally by simply exempting certain agencies, will crop up all

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through the Government in those agencies which are unfortunate enough to remain under this bill's aegis. We just have not been able to identify them yet. If we were able to identify them, I am sure the Small Business Committee's only recourse would be to exempt them also, since this set-aside mechanism is such a clumsy device. Why not let the authorizing committees tailor the SBIR programs to the agencies' individual needs.

You all may be confused about statements to the effect that the problems raised have been taken care of by the Small Business Committee's amendments, and equally vociferous statements that they have not been. It is very confusing. Confusion is still another reason to let the authorizing committees decide what sort of contribution small businesses can make to the R. & D. efforts under their jurisdiction. We need not decide here.

There is no concern about this bill, whether real or not, which cannot be satisfied by simply accepting the Fuqua amendment to make the SBIR program subject to the annual authorization and appropriation process.

We can accept the other amendments, those offered by the Small Business Committee and those offered by the other authorizing committees and those offered by others concerned with the impacts on other agencies, and yet we have still done nothing but protected certain interests we may know and/or care about while abandoning other agencies we know little about to the problems we seek to avoid. The only generic, across-the-board amendment that makes sense is Mr. FUQUA's.

One of the generic amendments the Small Business Committee substitute would make is to exclude in-house agency research from the program. First, is it not peculiar how its only solution where problems are found is to exempt, to amputate. Second, the effect of excluding in-house research is simply to guarantee that the burden of this program will be borne by the university and national laboratory community. Some of us may feel relief that our favorite in-house research efforts are protected in the agencies under our jurisdictions, but none of us should take comfort in the impact on the non-Federal entities engaged in the national research effort. Federal research to universities has dropped since 1981: NSF down 6.5 percent; DOD up 14.2; NIH down 9.8; DOE down 22.6; NASA 10.8 down; EPA down 59.9; Agriculture down 6.5.

Total R. & D. performed by the Federal Government has increased up 6.5 percent since 1980; up in industry 7.8 percent; down in universities 3 percent; and down in Federal R. & D. centers 11 percent.

Further, the budget resolution just adopted by the House drops research funding below the Reagan administration's budget request so the rosy predictions for 1983 increases from which an additional ripoff would come are jeopardized.

So, if you are in doubt, leave it to the authorizing and appropriating committees and accept Fuqua as the proper compromise.

Mr. FUQUA. Mr. Chairman, will the gentleman yield?

Mr. FAZIO. I yield to the gentleman from Florida.

Mr. FUQUA. The gentleman is making a very good point because otherwise Congress does not participate as the bill is reported out of the Small Business Committee. As worthy as it is, it turns the decisionmaking over to OMB, and Congress will have no control.

Mr. FAZIO. Exactly.

Mr. FUQUA. I think we should participate in that process.

Mr. FAZIO. The gentleman's point is my point. OMB has too much authority as it is. We in our authorizing and appropriating committees need to retain the judgments that are most important in this area.

The CHAIRMAN. The Chair recognizes the gentleman from Mississippi (Mr. MONTGOMERY) for 15 minutes.

Mr. MONTGOMERY. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, following the action of the Committee on Small Business to report H.R. 4326, the bill was sequentially referred to several committees, including the Committee on Veterans' Affairs. On March 16, our committee reported the bill with an amendment. The amendment proposed by the committee would exclude all in-house research from the provisions of the bill as reported by the Committee on Small Business.

The Veterans' Administration's R. & D. budget for the current fiscal year is approximately $128 million. Of that amount, approximately $121 million is committed to in-house research activities. These funds are used primarily to pay salaries and to purchase equipment and supplies.

Mr. Chairman, an integral part of the mission of the VA's department of medicine and surgery is to conduct research and development in order to meet the health care needs of our Nation's veterans. The research program is a critical component of the agency's goal for the delivery of quality health care. R. & D. projects are carried out at 129 of the 172 VA hospitals, where approximately 4,100 investigators are engaged in some 5,200 research projects. The vast majority of appropriated funds are expended to support in-house medical research with the primary goal being the development of new and better techniques and methods of treating the disabilities and diseases of veterans. In addition, the research program conducted by the Veterans' Administration attracts well-qualified physicians and other health professionals to the VA's medical program.

Mr. Chairman, I need not tell the members of this body the success story of the agency's research program. The quality of research conducted by the VA has long been recognized as among the best in the country. Two VA career scientists and senior investigators were awarded the 1977 Nobel Prize in the field of medicine.

Mr. Chairman, it will not now be necessary for me to offer the amendment reported by the Committee on Veterans' Affairs. The language now contained in the text of the bill, H.R. 6587, would, in essence, carry out the intent of our committee's proposed amendment. It would exclude in-house research and development from the base against which the percentages of set-asides are applied.

Mr. Chairman, I want to thank the very distinguished chairman of the Committee on Small Business, the gentleman from Maryland (Mr. MITCHELL), the very able ranking minority member, the gentleman from Pennsylvania (Mr. MCDADE), and the distinguished gentleman from New York (Mr. LAFALCE), and other members of the committee, for working with us to resolve the problem our committee had with the original bill. I am grateful for the support we received from members of their staffs.

Mr. Chairman, I reserve the balance of my time.

The CHAIRMAN. The Chair recognizes the gentleman from Arkansas (Mr. HAMMERSCHMIDT) for 15 minutes.

Mr. HAMMERSCHMIDT. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, I join the distinguished chairman of the Veterans' Affairs Committee, Mr. MONTGOMERY of Mississippi, in approving the language of H.R. 6587 as it relates to Veterans' Administration research.

The VA research program is a unique national asset that has been internationally recognized for its accomplishments in solving biomedical problems that formerly blocked the successful treatment of some of our most dreaded diseases. In addition to these research findings that have led directly to success in clinical practice, the reputation of VA research has attracted the best young clinicians emerging from our medical schools by providing them an environment in which they may contribute to medical knowledge.

Mr. Chairman, it is understandable that, with this brilliant record of success behind it, VA research has its champions, among whom I count myself. Accordingly, I supported the amendment proposed by the Committee on Veterans' Affairs to exclude all intramural research conducted by the VA from the provisions of earlier versions of this bill.

Through the good offices of the chairman of the Small Business Committee, Mr. MITCHELL of Maryland, the original language has been modified and I believe, with Chairman MONT-

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Through the good offices of the chairman of the Small Business Committee, Mr. MITCHELL of Maryland, the original language has been modified and I believe, with Chairman MONT-

GOMERY that the bill before us, as it concerns VA research, is satisfactory and the amendment is no longer necessary.

I appreciate the assistance of Mr. MITCHELL and his excellent staff in resolving the difficulties the Veterans' Affairs Committee had with the bill when it was first referred.

Mr. Chairman, I have no requests for time, and I yield back the balance of my time.

Mr. MONTGOMERY. Mr. Chairman, I yield 3 minutes to the gentleman from Michigan (Mr. WOLPE).

(Mr. WOLPE asked and was given permission to revise and extend his remarks.)

Mr. WOLPE. Mr. Chairman, I rise in support of the House Small Business Committee's substitute for the small business innovation bill, and respectfully oppose efforts to eliminate the mandatory set-aside provisions of this bill. The mandatory set-aside portion of this legislation is the heart and soul of the matter. For too many administrations we have seen direct instructions from each President and the Office of Management and Budget directing Federal agencies to increase the share of R. & D. dollars going to small business ignored. Federal R. & D. money going to small firms has declined. This trend must stop. Now is the time to mandate agencies included under this bill to comply with the recommendations of several administrations of both political parties.

After spending the last several weeks in negotiations aimed at cutting spending and trimming the Government's budget, how can we not support this excellent opportunity to aim Federal dollars at proven performers with a history of cost effectiveness? With numerous studies indicating that small business has demonstrated an unusual ability to innovate using taxpayers' dollars in the most efficient and effective manner, we cannot continue to ignore this resource.

The National Science Foundation did receive a congressional mandate to establish a small business innovation and research program and it has been a tremendous success. This provides us with an excellent example of how well this program can and does work, given the support of the Congress. We must now mandate other agencies to follow their lead.

I must admit that the original version of this legislation did go too far, and many of the criticisms voiced earlier were valid. But the Small Business Committee's substitute has gone a long way in resolving some of the concerns about the originally proposed 3 percent set-aside. I would say to the critics who remain that this program does not subvert the appropriations process. This program, as does every other Government program must still pass under the careful eye of my colleagues on the Appropriations Committee. Nor does this program take money away from anyone, nor spend more than has already been authorized. It is a sparse 1.25 percent of the R. & D. funds in the affected agencies and it is money that will only be spent in those areas where those agencies have an expressed interest in having work done. I must strongly reiterate that this money will be awarded on a competitive basis to proven innovators who pay taxes and create jobs. This set-aside program is not a giveaway, nor is it lavish in its approach.

Again, let me express my support for the Small Business Committee's substitute and my support for a small business innovation and research program mandated by the Congress.

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Mr. MONTGOMERY. Mr. Chairman, I have no further requests for time, and I yield back the balance of my time.

The CHAIRMAN. The Chair recognizes the ranking minority member of the Permanent Select Committee on Intelligence, the distinguished gentleman from Virginia (Mr. ROBINSON).

(Mr. ROBINSON asked and was given permission to revise and extend his remarks.)

Mr. ROBINSON. Mr. Chairman, I yield myself such time as I may consume.

Mr. Chairman, pending the arrival of the gentleman form Massachusetts, who is prepared to stipulate that we have an agreement to the effect that the amendment that he is going to later propose will be accepted by both sides, I wish to echo what the gentleman for Massachusetts has said about the application of this bill to the intelligence community. The partial exclusion contained in H.R. 6587 is simply not adequate to prevent important intelligence programs from falling within the full strictures of the bill. The framework of the Small Business Innovations Research approach simply does not fit the way intelligence research and development is contracted for. Equally important, it is also inimical to the protection of good security for such research and development programs.

Mr. Chairman, the amendment adopted by the Permanent Select Committee on Intelligence cures these problems. It excludes all the intelligence agencies from the application of the bill. It does so with precision. Only intelligence functions are exempted. Exempting only CIA, DIA, and NSA—as does H.R. 6587—fails to protect a number of key intelligence programs with significant amounts of research and development. Among them are "offices within the Department of Defense for the collection of specialized national foreign intelligence through reconnaissance programs" and "intelligence elements of the Army, Navy, Air Force, and Marine Corps." Security precludes my being much more specific about these offices or elements, but I can assure Members that it is as important to exclude them from coverage as it is to exclude the CIA, DIA, or NSA.

Mr. Chairman, the Intelligence Committee's consideration and adoption of its amendment to this bill was thoroughly bipartisan in nature. It represents our best judgment about an area we review thoroughly during the annual budget authorization process. To those who might be concerned that the exclusion recommended by the committee can be used to insulate nonintelligence or nonintelligence-related research and development activities from the reach of the bill, I believe the committee can offer full assurance that such an outcome could not occur without the committee's detecting it. The oversight provided by the Permanent Select Committee on Intelligence is such that anyone contemplating such a ruse should expect it to be uncovered.

Mr. Chairman, I urge the House to adopt the amendment that will be offered by the gentleman form Massachusetts, Mr. BOLAND.

Mr. Chairman, I reserve the balance of my time.

The CHAIRMAN. The Chair recognizes the gentleman form Massachusetts (Mr. BOLAND).

Mr. BOLAND. Mr. Chairman, I yield myself such time as I may consume.

(Mr. BOLAND asked and was given permission to revise and extend his remarks.)

Mr. BOLAND. Mr. Chairman, the Permanent Select Committee on Intelligence considered H.R. 4326 upon sequential referral.

The committee asked for referral out of a concern that the small business innovation research program concept would cause security problems in its application to the U.S. intelligence community.

In the course of its consideration of the bill, the committee verified that this concern was well founded.

The committee found that the purpose of an SBIR program is to generate a statement of needs narrow enough to be useful to potential contractors yet also to meet security concerns.

Such a statement must be broad enough not to be classified.

A statement of needs must then be considered by the community of potential small businesses who might wish to bid.

The intelligence agency in question will then be forced to deal with any interested applicants on a classified basis before going further.

Development of such a relationship would require the clearing of appropriate employees, ensuring that the company in question had appropriate storage and other security procedures.

Then, a classified solicitation of more specificity could be provided to such applicants.

All of this takes time.

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Again, let me express my support for the Small Business Committee's substitute and my support for a small business innovation and research program mandated by the Congress.

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Mr. Chairman, pending the arrival of the gentleman form Massachusetts, who is prepared to stipulate that we have an agreement to the effect that the amendment that he is going to later propose will be accepted by both sides, I wish to echo what the gentleman for Massachusetts has said about the application of this bill to the intelligence community. The partial exclusion contained in H.R. 6587 is simply not adequate to prevent important intelligence programs from falling within the full strictures of the bill. The framework of the Small Business Innovations Research approach simply does not fit the way intelligence research and development is contracted for. Equally important, it is also inimical to the protection of good security for such research and development programs.

Mr. Chairman, the amendment adopted by the Permanent Select Committee on Intelligence cures these problems. It excludes all the intelligence agencies from the application of the bill. It does so with precision. Only intelligence functions are exempted. Exempting only CIA, DIA, and NSA— [illegible] fails to protect a number of key intelligence programs with significant amounts of research and development. Among them are "offices within the Department of Defense for the collection of specialized national foreign intelligence through reconnaissance programs" and "intelligence elements of the Army, Navy, Air Force, and Marine Corps." Security precludes my being much more specific about these offices or elements, but I can assure Members that it is as important to exclude them from coverage as it is to exclude the CIA, DIA, or NSA.

Mr. Chairman, the Intelligence Committee's consideration and adoption of its amendment to this bill was thoroughly bipartisan in nature. It represents our best judgment about an area we review thoroughly during the annual budget authorization process. To those who might be concerned that the exclusion recommended by the committee can be used to insulate nonintelligence or nonintelligence-related research and development activities from the reach of the bill, I believe the committee can offer full assurance that such an outcome could not occur without the committee's detecting it. The oversight provided by the Permanent Select Committee on Intelligence is such that anyone contemplating such a ruse should expect it to be uncovered.

Mr. Chairman, I urge the House to adopt the amendment that will be offered by the gentleman form Massachusetts, Mr. BOLAND.

Mr. Chairman, I reserve the balance of my time.

The CHAIRMAN. The Chair recognizes the gentleman form Massachusetts (Mr. BOLAND).

Mr. BOLAND. Mr. Chairman, I yield myself such time as I may consume.

(Mr. BOLAND asked and was given permission to revise and extend his remarks.)

Mr. BOLAND. Mr. Chairman, the Permanent Select Committee on Intelligence considered H.R. 4326 upon sequential referral.

The committee asked for referral out of a concern that the small business innovation research program concept would cause security problems in its application to the U.S. intelligence community.

In the course of its consideration of the bill, the committee verified that this concern was well founded.

The committee found that the purpose of an SBIR program is to generate a statement of needs narrow enough to be useful to potential contractors yet also to meet security concerns.

Such a statement must be broad enough not to be classified.

A statement of needs must then be considered by the community of potential small businesses who might wish to bid.

The intelligence agency in question will then be forced to deal with any interested applicants on a classified basis before going further.

Development of such a relationship would require the clearing of appropriate employees, ensuring that the company in question had appropriate storage and other security procedures.

Then, a classified solicitation of more specificity could be provided to such applicants.

All of this takes time.

The problem is that the initial solicitation, being public, would necessarily by very broad.

A company might be encouraged to believe that it has something to offer in an area to the intelligence community.

After the time and expense of clearance and establishing necessary security standards, such an applicant may find that the detailed solicitation to which the company must actually respond is beyond its capabilities or, in any event, not at all what the applicant had contemplated.

In the meantime, such a company will have been exposed to potentially sensitive classified information.

In such an example, neither the intelligence community nor the small business benefits from the SBIR process.

The committee believes that such examples could well be typical of the application of the SBIR concept even within a context designed to protect security.

This brings me to the other principal conclusion the committee reached during its consideration of the bill.

Little intelligence research and development work can be described as discretionary, that is, little of it involves the early stages of technology development which the bill before us seeks to target with SBIR's.

The large majority of research and development funds in the intelligence community are, in effect, parts of large acquisition programs which utilize, in their earlier stages, significant amounts of research and development funds, but little new technology.

These funds are directed at the development of systems for which there are specific and very demanding requirements.

All such funds would be included within the base for determination of the percentage set-aside programs under the bill.

Yet, none of this work is logically eligible for set aside to small businesses other than through the normal process of subcontracting through prime contractors for such systems.

In light of the structure of such intelligence research and development activities, it becomes clear that the result of an inflexible set-aside program under this bill would be to hold hostage nearly the entire discretionary area of intelligence research and development to such SBIR's.

I should caution that, despite the inapplicability of the SBIR concept to intelligence research and development work, it should not be thought that small businesses do not participate in such work.

On the contrary, there are numerous contracts and subcontracts to small businesses involved in intelligence research and development work.

In fact, a number of small businesses play dominant roles in intelligence research and development work as a result of their ability to provide high quality component parts of systems.

Because the Intelligence Committee found the small business innovation research concept incompatible with good security as well as the structure of intelligence research and development work, the committee concluded that intelligence agencies ought to be excluded completely from the requirements of the bill.

The amendment adopted by the committee therefore excluded all the agencies constituting the intelligence community as that term is defined in the President's Executive order on intelligence.

