EXECUTIVE SECRETARIAT
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TO:		ACTION	INFO	DATE	INITIAL
1	DCI				
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17	D/OGI		X		
18	NIO/ECON		X		
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Remarks

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Executive Secretary
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Executive Registry
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THE WHITE HOUSE
WASHINGTON

CABINET AFFAIRS STAFFING MEMORANDUM

Date: 12/18/85 Number: 317039CA Due By: _____

Subject: Economic Policy Council Meeting -- December 19, 1985 -- 1:00 P.M. -- Roosevelt Room

	Action	FYI
ALL CABINET MEMBERS	☐	☐
Vice President	☑	☐
State	☑	☐
Treasury	☑	☐
Defense	☐	☐
Justice	☐	☑
Interior	☐	☐
Agriculture	☑	☐
Commerce	☑	☐
Labor	☑	☐
HHS	☐	☐
HUD	☐	☐
Transportation	☑	☐
Energy	☐	☐
Chief of Staff	☑	☐
Education	☐	☐
OMB	☑	☐
CIA	☑	☐
UN	☐	☐
USTR	☑	☐
GSA	☐	☐
EPA	☐	☐
NASA	☐	☐
OPM	☐	☐
VA	☐	☐
SBA	☐	☐

	Action	FYI
CEA	☑	☐
CEQ	☐	☐
OSTP	☐	☐
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McFarlane	☑	☐
Svahn	☑	☐
Chew *(For WH Staffing)*	☑	☐
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Executive Secretary for:		
DPC	☐	☐
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REMARKS:

The Economic Policy Council will meet on Thursday, December 19, 1985, at 1:00 P.M. in the Roosevelt Room.

The agenda and background papers are attached.

RETURN TO:

☐ Alfred H. Kingon
Cabinet Secretary
456-2823
(Ground Floor, West Wing)

☐ Don Clarey
☐ Rick Davis
☐ Ed Stucky
Associate Director

THE WHITE HOUSE

WASHINGTON

December 18, 1985

MEMORANDUM FOR THE ECONOMIC POLICY COUNCIL

FROM: EUGENE J. McALLISTER EM

SUBJECT: Agenda and Papers for the December 19 Meeting

The agenda and papers for the December 19 meeting of the Economic Policy Council are attached. The meeting is scheduled for 1:00 p.m. in the Roosevelt Room.

The first agenda item will be a report of the Working Group on Intellectual Property. The Working Group has developed two recommendations: exploring the idea of establishing a multi-national patent and trademark office and proposing an omnibus intellectual property bill.

The second agenda item will be a report from the Strike Force on Trade. The Strike Force will present its recommendations on improving protection of U.S. intellectual property rights abroad.

The third agenda item will be a report of the Working Group on Research and Development. The Working Group has developed four recommendations and an exploratory proposal to enhance the effectiveness of investment in research and development by the private and public sectors.

A paper on each of these items is attached.

Attachments

THE WHITE HOUSE

WASHINGTON

ECONOMIC POLICY COUNCIL

December 19, 1985

1:00 p.m.

Roosevelt Room

AGENDA

1. Report of the Working Group on Intellectual Property
2. Report of the Strike Force on Trade
3. Report of the Working Group on Research and Development

THE WHITE HOUSE

WASHINGTON

December 17, 1985

MEMORANDUM FOR THE ECONOMIC POLICY COUNCIL

FROM: THE WORKING GROUP ON INTELLECTUAL PROPERTY

SUBJECT: Initiatives for 1986

Integral to improving the domestic and international competitiveness of American firms is the Federal recognition and enforcement of intellectual property rights, ensuring vigorous investment in the innovation and marketing of ideas, products and services. As a practical step towards achieving this end, Secretary Baker, as chairman of the Economic Policy Council, requested in November that the Working Group on Intellectual Property review laws and policies protecting intellectual property rights to determine how those policies could be improved with the broadest effect possible.

The Working Group has developed two proposals for the Council's consideration:

(1) Exploring with our trading partners the idea of establishing a joint nation patent office.

(2) Proposing an omnibus intellectual property bill.

JOINT NATION PATENT OFFICE

Today, some 30 countries in the Americas alone grant patents protecting inventions for their territories. There is no regional patent covering more than one country in the Western Hemisphere, nor does any nation in the West cooperate with nations outside the hemisphere in issuing patents. Anyone wishing to protect an invention must file a separate application in each country and pursue patent protection according to the laws of each country. The coverage of the patents, their terms, and how quickly each patent is issued, differ from country to country.

The countries of Western Europe established in 1978 a European Patent Office (EPO) after 30 years of discussing how to ease the burden of multiple patent procedures within the same continent. The primary advantages of the EPO include:

- A single application can be filed in the EPO and, following search and examination, can result in a "European patent" being issued. This patent is actually a bundle of national patents valid in each of the eleven member states designated by the applicant.

- The European Patent Convention (EPC), the treaty establishing this system, provides for broad coverage, a term of 20 years from filing, and prompt issuance of high quality patents.

- Even though the European patent is issued through a single process, the national law of each member state applies in enforcing the patent. Also, member states of the EPO continue to issue national patents.

With competition becoming increasingly global, it is clear that the trend toward nations cooperating to establish regional patent offices will continue. The United States could lead a similar effort affecting the Western Hemisphere by negotiating a treaty with Canada, Latin American countries, or those in the Pacific Rim to establish common (high) standards for the examination and issuance of patents through an international patent office. The characteristics of such an office would be:

- Similar to the European Patent Convention, such a treaty would establish an office which issues a patent effective in each signing country on the basis of a single application.

- For purposes of enforcement of such patent, the national law of each country would apply.

- To protect sensitive technology, applications of U.S. origin filed with the joint nation patent office would first have to undergo a review procedure similar to that now conducted by the U.S. Patent and Trademark Office for applications intended to be filed abroad.

