Statement of Craig R. Barrett, Ph.D., Chairman of the Board, Intel Corporation, Santa Clara, California
Testimony Before the Subcommittee on Select Revenue Measures of the House Committee on Ways and Means
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Chairman Camp and members of the Subcommittee on Select Revenue Measures:
My name is Craig Barrett and I am the Chairman of the Board of Intel Corporation. Intel, since its founding in 1968, has become the world's largest semiconductor chip maker. We employ over 100,000 people worldwide (54% of whom are in the U.S.). For 2005, Intel's revenue was over $38 billion dollars. Also, in 2005, Intel spent nearly $6 billion dollars on capital facilities and equipment, and over $5 billion on research and development. Intel consistently delivers architectural innovation along with world-class, high-volume manufacturing.

Intel is a global company – over 80% of Intel's consolidated sales revenue in 2005 was from non-U.S. sources – clearly, we are an export-intensive company. The marketplace is global, and so is our competition. Intel must compete with companies based all over the world.

I've spoken out frequently over the last few years about U.S. competitiveness and its many facets, such as the state of the U.S. K-12 education system, government research funding, and increases in the number of U.S. visas for highly talented high-tech employees. These are all important areas that need to be addressed in a comprehensive and effective U.S. competitiveness policy. However, the subject of today's hearing is tax policy, tax reform, and the United States' international tax rules. U.S. tax policy is, and should be, another important element in keeping the U.S. economy and U.S. multinational companies as competitive as possible.

To be competitive in the global marketplace, U.S. tax policy needs to focus on offering tax treatment that is comparable, if not more favorable, than that which is offered by other nations competing for the investments and operations of U.S. multinationals. Taxes are a cost of doing business, but not a consistent one across jurisdictions.

My colleague, Paul Otellini, Intel's CEO, testified last year before the President's Tax Advisory Panel. He was invited to consider, and address, how the U.S. Tax Code affects business decision-making, and in turn, affects our competitiveness. Intel's intensive spending on capital, labor, and R&D, as well as its focus on exports, has significant tax implications. Decisions by U.S. companies as to the location of their production facilities and the location and extent of their R&D are critical to U.S. competitiveness – especially as the U.S. economy becomes increasingly knowledge-based in nature. The impact of the

Tax Code on business decision-making was the focus of Paul's presentation; my testimony today will have a similar focus.

I am aware that it has been said before (most recently during your tax reform hearing last month) that the Tax Code should not include tax preferences to reward a behavior that would happen anyway. That statement raises a valid point, but it misses a more critical question: you should not only ask yourselves whether the behavior would happen anyway; you should also ask yourselves where it would happen. In our case, Intel will continue to spend on production facilities and R&D as our business grows and prospers, but the relevant question for Intel is, as it should be for U.S. policy-makers, not whether we would spend as we grow in the future, but instead where that spending and growth will occur.

Semiconductor manufacturing is extremely capital intensive. The cost to build and equip a new wafer fabrication facility today is $3 billion or more. Where, and when, to build a fabrication plant is the largest ongoing financial decision a semiconductor CEO must make. However, the initial cost of a factory is just the beginning. Intel introduces a new generation of more advanced chip-making technology as frequently as every 18 months – and to make the more advanced products in one of our existing factories, we have to again invest very substantial sums in advanced production equipment.

Historically, about 70% of Intel's capital expenditures have been in the U.S. because that is where most of our advanced factories have been located. Currently, we have wafer fabrication plants in six U.S. states (Arizona, California, Colorado, Massachusetts, Oregon, and New Mexico), and in two other countries (Israel and Ireland). Five of our seven most sophisticated (300 millimeter) wafer facilities now completed or under construction are located in the U.S.

The impact of these facilities is considerable. For example, in Arizona where we have multiple facilities, we employ almost 11,000, with an annual payroll exceeding a billion dollars. Taking into account our effect on other businesses in Arizona, Intel's impact translates into over 27,000 jobs, and the overall impact of Intel's Arizona operations on the gross state product is estimated to be $2.6 billion. As a point of reference, about 228,000

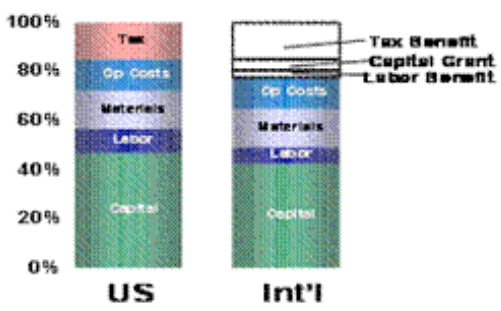
Americans work directly in the semiconductor industry. Additionally, many more work for companies supplying the industry with materials and equipment. Gartner recently forecast that the market for semiconductor chips will reach $259.5 billion in 2006, and in recent years U.S semiconductor companies have had slightly less than half of the industry's total sales.

