PRELIMINARY DRAFT – DO NOT CITE

Taxing Manufacturers: Issues, Opportunities, and Barriers

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Workshop on U.S. Manufacturing and Public Policy: Road Map for the Future
Session: *Challenges to Manufacturing in the U.S.: Tax and Regulatory Reform*

Donald Bruce, Ph.D.
The University of Tennessee, Knoxville
dbruce@utk.edu

Tami Gurley-Calvez, Ph.D.
The University of Kansas Medical Center
tgurley-calvez@kumc.edu

Matthew Murray, Ph.D.
The University of Tennessee, Knoxville
mmurray1@utk.edu

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I. Introduction

Corporate tax reform has been actively percolating at the national level in the U.S. in recent years. Most of the widely-discussed reform proposals include a lower corporate tax rate, more stable or even permanent support for research and development activity and/or capital investment, and a more competitive treatment of multinational businesses that is closer to a territorial system than our current worldwide system. Despite an emerging consensus regarding the well-known problems facing our tax system as well as possible solutions, forward progress has been elusive for a variety of reasons.

The gridlock on tax reform is costly to all American businesses, but it is especially costly to manufacturers. Too many of our tax policies are temporary and ever-changing, requiring annual discussion before eventual renewal. The end result is a climate of uncertainty in which businesses are unable to confidently make long-term investment and hiring plans. The uncertainty of business tax policy can cause businesses to put off or cancel investment or employment activities, or to move them to lower-tax environments.[1] It can also negatively impact the rate of return on previous investments. While the prevailing uncertainty and frequent renewal of key tax policies creates opportunities for profit-maximizing tax avoidance behavior among American businesses, it also creates an environment in which tax rules dictate or heavily influence business decisions.

In this report, we first discuss the major problems with the current business tax landscape, as well as the potential solutions. We then consider the opportunities presented by business tax reform, focusing on a summary of our previous research on the potential economic benefits of a pro-business tax reform package along the lines of that supported by the National Association of Manufacturers (Bruce, Gurley-Calvez, and Murray, 2015). Finally, we discuss what we see as two of the major barriers to meaningful progress on business tax reform: concerns regarding revenue neutrality and the distributional impacts of tax reform.