- While an effective joint nation patent office would require multi-lingual staff and publications, costs of operation could be covered through user fees.

It should be noted that a joint nation patent office will likely take a substantial amount of time to implement. A presidential invitation to our trading partners to the North or South or in the Pacific Rim to explore the idea with the U.S. would be a pioneering first step. Issues which would remain to be resolved include:

- Subject matter which can be patented. An effective joint patent office would offer the opportunity to parallel other countries' patent law with that of the United States.

  - Patent coverage in the U.S. and Canada generally extends to the same subject matter with the exception that only process protection can be obtained in Canada for pharmaceuticals and food stuffs and Canadian pharmaceutical patents are subject to broad

compulsory licensing requirements. Minimum standards in other countries for subject matter protected by a joint nation patent could be revised.

- o Length of patent term. While the U.S. and Canada recognize similar patent length terms of 17 years, minimum patent term standards in other countries could be lengthened. For example, Chile now grants a 20 year term only to Chilean residents. In Ecuador, the patent term runs from 3 to 12 years depending on the importance of the invention.

- o Staffing and control. The establishment of a joint nation patent office would require that the U.S. share management and control of patent procedures with our trading partners. Should the U.S. negotiate a joint patent treaty with minor, rather than major trading partners, a weighted system could be established giving the U.S. management rights in proportion to the expertise it would provide.

- o Language. Patents issued from a joint nation patent office would have to be issued in at least summaries of multiple languages. While this would increase administrative procedures and costs for the U.S., those costs could be covered by user fees. The U.S. patent operation currently relies nearly 60 percent on user fees to cover its operation.

Recommendation

The Working Group recommends that the U.S. approach informally certain trading partners in the Western Hemisphere and the Pacific Rim about exploring the idea of a joint patent office with a goal toward the President announcing publicly such an invitation.

Advantages

- o Streamlines the patent procedure by eliminating the need to prosecute a patent application in the U.S. and subsequently doing the same for protection in Canada and Latin American or Pacific Rim countries.

- o Facilitates increased trade and investment between the U.S. nationals and our trading partners and would increase the standard for patent protection between or among signing nations.

Disadvantages

- o Requires that the U.S. give up some management and control of patent procedures.

- o Would be administratively complex to establish and operate while resulting in few short term visible benefits for the U.S.

INTELLECTUAL PROPERTY BILL

The Administration's proposed National Productivity Act of 1983 legislation contained several initiatives for strengthening intellectual property right protection. The Administration also has testified in support of legislation clarifying the rights of licensors and permitting holders of patents covering agricultural chemical products to recover patent terms lost due to Federal regulations. Finally, the President's announcement on September 23, 1985, of a Trade Policy Action Plan included specific proposals relating to strengthening intellectual property right protection.

The Administration could signal its resolve to have legislation strengthening intellectual property rights enacted by proposing a specific omnibus bill which includes the following:

1) Extending process patents to cover products;

2) Limiting the "patent misuse doctrine" so that patent misuse may be found only after the finding of an antitrust violation;

3) Amending the Clayton Act to provide a rule of reason standard for reviewing intellectual property licensing arrangements;

4) Modifying the Supreme Court decision in Lear v. Adkins by validating contractual agreements between parties to a licensing arrangement (i) permitting a licensor to terminate a licensing arrangement if the licensee challenges the validity of the patent, and (ii) requiring a licensee litigating the validity of the patent to continue paying royalties to the licensor until the issue has been adjudicated or the licensee exercises its option to terminate the licensing arrangement;

5) Eliminating the current injury requirement from Section 337 International Trade Commission proceedings to exclude imports, permitting a presumption of injury where an intellectual property infringement can be shown.

6) Extending the term of patents covering agricultural chemical products and animal drugs up to a maximum of five years to account for the period of a patent term lost due to mandatory Federal premarketing regulatory review and testing.

The Working Group will continue to review potential proposals which might be included in the intellectual property bill.

Recommendation

The Working Group recommends that the Administration propose an omnibus intellectual property bill, reemphasizing our previous legislative proposals and endorsements to strengthen recognition and protection of intellectual property.

December 17, 1985

MEMORANDUM FOR THE ECONOMIC POLICY COUNCIL

FROM: The Trade Strike Force

SUBJECT: Intellectual Property: Executive Summary

ISSUE

The violation of U.S. intellectual property rights -- patents, trademarks and copyrights -- is a serious impediment to U.S. international trade and competitiveness. A wide spectrum of American industries is affected including chemicals, pharmaceuticals, motion pictures, publications, semiconductors, computer software, apparel and other consumer goods, and new industries such as biotechnology. Losses in U.S. sales due to the problem are estimated at $8-20 billion annually.

Imcomplete laws in many countries, or the inadequate enforcement of existing laws, present a barrier to American companies selling their products, and to establishing plants. The impact of inadequate intellectual property protection on U.S. industries is particularly acute in, although not confined to, NICs.

What Administration steps would strengthen U.S. intellectual property owners' rights and secure more adequate foreign protection of U.S. intellectual property?

SUMMARY OF RECOMMENDATIONS

The Administration should pursue a comprehensive strategy that combines a legislative initiative with intensified ongoing efforts to combat foreign violations of intellectual property rights. The program would include:

(1) An accelerated program of bilateral consultations on intellectual property and, where appropriate, consideration of additional Section 301 unfair trade cases.

(2) Continued efforts to improve multilateral protection of intellectual property through the new trade round, the OECD and existing conventions on intellectual property (WIPO/UNESCO).

(3) Issuance of a policy statement on intellectual property that reflects the Administration's policy and priorities. (The Strike Force has drafted such a statement. It would now be reviewed at the staff level by all members of the Economic Policy Council).