They are:

The Central Intelligence Agency (CIA);

The National Security Agency (NSA);

The Defense Intelligence Agency (DIA);

The offices within the Department of Defense for the collection of specialized national foreign intelligence through reconnaissance programs;

The Bureau of Intelligence and Research of the Department of State;

The intelligence elements of the Army, Navy, Air Force, and Marine Corps, the Federal Bureau of Investigation (FBI), the Department of the Treasury, and the Department of Energy; and

The staff elements of the Director of Central Intelligence.

Mr. Chairman, H.R. 6587, the Small Business Committee substitute now before us, contains an exclusion from the bill's requirements for the Central Intelligence Agency, the Defense Intelligence Agency and the National Security Agency.

It may be that the Committee on Small Business thought that in excluding these agencies—all mentioned by name in the Intelligence Committee's report—it was effectively excluding all significant intelligence research and development functions from coverage.

Unfortunately, their attempt does not go far enough.

First, certain significant programs found in Department of Defense or service intelligence programs are not excluded from coverage.

Second, still other intelligence programs would be required to adopt goals for awarding research and development contracts to small businesses at levels at least equal to the level of such awards in the preceding fiscal year.

Since the committee believes the entire SBIR program concept will not work in the intelligence arena, it would be inappropriate, and probably unsatisfactory, to require even this level of compliance with the bill.

Accordingly, Mr. Chairman, at the appropriate time I will offer the amendment recommended by the permanent Select Committee on Intelligence.

Mr. Chairman, I yield to the gentleman from Maryland (Mr. MITCHELL).

Mr. MITCHELL of Maryland. Mr. Chairman, I want to take the time to say that I am very glad we were able to work out this problem. Obviously, the Small Business Committee did not want to in any way damage the security of the Nation and I think we have arrived at a satisfactory agreement.

Mr. BOLAND. I thank the gentleman.

As the gentleman from Maryland, the gentleman from New York know, there is a clear indication that, of the R. & D. within the intelligence community, there is a considerable amount that does go to small businesses that have a piece of subcontracts and some of the larger contracts.

Mr. Chairman, I have no requests for time, and I yield back the balance of my time.

Mr. ROBINSON. Mr. Chairman, I have no further requests for time, and I yield back the balance of my time.

The CHAIRMAN. To close general debate, the gentleman from Pennsylvania (Mr. MCDADE) has 9 minutes remaining, and the gentleman from New York (Mr. LAFALCE) has 7 minutes remaining.

The Chair recognizes the gentleman from Pennsylvania (Mr. MCDADE).

Mr. MCDADE. Mr. Chairman, I yield back the balance of my time.

Mr. LAFALCE. Mr. Chairman, I yield such time as he may consume to the gentleman from Iowa (Mr. BEDELL).

(Mr. BEDELL asked and was given permission to revise and extend his remarks.)

Mr. BEDELL. Mr. Chairman, I rise in strong support of the Small Business Innovation Act. I urge my colleagues to pass this legislation which has been reported unanimously from the Small Business Committee.

Very simply, this legislation is good for America. It will stimulate new, innovative research by the most creative and productive element in our society. It will help us get the maximum return on our Federal research investment. And it will help reverse the decline in our Nation's competitive edge in today's world market.

There are those who say that we should enact this legislation because it will help small business. I do not question that, but that is not why I support passage of H.R. 4326. I support this bill because its passage will be good for our Nation.

The concept behind this bill is not complicated. What is proposed is that, in Federal agencies with large budgets for research and development, at least a tiny portion of the R. & D. budget should go to small businesses. This provision is needed because small businesses have been effectively shut out of many research programs to which they otherwise could be making significant contributions.

In recent years, executive orders from the President and directives from

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In recent years, executive orders from the President and directives from

the Office of Management and Budget have sought to channel more R. & D. money to small businesses. Despite these salutary efforts, the portion of Federal R. & D. dollars going to small business has actually declined.

The problem seems to be that the bureaucrats who administer these programs have developed very cozy relationships with big businesses and with elements of the academic community. This is understandable. After all, it is a lot easier to give a few big grants and contracts to the same people, year after year, instead of seeking out the many small new contractors who are out there and taking risks on their innovative ideas.

But when Congress established the small business innovation research program at the National Science Foundation, the results were dramatic. All sorts of exciting new ideas have come out of that pilot program.

The National Science Foundation has found that research dollars invested in small businesses are many times more productive than those spent at big businesses or at universities. This is especially true in regard to the innovation process.

NSF also found that when they established a special program designed to attract small businesses, there were all sorts of people out there with good ideas who had been looking for access to the Government. Recently, the ratio of applications to awards in the NSF's small business program has been roughly 15 to 1.

So, it is not as if the NSF has had to beat the bushes for small businesses that are qualified to do good research work. The fact is, there are thousands of firms in this country who would welcome the opportunity to participate in Government research work. And our Nation would benefit substantially if we opened up more Federal R. & D. programs to participation by qualified small businesses.

The General Accounting Office has examined the NSF program, and they say it is working wonderfully. Perhaps more importantly, the private sector has endorsed it, too. According to witnesses who testified before the Small Business Committee, for every dollar the NSF has invested in small business innovation research, an additional $8 has been put up by private investors.

In most cases, though, the private investors would not have become involved in these projects but for the stimulus provided by the NSF awards. Thus, the program can be looked at as a catalyst, providing seed money that is greatly leveraged by the private sector. This is where the new products will come from, which we need to compete on the world market, and this is where the new jobs will come from, which we need to restore our economy. We do not see anything like this happening with any other Government research program that I am aware of.

The experiment at the National Science Foundation has been a great success, and I believe it should be replicated at the other agencies. The Government will get more bang for the buck in its R. & D. programs and our economy will benefit greatly.

Mr. Chairman, it has been suggested by some that the SBIR concept is a good one, but that we should not establish mandatory program levels. I submit that there is little point to this exercise if we do not make this program mandatory. The bureaucrats will resist this idea tenaciously, unless it is set into law.

Even the President acknowledges the need for a mandatory program, established by statute. Passage of the Small Business Committee substitute for H.R. 4326 is supported by the administration. And, of course, the President also endorsed S. 881, the companion bill which passed the Senate by a vote of 90 to 0.

Mr. Chairman, I would like to address one final point. That is the issue of the National Institutes of Health.

We all are familiar with the concerns expressed so eloquently by various university-related medical research facilities. They seem to think that by requiring NIH to earmark 1.25 percent of its research budget for small business—actually only 0.2 percent in the first year—we will somehow be setting back our Nation's medical research activities. Quite the opposite is the case, I believe.

For years, the National Institutes of Health refused to even consider proposals submitted by small businesses. It did not matter how good the ideas were; NIH would not consider them. Even if the small businesses proposed doing research work at costs lower than those at other institutions, NIH still would not consider the proposals.

Finally, a few years ago, Congress got fed up and ordered NIH to consider research proposals submitted by small businesses and others who are outside the academic community. It was not until 6 months ago—as we began consideration of this legislation—that NIH finally issued regulations implementing the congressional requirement that they do business with the largest sector of our economic community.

However, small business applicants must now run the gauntlet of the NIH peer review system. This would not seem to be a problem on the face of it. But consider the fact that out of more than 2,000 members of peer review panels, you can count on your fingers the number of reviewers who are from the business community.

The most recent information I have is that only eight members of the peer review panels are businessmen.

This is hardly the basis for a jury of the small businessman's peers.

Quite frankly, I think the only way we are going to get the folks at NIH to come to terms with the notion that a small business could come up with a good research idea is to drag them there kicking and screaming. Once they actually enter into productive, rather than hostile, relationships with researchers in the small business community, I believe they will be impressed by the creativity and ingenuity to be found there.

But the record is clear. We cannot rely upon NIH, or many of the other agencies that would be affected by this bill, to voluntarily comply with the spirit of this legislation. If we could, then there would have been no need to prepare the bill in the first place.

In conclusion, Mr. Chairman, I urge my colleagues to join me in supporting passage of this important legislation and to resist the several weakening amendments that may be offered. Enactment of this legislation, in the strongest form possible, is in the best interests of the Nation.

Mr. LAFALCE. Mr. Chairman, I yield 2 minutes to the gentleman from Iowa (Mr. SMITH).

(Mr. SMITH of Iowa asked and was given permission to revise and extend his remarks.)

Mr. SMITH of Iowa. Mr. Chairman, I want to say that I do not think we have heard anything in this debate that we have not heard sometime during the last 4 or 5 years. We have been hearing, for 10 or 15 years, all kinds of excuses and we just hear them over and over again.

The fact of the matter is that the Federal Government can get more for its money with research and development from small business than they can from big business, and that does not mean we are not going to rely on big business and big universities for most of the research and development in the future, but just to make sure that we get more smaller businesses involved, we really need this bill.

The fact of the matter is that we are not going to take anything away from anyone. What we are going to do is give the Federal Government more for its money as a result of this bill.

The small business statistics on innovation are very impressive. Small high-technology firms consistently out perform others in research development. A major study of innovations between 1953 and 1973, by the National Science Foundation, found that small firms produced some 24 times as many major innovations as large firms and almost four times as many as medium-sized firms for each dollar of research and development expended.

Despite this impressive record, small business receives only an extremely small amount, about 4 percent, of Federal research and development expenditures and there are preliminary indications that this amount is decreasing.

For years, we have tried and tried to coax agencies to give small business the opportunity to bid on Federal proposals. Specifically, some of these agencies have agreed to establish small business innovation research

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For years, we have tried and tried to coax agencies to give small business the opportunity to bid on Federal proposals. Specifically, some of these agencies have agreed to establish small business innovation research

programs and even the President has ordered Federal agencies to do so. Nonetheless the agencies have refused to cooperate and continue to ignore both the Congress and the President.

During the 4 years in which I served as chairman of the Small Business Committee, one of my chief concerns was the decline in productivity in the United States. This decline is particularly deplorable since we have a huge untapped resource available to reverse it, namely the capability of the small business community. As a result, in desperation, I introduced legislation in 1979—H.R. 5607—to promote innovation by requiring agencies to award certain percentages to small business. Although the bill was unanimously reported by the Small Business Committee, it also contained tax and patent law changes and was never scheduled for floor consideration.

I also want to point out that in the 60 recommendations of the White House Conference on Small Business in 1980, this bill, and its Senate companion, were the only bills specifically cited and endorsed by the delegates.

This Congress I revised and introduced legislation very similar to the bill under consideration. I am convinced that this bill, including its mandatory provisions, is the only way to address this problem. The bill, and the amendment to be offered by Chairman MITCHELL, contain much lesser requirements for Federal agencies than my proposal but they still have been loudly criticized primarily due to the Federal bureaucracy not wanting to be bothered with smaller business.

The Mitchell amendment, which was unanimously agreed to by the Small Business Committee, only requires agencies to put 1¼ percent of their research and development budget into the program.

Unfortunately, in effect, it does not even require 1¼ percent as right off the top and before applying the percentage the agencies exclude in-house research which, in the aggregate for all Federal agencies, is about one-fourth of Federal R. & D. Thus, the amendment really require less than 1 percent.

It seems to me that anyone who objects to this measly amount borders on being selfish. Some of the biggest recipients of Federal R. & D. awards are opposing the bill and simply sheltering Federal procurement people who do not want to be bothered with small contractors in spite of an overwhelming showing again and again that performance by small business yields much greater returns to the Government than performance by big business.

In addition to the Small Business Committee work, there are numerous other studies: The Charpie report in 1967, a report from the Congressional Commission on Government in 1972, the Rainbow report in 1977, and an SBA advocacy report in 1979, and just last month an exhaustive study by Gellman Research Associates, Inc., all containing the same message—seek out and fund ideas from small business. It is clear, however, that Congress must require Federal agencies to actively seek small business input.

The bottom line is that we must mandate by statute that Federal agencies give small business an opportunity to compete for Federal research and development. If we do so, I expect that we will find the same results as the Government has experienced with the small business set-aside program under which Federal agencies reserve certain contracts for competitive bidding by small businesses. Through the years there have been example after example confirming that contract awards to small business under a competitive set-aside program do not increase the cost of procurement to the Federal Government; in fact, these examples demonstrate that normally such procurements substantially reduce the cost to the Federal Government.

For example, a test program to direct more Air Force spare parts contracts to small business has resulted in a taxpayers' savings of $6.7 million in the first 18 months and holds out the potential of saving tens of millions of additional taxpayers' dollars.

Examples of the magnitude of savings available include a preamplifier previously supplied to the Government by big business at a cost of $700 per item and yet subsequently supplied by a small business at a cost of $174 per item, a savings of 75 percent and a wing tab assembly previously supplied by big business at a cost of $11,000 per item and yet subsequently supplied by a small business at a cost of only $4,000 per item or a savings of 64 percent. Since the Defense Department catalogs almost 4 million spare parts, of which only some 300,000 are open to full competitive bidding, the possibility of savings through the utilization of small business is enormous.

I believe that the Government can obtain similar results through the SBIR program.

In conclusion, the small business community and the Nation need this bill. They do not need it, however, with exception or other amendments which would effectively make a sham of the program. I urge support for the Small Business Committee's position.

● Mr. MOTTL. Mr. Chairman, I want to associate myself with the comments of the gentleman from Mississippi and the chairman of the Committee on Veterans' Affairs, Mr. MONTGOMERY, regarding the Small Business Innovation Development Act, H.R. 6587.

The Committee on Veterans' Affairs held hearings on the previous bill, H.R. 4326, and reported it to the floor with an amendment that would exclude from the provisions of the bill all research and development activities conducted by Federal employees in or through Government-owned and Government-operated facilities. This amendment is essential to the medical and prosthetic research program of the Veterans' Administration, as virtually all of its research expenditures are for in-house medical research projects. The investigators for these projects are VA staffers who are primarily patient care providers. The vast majority of these projects are oriented toward improving the delivery of health care for veteran patients.

Contribution from VA's clinical research laboratories are legion. From them was born the specialty of nuclear medicine and the scientific knowledge base for radio immune assay and axial tomography. Controlled clinical trials within the VA made major contributions to the development of antitubercular and psychotropic drugs. Sensory aids for the blind and near blind, cardiac bypass surgery and cardiac pacemakers are but a few products of VA research efforts. Finally, the two Nobel prizes in medicine awarded to VA medical researchers speak eloquently for the program's overall success and excellence.

Mr. Speaker, we cannot ignore the inherent value that this in-house research has on the quality of health care provided to veteran patients and to the population of our Nation and the world.

The bill currently under consideration, H.R. 6587, excludes in-house research from its provisions, and, therefore, meets the purpose of the amendment reported by the Committee on Veterans' Affairs.

I wish to congratulate the Committee on Small Business and its distinguished chairman for the leadership shown in meeting this objective.●

● Mr. CORRADA. Mr. Chairman, I rise in support of H.R. 4326 the Small Business Innovation Act as amended by the Small Business Committee which requires certain Federal agencies with research budgets greater than $100 million to set aside specific portions of their research and development—R. & D.—budget to establish small business innovation research programs with the amendment offered by the Committee on Energy and Commerce to exempt health-related research undertaken by the Health and Human Services Department.

The development of new products and processes which increase productivity is vital to a strong economy. The small business sector has contributed greatly to this country's innovative process, they account for almost half of all major innovations, produce about 24 times as many major innovation per R. & D. dollar as every large firm, and produce four times as many innovation per R. & D. employee as large companies.

But dispite these impressive statistics, Federal agencies remain hostile to small businesses, the Federal Government, which funds over half of all R. & D. work in this country, devotes only a small portion of its $44 billion R. & D. budget to small business. It is

contractors in spite of an overwhelming showing again and again that performance by small business yields much greater returns to the Government than performance by big business.

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estimated that small businesses receive only between 3.5 and 7 percent of Federal R. & D. spending while small high-technology firms account for 66 percent of net new jobs created in recent years.

The mandatory set-asides are necessary if small businesses are ever to receive a fair share of Federal R. & D. dollars. This is the only way to overcome the Federal bias against small firms.

While I strongly support the mandatory set-aside of Federal agencies R. & D. budget to increase small businesses participation in Federal Government research programs I also support the amendment offered by the Energy and Commerce Committee to exempt health-related research undertaken by the Health and Human Services Department from the provision requiring set-aside of R. & D. funds.

A mandatory set-aside would disrupt Health and Human Services' longstanding policy of awarding biomedical research grants strictly on the basis of merit.

They have a well established competitive peer review system which recognized only quality, originality, and relevance to the public health mission. The nature and size of an organiation should not have an impact on this merit selection. There are not enough small firms doing high-quality biomedical research to absorb the amount of Health and Human Services' R. & D. budget set-aside by the bill. Funds set-aside for small business innovation research program would either go toward lower quality research, or remain unspent.

I urge my colleague to support H.R. 4326 as amended by the Small Business Committee but exempting the Department of Health and Human Services of the mandatory set-aside.●

● Mr. GEJDENSON. Mr. Chairman, I rise in support of H.R. 4326, the Small Business Innovation Development Act. The Small Business Committee substitute which we are considering today is a bill which I believe will be of great benefit to the small business community.

I am a strong believer in the U.S. investment in basic and applied research for the sake of economic growth, increased productivity, and the creation of jobs. I feel strongly that a commitment to the inclusion of small business in Federal R. & D. will help us achieve those objectives.

