



AdvaMed's Tax Reform Principles

Overview

There is broad bipartisan agreement that comprehensive corporate tax reform is essential to improve America's competitiveness and rebuild our nation's economic future. AdvaMed has developed a set of broad principles for tax reform that, if adopted, will make a significant contribution to maintaining our nation's world leadership in the medical technology industry. In this century of the life sciences, medical technology has an exceptionally bright future as a source of jobs and sustained economic growth. The open question, however, is whether this future will continue to be made in America.

While the principles described in this report were designed by AdvaMed based on the needs of the medical technology industry, we believe they are broadly applicable to all knowledge-based manufacturing industries—a key part of the high value-added tradable sector, which is essential to America's future as a prosperous country where wages are high and prosperity is broadly shared.¹

Tax policy is certainly not the only factor driving American competitiveness—but it is a key factor.² As comprehensive tax reform has moved to the forefront of public policy issues and because we believe that medical technology has an important perspective to add—not only for our industry but more broadly—we feel it is important to participate fully in the tax reform discussions currently ongoing. The principles described in this paper provide a broad conceptual base for the active role we expect to play.

The Economic Potential of Medical Technology

The medical technology industry is composed of companies that develop and manufacture medical devices and diagnostics. These products are diverse, running the gamut from tongue depressors to the most complicated molecular diagnostic tests and cardiac implants. They are an essential part of modern medical practice, and development of new medical technology has been one of the main engines of medical progress.

Small firms are a key part of the medical technology industry. A 2007 study by the U.S. International Trade Commission (USITC) found a total of 7,000 medical technology firms in the U.S.³ The U.S. Department of Commerce estimated that 62% of medical

technology firms had fewer than 20 employees and only 2% had more than 500.⁴ Even large companies in the medical technology space tend to be smaller than large companies in many other sectors. There are only four pure device and diagnostic companies in the Fortune 500 and none in the Fortune 100.

These small firms, often funded by venture capital, are particularly critical to the future of U.S. scientific and technology leadership because they are the source of a disproportionate number of the breakthrough technologies that drive medical practice and industry growth.⁵

Whether created by large or small firms, medical technologies are characterized by a very rapid innovation cycle. The typical medical device is replaced by an improved version every 18-24 months.

To fuel innovation, the medical device industry is highly research intensive. U.S. medical technology firms spend over twice the U.S. average on R&D. High technology medical device companies devote upward of 20% of revenue to R&D.⁶

In part because of this rapid innovation cycle, the medical technology industry is highly competitive. A study of medical device prices from 1989 to 2009 found that they increased, on average, only one-fifth as fast as other medical prices and less than one-half as fast as the regular CPI. Because the highly competitive market kept prices low, medical devices and diagnostics accounted for a relatively constant 6% of national health expenditures throughout the 20-year period despite a flood of new products that profoundly changed medical practice.⁷

The U.S. medical technology industry is a very dynamic part of the U.S. economy and a source of economic growth and good jobs. The future opportunities for growth are immense.

The industry employs more than 420,000 people in the U.S. It generates an additional four jobs in suppliers, component manufacturers, and other companies providing services to the industry and its employees, for every direct job—for a total of more than two million jobs nationwide.⁸

The jobs the medical technology industry provides are good jobs. The average medical technology worker enjoys wages that are almost 40% higher than average pay for the economy as a whole and 22% higher even than the average for manufacturing wages.⁹

While employment in other manufacturing industries has been declining, the medical technology industry has been expanding. Between 2005 and 2007, medical technology employment grew 20.4%, adding 73,000 jobs.¹⁰ During the recession, between 2007

and 2008, MedTech employment dropped 1.1%, compared to 4.4% for manufacturing as a whole.¹¹

The medical technology industry is also a strong source of exports and is almost alone among manufacturing industries in consistently maintaining a favorable balance of trade. Exports in 2010 totaled \$36 billion.¹²

The future opportunities for industry growth are great. Worldwide markets for medical technology will expand dramatically as populations age in countries around the globe. In the U.S. alone, the elderly population will increase by 32 million over the next two decades—a jump of 80%.¹³ Worldwide, the elderly population will reach 1.2 billion by 2025—and growth of the elderly in that year will be 3.5 times as fast as the population as a whole.¹⁴

The exponential growth in middle-class populations in countries like China, India and Brazil demanding world class medical care is another extraordinary opportunity. China's middle class alone is projected to exceed the entire U.S. population by 2015, and India's middle class could reach 600 million by 2025.