(4) An Administration legislative initiative to close gaps in U.S. protection of intellectual property and to strengthen U.S. intellectual property owners' rights against infringers.

(5) identification of ways in which existing treaties and U.S. laws can be used to secure adequate foreign intellectual property protection, including sending reminders to GSP countries that protection for intellectual property rights will be a critical factor in determining their level of GSP benefits at the end of the GSP general review.

(6) creation of an advisory committee on intellectual property rights, co-chaired by USTR and Commerce, to provide a formal channel for private sector advice.

MEMORANDUM FOR: THE ECONOMIC POLICY COUNCIL

FROM: The Trade Strike Force

SUBJECT: Strengthening Protection for Intellectual Property

ISSUE

The violation of U.S. intellectual property rights -- patents, trademarks and copyrights -- is a serious impediment to U.S. international trade and competitiveness. Incomplete laws in many countries, or the inadequate enforcement of existing laws, present a barrier to American companies selling their products, and to establishing plants. What Administration steps would strengthen U.S. intellectual property owners' rights and secure more adequate foreign protection of U.S. intellectual property?

SUMMARY OF RECOMMENDATIONS

The Administration should pursue a comprehensive strategy that combines a legislative initiative with intensified ongoing efforts to combat foreign violations of intellectual property rights. The program would include:

(1) an accelerated program of bilateral consultations on intellectual property and, where appropriate, consideration of additional Section 301 unfair trade cases.

(2) continued efforts to improve multilateral protection of intellectual property through the new trade round, the OECD and existing conventions on intellectual property (WIPO/UNESCO).

(3) issuance of a policy statement on intellectual property that reflects the Administration's policy and priorities.

(4) an Administration legislative initiative to close gaps in U.S. protection of intellectual property and to strengthen U.S. intellectual property owners' rights against infringers.

(5) identification of ways in which existing treaties and U.S. laws can be used to secure adequate foreign intellectual property protection, including sending reminders to GSP countries that protection for intellectual property rights will be a critical factor in determining their level of GSP benefits at the end of the GSP general review.

(6) creation of an advisory committee on intellectual property rights, co-chaired by USTR and Commerce, to provide a formal channel for private sector advice.

BACKGROUND

Inadequate Foreign Protection

Theft of intellectual property rights is on the increase worldwide and causes an estimated loss in U.S. sales of $8-20 billion annually. Additional substantial losses result from restrictions on access to foreign markets for U.S. innovations. International violations of intellectual property rights have become rampant as communications and markets are now international and intellectual property has become key to high-tech trade.

The impact of inadequate intellectual property protection on U.S. industries is particularly acute in, although not confined to, the NICs. It includes:

- the absence of national patent, trademark or copyright laws (e.g., Indonesia has no patent law; the People's Republic of China has no copyright law).

- patent laws that inadequately protect chemicals and pharmaceuticals (Taiwan, South Korea, Brazil, Mexico and Canada).

- copyright laws that provide uncertain or inadequate protection to U.S. works or which exclude or provide overly short-term protection for computer software (South Korea, France).

- inadequate implementation and enforcement (many countries).

These practices affect a wide spectrum of American industries including chemicals, pharmaceuticals, motion pictures, publications, semiconductors, computer software, apparel and other consumer goods, and new industries such as biotechnology.

- RECOMMENDATION #1: That the United States pursue an aggressive bilateral strategy to accelerate discussions with key countries. This has already been undertaken in accordance with a Presidential directive. We should also examine appropriate additional cases for Section 301 action.

  Background: Piracy and counterfeiting have grown dramatically especially in the newly industrialized countries of the Pacific Basin and Latin America. Effective protection of intellectual property rights in most of these countries lags far behind that provided in nearly all developed countries.

  For example, South Korea's copyright laws do not protect foreign works or computer software and Singapore's do so only in limited circumstances. Indonesia has no patent law. Patent law in South Korea and Taiwan does not cover chemicals and pharmaceuticals.

The U.S. has had a series of bilateral consultations with Latin American and Asian nations to remedy the problem. These consultations should be accelerated. Contacts should include: South Korea, Taiwan, Brazil, Argentina, Yugoslavia, India, the Philippines, Mexico, Indonesia, Malaysia, Singapore and Thailand. Further consultations also should be held with Canada on its practices with respect to pharmaceutical patents, and France on its recently enacted overly short term of protection for computer software.

If consultations fail to produce sound and timely progress, the Strike Force will consider whether the filing of additional 301 actions is warranted. We have already initiated a 301 case involving South Korea.

Pro:
- o Bilateral consultations would build on previous discussions which have resulted in some positive changes in foreign countries. This allows countries to address the problem and change practices before any action is taken.
- o We have the precedent of initiating a 301 case on South Korea. Consultations with other offender countries should be held before an additional action is taken.

Con:
- o Bilateral packages would have to be consistent with current and proposed multilateral agreements, possibly diluting them because of inadequate minimum standards at the multilateral level.
- o Some Section 301 cases might be challenged through the GATT.
- o Excessive us of 301 by the Strike Force could overload USG circuits and diminish our ability to bring these cases to a successful conclusion.

o RECOMMENDATION #2: That the Administration increase efforts aimed at securing multilateral protection of intellectual property rights through: including the topic as a priority in a new round of trade negotiations; vigorously pursuing ongoing efforts to improve existing conventions; and expanding OECD work on the issue.

Background: The GATT, while addressing intellectual property in four areas, does so on an exception basis. Existing multilateral protection comes through a number of other international agreements, including the Paris and Berne Conventions, administered by the World Intellectual Property Organization (WIPO), and the Universal Copyright Convention, administered by UNESCO. These agreements center generally on ensuring national treatment and establishing some minimum standards for the holders of intellectual property rights, but they lack a proven mechanism for resolving disputes between countries. Despite the existence

of international conventions, violations of intellectual property rights have become rampant. Ongoing efforts to improve existing conventions, such as WIPO's work on semiconductor ship protection and biotechnology, should be pursued vigorously.