We have, over the last decade, taken a number of steps designed to encourage Federal agencies to include small businesses in their R. & D. programs; with one or two notable exceptions—NSF and DOD—this encouragement has fallen on deaf ears. We must now insist on the inclusion of small business in these programs.

Small business is a large employer in my district, and I know many of the small business owners well and have worked with them over the years. Every time I visit one of these businesses, I come away greatly impressed with the scope and the quality of the work they are doing, and I am sure they are representative of small businesses across the country. I do not want to see them continue to be shut out of the R. & D. grant process when they can contribute so much.

I feel that this bill provides them with the opportunity they need and deserve to obtain access to Federal R. & D. funds. I intend to vote in favor of this bill as presented by the committee, and I strongly urge each of my colleagues to do the same.●

● Mr. WORTLEY. Mr. Chairman, it is with great reluctance that I rise in opposition to H.R. 6587, the Small Business Innovation Act. No one in this Chamber is more supportive of small business than I. However, I cannot support this bill.

The idea of mandatory set-asides, appealing at first glance, does not hold up under closer scrutiny. Small businesses already receive an equitable share of research and development money. Statistics show that small firms employ 5.5 percent of research scientists in the country but receive 6.8 percent of Federal research and development funds. Viewed in that light, it is difficult to see how small businesses could absorb the amount of money requested in the bill. All Members can recount endless examples of why throwing money at problems does not provide the necessary solutions. The Small Business Innovation Act can be added to that list.

During the Banking Committee's consideration of another bill, the Defense Industrial Base Revitalization Act, we spent quite a bit of time listening to witnesses representing both the small business and academic communities on what can and should be done to solve the problems of unemployment, progress in basic research and economic revitalization. The consensus was that a definite linkage is needed between universities and the business community. That linkage is definitely lacking at the present time and our industrial base has suffered as a result.

The Small Business Innovation Act would exacerbate the existing problems in that area. The Association of American Universities has told us that there are relatively few dollars at the margins available to experimental scientists. They indicated that most support funds are used to purchase and maintain core equipment and facilities and that money used to fund new projects pales in comparison. Therefore, the 1.25-percent mandatory spending set-aside for small business innovation will cut deeply into that critical marginal support.

There are other reasons as well why this bill should be defeated. I will not belabor the point. The best way to protect long-term research is to send this bill back to committee. I hope that a majority of my colleagues will agree with that conclusion and vote accordingly.●

● Mr. LEE. Mr. Chairman, at a time when the Nation of Japan is heightening its advantage in the trade war by financing a major research and development effort, it is incumbent on this Government to take any feasible steps to meet that challenge by stimulating innovation and technological breakthroughs in this country. We can make a meaningful beginning by passing the legislation before us today, the Small Business Innovation Development Act of 1981.

Numerous studies have shown that small business has made more contributions to technological innovation than any other sector of the economy. For instance, firms with fewer than 1,000 employees accounted for almost one-half of major innovations in this country in the 1953-73 period; the ratio of innovations to research and development employment is four times greater in firms with fewer than 1,000 employees than in smaller firms; finally, in many reliable surveys, small business firms have been found to produce about 24 times as many major innovations per R. & D. dollar as large firms. I believe it follows that any steps we in the Congress can take to make more funds available to our small businesses for research and development purposes will result in repayment to this country's citizens many times over.

In addition to meeting the technological challenge of our trading adversaries, I sincerely believe the legislation we are considering today will have the effect of creating jobs in this country. It is a fact that small businesses are responsible for 90 percent of the private sector jobs in the United States. An infusion of Federal R. & D. dollars should effectively maintain that 90-percent level, and in fact, increase the number of jobs available for our working men and women. Goodness knows, we certainly need new jobs. In my view, in fact, it is axiomatic, that if we are to secure permanent, full-time jobs for our people in great number, we must make every effort to create an environment in which small businesses can multiply and prosper. We expect the country's small businesses to continue to provide 90 percent of private sector jobs, but we want to award them only 4 percent of Federal R. & D. dollars. That just does not make good sense.

For these reasons I enthusiastically support H.R. 4326 and urge my colleagues in the Congress to join me in taking this necessary step to shoring up our small business community, the private sector's leader in technological innovation and permanent, full-time employment.●

Mr. LAFALCE. Mr. Chairman, I yield back the balance of my time.

The CHAIRMAN. Pursuant to the rule, an amendment in the nature of a substitute consisting of the text of

We have, over the last decade, taken a number of steps designed to encourage Federal agencies to include small businesses in their R. & D. programs; with one or two notable exceptions—NSF and DOD—this encouragement has fallen on deaf ears. We must now insist on the inclusion of small business in these programs.

Small business is a large employer in my district, and I know many of the small business owners well and have worked with them over the years. Every time I visit one of these business, I come away greatly impressed with the scope and the quality of the work they are doing, and I am sure they are representative of small businesses across the country. I do not want to see them continue to be shut out of the R. & D. grant process when they can contribute so much.

I feel that this bill provides them with the opportunity they need and deserve to obtain access to Federal R. & D. funds. I intend to vote in favor of this bill as presented by the committee, and I strongly urge each of my colleagues to do the same.●

● Mr. WORTLEY. Mr. Chairman, it is with great reluctance that I rise in opposition to H.R. 6587, the Small Business Innovation Act. No one in this Chamber is more supportive of small business than I. However, I cannot support this bill.

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Mr. LAFALCE. Mr. Chairman, I yield back the balance of my time.

The CHAIRMAN. Pursuant to the rule, an amendment in the nature of a substitute consisting of the text of

H.R. 6587 is considered as an original bill for the purpose of amendment in lieu of the amendment in the nature of a substitute recommended by the Committee on Small Business now printed in the bill.

Under the rule, said substitute is considered as having been read.

The Clerk will designate the amendment in the nature of a substitute.

The text of the amendment in the nature of a substitute, consisting of the text of the bill, H.R. 6587, is as follows:

H.R. 6587

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. This Act may be cited as the "Small Business Innovation Development Act of 1982".

SEC. 2. (a) The Congress finds that—

(1) technological innovation creates jobs, increases productivity, competition, and economic growth, and is a valuable counterforce to inflation and the United States balance-of-payments deficit;

(2) while small business is the principal source of significant innovations in the Nation, the vast majority of federally funded research and development is conducted by large businesses, universities, and Government laboratories; and

(3) small businesses are among the most cost-effective performers of research and development and are particularly capable of developing research and development results into new products.

(b) Therefore, the purposes of this Act are—

(1) to stimulate technological innovation;

(2) to use small business to meet Federal research and development needs; and

(3) to increase private sector commercialization innovations derived from Federal research and development.

SEC. 3. Section 9(b) of the Small Business Act is amended—

(1) by striking out "and" at the end of paragraph (2);

(2) by striking out the period at the end of paragraph (3) and inserting in lieu thereof "; and"; and

(3) by adding at the end thereof the following:

"(4) to develop and maintain a source file and an information program to assure each qualified and interested small business concern the opportunity to participate in Federal agency small business innovation research programs;

"(5) to coordinate with participating agencies a schedule for release of SBIR solicitations, and to prepare a master release schedule so as to maximize small businesses' opportunities to respond to solicitations;

"(6) to independently survey and monitor the operations of SBIR programs within participating Federal agencies; and

"(7) to report not less than annually to the Committee on Small Business of the Senate and the Committee on Small Business of the House of Representatives on the SBIR programs of the Federal agencies and the Administration's information and monitoring efforts related to the SBIR programs.".

SEC. 4. Section 9 of the Small Business Act is amended by adding at the end thereof the following new subsections:

"(e) For the purpose of this section—

"(1) the term 'extramural budget' means the sum of the total obligations minus amounts obligated for such activities by employees of the agency in or through Government-owned, Government-operated facilities, except that for the Agency for International Development it shall not include amounts obligated solely for general institutional support of international research centers or for grants to foreign countries.

"(2) the term 'Federal agency' means an executive agency as defined in section 105 of title 5, United States Code, or a military department as defined in section 102 of such title, except that it does not include the Central Intelligence Agency, the National Security Agency or the Defense Intelligence Agency.

"(3) the term 'funding agreement' means any contract, grant, or cooperative agreement entered into between any Federal agency and any small business for the performance of experimental, developmental, or research work funded in whole or in part by the Federal Government;

"(4) the term 'Small Business Innovation Research Program' or 'SBIR' means a program under which a portion of a Federal agency's research or research and development effort is reserved for award to small business concerns through a uniform process having—

"(A) a first phase for determining, insofar as possible, the scientific and technical merit and feasibility of ideas submitted pursuant to SBIR program solicitations;

"(B) a second phase to further develop the proposed ideas to meet the particular program needs, the awarding of which shall take into consideration the scientific and technical merit and feasibility evidenced by the first phase and, where two or more proposals are evaluated as being of approximately equal scientific and technical merit and feasibility, special consideration shall be given to those proposals that have demonstrated third phase, non-Federal capital commitments; and

"(C) where appropriate, a third phase in which non-Federal capital pursues commercial applications of the research or research and development and which may also involve follow-on non-SBIR funded production contracts with a Federal agency for products or processes intended for use by the United States Government; and

"(5) the term 'research' or 'research and development' means any activity which is (A) a systematic, intensive study directed toward greater knowledge or understanding of the subject studied; (B) a systematic study directed specifically toward applying new knowledge to meet a recognized need; or (C) a systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

"(f) Each Federal agency which has an extramural budget for research or research and development in excess of $100,000,000 for fiscal year 1982, or any fiscal year thereafter, shall expend not less than 0.2 per centum of its extramural budget in fiscal year 1983 or in such subsequent fiscal year as the agency has such budget, not less than 0.6 per centum of such budget in the second fiscal year thereafter, not less than 1 per centum of such budget in the third fiscal year thereafter, and not less than 1.25 per centum of such budget in all subsequent fiscal years with small business concerns specifically in connection with a small business innovation research program which meets the requirements of the Small Business Innovation Development Act of 1982 and regulations issued thereunder: *Provided*, That any Federal agency which has an extramural budget for research or research and development in excess of $10,000,000,000 for fiscal year 1982 shall expend not less than 0.1 per centum of its extramural budget in fiscal year 1983, not less than 0.3 per centum of such budget in the second fiscal year thereafter, not less than 0.5 per centum of such budget in the third fiscal year thereafter, not less than 1 per centum of such budget in the fourth fiscal year thereafter, and not less than 1.25 per centum of such budget in all subsequent fiscal years with small business concerns specifically in connection with a small business innovation research program which meets the requirements of the Small Business Innovation Development Act of 1982 and regulations issued thereunder: *Provided further*, That a Federal agency shall not make available for the purpose of meeting the requirements of this subsection an amount of its extramural budget for basic research or research and development which exceeds the percentage specified herein. Funding arrangements with small business concerns for research or research and development which result from competitive or single source selections other than under a small business innovation research program shall not be counted as meeting any portion of the percentage requirements of this subsection.

"(g) Each Federal agency required by subsection (f) to establish a small business innovation research program shall, in accordance with this Act and regulations issued hereunder—

"(1) unilaterally determine categories of projects to be in its SBIR program;

"(2) issue small business innovation research solicitations in accordance with a schedule determined cooperatively with the Small Business Administration;

"(3) unilaterally receive and evaluate proposals resulting from SBIR proposals;

"(4) unilaterally select awardees for its SBIR funding agreements;

"(5) administer its own SBIR funding agreements (or delegate such administration to another agency);

"(6) make payments to recipients of SBIR funding agreements on the basis of progress toward or completion of the funding agreement requirements; and

"(7) make an annual report on the SBIR program to the Small Business Administration and the Office of Science and Technology Policy.

"(h) In addition to the requirements of subsection (f), each Federal agency which has a budget for research or research and development in excess of $20,000,000 for any fiscal year beginning with fiscal year 1983 or subsequent fiscal year shall establish goals specifically for funding agreements for research or research and development to small business concerns, and no goal established under this subsection shall be less than the percentage of the agency's research or research and development budget expended under funding agreements with small business concerns in the immediately preceding fiscal year.

"(i) Each Federal agency required by this section to have an SBIR program or to establish goals shall report annually to the Small Business Administration the number of awards pursuant to grants, contracts, or cooperative agreements over $10,000 in amount and the dollar value of all such awards, identifying SBIR awards and comparing the number and amount of such awards with awards to other than small business concerns.

"(j) The Small Business Administration, after consultation with the Administrator of the Office of Federal Procurement Policy, the Director of the Office of Science and Technology Policy, and the Intergovernmental Affairs Division of the Office of

"(7) to report not less than annually to the Committee on Small Business of the Senate and the Committee on Small Business of the House of Representatives on the SBIR programs of the Federal agencies and the Administration's information and monitoring efforts related to the SBIR programs.".

SEC. 4. Section 9 of the Small Business Act is amended by adding at the end thereof the following new subsections:

"(e) For the purpose of this section—

"(1) the term 'extramural budget' means the sum of the total obligations minus amounts obligated for such activities by employees of the agency in or through Government-owned, Government-operated facilities, except that for the Agency for International Development it shall not include amounts obligated solely for general institutional support of international research centers or for grants to foreign countries.

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"(4) the term 'Small Business Innovation Research Program' or 'SBIR' means a program under which a portion of a Federal agency's research or research and development effort is reserved for award to small business concerns through a uniform process having—

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"(B) a second phase to further develop the proposed ideas to meet the particular program needs, the awarding of which shall take into consideration the scientific and technical merit and feasibility evidenced by the first phase and, where two or more proposals are evaluated as being of approximately equal scientific and technical merit and feasibility, special consideration shall be given to those proposals that have demonstrated third phase, non-Federal capital commitments; and

"(C) where appropriate, a third phase in which non-Federal capital pursues commercial applications of the research or research and development and which may also involve follow-on non-SBIR funded production contracts with a Federal agency for products or processes intended for use by the United States Government; and

"(5) the term 'research' or 'research and development' means any activity which is (A) a systematic, intensive study directed toward greater knowledge or understanding of the subject studied; (B) a systematic study directed specifically toward applying new knowledge to meet a recognized need; or (C) a systematic application of knowledge toward the production of useful materials, devices, and systems or methods, including design, development, and improvement of prototypes and new processes to meet specific requirements.

"(f) Each Federal agency which has an extramural budget for research or research and development in excess of $100,000,000 for fiscal year 1982, or any fiscal year thereafter, shall expend not less than 0.2 per centum of its extramural budget in fiscal year 1983 or in such subsequent fiscal year as the agency has such budget, not less than 0.6 per centum of such budget in the second fiscal year thereafter, not less than 1 per centum of such budget in the third fiscal year thereafter, and not less than 1.25 per centum of such budget in all subsequent fiscal years with small business concerns specifically in connection with a small business innovation research program which meets the requirements of the Small Business Innovation Development Act of 1982 and regulations issued thereunder: *Provided*, That any Federal agency which has an extramural budget for research or research and development in excess of $10,000,000,000 for fiscal year 1982 shall expend not less than 0.1 per centum of its extramural budget in fiscal year 1983, not less than 0.3 per centum of such budget in the second fiscal year thereafter, not less than 0.5 per centum of such budget in the third fiscal year thereafter, not less than 1 per centum of such budget in the fourth fiscal year thereafter, and not less than 1.25 per centum of such budget in all subsequent fiscal years with small business concerns specifically in connection with a small business innovation research program which meets the requirements of the Small Business Innovation Development Act of 1982 and regulations issued thereunder: *Provided further*, That a Federal agency shall not make available for the purpose of meeting the requirements of this subsection an amount of its extramural budget for basic research or research and development which exceeds the percentage specified herein. Funding arrangements with small business concerns for research or research and development which result from competitive or single source selections other than under a small business innovation research program shall not be counted as meeting any portion of the percentage requirements of this subsection.

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"(6) make payments to recipients of SBIR funding agreements on the basis of progress toward or completion of the funding agreement requirements; and

"(7) make an annual report on the SBIR program to the Small Business Administration and the Office of Science and Technology Policy.

"(h) In addition to the requirements of subsection (f), each Federal agency which has a budget for research or research and development in excess of $20,000,000 for any fiscal year beginning with fiscal year 1983 or subsequent fiscal year shall establish goals specifically for funding agreements for research or research and development to small business concerns, and no goal established under this subsection shall be less than the percentage of the agency's research or research and development budget expended under funding agreements with small business concerns in the immediately preceding fiscal year.

"(i) Each Federal agency required by this section to have an SBIR program or to establish goals shall report annually to the Small Business Administration the number of awards pursuant to grants, contracts, or cooperative agreements over $10,000 in amount and the dollar value of all such awards, identifying SBIR awards and comparing the number and amount of such awards with awards to other than small business concerns.

"(j) The Small Business Administration, after consultation with the Administrator of the Office of Federal Procurement Policy, the Director of the Office of Science and Technology Policy, and the Intergovernmental Affairs Division of the Office of

Management and Budget, shall, within one hundred and twenty days of the enactment of the Small Business Innovation Development Act of 1981, issue policy directives for the general conduct of the SBIR programs within the Federal Government, including providing for—

"(1) simplified, standardized, and timely SBIR solicitations;

"(2) a simplified, standardized funding process which provides for (A) the timely receipt and review of proposals; (B) outside peer review for at least phase two proposals, if appropriate; (C) protection of proprietary information provided in proposals; (D) selection of awardees; (E) retention of rights in data generated in the performance of the contract by the small business concern; (F) transfer of title to property provided by the agency to the small business concern if such a transfer would be more cost effective than recovery of the property by the agency; (G) cost sharing; and (H) cost principles and payment schedules;

"(3) exemptions from the regulations under paragraph (2) if national security or intelligence functions clearly would be jeopardized;

"(4) minimizing regulatory burden associated with participation in the SBIR program for the small business concern which will stimulate the cost-effective conduct of Federal research and development and the likelihood of commercialization of the results of research and development conducted under the SBIR program; and

"(5) simplified, standardized, and timely annual report on the SBIR program to the Small Business Administration and the Office of Science and Technology Policy.