As I mentioned before, many countries compete intensely to attract Intel's facilities, although this has also changed in recent years. More nations very intent on attracting high-tech state-of-the-art factories, such as Intel's, now also have the requisite infrastructure and well-trained workforce they lacked in years past. Many countries offer very significant incentive packages and have highly favorable tax systems. While in the past we focused on comparing Europe to the U.S., we now increasingly focus on comparing Asia to the U.S.

As a result of this change in the competitive environment, a critical issue we must now consider when deciding where to locate a new wafer fabrication plant is that it costs $1 billion dollars more to build, equip, and operate a factory in the U.S. than it does outside the U.S. The largest portion of this cost difference is attributable to taxes. The billion dollars is the difference between the net present cost over ten years of building and operating the wafer fabrication facility in the U.S., estimated to be as much as $6.8 billion, compared to the net present cost over ten years of building and operating the same facility outside the U.S., estimated to be as little as $5.6 billion. The following chart illustrates this cost difference:

Wafer FAB Cost Model: Key Assumptions & Drivers

- **Cost model compares alternatives based on a 10 year NPC**
  - Production starting in year 3
    - Ramp with "current generation" technology products and transition to next gen products after 5 years
- **What factors drive analysis ?**
  - Cost differences driven by tax treatment, capital grants, other local factors
    - Other local factors: utilities, labor, logistics



	Conceptual 300mm FAB 10yr NPC
Int'l	$5.6B-$6.1B
US	$6.7B-$6.8B

The chart shows that costs can be lower internationally due, in part, to capital grants from foreign governments. These grants can be very sizable, and may also be received up-front, thereby suffering no decline in their nominal value due to the time value of money. Labor can be somewhat less costly internationally, but labor cost is not a large relative difference in Intel's case because advanced chip factories are highly automated and the employees are well- trained and well-paid in all locations. Materials and operating costs are essentially the same worldwide.

Consequently, most of the $1 billion cost difference (about 70%) is the result of lower taxes; also, if taxes are combined with capital grants, then as much as 90% of the cost difference occurs.

Among the taxes and incentives in foreign countries we have observed are:

- Malaysia – providing a 10-year tax holiday, and tax depreciation for capital building and equipment costs equal to 160% of their cost;
- Ireland – with a 12.5% corporate tax rate, and a 20% research tax credit;
- Israel – paying up to a 20% capital grant, with a 10% tax rate and a two-year tax holiday; and
- China – granting a 5-year tax holiday, followed by 50% of the normal tax rate for 5 more years.

These are in comparison to the U.S., with its 35% corporate tax rate, lack of investment incentives, and relatively uneconomic and uncompetitive depreciation treatment. Although state tax policies and incentives can be relevant and important in site decisions among potential domestic sites, they do not typically significantly decrease the billion dollar cost difference. However, recently, certain states are attempting to help address the U.S. competitive cost disadvantage through state capital grants, and these hold the potential to become a more significant cost reduction factor.

To help put the magnitude of a $1 billion cost difference into perspective, it equals about one-third of the cost of a wafer fabrication facility or about 20% of Intel's yearly U.S. R&D expenditures.

From just this sample of tax systems and incentives available in other countries, you can see that the U.S. compares relatively poorly, and effectively an economic penalty on investment in the U.S. is imposed.

With the global nature of Intel's business, a preference to locate production facilities near markets, and the increasing number of countries capable of meeting Intel's operating needs, considerable business reasons exist for locating a number of our wafer fabrication facilities in foreign locations. However, the $1 billion cost penalty serves as encouragement to do so even for those factories that may for good business reasons otherwise be preferably located in the U.S. In the semiconductor industry generally, most of the newest generation of factories are being built outside the U.S.; two-thirds of the new 300 millimeter wafer fabrication facilities under construction, being equipped, or in production are located in Asia, and if all types of plants (not only 300 millimeter) are considered, China leads with eighteen semiconductor plants.