Efforts have been underway in the GATT since the end of the Tokyo Round to conclude an Anticounterfeiting Code, which have intensified since the November 1984 Contracting Parties meeting. These efforts need to be expanded in the new round context. As a first step, the U.S. should take the lead in seeking to form a "Friends of Intellectual Property" group in the GATT to advance consideration of the issue in the New Round.

Multilateral efforts should continue in other arenas as well, such as investigating efforts to include intellectual property in the coverage of the Invisibles Code in the OECD.

Pro: o Would signal multilateral commitment to the issue and would supplement bilateral initiatives.

o Would bring trade-related intellectual property disputes into the clear purview of the institution charged with addressing trade disputes, the GATT.

o Would build on over 100 years of effort internationally, for instance the Paris Convention was adopted in 1883.

Con: o Multilateral solutions are by their nature slow and deliberate. They do not show immediate results as can bilateral initiatives. Thus they would not be responsive to the short-term concerns of the business community or Congress. Multilateral efforts need to be supplemented by bilateral and unilateral actions aimed at short-term remedies.

o There is substantial doubt that NICs and other offending nations would adhere to new multilateral agreements strengthening intellectual property protections.

o RECOMMENDATION #3: That the Administration issue a policy statement on intellectual property.

Background: Such an action is supported by industry and labor. A policy statement would provide a focal point and a touchstone for the implementation of the programs described in this document, similar to the previous Administration trade and investment policy statements.

o **RECOMMENDATION #4:**

o (A) That the Administration introduce an Administration bill amending domestic law to strengthen intellectual property protection for U.S. producers. Alternatively, the Administration could announce active support for intellectual property legislation introduced on the Hill.

Pro: o Would put us out in front on the issue and make clear that this is an Administration priority.

o Would gain faster action on proposals we have supported for some time.

Con: o Would introduce the risk that the bill could be put into legislation the Administration does not support, creating problems for President action.

o (B) The legislation would contain the following provisions:

-- Amend Section 337 of Tariff Act of 1930 to delete injury test and necessity to show that the domestic industry is economically run.

-- Extend patent protection to cover products of patented processes.

-- Subject aspects of patent licensing arrangements to "rule of reason" in antitrust cases instead of "per se" rule.

-- Increase procedural safeguards to prevent inappropriate release of privately-owned proprietary information held by the Government.

Background: These provisions have already been approved in the legislative package.

Pro: o Would remove burdensome administrative requirements that hamper the effectiveness of existing statutes (particularly in the case of Section 337).

o Would close loopholes now benefitting foreign producers at the expense of U.S. property rights holders (particularly in the case of current process patent law).

o Would make U.S. law consistent in recognizing the need to compensate patent holders for the patent life lost due to pre-marketing regulatory clearance proceedings.

- RECOMMENDATION #5: That the U.S. Government use existing laws and agreements more aggressively to ensure greater protection for U.S. holders of intellectual property rights worldwide. This could include sending reminders to GSP beneficiary countries that our review of their practices relating to intellectual property will be a key factor in deciding their level of GSP benefits at the end of the GSP general review.

  Background: We should examine existing bilateral treaties such as FCNs and BITs to determine whether any of the rights and obligations they create can be used to enforce the rights of U.S. owners of intellectual property rights. A failure to enact laws which enable a nation to live up to its treaty obligations, or using liberal definitions of such terms as "property" in existing treaties to include intellectual property, might be grounds for trade action. In addition, we should examine the applicability of anti-expropriation provisions of various U.S. statutes in cases where foreigners impose compulsory licensing on American patent and copyright owners without prompt, adequate and effective compensation.

  Perhaps the strongest incentive for positive change in developing and newly industrialized nations is the amendment of GSP in the 1984 Trade and Tariff Act giving the President increased authority to act to protect U.S. intellectual property rights under this program. New GSP provisions require consideration of a nation's treatment of intellectual property rights in the general review of each country's level of eligibility for tariff concessions.

Pro:
- Would be a strong indication to our trading partners and the U.S. business community that we are serious about pushing for increased protection in this area.
- Reminder to GSP countries that adequate intellectual property rights will be a significant review criterion could push infringer countries into making earlier and more fundamental changes.

Con:
- Some NICs may learn that GSP benefits are not as crucial to their welfare as continued copying of others' intellectual property.

- RECOMMENDATION #6: That the USG pursue formal lines of communication with the private sector through the Advisory Committee on Trade Negotiations (ACTN) task force on intellectual property rights and establish a private sector advisory committee on intellectual property rights co-chaired by USTR and Commerce.

  Background: The business community and labor groups are strongly committed to improving intellectual property

protection. The Presidentially appointed Advisory Committee on Trade Negotiations has formed a task force on intellectual property. This task force has split its work into two stages: first it will make recommendations to the full ACTN on multilateral approaches to trade policy, and then it will work to identify major bilateral initiatives and approaches. Their objectives are 1) higher standards, transparency and removal of current practices such as compulsory licensing; 2) adequate enforcement mechanisms; and 3) dispute settlement procedures.

Pro: o During the past year the Administration has informally worked with private sector through individual companies, the ISACs and umbrella organizations established by U.S. industry on intellectual property rights. Work by the ACTN task force and a private sector advisory committee would complement these efforts.

Con: o Once communication is formalized, the business community may have false expectations on how quickly the USG can make changes.