"(k) The Director of the Office of Science and Technology Policy, in consultation with the Federal Coordinating Council for Science, Engineering and Research, shall, in addition to such other responsibilities imposed upon him by the Small Business Innovation Development Act of 1982—

"(1) independently survey and monitor all phases of the implementation and operation of SBIR programs within agencies required to establish an SBIR program, including compliance with the expenditures of funds according to the requirements of subsection (f) of this section; and

"(2) report not less than annually, and at such other times as the director may deem appropriate, to the Committees on Small Business of the Senate and the House of Representatives on all phases of the implementation and operation of SBIR programs within agencies required to establish an SBIR program, together with such recommendations as the Director may deem appropriate.".

Mr. MITCHELL of Maryland. Mr. Chairman, I move to strike the last word.

(Mr. MITCHELL of Maryland asked and was given permission to revise and extend his remarks.)

Mr. MITCHELL of Maryland. Mr. Chairman, we have now concluded debate on the innovation bill and are ready to proceed with amendments.

I am taking this time to explain to my colleagues the changes made by the House Small Business Committee in response to suggestions of other House committees. I personally believe that we should be considering a bill with even stronger provisions than that reported as that would have been better for the small business community and better for the country as a result of the increased innovation and productivity which would have resulted.

Six other House committees, however, examined the bill and made suggestions. We examined these suggestions and agreed to those changes we found acceptable.

First, some critics maintained that the percentage requirements were too high. Agencies would have been required to put 3 percent of their total R. & D. expenditures into the SBIR program but we reduced this to 1¼ percent. Even the President endorses the 1¼ percent level.

Second, other critics argued that the agencies could not implement the program as fast as we would have required. Agencies were to have started at one-half of 1 percent, but we reduced this to two-tenths of 1 percent except for the Defense Department which we reduced to one-tenth of 1 percent. We also reduced the rate of increase in subsequent years.

Third, other critics said it was not fair to apply the percentages against R. & D. moneys spent in-house. So we exempted in-house research and now the amount of the program is based solely on extramural expenditures.

Fourth, others admitted that intelligence R. & D. could be performed by small business but said that this type of activity was not compatible with the open competitive nature of soliciting proposals under the SBIR program. So we expressly excluded the Central Intelligence Agency, the National Security Agency, and the Defense Intelligence Agency.

Fifth, others questioned whether it was appropriate and advantageous to include AID grants for R. & D. conducted in foreign countries. We did not exclude the agency per se but we did exclude AID international research centers and grants to foreign governments from the base against which the percentages are applied.

Finally, others expressed a fear that agencies would comply with the law by putting a disproportionate amount of basic R. & D. into the program as compared to the amount of applied R. & D. So we expressly prohibited this.

I personally do not believe that these criticisms were valid. But I joined my colleagues on the committee and agreed to them and I fully support the bill. However, we cannot go any further than we have already gone in diluting the SBIR program.

As weakening or devastating amendments are offered today, I urge my colleagues to remember the changes we have made already and support the Small Business Committee in resisting them.

□ 1510

The CHAIRMAN. Under the rule, the bill is now open for amendment.

AMENDMENT OFFERED BY MR. MITCHELL OF MARYLAND

Mr. MITCHELL of Maryland. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. MITCHELL of Maryland: Amend the text of H.R. 6587 as follows: On page 2, line 14, strike "this" and insert "the";

On page 7, line 15, strike "percentage" and insert "percentages";

On page 9, line 18, strike "1981" and insert "1982".

The CHAIRMAN. The Chair recognizes the gentleman from Maryland (Mr. MITCHELL) in support of the amendment.

Mr. MITCHELL of Maryland. Mr. Chairman, I will not need the 5 minutes.

Mr. Chairman, this amendment is technical in nature. It corrects two GPO printing errors by changing the word "this" to "the" and by adding an "s" to word "percentage" so it becomes "percentages."

The amendment also corrects a typographical error. It updates an internal citation to the year of the act, which is the Small Business Innovation Development of "1982," not of "1981," as was wrongly printed by GPO.

That is all the amendment does. Unless there are questions, I yield back the balance of my time.

The CHAIRMAN. The question is on the amendment offered by the gentleman from Maryland (Mr. MITCHELL).

The amendment was agreed to.

AMENDMENT OFFERED BY MR. BOLAND

Mr. BOLAND. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. BOLAND: On page 4, line 12, strike all after "except" through line 14 and insert in lieu thereof the following: "that it does not include any agency within the Intelligence Community (as the term is defined in section 3.4(f) of Executive Order 12333 or its successor orders).".

Mr. BOLAND. Mr. Chairman, this is the amendment previously described by my colleague and ranking minority member of the House Permanent Select Committee on Intelligence a moment ago. What it actually does is precisely what the amendment says, and it is brief. It is to the point.

Mr. Chairman, as I mentioned during general debate, the amendment I offer was adopted by the Permanent Select Committee on Intelligence.

I offer it because the Small Business substitute before us provides only a partial exclusion for the intelligence research and development function.

It neglects some very significant, technology-driven programs of high importance to the national intelligence effort.

Mr. Chairman, the committee, in its study of this bill, came to a number of significant conclusions.

They are:

The amount of intelligence research and development funds that would be affected by the bill is large.

The sums involved are classified and involve all the major intelligence agencies, including, but not limited to, Central Intelligence Agency, Defense In-

Chairman, we have now concluded debate on the innovation bill and are ready to proceed with amendments.

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Six other House committees, however, examined the bill and made suggestions. We examined these suggestions and agreed to those changes we found acceptable.

First, some critics maintained that the percentage requirements were too high. Agencies would have been required to put 3 percent of their total R. & D. expenditures into the SBIR program but we reduced this to 1¼ percent. Even the President endorses the 1¼ percent level.

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They are:

The amount of intelligence research and development funds that would be affected by the bill is large.

The sums involved are classified and involve all the major intelligence agencies, including, but not limited to, Central Intelligence Agency, Defense In-

telligence Agency, and National Security Agency.

There are a number of highly classified programs within the national foreign intelligence program whose very existence is not acknowledged, or as to which no public description can be made, least of all in terms of their specific research and development needs.

Unlike the basic or general research conducted by the National Science Foundation, most intelligence research and development is very result oriented, and aimed at rapid development of hardware to fulfill a specific, and often very narrow, function.

Security requirements for intelligence research and development contracts are stringent and such contracts most often are not the product of any public solicitation.

The many small businesses which do participate in intelligence research and development often do so as subcontractors and because they have become known to large contractors.

Frequently, their contribution is unique and essential, but of narrow application.

Sometimes they are not even aware their contribution is to an intelligence program.

Definitions applied by the bill—for "research" and "research and development," and for "small business," result, respectively, one, in a great range of activities being included in research and development for purposes of calculations about an agency's total research and development and the size of the set-aside, and two, in small numbers of firms qualifying for the set-asides.

The committee believes that security concerns it has identified are serious in nature. In the course of its inquiry, however, the committee also came to the conclusion that the bill's approach is simply incompatible with the structure of intelligence research and development activities.

To begin with, the set-aside programs established by the bill will be unconnected to small business contracts that are presently let by intelligence agencies.

The bill before us, as indicated by the report of the Committee on Small Business, "specifies that funding agreements with small businesses resulting from competitive or single source selections other than under an SBIR program shall not be counted as meeting any portion of the percentage requirements set forth in the bill for overall agency research and development funding awards to small business." (H. Rept. 97-349, pt. I, p. 21.)

This approach may work for many agencies which, like the National Science Foundation, are interested in a broad range of research activities and which fund research for the sake of such research, as opposed to any specific end goal.

It does not work, however, for the intelligence community.

Mr. Chairman, the bottom line of these findings is that many of the agencies who would be drawn within the requirements of the bill could not effectively participate in SBIR programs.

They could not submit public bids.

They could not discuss their needs in unclassified solicitations.

Therefore, many small businesses would be unable to determine whether their capabilities would match intelligence community needs.

They would have to be cleared in advance.

Such a process involves a dissemination of very sensitive material without any guarantee that the potential subcontracts in question could effectively participate in any intelligence research and development work.

Faced with the significance of these incompatibilities to intelligence research and development, the committee recommended—and continues to believe it important to provide—a full exclusion of the intelligence community from this bill.

That is the effect of the amendment which I have offered.

I urge its adoption.

Mr. Chairman, my understanding is that the subcommittee is willing to accept my amendment. The chairman of the Committee on Small Business is willing to accept it.

Mr. LAFALCE. Mr. Chairman, will the gentleman yield?

Mr. BOLAND. I yield to the gentleman from New York (Mr. LAFALCE).

Mr. LAFALCE. Mr. Chairman, we have had an opportunity to review the amendment and to consider it. We have no objection. In fact, we do accept the amendment.

Mr. McDADE. Mr. Chairman, will the gentleman yield?

Mr. BOLAND. I yield to the gentleman from Pennsylvania.

Mr. McDADE. I thank my distinguished colleague for yielding to me.

I commend the gentleman from Massachusetts and the gentleman from Virginia for helping us to craft a better bill.

We accept the amendment and urge its adoption.

Mr. BOLAND. I thank the gentleman.

Mr. ROBINSON. Mr. Chairman, will the gentleman yield?

Mr. BOLAND. I yield to the gentleman from Virginia (Mr. ROBINSON).

(Mr. ROBINSON asked and was given permission to revise and extend his remarks.)

Mr. ROBINSON. I thank the gentleman for yielding.

Mr. Chairman, I rise in full support of the amendment offered by the chairman of the Intelligence Committee.

As I said earlier, the exclusion provided intelligence agencies by the bill does not embrace a number of highly classified programs within the national foreign intelligence program whose very existence is not acknowledged, or as to which no public description can be made, least of all in terms of their specific research and development needs. The bill should contain a full exclusion for the intelligence community. Otherwise it would operate to compromise the security of sensitive intelligence programs. More basically, the small business innovation research program approach will not work in the intelligence context.

Mr. Chairman, the Intelligence Committee amendment will cure these ills. It is broad enough to insulate intelligence research and development programs but narrow enough to insure that only intelligence programs are exempted.

I urge the adoption of the amendment.

● Mr. McCLORY. I rise in support of the amendment offered by the distinguished gentleman from Massachusetts (Mr. BOLAND), who so ably serves as the chairman of the Permanent Select Committee on Intelligence. I would also like to associate myself with the statement he has made on this matter as well as with that of the ranking minority member of the committee, the gentleman from Virginia (Mr. ROBINSON).

When the Committee on Small Business reconsidered the Small Business Innovations Research Act of 1982, it took careful note of the special circumstances of research and development in the intelligence sphere. It evidenced this by exempting from the legislation the Central Intelligence Agency, the Defense Intelligence Agency, and the National Security Agency. Unfortunately, it did not extend this exemption to those other lesser-known components of the intelligence community whose contribution to our national security is equally as significant and, therefore, whose demands for secrecy in the area of research and development are just as great.

President Reagan's Executive order on intelligence activities, Executive Order No. 12333, sets out the agencies which comprise the intelligence community, all of which would be exempted by the gentleman's amendment. Beyond CIA, NSA, and DIA, the definition incorporates the intelligence components of the Department of Defense, the Department of State, the uniformed services, the FBI, the Department of the Treasury, the Department of Energy, and the staff elements of the Director of Central Intelligence. While the research and development projects of some of these organizations may be small, those of others are quite significant. For the reasons stated by the gentleman in support of his amendment, it is wholly inappropriate to bring the research and development programs of these agencies within the requirements of this legislation.

Mr. Chairman, I believe that the argument on behalf of the gentleman's

SBIR program shall not be counted as meeting any portion of the percentage requirements set forth in the bill for overall agency research and development funding awards to small business." (H. Rept. 97-349, pt. I, p. 21.)

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Mr. Chairman, I believe that the argument on behalf of the gentleman's

amendment is quite persuasive and therefore urge its adoption.●

The CHAIRMAN. The question is on the amendment offered by the gentleman from Massachusetts (Mr. BOLAND).

The amendment was agreed to.

AMENDMENTS OFFERED BY MR. MCDONALD

Mr. McDONALD. Mr. Chairman, I offer two amendments from the Committee on Armed Services, and I ask unanimous consent that they may be considered en bloc.

The CHAIRMAN. Is there objection to the request of the gentleman from Georgia?

There was no objection.

The CHAIRMAN. The Clerk will report the amendments.

The Clerk read as follows:

Amendments offered by Mr. MCDONALD: Page 4, line 11, strike out "or a" and all that follows through line 14 and insert in lieu thereof "except that it does not include the Department of Defense or the Central Intelligence Agency.".

Page 6, line 10, insert "(1)" after "(f)".

Page 7, after line 21, insert the following: "(2) Amounts appropriated for atomic energy defense programs of the Department of Energy shall for the purposes of paragraph (1) be excluded from the amount of the research or research and development budget of that Department.

Mr. McDONALD Mr. Chairman, over the past decade, the Department of Defense has increased its research and development prime contract awards to small business from 4.9 percent in 1972 to 7.4 percent in 1981.

Small businesses represent some 5.5 percent of the Department of Defense research and development industrial base, yet they receive 7.4 percent of the Department of Defense research and development contract awards. In other words, we are now making awards from the Department of Defense in excess of the industrial base by small business.

We are not only matching the 5.5 percent; we are going beyond the 5.5 percent to the level of 7.4 percent.

In the area of research and development, small research firms received $679 million in prime contract awards in 1981 compared with $584 million in 1980. This represents the highest amount of awards ever achieved by these firms.

Of the $88.2 billion awarded in prime contracts for R. & D. procurement by the Defense Department in 1981, $17.8 billion, or 20 percent of these awards, went to small businesses.

The Department of Defense at this time already has an aggressive, well-managed small business program that works. The point is, if it works, why in the world do we need to fix it with this bill?

The net effect of this bill would be to require that a portion of the Department of Defense small business efforts that are awarded by competitive bid would be, in the future, on a set-aside basis.

This is why I feel, Mr. Chairman, that these amendments, these two amendments, are necessary because the Department of Defense at this time is going beyond the intent of this bill.

Mr. WHITE. Mr. Chairman, will the gentleman yield?

Mr. McDONALD. I yield to the gentleman from Texas.

Mr. WHITE. I thank the gentleman for yielding to me.

Mr. Chairman, in the committee, when we figured the formulas, based on what is already awarded, or set-aside for small business—which is excessive and larger than the norm established by small business—coupled with the formula provided in the bill, it would have been a tremendous amount of increase that would have contributed to inefficiencies in the defense production at a time when we need to really streamline and save money in the area of defense.

So I support the gentleman's amendments.

Mr. LAFALCE. Mr. Chairman, I rise in opposition to the amendment.

Mr. Chairman, I will not take too much time because we have debated this concept considerably during the course of general debate.

Let me point out that the Department of Defense is supportive of the bill as amended by the Small Business Committee, and that means they are opposed to this amendment.

Let me further point out that the use of statistics by the gentleman, and the use of words, is grossly in error.

The 1.25 percent that we would establish after a 5-year period of time is not above and beyond the present 7.4 percent that is allegedly going to small business. It is to be earmarked for the SBIR program and can be a part of the 7.4-percent figure.

There is no question about that upon a close reading of the statute. That is the literal interpretation, and that certainly is also the intent of the committee as you read the language and as your hear from the authors of the bill itself.

The gentleman said that we would have 1.25 percent going toward a sole-source, set-aside program. That, too, is grossly in error.

As a matter of fact, this would be the most competitive of all the programs within the Department of Defense. There is nothing sole-source about this at all. There probably would be about 10 applicants for every single award that could be given. This has been the experience of the NSF; this has been the experience thus far of the Department of Defense in its own program modeled after the SBIR program.

I think that this amendment would—I do not want to say "gut" the bill—but it would tremendously harm the bill by taking out a huge percentage of the total Federal R. & D. dollar. Therefore, it ought to be opposed, as the Reagan administration opposes it and as the Department of Defense opposes it.

□ 1520

Mr. DICKINSON. Mr. Chairman, I move to strike the requisite number of words.

Mr. Chairman and ladies and gentlemen of the committee, I would like to put something in perspective here. The gentleman has just stated that the Department of Defense support this. I had a colloquy with Mr. Bill Long, who handles this for research and development under the Department of Defense, and I have the report from our committee. If I might, I would like to report part of what was said.

I said—this is myself speaking—I said, "Now, in talking to Dr. Lowe * * *" who is Assistant Secretary of Physical Research and Development—* * * "about this, he said that he did not support H.R. 4326, but would support the Senate version, S. 881. I have got a feeling that we are dealing with semantics here. He would prefer this as the lesser of two evils, but would prefer neither. If this is the case, what is your feeling?"

I asked that of Mr. Long, and Mr. Long said, "Well, I think that as a part of the administration you must recognize, Mr. DICKINSON, that the position is that of the administration."