Finally, in this century of the life sciences, technological advances fueled by fundamental advances in knowledge of human biology and continued progress in computing, communications, materials science, physics and engineering can be expected to fuel creation of new and better medical technology products. The potential for economic gains is as great as those attributable to the advances in the physical sciences in the previous century that fueled the development of the airplane, the computer, and the cell phone.¹⁵

The Competitive Challenge and the Role of America's Corporate Tax Structure

While the medical technology industry in America is still the clear world leader, its competitive position is slipping, and its leadership is increasingly challenged by other countries adopting targeted policies to support home-grown competitors and attract multinational companies. A survey of medical technology companies found that most expected to grow employment both inside and outside the U.S., but growth was expected to be much faster in both percentage and absolute terms abroad.¹⁶ A recent study by PricewaterhouseCoopers (PwC) found that the U.S. still leads on five key dimensions of medical technology innovation, but our lead is slipping on every dimension. As they state, "The innovation ecosystem for medical device technology, long centered in the United States, is moving offshore."¹⁷ While the U.S. has maintained a favorable balance of trade, the surplus of exports over imports has been narrowing both in absolute terms and relative to the size of the export-import sector. In 1998, imports and exports together totaled \$24.6 billion and the trade surplus was \$6.6

billion—more than one-quarter of total trade. By 2010, total trade had almost tripled—to \$70 billion, but the trade surplus had shrunk by more than two-thirds—to \$2 billion, and the surplus was only 3% of total trade.¹⁸

The problems small and start-up companies face in the medical device sector in attracting needed capital are especially acute right now. A recent survey by the National Venture Capital Association found that 40% of respondents had decreased their investment in medical devices over the past three years, while only 22% had increased their investment, and continued declines in investment were projected over the next three years. Perhaps most troubling for the future of the industry, is that the decreases were disproportionately concentrated in early-stage start-up companies and that investors are increasingly moving the focus of investment to Europe and Asia.¹⁹ The latest statistics reinforce the strength of this negative trend – in 2012, venture capital investments in the Medical Device industry fell by 13% in dollars and 15% in deals – with a total of \$2.4 billion going into 313 deals. Much of the decline occurred in first-time financings, where medical devices saw the lowest number of deals since 1995.²⁰ Overall, the availability of venture capital in competitor countries is growing dramatically. China now represents the second-largest pool of venture capital, followed by Brazil.²¹ Other countries utilize a number of mechanisms to assure the availability of capital to start-up companies in high-tech sectors.

America's corporate tax structure is a key factor contributing to the decline of the competitiveness of the American medical technology industry. It was designed for a world in which America was economically unchallenged—not for a one of globalized flows of investment, knowledge and production. It was conceived in a world in which our major competitors had not adapted their tax systems to compete for the high value-added industries that are key to international competition. And while the corporate tax structure is riddled with special preferences tailored to the desires of various economic interests, it lacks the kind of strategic, targeted policies necessary to support a truly competitive and healthy economy in a globalized world system.

There are a number of aspects of the U.S. corporate tax code that make it more difficult for America to retain its world leadership in medical technology and other high value-added manufacturing industries and are a powerful deterrent to expanding employment in the United States rather than abroad.