II. Problems with Current Business Tax System

Corporate Tax Rates are Too High

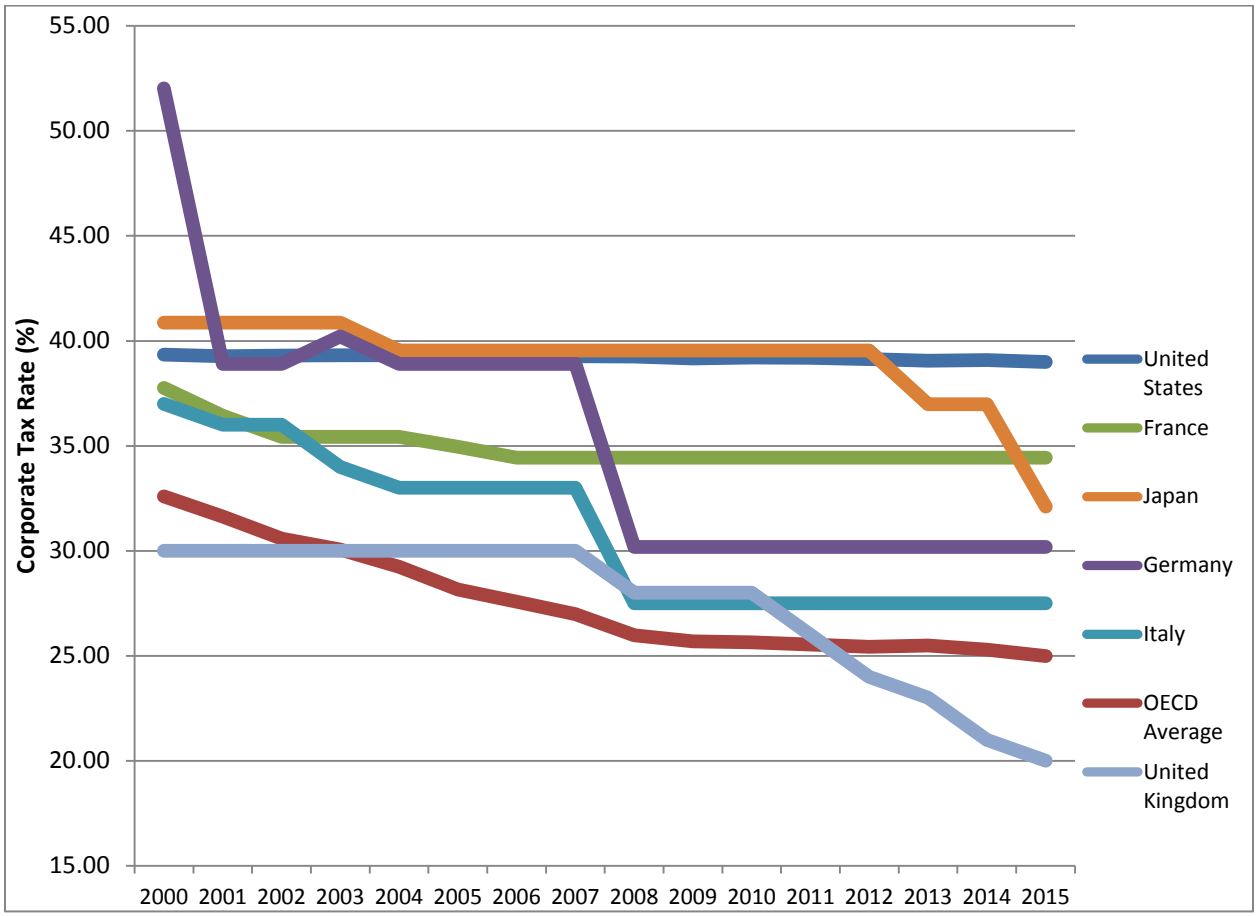
It is no secret that the maximum federal tax rate on corporate income in the U.S. is very high, at 35 percent. This rate has remained relatively constant in recent years while corporate tax rates in most other developed countries have fallen significantly. Figure 1 shows the maximum combined (national plus sub-national) corporate income tax rates for the G7 countries along with the OECD average for 2000 to 2015.[2] While these maximum rates are not necessarily the

[1] See, for example, Domeij and Klein (2005) and Judd (1987).

[2] The G7 countries are listed on Figure 1, and the OECD includes those seven plus an additional 27 countries as listed at http://www.oecd.org/about/membersandpartners/list-oecd-member-countries.htm.

rates faced by many multinational businesses, they are useful indicators of the prevailing tax climate and can serve as signals to potential entrants. The recent trends are immediately apparent: while the maximum rate in the U.S. has remained very stable at around 39 percent and is now the highest in the OECD, those in every other G7 country (along with the average among the 34 OECD countries) have trended downward in recent years.

Figure 1: Maximum Corporate Income Tax Rates, G7 and OECD Average, 2000-2015



Source: OECD Tax Database at stats.oecd.org.

While some might argue that the presence of alternative taxes such as Value Added Taxes has allowed other countries to reduce their statutory tax rates on businesses, it is important to note that American businesses are subject to an array of sales and property taxes at the state and local levels in addition to the more prominent taxes on business income. By just about any measure, American businesses face higher rates of tax than those in other countries. Additionally, other countries' use of a rebatable VAT on tradeable goods as a method of subsidizing certain goods-producing industries can create a competitive disadvantage for U.S. manufacturers.

The relatively high U.S. corporate income tax rate has generated expected responses. For example, some businesses have moved employment and capital investment to lower-tax nations and have retained earnings in these same places (OECD, February 2013). In addition, more and more American businesses have organized as partnerships, proprietorships, and other "pass-through" entities that are taxed within the individual income tax system (Keightley and Sherlock, 2014). When those types of responses are not possible or already maximized, the high tax rates simply result in less economic activity than would otherwise take place.[3]

Discussions of business income tax rates are complicated by the fact that most American businesses, and about two-thirds of manufacturers, are organized as pass-through entities and pay taxes through the individual tax system, so business tax reform must not be limited to C corporations alone.[4] According to the IRS Statistics of Income's Integrated Business Data, non-corporate entities accounted for more than one third of net business income and 82 percent of business returns in 2012. About 72 percent of business returns are nonfarm sole proprietorships, almost 13 percent file as S corporations, and just over 10 percent file as partnerships.[5] Expanding the reach of business tax reform to pass-throughs ensures fairness across business types, removes tax distortions of legal business form, ensures that the cost of reform is not borne by one portion of the business tax base, and potentially reduces incentives to engage in other forms of unproductive tax planning.