I said, "I am not asking you the position of the administration. Do you prefer one or the other, but you really prefer neither, is that correct?"

Mr. Long said, "That is my personal view."

Going on, Mr. Long, "I would like to explain what I mean by 'goals.' Goals is the wrong word here. It is really the burden on our procurement system. We spent a lot of money in the Department of Defense, and we have a national security mission. Our procurement system is, by a variety of statutes and regulations, used for a variety of purposes unrelated to our mission, and I am not criticizing anyone. I am simply stating my perception of the facts. The more the system gets burdened, the less efficient it will be at least in what we might say as the narrow perspective of carrying out our procurement mission of what we now support in our support mission of national defense."

Let me say, Mr. Chairman, that nobody is against small business. We are all for small business. We are all for motherhood. We are all for patriotism and the American flag. That is obscuring the issue. The point is that the Department of Defense already grants 4.7 percent of its research and development to small business. This bill says that does not count, because you have not made it a setaside, and there are only 5.5 percent of businesses that are presently getting 7.4 percent of the business out there. So, they have done pretty good.

What we are saying is that we would like not to have another burden, another layer of bureaucracy, put on the research and development part of our

time already has an aggressive, well-managed small business program that works. The point is, if it works, why in the world do we need to fix it with this bill?

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What we are saying is that we would like not to have another burden, another layer of bureaucracy, put on the research and development part of our

national defense procurement and the system. The Department of Defense says, as between the two, they want the lesser of the evils. What we are saying is, we are already doing more than this bill mandate by way of giving business to small business R. & D. We are already giving 7.5 percent, approximately. Why should we have to be required to add another 1 percent or 2 percent or any other percent on top of that. We are already doing more than they are asking. We do not want to be burdened within the R. & D. section of the Department of Defense when we are in good faith proceeding on this.

We have made a very vigorous effort. Ten years ago, small business only got 4.9 percent, which was $256 million. Today, they are getting 7.4 percent, which is $679 million. They are doing this voluntarily instead of an affirmative action program, but you say this is not enough, it does not count, we want to put something more on top of it, another regulation, not let it be competitive, let them go out and say, "Hey, we have got to find somebody out there and give them a contract. The law says give it to small business whether they can compete, give it to them."

Mr. O'BRIEN. Mr. Chairman, will the gentleman yield?

Mr. DICKINSON. I would be happy to yield to the gentleman.

Mr. O'BRIEN. Mr. Chairman, with respect to the 7.4 percent, those are direct contracts, is that correct?

Mr. DICKINSON. Yes.

Mr. O'BRIEN. If, let us say, the Government has a contract with Chrysler to build a tank, and Chrysler makes a subcontract with, let us say, a Joliet firm, Champion Machinery, for some research and development, is that included?

Mr. DICKINSON. No, any sub under a prime, I do not know of any prime contractor——

The CHAIRMAN. The time of the gentleman from Alabama has expired.

(By unanimous consent, Mr. DICKINSON was allowed to proceed for 1 additional minute.)

Mr. DICKINSON. Any big contract for a major system goes to a large business, but then they subcontract out to various layers of vendors underneath this. This does not count against this figure that they are putting in.

Mr. O'BRIEN. So that would be in addition?

Mr. DICKINSON. In addition thereto.

Mr. O'BRIEN. I thank the gentleman.

Mr. DICKINSON. So, I just think it is unreasonable, I think it is a fair amendment and should be supported. The Department of Defense is doing more than is required, and they are already doing almost four times what this bill would require.

The CHAIRMAN. The time of the gentleman from Alabama has again expired.

(At the request of Mr. HUNTER and by unanimous consent, Mr. DICKINSON was allowed to proceed for 2 additional minutes.)

Mr. HUNTER. Mr. Chairman, will the gentleman yield?

Mr. DICKINSON. I yield.

Mr. HUNTER. What I am concerned about is that we already are subcontracting out on these large programs a lot of work to small business. I think what is going to happen realistically is that for the Department of Defense to comply with this proposal, it is going to tell the Rockwell's and the other major contractors, "We will not contract directly with small business," and they are going to be spending a lot of money with this excessive bureaucracy to monitor than would otherwise take place, instead of the major contractor, the prime, subbing out as they do now. It will be the Government directly subbing that business out. We will be paying for an extra layer of bureaucracy.

Mr. DICKINSON. When the gentleman says paying, according to our report, in 1983 the cost of administering it will be $11 million; $16 million in 1984; $25 million in 1985; and $27 million in 1986.

This is another layer of bureaucracy we are paying for that we do not need to pay for because the Department of Defense is already doing all that this requires.

The CHAIRMAN. The time of the gentleman from Alabama has again expired.

(At the request of Mr. WHITE and by unanimous consent, Mr. DICKINSON was allowed to proceed for 3 additional minutes.)

Mr. WHITE. Mr. Chairman, will the gentleman yield?

Mr. DICKINSON. I will be pleased to yield.

Mr. WHITE. Mr. Chairman, I want to call to the attention of the Committee an editorial in the Washington Post of today, June 17, in which it speaks about the Small Business Subsidies Act. It actually depressed competition. We have found in some of our hearings in the Armed Services Committee, where we have technical equipment to produce and R. & D. on weapons systems, that frequently that whenever there is a small business setaside that often a small business which has not been in competition will obtain the contract and then go back and hire a company that has the expertise, thereby increasing and escalating the cost to the taxpayer. This is one thing. While the Department of Defense is already going far beyond the level which has been prescribed for setasides for small business, and would therefore by this bill increase even more, we would be increasing the tax to the American public.

Mr. DICKINSON. In line with what the gentleman is saying, to give a very graphic example, the last administration decided they wanted to go out with a proposal for a vehicle called a HUM-V, a high mobility, multipurpose vehicle. They were going to buy $1.5 billion worth of these, 50,000 vehicles. There is not a minority or small business in the entire United States that could do it, but they directed it by a small business set-aside for $1.5 billion.

Mr. McDADE. Mr. Chairman, if the gentleman will yield, he clearly pointed out that was the last administration.

Mr. DICKINSON. The last administration.

Mr. McDADE. And the contract was never awarded.

Mr. DICKINSON. We stopped it.

Mr. McDADE. I would like to tell the gentleman that I claim credit for stopping it.

Mr. DICKINSON. They tried to.

Mr. ROEMER. Mr. Chairman, I move to strike the requisite number of words.

(Mr. ROEMER asked and was given permission to revise and extend his remarks.)

□ 1530

Mr. ROEMER. I have heard some comments in the last few minutes about this particular amendment that are just not true. Fact No. 1—this bill as written does not require an additional commitment from the Department of Defense to small business. Read the language again—you do not have to take the 7.4 percent and add to that.

Mr. DICKINSON. Mr. Chairman, will the gentleman yield?

Mr. ROEMER. I yield to the gentleman from Alabama.

Mr. DICKINSON. I thank the gentleman for yielding.

Let me read to the gentleman the language from the bill itself. "Funding agreements with small business concerns for research or research and development which result from competitive or single source selection other than under a small business innovation research program shall not be counted as meeting any portion of the percentage requirements of this subsection," which means if it is not a setaside, then it does not count, and that is the language of it and you cannot alter it.

Mr. ROEMER. I appreciate the gentleman's comment, but any review of the bill will show that two requirements lead to the following conclusion: Amounts included in the SBIR program as required by subsection (f) may be counted toward meeting the goaling requirements of subsection (h).

It states that in the bill. Let me reclaim my time to further continue.

Mr. DICKINSON. I hope the gentleman is right.

Mr. ROEMER. I reclaim my time.

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Mr. DICKINSON. I hope the gentleman is right.

Mr. ROEMER. I reclaim my time.

In looking at this bill, this is not a bill of protectionism for small business. This is a bill that looks at our Federal Government, looks at the taxpayers dollars, and except for the Department of Defense, which is exemplary, and the gentleman is correct—except for that and a few other agencies, small business is shutout, shutout in a variety of ways.

The fact is that small business, through its efforts in the last decade, has presented the American people more opportunities for innovation and job creation than any other part of our business community and all we are doing in this bill across-the-board in a fair manner is to provide small business a toehold, not for protectionism, but for true competition, the benefits of which accrue to the American people.

Now, as to the Department of Defense, nothing in this bill requires the Department of Defense to do more than it does today, but this bill will prevent the Department of Defense from sliding backward, from sliding backward to its commitment to work with small business.

Now maybe that will work a bureaucratic hardship in the Department. Frankly, I do not believe that. But take it on the reverse and I think you will find out it will send a clear message to the business community that even the smallest among them which comes up with the brightest and best ideas often will have a chance to do business on behalf of the American taxpayer.

Mr. ADDABBO. Mr. Chairman, will the gentleman yield?

Mr. ROEMER. I yield to the gentleman from New York.

Mr. ADDABBO. I thank the gentleman for yielding.

I wish to point out along with the gentleman, I oppose the amendment very vigorously because the committee has been working on this project for over 15 years trying to get DOD to move in this field, and only through legislation have we forced them to even move up a slight amount. We have heard amounts here before. Do we realize that out of a $20 billion R. & D. procurement, all we are asking for is 0.1, one-tenth of 1 percent, be set aside for this program. One-tenth of 1 percent. But what is the true bottom line? DOD does not want anybody to tell them how to spend their money. What they would like is a blank check and spend it the way they want it. This is the only way we can be sure that they will help that 96 percent of our economy that is small business.

The CHAIRMAN. The time of the gentleman from Louisiana (Mr. ROEMER) has expired.

[By unanimous consent, Mr. ROEMER was allowed to proceed for 1 additional minute.]

Mr. ROEMER. Let me conclude. I thank the gentleman for his statement; he is right on target. In conclusion, let me say that this is not a protectionist bill. This is a bill that will facilitate competition. It does it by the force of this legislative body, and, except for the Department of Defense, it is the kind of message we need to send to all agencies.

Why should we exempt the Department of Defense if they are in fact doing more? We ought to applaud them, not exempt them. That is what this bill does.

The CHAIRMAN. The question is on the amendments offered by the gentleman from Georgia (Mr. MCDONALD).

The question was taken; and the Chairman announced that the noes appeared to have it.

RECORDED VOTE

Mr. MCDONALD. Mr. Chairman, I demand a recorded vote.

A recorded vote was ordered.

The vote was taken by electronic device, and there were—ayes 80, noes 295, not voting 57, as follows:

[Roll No. 157]

AYES—80

Andrews	Gramm	Nelson
Badham	Hall, Sam	Nichols
Barnard	Hansen (ID)	O'Brien
Bennett	Hansen (UT)	Price
Bliley	Hartnett	Quillen
Bouquard	Holt	Rhodes
Brinkley	Hopkins	Robinson
Byron	Hunter	Sensenbrenner
Cheney	Hutto	Shannon
Clinger	Johnston	Shelby
Corcoran	Jones (OK)	Shumway
Crane, Daniel	Kindness	Smith (AL)
Crane, Philip	Lantos	Smith (OR)
Daniel, Dan	Latta	Snyder
Daniel, R. W.	Madigan	Solarz
Dannemeyer	McCloskey	Solomon
Davis	McCurdy	Spence
Dickinson	McDonald	Stump
Dingell	Miller (OH)	Taylor
Dougherty	Mineta	Trible
Duncan	Mollohan	Wampler
Early	Montgomery	Watkins
English	Moore	Waxman
Fary	Murphy	White
Fazio	Murtha	Whitehurst
Fuqua	Myers	Young (FL)
Gibbons	Napier	

NOES—295

Addabbo	Carman	Eckart
Akaka	Chappell	Edwards (AL)
Albosta	Chappie	Edwards (CA)
Alexander	Clausen	Emerson
Anderson	Coats	Emery
Annunzio	Coelho	Erdahl
Anthony	Coleman	Evans (DE)
Applegate	Collins (IL)	Evans (GA)
Archer	Conable	Evans (IA)
Aspin	Conte	Fascell
Atkinson	Conyers	Fenwick
Bafalis	Coughlin	Ferraro
Bailey (PA)	Courter	Fiedler
Barnes	Coyne, James	Fields
Bedell	Coyne, William	Findley
Beilenson	Crockett	Fithian
Benedict	D'Amours	Flippo
Benjamin	Daschle	Florio
Bereuter	Daub	Foglietta
Bethune	de la Garza	Foley
Bevill	Deckard	Ford (MI)
Bingham	Dellums	Ford (TN)
Boggs	DeNardis	Forsythe
Boland	Derrick	Fountain
Boner	Derwinski	Frank
Bonker	Dicks	Frenzel
Bowen	Dixon	Frost
Breaux	Donnelly	Garcia
Brodhead	Dorgan	Gaydos
Brooks	Dornan	Gejdenson
Brown (CA)	Downey	Gephardt
Brown (CO)	Dreier	Gilman
Broyhill	Dunn	Gingrich
Burton, Phillip	Dwyer	Glickman
Butler	Dymally	Gonzalez
Campbell	Dyson	Goodling
Gore	Martin (NY)	Sawyer
Gradison	Matsui	Scheuer
Gray	Mattox	Schneider
Green	Mavroules	Schroeder
Gregg	Mazzoli	Schumer
Guarini	McClory	Seiberling
Gunderson	McCollum	Shamansky
Hall (OH)	McDade	Sharp
Hall, Ralph	McEwen	Shaw
Hamilton	McGrath	Shuster
Hammerschmidt	McHugh	Siljander
Hance	McKinney	Simon
Hawkins	Mica	Skeen
Heckler	Michel	Smith (IA)
Hefner	Mikulski	Smith (NE)
Heftel	Miller (CA)	Smith (NJ)
Hendon	Minish	Snowe
Hertel	Mitchell (MD)	St Germain
Hightower	Moakley	Stangeland
Hiler	Molinari	Stanton
Horton	Moorhead	Stark
Howard	Morrison	Staton
Hoyer	Natcher	Stenholm
Hubbard	Neal	Stokes
Huckaby	Nowak	Studds
Hughes	Oakar	Swift
Hyde	Oberstar	Synar
Ireland	Ottinger	Tauke
Jacobs	Oxley	Tauzin
Jeffries	Parris	Thomas
Jones (NC)	Pashayan	Traxler
Jones (TN)	Patman	Udall
Kastenmeier	Patterson	Vander Jagt
Kazen	Paul	Vento
Kennelly	Pease	Volkmer
Kildee	Pepper	Walgren
Kogovsek	Perkins	Walker
Kramer	Petri	Washington
LaFalce	Peyser	Weaver
Lagomarsino	Pickle	Weber (MN)
Leach	Porter	Weber (OH)
LeBoutillier	Pritchard	Weiss
Lee	Rahall	Whitley
Lehman	Railsback	Whittaker
Leland	Rangel	Whitten
Lent	Ratchford	Williams (MT)
Levitas	Regula	Williams (OH)
Lewis	Rinaldo	Wilson
Livingston	Ritter	Winn
Loeffler	Roberts (KS)	Wirth
Long (LA)	Roberts (SD)	Wolf
Long (MD)	Rodino	Wolpe
Lott	Roe	Wortley
Lowery (CA)	Roemer	Wright
Lowry (WA)	Rogers	Wyden
Lujan	Rose	Wylie
Lundine	Rostenkowski	Yates
Lungren	Roth	Yatron
Markey	Rousselot	Young (AK)
Marlenee	Roybal	Young (MO)
Marriott	Russo	Zeferetti
Martin (IL)	Sabo	
Martin (NC)	Savage	

NOT VOTING—57

AuCoin	Erlenborn	Marks
Bailey (MO)	Ertel	Mitchell (NY)
Beard	Evans (IN)	Moffett
Biaggi	Fish	Mottl
Blanchard	Fowler	Nelligan
Bolling	Ginn	Obey
Bonior	Goldwater	Panetta
Broomfield	Grisham	Pursell
Brown (OH)	Hagedorn	Reuss
Burgener	Harkin	Richmond
Burton, John	Hatcher	Rosenthal
Carney	Hillis	Roukema
Chisholm	Holland	Rudd
Clay	Hollenbeck	Santini
Collins (TX)	Jeffords	Schulze
Craig	Jenkins	Skelton
Dowdy	Kemp	Smith (PA)
Edgar	Leath	Stratton
Edwards (OK)	Luken	Zablocki

□ 1550

The Clerk announced the following pairs:

On this vote:

Mr. Stratton for, with Mr. AuCoin against.

Mr. Rudd for, with Mr. Skelton against.

Mr. Burgener for, with Mr. Richmond against.

Mr. Beard for, with Mr. Collins of Texas against.

This is the only way we can be sure that they will help that 96 percent of our economy that is small business.

The CHAIRMAN. The time of the gentleman from Louisiana (Mr. ROEMER) has expired.

[By unanimous consent, Mr. ROEMER was allowed to proceed for 1 additional minute.]

Mr. ROEMER. Let me conclude. I thank the gentleman for his statement; he is right on target. In conclusion, let me say that this is not a pro-

Bethune de la Garza Foley
Bevill Deckard Ford (MI)
Bingham Dellums Ford (TN)
Boggs DeNardis Forsythe
Boland Derrick Fountain
Boner Derwinski Frank
Bonker Dicks Frenzel
Bowen Dixon Frost
Breaux Donnelly Garcia
Brodhead Dorgan Gaydos
Brooks Dornan Gejdenson
Brown (CA) Downey Gephardt
Brown (CO) Dreier Gilman
Broyhill Dunn Gingrich
Burton, Phillip Dwyer Glickman
Butler Dymally Gonzalez
Campbell Dyson Goodling

Edgar Leath Stratton
Edwards (OK) Luken Zablocki

□ 1550

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On this vote:

Mr. Stratton for, with Mr. AuCoin against.