- General corporate tax rates are high and uncompetitive. The statutory tax rate for the U.S. is 56% higher than the non-U.S. OECD average. Indeed, the U.S. now has the second-highest corporate tax rate among all OECD countries, exceeded only by Japan.²² For manufacturing industries in particular, there is a similar wide disparity in effective tax rates. For a typical small or medium-sized

manufacturing business, the effective tax rate in the U.S. is 25.9%, higher than 31 out of 34 Organization for Economic Cooperation and Development countries and 58% higher than the non-U.S. OECD average of 16.4%.²³

- The United States is an outlier among competitor nations in retaining a tax system that taxes worldwide income of U.S. corporations rather than adopting a territorial tax system that taxes only income earned from domestic activities.²⁴ Under the U.S. system, income earned abroad by foreign subsidiaries is subject to taxation (offset by taxes paid to the foreign tax authority) but the taxes are deferred unless and until the income earned is brought back to the United States to be invested or paid out in dividends. This system provides a double blow to U.S. competitiveness. First, it encourages profits earned abroad to be invested abroad rather than in the U.S. Second, a U.S. based multinational firm that wants to invest in the U.S. sometimes is forced to borrow money to make the investment—potentially raising the cost of the investment—rather than using profits earned abroad to generate economic activity at home.
- The U.S. has failed to match competitor nations in positive tax incentives to attract knowledge-based, high-value manufacturing industries like medical technology. These incentives have the effect of lowering the effective corporate tax rate abroad for such industries far below the (already more competitive) general tax rate.
 - R&D. The U.S. was the first country to establish an R&D tax credit, but 23 countries now offer more generous tax incentives for R&D than we do.²⁵ Our reliance on temporary extensions of the credit means that it does little to stimulate investment, since it cannot be relied on for planning purposes. The credit does not cover building R&D facilities or purchase of equipment for those facilities, even though the decision to locate an R&D facility in a particular country certainly stimulates further R&D investment to make use of the facility.
 - Innovation box. Nine countries, including China, have introduced or plan to introduce a tax benefit referred to as a “patent box” or “innovation box.”²⁶ Many more are considering establishing one. While the exact features of these programs vary, they essentially provide for a much lower corporate tax rate for activities based on intellectual property.
 - Additional tailored incentives. In addition to general tax incentives, other countries provide targeted incentives for projects that offer jobs and economic growth, especially projects in high value-added industries. These incentives include waiving or reducing taxes on the project, providing direct subsidies in the form of below interest loans or grants, or making land and infrastructure available as needed. Emerging growth markets like China, India, and Brazil have been especially aggressive at

offering special tax concessions or other incentives for individual projects or groups of projects.

- The U.S tax code provides few incentives to invest in pre-profit start-up companies.
- The medical device excise tax enacted in 2010 and that went into effect January 1, 2013 places a special and heavy competitive burden on the medical technology industry. Based on estimates by the Joint Committee on Taxation, the medical device industry will have a medical device excise tax liability of roughly \$2.5 billion in tax year 2013, alone. This equals an increase of approximately 29% in the industry's current federal income tax liability.²⁷ While the incidence of an excise tax is always difficult to estimate, the high level of price competitiveness in the industry suggests that much of the cost will be borne by manufacturers, and a number have already begun to streamline their operations in order to offset the expected tax burden. In many cases, the operational efficiencies are achieved by reducing the work force and reducing R&D expenditures. As noted above, the additional cost of the tax will raise the overall tax burden for this industry by almost one-third—to a level that would surely be one of the highest experienced by any American manufacturing sector and make the American tax rate even more uncompetitive with foreign nations.
- **The much higher effective rates paid by medical technology companies for activities located and taxed in the United States versus activities located and taxed abroad are a major disincentive to industry job and economic growth in the United States. Data from AdvaMed member companies showed that the average effective tax rate on activities located in the United States was 31% compared to 14% for activities located and taxed abroad.²⁸ When the 29% increase in Federal tax liability provided by the medical device excise tax and state and local income taxes are included, the average rate soars to 44%.**

In a recent survey of member companies, respondents were asked, “Based on your own company’s experience, does a more favorable tax system or direct subsidies provided by foreign governments play a role in the decision to locate manufacturing activities abroad rather than in the U.S.?” **Sixty-three percent of the respondents identified these factors as playing a major role, and 100% said it played a major role or some role.**²⁹

AdvaMed’s Tax Reform Principles

In response to the need to maintain American leadership in medical technology, AdvaMed has developed a broad set of principles for corporate tax reform. As noted

earlier in this paper, while these principles were developed specifically for our industry, we believe they are broadly applicable to knowledge-based manufacturing industries facing international competition.