Attachments: A. Timetable for Action Plan Initiatives

B. Draft Administration Policy Statement

C. Summary of Current U.S. Law and International Rules

Action Plan Dates

a. Intellectual Property Policy Statement:
Staff draft with private sector comments reflected:
December 1, 1985

b. Action on Legislation Related to Strengthening Domestic Practices of Intellectual Property:
Fall 1985

c. Acceleration of Bilateral Negotiations
Target plan for Brazil plan for Brazil/Mexico and other countries with IPR problems: December 1, 1985

d. Review Obligations of our Trading Partners Existing in Current Bilateral Agreements: December 1, 1985

e. Review of Korea 301 Case and Consideration of other Possible Immediate Intellectual Property-related 301 Actions:
January 1, 1986.

f. Completion of Full ACTN Report on Priority Countries, Issues for Consultation, and 301 and GSP Action Programs:
February 28, 1986.

g. Review of Private Sector Report for Possible Section 301 Actions:
March 1, 1986.

h. Initiation of GSP-related Review Based on Intellectual Property Criteria of Trade Act:
Summer 1986.

APPENDIX

Current U.S. Law

The Administration has favored certain improvements relating to intellectual property, e.g., process patents, chemicals, and patent misuse rules, and remedies against infringement.

U.S. intellectual property owners have two remedies against infringement:

- Seeking damages and injunctions against infringers in federal courts. Because the courts must have jurisdiction over the infringer, this remedy applies chiefly to violations in the U.S.

- Filing an unfair practice case under Section 337 of the Tariff Act of 1930. Under Section 337, the ITC may issue an exclusion order barring imports of items that infringe U.S. patents, trademarks and copyrights. To obtain relief, the petitioner must demonstrate that the import or sale of the infringing product substantially injures an industry that is efficiently and economically operated in the U.S.

International Rules

The GATT covers intellectual property only on an exception basis.

The effectiveness of existing international intellectual property conventions is in some cases limited due to lack of signatory countries, lack of minimum standards, lack of coverage, and lack of enforcement.

The Paris Convention on patents and trademarks provides for national treatment and priority for filing dates, but generally does not set minimum level of protection.

For copyrights, the Berne Convention provides for national treatment and generally a minimum copyright term of the author's life plus 50 years. (The U.S. is not a signatory, but the Administration has supported joining.) The Universal Copyright Convention (UCC), to which the U.S. is signatory, provides for national treatment and a term of the author's life plus 25 years. Both the Berne and UCC contain substantial minimum standards. Significant countries (e.g., South Korea, Indonesia) are signatory to neither copyright convention.

DEPARTMENT OF THE TREASURY
WASHINGTON

MEMORANDUM FOR THE ECONOMIC POLICY COUNCIL

FROM: Working Group on Research and Development

SUBJECT: Recommendations to Encourage R&D

Executive Summary

Background

There has long been an awareness in the United States that increased research and development (R&D) and innovation produces significant benefits to the economy. More rapid rates of innovation increase productivity and economic growth, reduce the rate of inflation, create new jobs, and strengthen the competitiveness of U.S. goods and services.

The R&D and innovation process is complex and frequently involves a relatively high degree risk. Generally, the market mechanism provides adequate incentives for private firms to fund the R&D needed to sustain rapid rates of innovation. In certain instances, however, all of the benefits from some types of R&D, particularly basic research, may not accrue to private investors although they would be available to society as a whole. In such cases there may be underinvestment of private resources in R&D, and society is the loser. The presence of these externalities has long been viewed as justifying government intervention in the R&D process, particularly basic research.

The Government has both a direct and indirect role in R&D and innovation. Government policies, including tax incentives, antitrust, procurement practices, and patent and copyright laws, indirectly influence, but to a significant degree, R&D and innovation. Strong, sustained economic growth is also very beneficial.

Government R&D spending generally has a more direct impact on R&D. The current budgetary situation may require that Federal R&D programs share with other programs the need to scale back the growth of spending. There are ways, however, in which the Federal Government can encourage increased R&D efforts by the private sector without adding to the budget deficit.

The Working Group on R&D reviewed a number of proposals for encouraging R&D and improving the effectiveness of our overall R&D effort. The following are four unanimous recommendations and one exploratory proposal for EPC consideration.

Recommendations

1. The existing R&D tax credit is intended to provide companies incentives to increase their R&D efforts. However, the three-year "creeping-base" provision of the credit may provide less incentive for increases in R&D than an alternative base because the additional R&D performed in the current year will increase the base in each of the three succeeding years, thus reducing the credit the company could claim in subsequent years.

The Working Group recommends that Treasury consider an amendment that would replace the present 3-year moving base for the credit by a fixed three-year period, indexed annually for inflation. The rate of credit would be adjusted to maintain revenue neutrality equivalent to present law.

2. Many types of commercially valuable information such as computer software, engineering drawings and other technical data are generated under Federal grants and contracts or in conjunction with them. This information often has great commercial importance to the private sector, but private sector participation in Government-funded research projects may be discouraged because of the uncertainty created by the fact that agencies have a multiplicity of policies governing copyright ownership of this information.

The Working Group recommends that a uniform Federal copyright policy be developed by OMB allowing all contractors (including those medium and large size businesses not now explicitly covered by a February 1983 Presidential memo) ownership of software, engineering drawings and other technical data in exchange for royalty-free use by the Government.

3. Federal laboratories perform more than $17 billion in R&D annually, of which about two-thirds goes to government-operated institutions and one-third to contractor-operated institutions. At present, both kinds of laboratories have authority to grant exclusive licenses for their inventions to the private sector but only contractor-operated labs and their employees may receive a share of the royalties. Thus, there is no incentive for researchers in government-operated laboratories to transfer technology to the private sector for commercialization and to contribute to U.S. industrial competitiveness. Legislation is now pending in the Congress that could improve this situation.