Mr. Rudd for, with Mr. Skelton against.

Mr. Burgener for, with Mr. Richmond against.

Mr. Beard for, with Mr. Collins of Texas against.

Mr. Carney for, with Mr. Fish against.

Messrs. OXLEY, NEAL, ATKINSON, McCOLLUM, HANSEN of Idaho, PATTERSON, GILMAN, WORTLEY, and KRAMER changed their votes from "aye" to "no."

Messrs. DUNCAN, SAM B. HALL, JR., DANNEMEYER, and HANSEN of Idaho changed their votes from "no" to "aye."

So the amendments were rejected.

The result of the vote was announced as above recorded.

Mr. LaFALCE. Mr. Chairman, I move to strike the last word.

Mr Chairman, I would like to announce that after consultation with the Speaker, it is my intention to move that the committee rise at 5 o'clock, assuming there is no objection, with the understanding that any amendments we have not completed by 5 o'clock will be taken up this coming Tuesday.

Mr. DINGELL. Mr. Chairman, will the gentleman yield?

Mr. LaFALCE. I yield to the gentleman from Michigan.

Mr. DINGELL. Mr. Chairman, I have a curiosity here. What will this do to amendments pending or amendments that are not yet considered? And when will the bill be brought back to the House?

Mr. LaFALCE. As I said, the Speaker has indicated we could come back on Tuesday with the other amendments. We would hope to dispose of as many amendments as we can between now and 5 o'clock. Hopefully, we will not have too many recorded votes, but we do not know, we cannot be certain about that.

Mr. MITCHELL of Maryland. Mr. Chairman, will the gentleman yield?

Mr. LaFALCE. I yield to the distinguished chairman of the full committee, the gentleman from Maryland (Mr. MITCHELL).

Mr. MITCHELL of Maryland. Mr. Chairman, I want to assure my distinguished colleague that all amendments that are now recognized and other amendments that Members might want to present will be protected when this bill comes back to the floor on Tuesday.

Mr. DINGELL. If the gentleman will yield further, I am trying to assure myself as to how these matters will be dealt with. Does the gentleman intend to rise in the midst of consideration of an amendment? Or what is the intention of the gentleman from New York to deal with the matter?

Mr. LaFALCE. If it looks as if we are about to finish an amendment at 5 o'clock and it might take another 5 minutes or so, I assume we would take that additional 5 minutes. That is something we would have to consult about with the sponsor of the amendment at the time. If it happens to be the gentleman or his committee, we would certainly consult with him or his committee.

Mr. DINGELL. I thank the gentleman.

□ 1600

AMENDMENT OFFERED BY MR. WAXMAN

Mr. WAXMAN. Mr. Chairman, I offer an amendment.

The Clerk read as follows:

Amendment offered by Mr. WAXMAN: Page 6, insert before the period in line 9 a comma and the following: "but such term does not include research or research and development conducted with funds appropriated to carry out the Public Health Service Act, the Comprehensive Alcoholism and Alcohol Abuse Prevention, Treatment, and Rehabilitation Act of 1970, the Drug Abuse Prevention, Treatment and Rehabilitation Act, or titles V, XI, XVIII, and XIX of the Social Security Act, or any other health-related research or research and development conducted through the Department of Health and Human Services or any of its entities."

Mr. WAXMAN. Mr. Chairman, I bring this amendment as reported by the Commerce Committee to the consideration of my colleagues today because I believe that the excellent work done by the National Institutes of Health ought not to be jeopardized by a set-aside provided for small business.

I submit that this is an appropriate exception to the small business bill for two major reasons. First of all, the National Institutes of Health has changed its rules to try to include more small business participation in the grants that are awarded. They have provided that scientists from for-profit firms are now eligible to receive NIH research grants for the first time. Scientists from for-profit firms are now being appointed to NIH peer review committees and for-profit firms are now allowed to retain the rights to patents developed with Federal funds. I do not think that small business concerns ought to be met by changing the law as it relates to NIH.

There is a second major reason that I think NIH is different.

The primary argument for a small business set-aside is that it will bring new high-technology products into the market and improve the U.S. position vis-a-vis other nations. But those who support a small business set-aside do not understand the medical sector of the economy or the work done at the National Institutes of Health.

Most biomedical research does not lead to a marketable product but to improved medical practice. Biomedical research goes into the basic scientific work done both on the campus at NIH and at universities throughout the country. Small businesses are interested in applied research, they are interested in something that is going to lead to a profitable business. They want their research to go into a new product, either a drug or a medical device. For those areas, there is no scarcity of capital because the health care system is such where success in those areas is greatly rewarded. But we do not have a market system that rewards biomedical basic research. The basic medical research done on the campuses around the country is such that unless we fund NIH there will not be funds for basic research at all. So the universities are concerned and NIH is concerned. If we take a shrinking budget for NIH and then add a set-aside of funds that can only go for small business, in effect, we are taking money away from the basic biomedical research. In 3 years, this set-aside would amount to $50 million.

Now to give you a perspective of what that would mean. The work done on arthritis research alone is $50 million. Why should we take money away from this vital research for a small business set-aside?

Universities are concerned about the effect of the bill on medical science. They fear young members of the medical profession may leave academic research in favor of this new generation of for-profit firms. This bill may well further encouraged this development in response to the set-aside.

I submit first, that even if you support a small business set-aside of funds in other areas, in the health area it is very inappropriate. And second, that NIH is actively doing all it can to encourage small business participation.

For those two reasons, we ought to agree to exempt the shrinking budget for basic biomedical research from any kind of set-aside; any kind of quota that might be provided in other areas.

This is the recommendation of the Commerce Committee. It was overwhelmingly supported in the committee, and I know that we have the support of the gentleman from North Carolina (Mr. BROYHILL); the gentleman from Illinois (Mr. MADIGAN); the gentleman from Michigan (Mr. DINGELL), and myself, urging that this be the position of the House as well.

This amendment is appropriate even if you think the bill as a whole should pass.

The CHAIRMAN. The time of the gentleman from California (Mr. WAXMAN) has expired.

(At the request of Mr. MADIGAN and by unanimous consent, Mr. WAXMAN was allowed to proceed for 2 additional minutes.)

Mr. MADIGAN. Mr. Chairman, will the gentleman yield?

Mr. WAXMAN. I yield to the gentleman from Illinois.

Mr. MADIGAN. I thank the gentleman for yielding.

Is it not correct that in the testimony before the Commerce Committee that the National Institutes of Health said that they had already initiated a program by which they would be making grants to small business firms capable of doing the type of basic research that is involved in the NIH activity?

Mr WAXMAN. That is correct. NIH has changed its internal rules so that for-profit small businesses will be able to participate fully and, in fact, have begun to place scientists on the NIH peer review committees which will decide which applicants are to receive grants.

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Mr. LaFALCE. If it looks as if we are about to finish an amendment at 5 o'clock and it might take another 5 minutes or so, I assume we would take that additional 5 minutes. That is something we would have to consult about with the sponsor of the amendment at the time. If it happens to be the gentleman or his committee, we would certainly consult with him or his committee.

Mr. DINGELL. I thank the gentleman.

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Mr WAXMAN. That is correct. NIH has changed its internal rules so that for-profit small businesses will be able to participate fully and, in fact, have begun to place scientists on the NIH peer review committees which will decide which applicants are to receive grants.

Mr. MADIGAN. If the gentleman will yield further, our own Capitol physician, I understand, has said to many people that we have learned 70 percent of what we know about medical knowledge today within the last 30-year period of time, and that much of that knowledge has been acquired through research funded by the National Institutes of Health through the present mechanism that is established.

I wonder if the gentleman would care to comment as to whether or not he thinks that is an accurate reflection of what has been going on in the last 30 years?

Mr. WAXMAN. I think that the work of the National Institutes of Health, both at their campus here in the Bethesda and through the universities and medical centers around the country, stands as one of the gems of our National Government. It is something that we are all very proud of. It has led to tremendous scientific progress and holds the promise of new breakthroughs to prevent and treat dreaded diseases. Unless that biomedical basic research is done by the NIH and universities, I do not believe that it will be picked up in the private sector by small businesses. We need Government support for medical research and we need awards for these programs to be based strictly on the merit of the proposed research.

Mr. LAFALCE. Mr. Chairman, I move to strike the last word.

Mr. Chairman, about 4 years or so ago NIH was told to revise their rules, revise their regulations, in order to enable small businesses to have an opportunity to compete for NIH contracts and grants.

Four years ago they did not comply. Three years ago they did not comply. Two years ago they did not comply.

In October of 1981, the Small Business Committee reported out a bill that would have forced them to comply by law.

In December of 1981, the Senate unanimously passed a bill that would have forced them to comply by law, and after that they then said now we will revise our rules and enable small businesses to be able to compete legally.

□ 1610

Now, when the gentleman talks about more, we are not talking about more. We are talking about getting a little bit of a piece of that total pie. We are talking over a 4-year period of getting 1.25 percent, not taking it away from NIH, as has been argued, but simply saying to NIH that that which they give them, of that which they give them at the end of the 4-year period, 1.25 percent ought to be put in a special pot for which small business can compete.

Now, what are we really talking about here? What we are talking about is a fight, not over 1.25 percent. We are not even talking about a fight over innovation, which is what I would like to be talking about. We are talking about a fight against the establishment. We are talking about a fight against vested interests.

There is a virtual symbiotic relationship that exists between the NIH in particular and the university community. They feed off each other and we are saying feed all you want, but 1.25 percent, let us set that aside for innovative competition and research.

Now, we are not doing this for small business, I point out. We are doing this for the purpose of innovation, because we have so many studies which show the superior quality of small business research and development when it comes to innovation.

Now, NSF has said that they do a 24 times better job. Now, maybe the National Science Foundation is wrong. Maybe it is not 24 times better. Maybe it is 20 times better. Maybe they are really wrong. Maybe it is 10 times better. Maybe they are really, really wrong. It is not 24 times, it is 2 times better. I will take it, because it is better.

Why does the university community fear this program? Why are they opposed? They fear this program, not because they think 1.25 percent will be wasted away and diverted from its purpose. They fear it, not primarily because of greed, although that is a large part. They fear this program because they fear its success. They fear that this program will be so successful that the status quo will be upset, that the special symbiotic relationship that they have had all these years of their existence will be severed once and for all once this window, once this door is opened. That is what the bill would do, and that is what the amendment would prevent from happening.

Mr. GLICKMAN. Mr. Chairman, will the gentleman yield?

Mr. LAFALCE. I yield to the gentleman from Kansas.

Mr. GLICKMAN. Mr. Chairman, I would like to join with the gentleman in opposition to this amendment. I do not think there is any industry which is more in the vanguard of technological change in the future than the health industry. If you read recent issues of Discover and Science magazine, you will see that the big changes in artificial hearts and in cardiac equipment, in diabetes research and cancer, are being done by novel small firms, private firms all over America.

I venture to say they get very little of this NIH money. We are talking, if the gentleman will correct me if I am wrong, not about in-house NIH money. We are talking about the money they dispense outside. Is that correct?

Mr. LAFALCE. Absolutely.

The CHAIRMAN. The time of the gentleman from New York has expired.

(At the request of Mr. GLICKMAN and by unanimous consent, Mr. LAFALCE was allowed to proceed for 2 additional minutes.)

Mr. GLICKMAN. Mr. Chairman, if the gentleman will yield further, this argument reminds me, as the gentleman says, it is fear of the establishment. The health industry, particularly as it relates to medical schools, does not want the NIH to be giving money to anybody else because they will lose a piece of the pie.

It reminds me a little bit of the way the big drug companies fear the generics, because the generics might supply some new drugs at slightly lower cost.

So I would say that for the future of health technology, while we cannot promise the small companies will come up with miracle drugs or other kinds of things, I just think it is better for all America that we defeat this amendment.

Mr. MITCHELL of Maryland. Mr. Chairman, will the gentleman yield?

Mr. LAFALCE. I would be glad to yield if I have the time.

Mr. MITCHELL of Maryland. Mr. Chairman, I want to associate myself with the remarks of the gentleman in the well and point up two sets of data to demonstrate the cavalier fashion in which NIH has treated small businesses, as opposed to the understanding fashion in which the National Science Foundation, has treated small businesses.

Under much prodding and pushing, it was agreed, NIH said, "Well, we will do some business with small businesses."

Well, what did they offer? They offered contracts to repair, restore and rebind rare books.

They offered a contract to provide a generator and other equipment for the National Library of Medicine.

They offered a contract to catalog monographs in English and foreign languages.

They offered a contract to remove existing elevated access flooring. That is what they offered.

On the other hand, if you look at what was done at the National Science Foundation, these exciting projects were approved: Poroplastic for transdermal drug delivery.

Laser-based photoacoustic methods for measuring stable isotope ratios.

In-vitro detection of allergy using imunofluorescence.

The CHAIRMAN. The time of the gentleman from New York has again expired.

(At the request of Mr. MITCHELL of Maryland, and by unanimous consent, Mr. LAFALCE was allowed to proceed for 2 additional minutes.)

Mr. MITCHELL of Maryland. Mr. Chairman, if the gentleman will yield further, they offered a contract and it was carried out by small business to study the effects of processing technology on the reduction of cholesterol and other libids; new genetically engineered microbes.

One, is to repair and rebind old books; the other is giving small businesses an opportunity to do ther basic

little bit of a piece of that total pie. We are talking over a 4-year period of getting 1.25 percent, not taking it away from NIH, as has been argued, but simply saying to NIH that that which they give them, of that which they give them at the end of the 4-year period, 1.25 percent ought to be put in a special pot for which small business can compete.

Now, what are we really talking about here? What we are talking about is a fight, not over 1.25 percent. We are not even talking about a fight

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Mr. LAFALCE. Absolutely.

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kinds of meaningful research that may save hundreds and thousands of lives in this country. That is the choice that we have got that is offered to us in this amendment.

Just good, common, logical sense, says that this amendment must be defeated; otherwise the same cavalier exclusionary attitude will persist on the part of NIH, and I thank the gentleman for yielding to me.

Mr. DAUB. Mr. Chairman, I move to strike the requisite number of words; and I rise in opposition to the amendment.

(Mr. DAUB asked and was given permission to revise and extend his remarks.)

Mr. DAUB. Mr. Chairman, the Small Business Innovation Act has become the subject of some controversy which is unusual when one considers the broad support that the measure enoyed when it was introduced.

The problem, I believe, is one that I have discussed in the past with respect to small business. That is, that because of its nature—millions of diverse individuals pursuing independent aims—it does not lend itself well to organized lobbying. Each Member of this body annually extolls the virtues of the small business community. How it creates almost all of the newly created jobs, that it is the most likely source of innovation and new products, and that it personifies those virtues and capabilities that we think of as distinctly American. Then we proceed to ignore it.

Each one of us has a sizable small business community. It is a special interest so to speak, that we all possess. The people who send us here are for the most part dependent upon its vitality; its strength for the most part parallels the economic strength of the cities and towns from which we come. It does not seem likely then that this Congress would ignore issues of concern to small business nor fail to enact legislation that would give it a fair shake at the billions of dollars worth of business available by means of the Federal Government.

The problem is that small business does not lend itself to the circumstances of the Congress. The Congress reacts to well-organized lobbying efforts very well but when it comes to doing something for a majority of our citizens who are not well organized, who are pursuing independent paths, and are joined in a common bond only in that they represent the largest number of individuals we do not respond well. After all, they cannot generate large-scale lobbying campaigns by picking up the telephone.

As a member of the Small Business Committee, I admit to some jealousy for those who serve on committees where their constituency is well-defined and whose interests they can promote easily through the legislative process. This has been very evident in the last few months where we have seen the other committees of this House protecting their turf in a most forceful fashion. This is unfortunate, I believe, because those interests are being promoted at the expense of the small business community which is doing nothing more than trying to get its foot in the door of an area that has by design been set off limits.

We are not asking for a great deal. In fact, by virtue of compromise, we are asking for a very little—it is in fact embarrassingly little. But it appears that that is even too much for some who fear that any dollar diverted is influence lost. Influence that has proven enormously profitable and will continue to be so regardless of the disposition of this legislation here today. I can only believe that what motivates those who oppose including the small business community in this area is a fear that once they are given an opportunity to demonstrate their effective use of the Federal dollar, that the Congress will be compelled to increase that diversion at the expense of the fat cats who have prospered in the past.

One point that needs to be made is that we are not really setting quotas so much as we are requiring that a portion of the exclusion that has existed in the past be ended. Small business has been excluded because the relationship between the Government and the recipients was an effective one that kept the new blood of small business out. No one would argue that we ought to divert moneys awarded to meritorious concerns to others simply because of their size and we are not doing that.

Instead, we are saying that the present situation does not allow or provide for the participation of the largest and most innovative segment of our society. We are suggesting that perhaps we ought to remedy that situation by requiring that the bureaucracy make the effort to reform their past practices in order to utilize this segment. I do not understand how anyone can argue with such a proposal.

The small business community of America will never be organized in such a fashion so as to provide even a fraction of the influence visited upon this House by associations and organizations that represent a relative few. It is the responsibility of this House to protect the interests of those who are not represented, who do not have easy access to the media in order to communicate their Well-defined case that is the product of public relations experts. It is the responsibility of this House to recognize the simple truth that the small business community is the engine of this economy and this Nation.