Our principles state:

The goal of tax reform should be to support job creation, economic growth and competitiveness.

To achieve that objective:

- **Tax reform should provide a level playing field for medical device companies competing in world markets.**
- **Tax reform should encourage retention and expansion of jobs in the U.S. by providing tax incentives comparable to or better than our major competitor nations.**
- **Tax reform should provide incentives for the investment in research and development, which is key to the growth of the knowledge-based, high value-added industries on which America's economic future depends.**
- **Tax reform should encourage the availability of capital for small and start-up companies that play a vital role in inventing and developing innovative breakthrough products.**

Implications of AdvaMed's Tax Reform Principles

AdvaMed intends to engage fully in the tax reform debate and will be advocating both for specific proposals to support these principles and commenting on others that may arise affecting the industry. As a starting point, AdvaMed believes that the following policies should be part of tax reform:

- **The medical device excise tax should be repealed.** For the reasons noted above, the medical device tax is a serious drag on the industry and adds an additional heavy competitive disadvantage to an industry that is already struggling to retain world leadership.
- **The United States should adopt a territorial tax system consistent with tax regime of virtually every other advanced economy.** If this is not possible, the current system of deferral of taxes on foreign earnings should be retained. As discussed above, the lack of a territorial tax system inhibits investment and economic growth in the United States. Absent a territorial system, eliminating or significantly curtailing deferral would raise the effective tax rate of international companies competing in world markets very significantly.

- **The combined Federal and State corporate tax rate should be lowered to levels comparable to or lower than competitor nations.**
- **The R&D tax credit should be made permanent and provide research and development incentives comparable to or better than competitor nations.**
The U.S. needs to encourage research and development here in America, since R&D is so critical to industry leadership and growth.
- **The U.S. should institute an “innovation box” regime that provides a substantially reduced corporate tax rate for profits derived from intellectual property developed in the U.S. or used in manufacturing products in the U.S.** Since even a substantially lowered tax rate—to 26%, for example—would still leave a very large differential between the tax on economic activities conducted in the U.S. and those located abroad, targeted tax incentives are needed to create a level playing field for industries in the tradable sector—especially knowledge-based, high-value industries. If the U.S. is to create a future of economic growth and broad prosperity, it must be able to compete in these industries. An innovation box regime is one mechanism for leveling the playing field for the medical device industry and the much broader group of industries that fall in this category.

¹ Michael Spence and Sandrik Hlatshwayo, "the Evolving Structure of the American Economy and the Employment Challenge," Council on Foreign Relations, March, 2011. For the special importance of manufacturing in driving economic growth, see *The Competitiveness and Innovative Capacity of the United States*, prepared by the U.S. Department of Commerce in consultation with the National Economic Council, January, 2012.

² For AdvaMed's full agenda to maintain America's medical technology industry's preeminent world position, see the reports listed under "AdvaMed's Competitiveness Agenda," at www.advamed.org.

³ United States International Trade Commission, "Medical Devices and Equipment: Competitive Conditions Affecting U.S. Trade in Japan and Other Principal Foreign Markets," March, 2007.
<http://www.usitc.gov/publications/332/pub3909.pdf>

⁴ U.S. Department of Commerce, unpublished data, 2002.

⁵ Michaela Platzer, *Patient Capital: How Venture Capital Investment Drives Revolutionary Medical Innovation*, 2007.
<http://www.contentfirst.com/past/Patientcapital/NVCAPatientCapital.pdf>

⁶ USITC, "Medical Devices and Equipment: Competitive Conditions Affecting U.S. Trade in Japan and Other Principal Foreign Markets," March, 2007.
<http://www.usitc.gov/publications/332/pub3909.pdf>

⁷ Donahoe, Gerald and King, Guy. "Estimates of Medical Device Spending in the U.S." June, 2011. Available from www.advamed.org under the "Reports" section.