The Working Group recommends that the Administration should take administrative action or propose or endorse legislation that would:

- incorporate contribution to U.S. industrial competitiveness as an explicit laboratory mission wherever that has not already been done and is not inconsistent with the primary laboratory mission;

- allow agencies to delegate significant authorities to their laboratories for managing the technologies they produce, including licensing inventions made by laboratory employees;

- allow the laboratories to further their research objectives by entering into cooperative research agreements with universities and industry that specify what rights the Government and the other collaborators have to any inventions that may result;

- allow inventors and their laboratories to share the royalties their inventions produce as an incentive to move new technologies out of the laboratories and into the marketplace and to do so without reducing incentives to work on mission projects with little or no commercial use.

4. R&D to develop specific products and processes for the market is the job of industry. But industrial firms cannot be expected to fund more than a small share of the type of research that provides the knowledge base for work across whole technologies, particularly those that are new and rapidly developing.

United States research universities are unequaled in their research and training in the traditional science and engineering disciplines. However, university basic research has inadequately nurtured research on basic technologies, which is typically multidisciplinary and differently focused from the traditional disciplines. As a result, the U.S. has underinvested in university research on basic technologies, and the movement of people, and therefore of ideas and know-how, between universities and industry where multidisciplinary research is needed has been limited.

The University Research Initiative of the Department of Defense and the Engineering Research Centers of the National Science Foundation (NSF) and other agencies have helped address this problem. The initial NSF solicitation for multidisciplinary university-industry engineering research centers generated a great deal of interest but NSF funding was severely limited.

The Working Group recommends that within the constraints of the President's budget, all major R&D agencies should be directed to make a stronger commitment to build up university-based scientific and engineering research that bears on technology and industrial competitiveness, especially through multidisciplinary asic science and technology centers.

5. It is also recommended that the Council consider an exploratory proposal that would apply a genuine bidding process to the selection of Federally-funded applied R&D projects.

Introduction

Research and development (R&D) is the principal activity leading to new products and processes and improvements in existing ones. Industrial innovation -- the development and commercialization of R&D -- accounts for a significant part of our increased productivity, which helps to reduce the costs of producing goods and services and is responsible for a sizable share of the Nation's economic growth. It is critical that the United States continue to increase its efforts at all phases of R&D in order to increase productivity and economic growth, reduce the rate of inflation, create new jobs, and strengthen the competitiveness of U.S. goods and services.

R&D is itself an important component of the U.S. economy, accounting for an estimated $106.6 billion or 2.7 percent of the Gross National Product (GNP) in 1985.

Twenty years ago the U.S. clearly had a lead over other countries in the share of the GNP allocated to total R&D spending. Over the past 20 years, however, there has been a convergence between the U.S. R&D/GNP ratio and the ratio in other countries.

A relatively high degree of risk is generally associated with many aspects of R&D. In addition, all of the benefits from some types of R&D, particularly basic research, may not accrue to private investors although they would be available to society as a whole. In such cases, there may be significant underinvestment of private resources in R&D, and society is the loser. The presence of externalities -- the availability of benefits to a broader group than the private investor undertaking the R&D -- has long been viewed as justifying government intervention in the R&D process, particularly basic research.

Government policies can have a significant influence on R&D and innovation. Tax incentives, for example, can be used to reduce the cost of R&D activities to firms, thereby making such activities more attractive. In addition, antitrust and patent and copyright policies can help lower some of the barriers to private innovation and R&D and enable firms to compete more effectively in domestic and international product markets. Government procurement activity can provide a large market for private output and in the process influence the development of new technologies and encourage the investment necessary to apply it.

Other factors are thought to also have a significant impact -- both positive and negative -- on R&D and innovation. Expectations about macroeconomic conditions and the intensity of competition, both domestic and international, are particularly important. A strong, robust economy encourages investment and innovation; it generates increased business cash flow to help finance R&D internally, rather than by borrowing, and makes it easier to market new products.

In a strong economy innovations are diffused more rapidly throughout the economy because new capital equipment and new processes are likely to embody improved technology. Also, increased investment tends to encourage innovation in the capital goods industries by increasing the demand for business investments. Alternatively, a robust economy may lessen the urgency to pursue new products and processes, while slack economic conditions can provide an incentive for businesses to seek out new technologies and processes to help reduce costs of production. On balance, the evidence suggests that R&D spending is positively correlated with economic growth.

The Administration has been very supportive of R&D, particularly basic research where, because of significant externalities, the private sector may be underinvesting. Between 1981 and 1985, Federal investment in basic research will have increased by almost 30 percent in real terms. The Administration also worked with the Congress to enact the National Cooperative Research Act of 1984, which permits two or more persons to undertake joint research and development ventures with less concern that such cooperative efforts will be found to be in violation of our antitrust laws.

The current budgetary situation may require that R&D, like most other government programs, share in the need to scale back the growth of spending. Nevertheless, a reallocation of the government's R&D resources toward multidisciplinary long-term research on basic technologies would increase the effectiveness of the U.S. research effort. At the same time there are ways in which the Federal Government can encourage increased R&D efforts by the private sector without adding to the budget deficit, and in fact would help reduce the deficit through increased economic growth, job creation and lower inflation.

The Working Group on R&D reviewed a number of proposals for encouraging R&D. These proposals involved issues concerning the cost of R&D capital, regulatory and legal barriers to R&D and public/private R&D relationships.

The Working Group reviewed the possibility of further lowering the capital gains tax but did not include it in the Group's recommendations because of the current status of consideration of the President's proposal for tax reform. However, this change should be considered at a later time.

The following are four unanimous recommendations and one exploratory proposal of the R&D Working Group for encouraging industrial investment in research and development and improving the effectiveness of our overall R&D effort.

Recommendation 1. Improve the Structure of the R&E Tax Credit

Problem/Issue

The existing tax credit for research and experimentation is intended to provide a real incentive for additional (incremental) R&D. The Treasury Department has just negotiated with the Ways and Means Committee an extension of the R&D credit. This could make it awkward to initiate a major revision in the credit at this time. However, it is appropriate to consider changes in the incremental structure that could increase considerably the marginal incentive while maintaining revenue neutrality.