The moneys that fund the operations of this Federal Government—not just for research but for defense and welfare and income security—is the result of the labor and creativity of small business. We ought then to look for ways to foster that labor and creativity not discourage it. We ought to demand that the bureaucracy end its monopoly creating behavior that has excluded small business from participating in an area where it is clearly capable of doing so.

In the past year and a half, I have heard from many in this House the evils that are attached to things "big". Well, we have an opportunity today to lend a hand to small business, a hand that is long overdue.

We have an opportunity to demonstrate that this Congress can look objectively at an issue without cowering in fear because of a few well-orchestrated telegrams. We have an opportunity to do the right thing not only for small business but for the taxpayers and the people in this country who want a government that has the wisdom and the strength to correct an iniquitous situation even if that iniquitous situation does not come equipped with a well-planned public relations campaign.

□ 1620

Mr. DINGELL. Mr. Chairman, I move to strike the requisite number of words, and I rise in support of the amendment.

Mr. Chairman, the discussion so far tends to show the Small Business Committee members do not understand the amendment nor the processes that they seek to effect with their bill.

My good friend from New York says all they want is their share of the pie. My colleague who has just spoken, says that they want their share. There is nothing in the law now that bars small business from getting research grants at NIH.

What is really involved here is the health of the American people, the research into the prevention and cure of the many diseases.

I therefore urge my colleagues to support the amendment offered by the gentleman from California.

Mr. DAUB. Mr. Chairman, will the gentleman yield?

Mr. DINGELL. I will in just a moment.

Mr. DAUB. I thank the gentleman.

Mr. DINGELL. Let us take a look at what is involved here.

Every single health organization in the country supports the amendment. The American Cancer Society, the American Medical Association, the Association of American Medical Colleges, the American Heart Association, the American Lung Association, all support the amendment.

Now let us look a little further. What is really involved here? What is involved here is grants for medical research. These are allocated on the basis of peer review. It is done on the basis of qualifications, uniqueness, and the ability to carry forward our goals of curing the health problems of this Nation.

Now, let me read to you what the American Cancer Society says about

the amendment and why it is we should adopt it:

NIH grants are awarded according to a well established competitive peer review system which recognizes only quality, originality, and relevance to the goals of the Institutes.

The scientists who receive these funds are for the most part in medical schools, universities, colleges, public and private research centers, and hospitals. Only after the experimental approaches are initiated by the researchers themselves, and are put through the stringent competitive reviews for originality, capability, quality and intensity of effort, are these projects approved for funding.

Then after all of these tests have been met, only about 36 percent of aproved grant applications are actually funded because of the severe over-taxing of the NIH research and development budgets.

Now hear these words:

The removal of even a small portion of the clearly inadequate R. & D. budgets of the Institutes could cripple the work of many of our biomedical scientists who are already hurt by the fact the NCI budget, for instance, has not increased in terms of real dollars since 1975.

Now listen to this:

This program is going to divert $50 million from NIH and from its research priorities. NIH funds have been reduced, in real dollars, by 15 percent since 1980. They will be reduced another 30 percent at the end of the next 3 budget years. NIH awards have already declined by 20 percent, from 5,000 to 4,100.

Now, what is the $50 million amount that this proposal would take from the National Institutes of Health? First of all, it is more than all, more than all of the funds that are spent on arthritis research; it is 10 times the amount that is spent on interferon research; it is five times the amount that is spent on cataract research.

Under the proposal, funds for basic research will be further reduced. Small businesses do not generally do basic research because there is no commercial market for these kinds of findings.

Funds would be diverted to drug and device work where there is no shortage of capital.

Now, I do not speak about the rest of the bill, I do not talk about Defense, I do not talk about State, I do not talk about any of the other agencies, the Department of Agriculture. I talk about the health programs of the United States. It is fine to help small business.

I served for years on the Committee on Small Business and I was the chairman of a subcommittee before any of the members there, with perhaps one or two exceptions, was even on that committee.

The CHAIRMAN. The time of the gentleman has expired.

(By unanimous consent, Mr. DINGELL was allowed to proceed for 3 additional minutes.)

Mr. DINGELL. Now listen to this, again, to what this proposal would attack, and then understand why the distinguished gentleman from California has offered the amendment and I support the amendment: This is not a pork barrel proposal at NIH; it is basic research into the health of the American people. That is what is at stake in the amendment. If you want to treat small business as a pork barrel matter, as my good friend says, give them their share of the pie, give them their share of the pie of that which is legitimately pork. do not affect the health research for the American people. Listen to what the American Cancer Society has said, listen to what the Association of Medical Colleges says in endorsing this amendment.

Do not attack research that affects the health and well-being of the American people.

Mr. DAUB. Mr. Chairman, will the gentleman yield?

Mr. DINGELL. I yield to my friend, the gentleman from Nebraska (Mr. DAUB).

Mr. DAUB. I thank the gentleman for yielding for a comment and then a question.

First a comment that in some of the testimony we listened to when the bill was being heard, we had a number of good examples, I thought, among others, where small business had come up with good ideas in the medical field, including the biosynthetic insulin, the CAT scanner, the heart valve, the oral contraceptive, and soft contact lenses.

Can the gentleman tell me: Does this amendment exclude the 1.25 set-aside on all research and development, or just the National Institutes of Health?

Mr. DINGELL. It only excludes the National Institutes of Health.

And now my good friend, the chairman of the committee, talks about the National Academy of Sciences. This does not, I tell him, affect the National Academy of Sciences. It would leave them subject.

Understand this: There is so little money, and that money is shrinking, that we cannot frivolously put it where some small business would like to have it put.

This money must be put with the best possible scientific research, that affords the best opportunity for payout in solving the major health crises and the major health problems that affect the United States.

□ 1630

We must understand that this is not the kind of research that we pass around like a pork barrel. We are not designing a tank or tinkering around with eyeglasses. We are dealing with the most basic kind of research, on cures for cancer, on methods to cure or eliminate arthritis or cataracts, blindness.

Mr. DAUB. Just a comment, that on the first page the committee print, my colleague, I am led to believe from a reading of it that in fact the amendment includes the broad brush of all research, not just NIH.

Mr. DINGELL. Our amendment deals with the National Institutes of Health.

Mr. BROOKS. Mr. Chairman, will the gentleman yield?

Mr. DINGELL. I yield to my good friend from Texas.

Mr. BROOKS. Mr. Chairman, I just want to associate myself with the gentleman's remarks, and say that as a Congressman from a district which has in it the University of Texas medical branch, an outstanding research arm and branch of this country's efforts, I know that this amendment is designed not to help them.

The CHAIRMAN. The time of the gentleman from Michigan has again expired.

(By unanimous consent, Mr. DINGELL was allowed to proceed for 3 additional minutes.)

Mr. BROOKS. I certainly support the amendment and think we ought to do this. I am 100 percent for it. I think the gentleman from Michigan and the gentleman from California are to be commended for bringing it to the committee.

Mr. DINGELL. I thank the gentleman.

Mr. LAFALCE. Mr. Chairman, will the gentleman yield?

Mr. DINGELL. I yield to the gentleman from New York.

Mr. LAFALCE. Mr. Chairman, one may or may not favor the amendment—I oppose it—but we ought to at least understand what it does.

Mr. DINGELL. I understand full well what it does.

Mr. LAFALCE. Let me read the amendment portion, though, which would exclude any other health-related research or research and development conducted by or through the Department of Health and Human Services or any of its entities.

Now, if this is the amendment being offered, that is the amendment the gentleman has in his report, that is much larger, much broader in scope than simply NIH, and contradicts what the gentleman just said.

Mr. DINGELL. I am going to respond, but first I will yield to the gentleman from California (Mr. WAXMAN).

Mr. WAXMAN. Mr. Chairman, I think that the proponents of this bill who are trying to fight this amendment are making a mountain out of a molehill. I want to point out that the research done by Health and Human Services is 95-percent NIH. There is some research being done in the Health Care Financing Administration as to how best to serve in the health delivery systems, but 95 percent of what we are talking about is NIH funding which goes to universities, colleges and medical centers around the country.

I was interested to note in this debate and in the report of the Small Business Committee that they talk about small business innovation that brought us the CAT scanner, insulin,

the members there, with perhaps one or two exceptions, was even on that committee.

The CHAIRMAN. The time of the gentleman has expired.

(By unanimous consent, Mr. DINGELL was allowed to proceed for 3 additional minutes.)

Mr. DINGELL. Now listen to this, again, to what this proposal would attack, and then understand why the distinguished gentleman from California has offered the amendment and I around like a pork barrel. We are not designing a tank or tinkering around with eyeglasses. We are dealing with the most basic kind of research, on cures for cancer, on methods to cure or eliminate arthritis or cataracts, blindness.

Mr. DAUB. Just a comment, that on the first page the committee print, my colleague, I am led to believe from a reading of it that in fact the amendment includes the broad brush of all research, not just NIH.

some research being done in the Health Care Financing Administration as to how best to serve in the health delivery systems, but 95 percent of what we are talking about is NIH funding which goes to universities, colleges and medical centers around the country.

I was interested to note in this debate and in the report of the Small Business Committee that they talk about small business innovation that brought us the CAT scanner, insulin,

streptomyocin, and penicillin. That is just not accurate. The man who developed the CAT scanner and won a Nobel Prize was a professor at Tufts University. They did their work on biomedical basic research studies there. This in not something that small business wants to compete with because it does not lead to a product that they can sell.

I think that we ought to be aware that the health area is unlike other research programs. Because of the distinction, this ought not to be treated the same.

Mr. O'BRIEN. Mr. Chairman, I move to strike the requisite number of words, and I rise to speak in support of the amendment.

(Mr. O'BRIEN asked and was given permission to revise and extend his remarks.)

Mr. O'BRIEN. Mr. Chairman, the comment was made by one of the earlier speakers about giving a share of the pie. I think what was really meant by that was to say, to allow small business the right to compete for the share in the pie, and particularly in the area that this amendment addresses. It should be known that the NIH, for example, and that is the area of my interest presently, earlier this year has gone out of its way to make sure that private enterprise in small business gets a chance at the game.

For example, for-profit firms are now eligible for grants. Scientists from for-profit firms will be placed on the peer review committees, and grantees may not retain the patent rights resulting from federally funded research. These people are trying to do it the way the planners of this legislation intended. I think of all areas that I have observed since I have been in this Congress, I think the National Institutes of Health is more concerned about the quality of research than it is the magnitude of the grantee. I think it is time we were a little bit discriminating here. I make my point in particular from the National Institutes of Health. I think they should be excluded from this amendment.

[Mr. SMITH of Iowa addressed the Committee. His remarks will appear hereafter in the Extensions of Remarks.]

Mr. McDADE. Mr. Chairman, I move to strike the requisite number of words.

I just want to ask the gentleman a couple of questions because he has focused the thing for us. We have $3 billion in research today, in today's dollars, is that not correct, for R. & D.?

Mr. SMITH of Iowa. Will the gentleman yield?

Mr. McDADE. I yield to the gentleman.

Mr. SMITH of Iowa. It is over $3 billion.

Mr. McDADE. About $4 billion in the account in NIH and it is important to remember that what this amendment does is to exclude all of those research funds from the small business community.

Mr. SMITH of Iowa. Intermural research.

Mr. McDADE. Intermural research. They cannot even compete; they are excluded.

I think it is also important for us to know under current regulations issued by the Department of Health, Education, and Welfare or HHS, about 65 percent of any grants to any of the universities can be diverted to overhead; is that not correct?

Mr. SMITH of Iowa. That is right. They have various ways of figuring overhead, including in some cases, in some instances, money that came from the Federal Government to support a project could be used as a part of the overhead.

Mr. McDADE. As my friend said, and if my colleagues want to recognize it, that 65 percent can go to pay the president, can go to pay the board of trustees, or they can use it to amortize buildings.

What for profit organization could afford 65 percent overhead? That is what we are paying at NIH.

I am for it, too. As the gentleman said, they have served us well. No one here is condemning NIH. All we want to do is to say to them that it is time they recognized the capacity that exists and it is time they recognize that we have people in the business community, small business people who can perform.

The only way we can do it, recapitulating, they just adopted regulations because the other body acted and this body acted for the first time to say that a for profit organization may be permitted to submit an application to bid. They would not even accept an application to bid; is that not correct?

Mr. SMITH of Iowa. That is right.

In addition to that, I understand the officials at the NIH, although they were reluctant to adopt any kind of a program at all, are now not opposing this bill. They are not supporting this amendment. They know they can live with this and, as a matter of fact, they will be better off with this bill than they will with this amendment.

Mr. McDADE. I yield back the balance of my time and hope we can vote in a hurry.

Mr. MADIGAN. Mr. Chairman, I move to strike the requisite number of words, and I rise in support of the amendment.

(Mr. MADIGAN asked and was given permission to revise and extend his remarks.)

Mr. MADIGAN. I will not take the full 5 minutes but I do want to respond to some of the things that have been said here in the debate.

The amendment from the Committee on Energy and Commerce does not apply to all research. It applies to all health-related research.

We are not into what is going on in the Department of Defense or anywhere else with the amendment that is pending before the Committee of the Whole at this point.

The gentleman from New York said that the National Institutes of Health was told 4 years ago to open this up to small businesses. That was what he said when he was in the well of the House. Also that 4 years ago they did not do it, 3 years ago they did not do it, and then 2 years ago they did not do it, but finally this year they did it.

The question that is begged by that comment is: Told by whom? Were they told by the appropriate committees of the Congress? Were they told by the Congress itself?

No; the answer is no to both questions.

They were told by the Director of the Office of Management and Budget that that is what they should do.

Who is in charge? Who sets policy in this Government? Is it the Congress of the United States or the Director of the Office of Management and Budget?

I would hope that they would ignore instructions they got from the Director of OMB when the appropriate committees of Congress were telling them to do just the reverse of what the Director of OMB was telling them to do. They were responding and did correctly respond to that branch of Government that is charged with setting policy for this Government in which we live.

The gentleman has said it is only 1¼ percent. My colleagues heard the gentleman from Iowa (Mr. SMITH) say that he would really like to have 5 percent or maybe 10 percent.

I submit that every time we come back to this issue we will come back for more. I would just remind my colleagues that in 1919 when this Congress passed the Federal income tax the managers on both sides of the aisle said it would be 1 percent and it would never be more than 1 percent. That is what was said then. Now we are being told that this will only be 1¼ percent.

On the university campus in my district there are five Nobel Prize winners on the faculty, five people there who have won Nobel Prizes for basic research in health-related endeavors.

Do my colleagues think for a moment that they would be on that faculty at the salary paid to members of the faculty of the State university if these kinds of funds were not available to them to do the kinds of research that they are doing?

□ 1650

Do you think that the talent of those people would be available to the students at that university? I assure you it would not be.

If you want to pick away at that, just so that you can say, "I have done something for small business," then let me tell you that you are making a very serious mistake, a very serious mistake, and I would urge you to think

couple of questions because he has focused the thing for us. We have $3 billion in research today, in today's dollars, is that not correct, for R. & D.?

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The amendment from the Committee on Energy and Commerce does not apply to all research. It applies to all health-related research.

We are not into what is going on in the Department of Defense or anywhere else with the amendment that

very carefully about this before you reject the amendment.

Mr. WAXMAN. Mr. Chairman, will the gentleman yield?

Mr. MADIGAN. I yield to the gentleman from California.

Mr. WAXMAN. I thank the gentleman for yielding.

Mr. Chairman, I want to underline that point. If we divert in excess of $50 million over the next 3 years from support for the National Institutes of Health, we will end support for over 350 highly rated research projects and intensify the disruption in our Nation's finest research laboratories.

We have a very difficult problem now attracting young physicians after medical school to go into research, when those physicians know they can make so much more money practicing medicine. It takes dedicated professionals to go into research. They are looking for continued funding to allow them to continue to work in research. If we are going to take that funding away and give it to some small business to produce a product that NIH does not otherwise finance, we are going to be doing a tremendous amount of harm from which we may never recover.

I do want to use this time to point out that NIH contracts and subcontracts to small business firms now exceed $100 million. But this amount cannot even be counted in this set-aside because the set-aside is so narrowly drawn that that existing funds do not apply at all. So it will be an additional sum of money taken from biomedical research. I think we will be doing harm to the research to protect people's health. This is a unique situation that ought to be considered separately from whether we think there ought otherwise to be funds set aside for small business.

Mr. LAFALCE. Mr. Chairman, will the gentleman yield?

Mr. MADIGAN. I yield to the gentleman from New York, even though he did not yield to me earlier today.

Mr. LAFALCE. Mr. Chairman, the gentleman was the individual who objected to my unanimous-consent request before, and since he has now had more than 5 minutes, I again renew my unanimous-consent request that all debate on this amendment and all amendments thereto conclude by 5 p.m.

Mr. MADIGAN. Mr. Chairman, I would just say to the gentleman, in response, that if he had yielded to me when I asked him to yield to me, I would not have objected to his request, and I will not object now.

Mr. LAFALCE. Mr. Chairman, may I comment on that, because that is a personal comment?

The CHAIRMAN. The gentleman from New York (Mr. LAFALCE) has requested unanimous consent that all debate on this amendment and all amendments thereto cease at 5 o'clock.

Is there objection to the request of the gentleman from New York?

There was no objection.