⁸ The Lewin Group, "State Economic Impact of the Medical Technology Industry," June 7, 2010 and February, 2007.
http://www.socalbio.org/studies/MTI_Lewin_2010.pdf

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ *Ibid.*

¹² ITC data web; The Manufacturing Institute, "The Facts about Modern Manufacturing," 2009, p. 18.
http://www.nist.gov/mep/upload/FINAL_NAM_REPORT_PAGES.pdf

¹³ U.S. Administration on Aging, Department of Health and Human Services.
<http://www.un.org/esa/population/publications/worldageing19502050/>

¹⁴ Population Division, Department of Economic and Social Affairs, "World Population Aging," 2002,
http://www.aoa.gov/aoaroot/aging_statistics/future_growth/future_growth.aspx

¹⁵ See Dr Lawrence Summers, "America Must Not Surrender Its Lead in the Life Sciences," January 28, 2007.
<http://www.commerce.gov/sites/default/files/documents/2011/july/competitivenessagendabackgrounder.pdf>

¹⁶ Internal AdvaMed survey of member companies.

¹⁷ PricewaterhouseCoopers, "Medical Technology Innovation Scorecard: The Race for Global Leadership," January, 2011. And see, more generally, the AdvaMed competitiveness studies cited in footnote #2.
http://www.pwc.com/es_MX/mx/publicaciones/archivo/201106-medical_technology.pdf

¹⁸ U.S. International Trade Commission Dataweb.

¹⁹ National Venture Capital Association, "MediC vital signs report," October, 2011.

²⁰ Pricewaterhouse Coopers and NVCA, "MoneyTree Report," January 2013.

²¹ Pricewaterhouse Coopers, op. cit.

²² The U.S. rate is 39.2% compared to 24.3% for other OECD countries (figures include subnational corporate income taxes). OECD Tax Database and PWC Worldwide Tax Summaries, at <http://www.pwc.com/gx/en/worldwide-tax-summaries/index.jhtml>. Japan recently passed legislation reducing its corporate tax rate. Implementation of the legislation was deferred because of the impact of the tsunami, but when it goes into effect, the U.S. rate will be the highest in the OECD

²³ World Bank Group and PwC, "Paying Taxes 2011: the Global Picture," November 18, 2010.
<http://doingbusiness.org/data/exploretopics/paying-taxes>. The cited rates are for small manufacturers generally and are not necessarily reflective of the actual rates for medical technology companies, many of whom pay higher effective rates. The general point of very large, noncompetitive disparities between U.S. and foreign effective tax rates apply to all manufacturing industries.

²⁴ PwC analysis. Twenty-six out of 34 OECD countries have a territorial tax system.
http://www.pwc.com/en_US/us/washington-national-tax/assets/tax-policy-deficit-driven-world-tax-leg-outlook.pdf

²⁵ OECD Science, Technology and Industry Scoreboard, 2009.

<http://www.oecd.org/dataoecd/63/32/48712591.pdf>

²⁶ Robert C. Atkinson and Scott Andes, "Patent Boxes: Innovation in Tax Policy and Tax Policy for Innovation," Information Technology and Innovation Foundation, October 2011.

<http://www.itif.org/files/2011-patent-box.pdf>

²⁷ Ernst and Young, "Effect of the Medical Device Tax on the Federal Tax Liability of the Medical Device Industry," November 2012.

²⁸ Effective tax rates included combined national and subnational corporate income taxes. For the U.S., the average effective Federal tax was 31.5% and the state and local tax was 3.6%. Data came from companies participating in AdvaMed's tax reform working group. While the data was not designed as a random company sample, the companies providing data were representative of multinational medical technology companies, including large, medium size, and small firms. Interestingly, tax rates on U.S. and OUS activities were similar for U.S. and foreign-domiciled companies.

²⁹ Ibid.