Background/Analysis

The R&D tax credit is intended to give companies incentive to increase their R&D efforts. Otherwise firms are likely to under-invest in R&D because of its potential externalities and delayed return on investment. The current credit establishes such an incentive by providing a 25% credit on the increment of a corporation's R&D for the taxable year over the average of its R&D for the three preceding years. In other words, the credit is 25% of the increment over a "creeping" three-year R&D base.

This "creeping-base" structure may provide less incentive for increases in R&D than alternative structures. The basic reason for this is that the additional R&D performed in the current year will increase the base in each of the three succeeding years, thus reducing the credit the company could claim in subsequent years for maintaining that level of R&D.

This incentive effect of the credit could be increased by a shift to an "indexed base" structure. The credit would continue to be allowed on the increment over a base. Instead of a moving base consisting of R&D for the three years immediately preceding the taxable year, however, the base would be R&D for a fixed three-year period, indexed annually for inflation or some other indexing factor different from the company's own R&D record. Research indicates that with appropriate accompanying adjustments such a structure could provide several times the marginal incentive for extra R&D without increasing the revenue loss.

This alternative structure should be examined carefully by tax and R&D experts and, if it proves practicable and administrable, implemented.

Recommendation

Treasury, in collaboration with other interested agencies, should consider an amendment that:

- incorporates the "indexed fixed period base" structure;

- maximizes its incentive effect;
- minimizes any associated problems;
- adjusts the credit rate to maintain revenue neutrality equivalent to present law.

Treasury should report to the Economic Policy Council on whether such an amendment would have policy or political drawbacks.

Recommendation 2. Ownership of Software and other Technical Data Produced Under Contract to the Federal Government

Problem/Issue

Many types of commercially valuable information such as computer software, engineering drawings, etc. are generated under Federal grants and contracts or in conjunction with them. Agencies now have a multiplicity of policies governing copyright ownership of this information. Such information often has great commercial importance to the private sector. However, the threat that the Government will hold all copyrights that derive in any way from work produced under contract can have a chilling effect on private sector participation in Government funded research projects. Copyrightable information developed in Government funded research projects does not receive the same protection afforded patentable products or processes developed under the same circumstances. This threat is especially great to researchers seeking to commercialize valuable copyrights such as software programs.

Background/Analysis

Passage of the Bayh-Dole Act (Public Law 96-517) in 1980 marked a turning point in Federal policy on patent rights to inventions. Congress sought to increase technology transfer from Federal research and development to the private sector by allowing universities and small business contractors to manage patentable inventions they made under Government grants and contracts. Subsequently, a number of university and private contractors have established technology licensing programs. The President's Memorandum on Government Patent Policy, February 18, 1983, extended the principals of the 1980 Bayh-Dole Act to all businesses, consistent with existing law; some medium and large business contractors still do not receive the benefits of this policy because of preexisting laws that were not affected by the 1980 Act. In 1984, PL 98-620 extended the 1980 Act to include most contractors who operate Federal laboratories. However, the patent protection afforded to these contractors and grantees does not extend to copyrightable software and other technical information. The absence of a uniform Federal policy allowing contractor ownership of copyrights that may be generated under grants and contracts in exchange for royalty-free use by the Government inhibits contractors working in fields where such protection is needed for commercialization. This slows the transfer of new ideas to the commercial sector.

Recommendation

A uniform Federal copyright policy should be developed by OMB allowing all contractors (including medium and large size businesses) ownership of software, engineering drawings and other

technical data in exchange for royalty-free use by the Government; it could be modeled on the President's memorandum of February 18, 1983. Such a policy would be consistent with the Administration's technology transfer goals by encouraging commercialization of copyrightable products by the private sector. This policy would also encourage the most innovative small, medium and large companies and universities to participate in Federally sponsored R&D projects, thereby benefiting the Federal agencies and the public.

Recommendation 3. Greater U.S. Competitiveness Through Federal Laboratory Cooperation with Industry

Problem/Issue

Federal laboratories perform more than $17 billion in R&D annually and employ about one-sixth of our research scientists and engineers. They represent a substantial yet insufficiently utilized resource for U.S. industrial competitiveness. Furthermore, present Federal pay and incentive systems for researchers neither attract and retain the quality personnel required for laboratory missions nor stimulate technology transfer to the private sector.

Background/Analysis

About two-thirds of funding for Federal laboratories goes to government-operated institutions. The rest goes to contractor-operated institutions. At present, both kinds of laboratories have authority to grant exclusive licenses for their inventions to the private sector. However, only contractor-operated laboratories and their employees may receive a share of the royalties. There is little or no incentive for researchers in government-operated laboratories to transfer technology and contribute to U.S. industrial competitiveness. All Federal laboratories share the problem of removing barriers to increased collaborative research with U.S. industry. Issues such as protection of proprietary information and definition of government rights to products of collaborative research have not been fully resolved.

The 1983 White House Science Council's report on Federal laboratories (Packard Report) recommended that: R&D interactions between Federal laboratories and industry should be greatly increased by more exchange of knowledge and personnel, collaborative projects, and industry funding of laboratory work, provided an oversight mechanism is established to prevent unfair competitive practices.

Legislation is now being considered in Congress to enhance Federal laboratory collaboration with the private sector by giving government operated laboratories the same incentives as are now available to contractor operated facilities.

Recommendation

The Administration should take administrative action or propose or endorse legislation that would:

- incorporate contribution to U.S. industrial competitiveness as an explicit laboratory mission wherever that has not already been done and is not inconsistent with the primary laboratory mission;

- allow agencies to delegate significant authorities to their laboratories for managing the technologies they produce, including licensing inventions made by laboratory employees;

- allow the laboratories to further their research objectives by entering into cooperative research agreements with universities and industry that specify what rights the Government and the other collaborators have to any inventions that may result;

- allow inventors and their laboratories to share the royalties their inventions produce as an incentive to move new technologies out of the laboratories and into the marketplace and to do so without reducing incentives to work on mission projects with little or no commercial use.