The CHAIRMAN. Members standing at the time the unanimous-consent request was agreed to will be recognized for 30 seconds each.

The Chair recognizes the gentleman from California (Mr. LEWIS).

(By unanimous consent, Mr. PARRIS yielded his time to Mr. LEWIS.)

Mr. LEWIS. Mr. Chairman, it is bothersome to rise on the floor and oppose the likes of my colleagues, the gentleman from California and the gentleman from Michigan, who have great expertise in the field of health. But, frankly, I think it requires not a great amount of expertise to understand what is going on here.

The fact is that the symptoms are the same across the board. It is business as usual, specifically it is the good old boy's game. The fact is that agriculture does not want you to cut into any kind of piece of their business. They want to control the system as usual.

In the NIH area alone, $50 million is the dollar amount they are talking about out of a budget of $4 billion a year. Over a 3-year period, that is $12 billion.

The fact is that the pie is mighty, mighty big. Each person who is used to having access to the process wants to keep the business the same. As a practical fact of life, small business has contributed the most to innovative research in our history. They need to have some access to the pie.

Remember, gentlemen, pigs get nothing. Share just a bit of the pie.

The CHAIRMAN. The Chair recognizes the gentleman from Louisiana (Mr. ROEMER).

(By unanimous consent, Mr. MITCHELL of Maryland and Mr. ECKART yielded their time to Mr. ROEMER.)

Mr. ROEMER. Mr. Chairman, we have heard a lot of arguments pro and con, as we do on each of these amendments. Often the agruments says, "We love this program, just do not touch our portion of it. We love what small business does for this country, just do not let them into our bailiwick."

I am a diabetic. I have been that way for a long time. I take at least a shot every day to stay alive. So I do not speak about the problem from long distance. I do not speak from a textbook or committee hearing when I tell you that research in that part of science which is critical to me is frequently done in the vanguard of high technology by small business. And what this bill does is not shut out but bring in those innovative ideas, those changes and chances for improvement in the medical science field that we need.

I urge the defeat of this amendment, so that one bill will remain strong.

The CHAIRMAN. The Chair recognizes the gentleman from California (Mr. MCCLOSKEY).

Mr. MCCLOSKEY. Mr. Chairman, let me just respond to that question on diabetes.

Let us assume that the SBIR program puts out a request for bids on diabetes research. $36.5 million out of NIH's budget next year will be subject to the SBIR program. Let us say $1 million of this will be for diabetic research. And let us say that the leading expert in this country is a Nobel Prize winner at Harvard or Stanford on that very point, and yet under this bill he cannot compete. So the man suffering from diabetes will not have available the leading expert in the country for that particular research program. The research will have to go to some small business, regardless of lesser merit, and regardless of the fact that the person most qualified to do the best research will not be allowed to even compete for the assignment.

The CHAIRMAN. The Chair recognizes the gentleman from Michigan (Mr. DINGELL).

Mr. DINGELL. Mr. Chairman, it is plain that we must have some understanding of this amendment.

I support the amendment. So does the American Medical Association. The AMA, and I now quote:

> The American Medical Association takes this opportunity to express our concern regarding H.R. 4326, "The Small Business Innovation Development Act" and S. 881, "The Small Business Innovation Act."
>
> The AMA supports the intent of these bills to encourage the federal government to utilize the research resources and talents of this nation's small businesses. We believe that this should be pursued wherever appropriate. Our concern, however, is with the inappropriateness of mandating application of that concept to the National Institutes of Health. The NIH and its component Institutes have a research budget greater than $3 billion for the fiscal year 1982. Therefore, in predeterming the allocation of a fixed percentage of the NIH budget, the impact of this legislation on NIH and its critical health research function, would be substantial.
>
> The very nature of the Institute's mandate, basic biomedical research, requires research to be conducted in large part by Universities, major medical centers, medical schools and other research laboratories. According to the National Science Foundation, 89 percent of the NIH budget is related to primary basic reseach. We believe that it is inappropriate to place NIH under the same spending constraints as other agencies. Strict enforcement of rigid set-asides could lead to situations where such funds were not being used to the best advantage, or were being diverted from necessary basic biomedical research. We believe that the unique mission and function of the National Institutes of Health mandate that special provision be made in the legislation so that the Institutes are not locked into a specified funding formula. The American Medical Association supports an exemption for the National Institutes of Health from the provisions of H.R. 4326 and S. 881. We would be pleased to work with you and other interested parties in developing alternate language that would encourage NIH, where appropriate, to utilize the services of small business firms.
>
> Sincerely,
>
> JAMES H. SAMMONS, M.D.

when I asked him to yield to me, I would not have objected to his request, and I will not object now.

Mr. LAFALCE. Mr. Chairman, may I comment on that, because that is a personal comment?

The CHAIRMAN. The gentleman from New York (Mr. LAFALCE) has requested unanimous consent that all debate on this amendment and all amendments thereto cease at 5 o'clock.

Is there objection to the request of the gentleman from New York?

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I urge the defeat of this amendment, so that one bill will remain strong.

The CHAIRMAN. The Chair recognizes the gentleman from California (Mr. MCCLOSKEY).

Mr. MCCLOSKEY. Mr. Chairman, let me just respond to that question on diabetes.

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Sincerely,

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The CHAIRMAN. The Chair recognizes the gentleman from Ohio (Mr. WEBER).

Mr. WEBER of Ohio. Mr. Chairman, there is no reduction in the budget of any health care agency. There is no cut. There is no diversion.

What this bill does is simply for the sake of cost-effectiveness allocates 1.25 percent of research and development to small business, saying to the NIH and the other agencies, "You can do it better if you use small business."

This Waxman amendment strips out all health-related R. & D. not just the NIH. Read the amendment. It strips it all out.

The CHAIRMAN. The Chair recognizes the gentleman from Florida (Mr. FUQUA).

Mr. FUQUA. Mr. Chairman, the American people do not receive the best medical research by accident. Right now, at the NIH, everybody who is engaged in medical research is treated on an equal footing, and the taxpayers and the American people get and should get the best research that is possible.

Also, in reference to colleges and universities, where do we teach the people to be researchers? They are not trained in laboratories to become teachers and researchers. They are trained, and the training ground is in the colleges and universities.

I urge support for the amendment.

The CHAIRMAN. The Chair recognizes the gentlewoman from Massachusetts (Mrs. HECKLER).

Mrs. HECKLER. Mr. Chairman, I rise in opposition to the amendment.

I think we should put the issue into perspective. We are talking about $36 million out of a $12 billion appropriation for the next 3 years. At issue here is the level of competence of small firms involved in scientific and technological endeavors, not pork-barrel legislation for small business firms. What is the competence of small business in terms of providing answers to our serious medical problems?

In the Senate testimony before the Small Business Committee, Richard DiCicco of Technology Catalysts said:

> Our firm's experience with small business has shown that they have an equal technological capability with universities on basic research projects.

If the private sector has found this to be true, I would urge my colleagues to consider the possibility as well, and vote against the amendment.

The CHAIRMAN. The Chair recognizes the gentleman from Iowa (Mr. BEDELL).

Mr. BEDELL. Mr. Chairman, I would like to call the attention of the committee to the statement that was just made by my friend, the gentleman from California, that if there was $1 million next year for research on diabetes, it would be severely cut by this program.

This program cuts two-tenths of 1 percent next year, which would cut $2,000 to go to small business from that $1 million.

The CHAIRMAN. The question is on the amendment offered by the gentleman from California (Mr. WAXMAN).

The question was taken; and the chairman announced that the noes appear to have it.

RECORDED VOTE

Mr. WAXMAN. Mr. Chairman, I demand a recorded vote.

A recorded vote was ordered.

The vote was taken by electronic device, and there were—ayes 164, noes 193, answered "present" 1, not voting 74, as follows:

[Roll No. 158]

AYES—164

Albosta	Frost	Nelson
Anderson	Fuqua	Nichols
Andrews	Garcia	O'Brien
Annunzio	Gaydos	Oakar
Applegate	Gephardt	Ottinger
Atkinson	Gilman	Parris
Barnes	Gradison	Patterson
Beilenson	Gramm	Pease
Benedict	Hall, Ralph	Pepper
Bevill	Hall, Sam	Perkins
Bliley	Hamilton	Pickle
Boggs	Hance	Porter
Bouquard	Hartnett	Price
Brodhead	Heftel	Pritchard
Brooks	Hendon	Quillen
Broomfield	Hertel	Rahall
Brown (CO)	Hollenbeck	Rhodes
Broyhill	Holt	Rinaldo
Butler	Hopkins	Rodino
Byron	Horton	Rogers
Chappell	Hoyer	Rose
Cheney	Hutto	Rostenkowski
Clinger	Hyde	Roybal
Coelho	Jacobs	Sabo
Coleman	Kindness	Scheuer
Conable	Lagomarsino	Schneider
Conyers	Lantos	Schroeder
Corcoran	Leach	Schumer
Coughlin	Lehman	Sensenbrenner
Coyne, William	Lent	Shannon
Daniel, Dan	Levitas	Sharp
Daniel, R. W.	Livingston	Shumway
Davis	Long (LA)	Simon
Dickinson	Long (MD)	Smith (AL)
Dingell	Lowry (WA)	Snyder
Dougherty	Madigan	Spence
Dwyer	Martin (IL)	St Germain
Dyson	Martin (NC)	Swift
Early	Matsui	Tauke
Edwards (AL)	Mavroules	Taylor
Edwards (CA)	McClory	Udall
Emery	McCloskey	Volkmer
Erdahl	McEwen	Walgren
Evans (DE)	Michel	Wampler
Evans (GA)	Mikulski	Waxman
Evans (IA)	Miller (OH)	Weaver
Fazio	Mineta	Whitehurst
Ferraro	Minish	Whittaker
Findley	Moore	Wilson
Fish	Moorhead	Wright
Flippo	Morrison	Wyden
Foglietta	Mottl	Yates
Foley	Murphy	Yatron
Ford (MI)	Myers	Young (MO)
Fountain	Neal	

NOES—193

Akaka	Campbell	Derrick
Alexander	Carman	Derwinski
Anthony	Chappie	Dicks
Archer	Clausen	Donnelly
Aspin	Coats	Dorgan
Bailey (PA)	Collins (IL)	Dornan
Bedell	Conte	Downey
Benjamin	Courter	Dreier
Bennett	Coyne, James	Duncan
Bereuter	Crane, Daniel	Dunn
Bethune	Crane, Philip	Eckart
Bingham	Crockett	Emerson
Boland	D'Amours	English
Boner	Dannemeyer	Fary
Bonior	Daschle	Fascell
Bonker	Daub	Fenwick
Bowen	Deckard	Fiedler
Breaux	Dellums	Fields
Fithian	Loeffler	Savage
Ford (TN)	Lott	Sawyer
Forsythe	Lowery (CA)	Seiberling
Fowler	Lujan	Shaw
Frank	Lundine	Shuster
Gejdenson	Lungren	Siljander
Gingrich	Markey	Skeen
Glickman	Marriott	Smith (IA)
Gonzalez	Martin (NY)	Smith (NE)
Goodling	Mattox	Smith (NJ)
Gore	Mazzoli	Snowe
Gray	McCollum	Solarz
Green	McCurdy	Solomon
Guarini	McDade	Stangeland
Gunderson	McDonald	Stanton
Hagedorn	McGrath	Staton
Hall (OH)	McHugh	Stenholm
Hammerschmidt	McKinney	Stokes
Hansen (ID)	Mica	Studds
Hansen (UT)	Miller (CA)	Stump
Hawkins	Mitchell (MD)	Synar
Heckler	Moakley	Tauzin
Hefner	Molinari	Thomas
Hightower	Montgomery	Traxler
Hiler	Napier	Trible
Hillis	Natcher	Vander Jagt
Howard	Nelligan	Vento
Hubbard	Nowak	Walker
Hughes	Oberstar	Washington
Ireland	Oxley	Watkins
Jeffries	Pashayan	Weber (OH)
Johnston	Patman	Weiss
Jones (NC)	Paul	White
Jones (OK)	Petri	Whitley
Jones (TN)	Railsback	Whitten
Kastenmeier	Ratchford	Williams (MT)
Kazen	Regula	Williams (OH)
Kennelly	Reuss	Winn
Kildee	Ritter	Wirth
Kogovsek	Roberts (KS)	Wolf
Kramer	Roberts (SD)	Wolpe
LaFalce	Robinson	Wortley
Latta	Roe	Young (AK)
LeBoutillier	Roemer	Young (FL)
Lee	Roth	Zablocki
Leland	Rousselot	
Lewis	Russo	

ANSWERED "PRESENT"—1

Dymally

NOT VOTING—74

Addabbo	Edgar	Moffett
AuCoin	Edwards (OK)	Mollohan
Badham	Erlenborn	Murtha
Bafalis	Ertel	Obey
Bailey (MO)	Evans (IN)	Panetta
Barnard	Florio	Peyser
Beard	Frenzel	Pursell
Biaggi	Gibbons	Rangel
Blanchard	Ginn	Richmond
Bolling	Goldwater	Rosenthal
Brinkley	Gregg	Roukema
Brown (CA)	Grisham	Rudd
Brown (OH)	Harkin	Santini
Burgener	Hatcher	Schulze
Burton, John	Holland	Shamansky
Burton, Phillip	Huckaby	Shelby
Carney	Hunter	Skelton
Chisholm	Jeffords	Smith (OR)
Clay	Jenkins	Smith (PA)
Collins (TX)	Kemp	Stark
Craig	Leath	Stratton
de la Garza	Luken	Weber (MN)
DeNardis	Marks	Wylie
Dixon	Marlenee	Zeferetti
Dowdy	Mitchell (NY)	

□ 1710

The Clerk announced the following pairs:

On this vote:

Mr. AuCoin for, with Mr. Addabbo against.

Mr. Zeferetti for, with Mr. Skelton against.

Mr. Mollohan for, with Mr. Rangel against.

Mr. Biaggi for, with Mr. Dixon against.

Mrs. Roukema for, With Mr. Weber of Minnesota against.

Mr. Carney for, with Mr. Schulze against.

Mr. Rudd for, with Mr. Collins of Texas against.

Mr. Beard for, with Mr. Frenzel against.

to consider the possibility as well, and vote against the amendment.

The CHAIRMAN. The Chair recognizes the gentleman from Iowa (Mr. BEDELL).

Mr. BEDELL. Mr. Chairman, I would like to call the attention of the committee to the statement that was just made by my friend, the gentleman from California, that if there was $1 million next year for research on diabetes, it would be severely cut by this program.

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Bennett Coyne, James Duncan
Bereuter Crane, Daniel Dunn
Bethune Crane, Philip Eckart
Bingham Crockett Emerson
Boland D'Amours English
Boner Dannemeyer Fary
Bonior Daschle Fascell
Bonker Daub Fenwick
Bowen Deckard Fiedler
Breaux Dellums Fields

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Mr. Rudd for, with Mr. Collins of Texas against.

Mr. Beard for, with Mr. Frenzel against.

Mr. BAILEY of Pennsylvania, Mr. JONES of Oklahoma, Mrs. KENNELLY, and Mr. LELAND changed their votes from "aye" to "no."

Messrs. BUTLER and FINDLEY changed their votes from "no" to "aye."

So the amendment was rejected.

The result of the vote was announced as above recorded.

Mr. LAFALCE. Mr. Chairman, I move that the committee do now rise.

The motion was agreed to.

Accordingly the Committee rose; and the Speaker having resumed the chair, Mr. BRODHEAD, Chairman of the Committee of the Whole House on the State of the Union, reported that that Committee, having had under consideration the bill (H.R. 4346) to amend the Small Business Act to strengthen the role of the small, innovative firms in federally funded research and development, and to utilize Federal research and development as a base for technological innovation to meet agency needs and to contribute to the growth and strength of the Nation's

Mr. MICHEL. Mr. Speaker, I take this time to inquire of the distinguished majority leader the program for the balance of this week and next week, and I yield to the gentleman.

Mr. WRIGHT. Mr. Speaker, will the gentleman yield?

Mr. MICHEL. I yield to the gentleman.

Mr. WRIGHT. Mr. Speaker, we have completed the business scheduled for this week and I expect soon to ask unanimous consent that when we adjourn today, we adjourn until Monday.

We will come in at noon on Monday and have the Consent Calendar and such bills as may be ripe for consideration under suspension of the rules. There are two of them now that we have:

H.R. 6590: No-net-cost Tobacco Program Act of 1982; and

H.R. 6451: United States Code title 10 amendments for military construction and military family housing.

Also, we expect to bring up for general debate only the Refugee Assistance Amendments of 1982. Assuming that we can complete that general

to be passed, there would be no necessity for a resolution on the debt ceiling. But if that were rejected, then in all likelihood we might have to take action on the debt ceiling.

Mr. MICHEL. One other item that I heard might have been under consideration for next week was the extended unemployment benefits legislation.

Mr. WRIGHT. As I understand it, there is no rule yet established on that bill, and any further program would have to be announced later.

Mr. MICHEL. All right.

Mr. FISH. Mr. Speaker, will the gentleman yield?

Mr. MICHEL. I will be happy to yield to the gentleman from New York.

Mr. FISH. I thank the distinguished minority leader for yielding.

I would like to put a question to the distinguished majority leader, who said that the refugee assistance amendments, the rule for which is adopted today, will come up for general debate only on Monday?

Mr. WRIGHT. That is correct.