What can be done through U.S. tax policy to address this serious competitive challenge? Potential solutions to close the gap include a corporate rate reduction, an investment tax credit (ITC), full expensing of a factory in year one (or expensing plus a write-off of an additional percentage above and beyond the facility's cost), or a combination of these

items. The solution could be broad-based or targeted (perhaps to capital-intensive industries, state-of-the-art technology, high growth potential, or some other criteria).

The U.S. statutory rate for corporations is clearly uncompetitive when compared with other nations, and a rate reduction would be helpful (depending upon its size). A recent comparison among OECD corporate income tax rates finds that the U.S. is tied for the highest federal rate among thirty OECD countries. A recent ad in the Harvard Business Review noted the favorable Irish 12.5% corporate tax rate, and its attractiveness to companies in the bio-tech and pharmaceutical sectors (specifically naming seven such world-class companies), so the relatively high rate in the U.S. and favorable rate in Ireland have been noted, and acted upon, by more than just the semiconductor industry. The responsiveness of the business community to tax rates can also be seen from the recent measure in the American Jobs Creation Act that provided a temporary reduced tax rate on foreign dividends brought into the U.S. for investment in productive activities, including capital facilities and research. It has been estimated that as much as $300 billion entered the U.S. economy during the reduced rate period. Intel's $6 billion of "homeland investment" dividends helped in our decision to invest over $3 billion in a new wafer fabrication facility in Arizona.

An investment tax credit would help reduce the cost of productive assets, through its partial offset of income tax liability. Full expensing could be another option. Semiconductor manufacturing equipment becomes outmoded quickly, and its current 5-year "accelerated" tax depreciation no longer reflects its current economic usefulness or even its 4-year financial book life. Expensing, however, would only produce a timing difference; it simply accelerates the depreciation of the equipment to an earlier year. In contrast, a rate reduction, ITC, or expensing of the equipment beyond its original cost would generate greater value, producing permanent differences impacting the effective tax rate and bottom-line.

Another important aspect of competitiveness and U.S. tax policy should also be noted. Once a wafer fabrication facility is located at a foreign site, it is highly likely that earnings in the foreign country will be invested in additional plant expansions overseas, rather than being invested in the U.S. If brought back to the U.S., after the U.S. 35% corporate income tax, only 65 cents of each dollar of earnings would be available to be invested here, while in contrast as much as a full dollar (or 87.5 cents in Ireland, for example) would remain for investment in a foreign location after local tax. Having more money left to invest in production facilities is a competitive advantage. Consequently, an initial decision to invest in a foreign location, prompted by the $1 billion cost penalty, will then further disadvantage the U.S. when earnings from the overseas location are also invested outside the U.S. The homeland investment provision of the American Jobs Creation, previously mentioned, addressed this detrimental aspect of our current tax system, but only as a temporary solution, not a sustaining one.

Research & development in the semiconductor business requires sustained and heavy commitments as well. In 2001 and 2002, during the sharpest downturn from a revenue standpoint in the history of the semiconductor industry, Intel nonetheless continued

investing virtually the same amount in R&D (around $4 billion) as in the immediately preceding years, in order to ensure that new products would be ready when the downturn ended. About 80% of Intel's R&D has typically been performed in the U.S. (over $4 billion dollars, for example, in 2004) – and the balance of our research is performed in design centers located around the world, including in Israel, Russia, China, and India.

Other countries greatly value research performed in their countries, and they offer very generous tax credits and incentives to attract research. U.S. research and U. S. competitiveness are inextricably linked, as the President noted in his State of the Union competitiveness initiative. The U.S. should be encouraging as much U.S. private sector research as possible, as well as increasing government funding of basic research.
A Tax Credit for increased U.S. research was first enacted in 1981, but, despite its long history, the Credit thereafter has been subject to only limited extensions. The Credit also suffered a year-long gap in its history. Most recently, the Credit once again expired at the end of last year and is now awaiting another extension (but, as proposed, only for yet another limited period). A permanent Credit is long overdue. A recent Congressional Research Service study identified inadequacies in the Credit, and specifically noted its lack of permanence as a key detriment. The expiration of the Credit, the possibility of another gap, and repetitive short-term extensions dilute its potential impact. Research planning demands a long-term view, and project planning through implementation frequently spans several years. In addition, in order to maximize the Credit's impact, it should be made more effective by its extension to as many companies as possible performing U.S. research; to do so, the Credit must contemplate more varied factual circumstances, and pending proposals to further enhance the Credit to extend its reach also merit enactment.

I appreciate this opportunity to share Intel's views on tax policy and tax reform, specifically from the perspective of a business decision-maker, and with a focus on U.S. competitiveness. I welcome any questions you may have.