Recommendation 4. Increase Federal Investment in University Research on Basic Technologies

Problem/Issue

The U.S. has insufficiently tied together our great strength in university research with R&D in industry, and it has underinvested in long-term research on basic technologies.

Background/Analysis

R&D to develop specific products and processes for the market is the job of industry. But industrial firms cannot be expected to fund more than a small share of the type of research that provides the knowledge base for work across whole technologies, particularly those that are new and rapidly developing.

United States research universities lead the world in research and training in the traditional science and engineering disciplines -- physics, chemistry, biology, mechanical engineering, etc. However, university basic research has inadequately nurtured research on basic technologies, which is typically multidisciplinary and differently focused from the traditional disciplines. As a result, the U.S. has underinvested in university research on basic technologies. In addition, scientists and engineers trained in a single discipline have been poorly prepared to collaborate in multidisciplinary work that characterizes corporate R&D. Also, movement of people, and therefore of ideas and know-how, between universities and industry where multidisciplinary research is needed, has been too limited.

The Administration has taken important first steps in addressing this in the University Research Initiative of the Department of Defense and the Engineering Research Centers of the National Science Foundation (NSF) and other agencies. These are helping universities address the needs of the country for more multidisciplinary basic research, and encouraging greatly enhanced collaboration and interaction between universities and industry.

The initial NSF solicitation for multidisciplinary, university-industry engineering research centers, despite relatively short notice, evoked 142 proposals for investing $2.2 billion of Federal funds. The NSF actually had funds enough to establish only 6 centers for $10 million. The universities remain painfully short of resources with which to make the necessary transition.

Recommendation

Within the constraints of the President's budget, all major R&D agencies should be directed to make a stronger commitment to build up university-based scientific and engineering research that

bears on technology and industrial competitiveness, especially through multidisciplinary basic science and technology centers.

This would accelerate Administration initiatives already started on a small scale to encourage university fundamental research that is (1) focused more on current or potential technologies than on traditional disciplines, (2) able to attract support from industry as well as Government, and (3) effective in encouraging university-industry collaboration in research and in the movement of people between university and industry.

Heads of agencies with major research and development programs should be directed to report to the President on their specific plans to implement this recommendation.

Proposal: Competitiveness of Federal Applied Research

Issue

Should the Administration explore applying on a demonstration basis to a specific program a bidding process for selecting Federally-funded applied R&D projects close to commercialization?

Background

Clearly, the best approach for financing applied R&D projects close to commercialization is to turn the responsibility for such financing to the private sector. However, the Congress often requires the Administration to finance such projects. Although private firms now share the costs with government in many applied R&D projects and the government consults with industry and academia on the technical and economic feasibility of projects, the government ultimately determines which applied R&D projects will be pursued.

Proposal

A better approach to financing these projects is to assure that the government finances only those applied R&D projects the market believes hold the most promise. Rather than having the Congress or a Federal department determine which specific technologies should be financed and then soliciting private support, the government would solicit bids from private firms on the amount of Federal funds they need to produce a given amount of coal, for example, that would meet certain environmental standards. The government would thus allow the market to choose the specific technologies on which research should be conducted. The firm offering the lowest bid, i.e., asking the government for the least funds, must believe that it has the most promising technology for producing the good. A firm might offer the lowest bid because it has a low-cost technology or it forsees benefits to itself from developing the technology.

The key feature of this system is that the government would award the funds only after the firm demonstrated it could produce the good. With this government guarantee of future payment, the firm could obtain financing by convincing the market that its technology was most feasible. The firm would have to persuade banks, venture capitalists, and individuals that it could produce the good. This system shifts from the government to the market the burden of determining a technology's economic feasibility.

In this system, there would be no immediate budget outlays since the government would not provide the firm funds until it can demonstrate the production of that good. In fact, if the firm fails to produce the good, the government need not provide the funds at all. The government would thus only finance research on those technologies that actually work. If no firm offered a bid to produce the good or if the bids required enormous Federal support, the government would have a signal that the market believes the technologies for producing the good are currently economically infeasible. The government should then either con-

Advantages

- The government finances only those applied R&D projects the market believes are most economically feasible. The private sector is more capable than the government of determining the economic feasibility of projects.

- Immediate budget outlays are reduced since the government would award funds for projects only after a firm demonstrates it can produce the good meeting the standards.

  Future budget outlays may decline as well since if the firm cannot produce the good meeting the standards, the government does not have to award funds for the project.

Disadvantages

- This approach would radically change the system of government selection of applied R&D projects close to commercialization. It would take much time to show the Congress how and why this approach would work.

- This approach would likely face strong opposition from Federal departments conducting such research because it would obviate the need for government personnel who now decide which applied R&D projects should be financed.

Comparison of Methods of Government Financing of Applied R&D

Although both the current and bidding systems of selecting those applied R&D projects government will finance involve private firm contributions and government consulting with industry and academia about the technical and economic feasibility of projects, they differ in the following key ways.

	Bidding System	Current System
Importance of private firm funds in selection of proj.	Lowest private bid determines which proj govt will finance.	Only one of a number of criteria weighed in determination.
When govt funds awarded to firm	Awarded only after firm shows it can meet stand.	Awarded to firm before proj starts.
Effect on R&D budget	No immediate budget outlays. Outlays only if firm shows it can meet stand.	Immediate budget outlays even if proj eventually fails.
Effect on administrative budget	Reduces administrative costs because obviates need for some govt personnel to evaluate proj feasibility.	Spends funds on govt personnel to evaluate proj feasibility.