The obvious solution to this first problem with the current business tax system is to lower the maximum rates on business income for both corporate and non-corporate pass-through entities. This would increase efficiency by reducing distortions to business activity that are created by the current high rates, and enhance the competitiveness of U.S. firms in the increasingly multinational business environment. Notable barriers to progress on marginal tax rates, which are discussed in greater detail below, include concerns about the impacts of business tax rate reductions on overall revenue as well as the distribution of that revenue across income groups.

Cost-of-Capital Issues

Beyond the issue of high tax rates, the U.S. corporate income tax (and to a certain extent, the parallel individual income tax that applies to pass-throughs) is a complex amalgam of deductions, credits, and other features, many of which are temporary in nature and make planning very difficult. One classic example is the U.S. capital cost recovery system. While the Modified Accelerated Cost Recovery system (MACRS) provides important benefits in the form of accelerated depreciation allowances, it can result in the non-uniform treatment of business investments and it is costly in terms of administration and compliance. In recent years, policy makers have used the depreciation system for short-term stimulus, with provisions for so-called

[3] McBride (2012) provides an exhaustive survey of the recent literature on taxes and economic growth.
[4] Two-thirds of manufacturing corporations and partnerships are pass-through entities. If one were to include sole proprietorships, the percentage would be greater.
[5] The IRS-SOI Integrated Business Data can be found at http://www.irs.gov/uac/SOI-Tax-Stats-Integrated-Business-Data.

bonus depreciation and enhanced limits for expensing. The overall system of depreciation has changed in numerous ways, primarily to further accelerate write-offs of capital investments. In contrast, most of the recent reform proposals would extend depreciable lives thus making capital investments less attractive than under the current MACRS. The primary motivation for this appears to be revenue neutrality rather than the pursuit of good policy.

It is important to recognize that tax policies aimed at the cost of capital can have important impacts on employment. Tax rules that increase or decrease the cost of capital impact business-level decisions about the appropriate amount of capital and labor to employ in the production process. Further, these impacts can vary widely across sectors given the industry-specific extent to which capital and labor are fixed versus variable. An ideal tax system would create the fewest distortions to business decisions about capital and labor, except to promote the types of activities that generate positive spillovers (e.g., research and development).

Full expensing would lower the cost of capital and improve cash flow, thus enabling businesses to pursue a larger number of profitable projects, and increase both investment and employment. It would also enhance fairness across sectors and types of capital, both domestically and internationally. The current system is not completely removed from such an approach, given the recent temporary policies allowing full or partial expensing (either through so-called "bonus depreciation" provisions or increases in Section 179 expensing allowances). Zwick and Mahon (2014) show that temporary bonus depreciation policies significantly increased business investment in the early and late 2000s.

The fact that most American businesses are non-corporate pass-through entities makes these issues relevant to the individual income tax system as well. Bruce, Deskins, and Gurley-Calvez (2010) highlight the complexity of (and frequent changes to) depreciation policy for Schedule C sole proprietorships. Although only one-third of Schedule C filers claimed a depreciation deduction, depreciation accounted for more than 20 percent of deductions among firms that claimed depreciation.

On a similar note, the U.S. business tax code has long recognized the importance of research and development/experimentation activity, but it has never contained a permanent tax credit for these expenditures. Businesses can deduct some R&D expenditures and the tax credit provides a complementary mechanism that enhances the capacity for cost recovery and improved cash flow. It is a widely-held view that business R&D is critical to economic progress and creates positive spillovers for other businesses and for society at large. As a result, some central support is reasonable to promote more R&D activity than would otherwise occur. Unfortunately, the temporary nature of the R&D tax credit makes it very difficult for businesses to plan accordingly and likely results in a suboptimal level of R&D activity. The R&D credit was introduced in 1981 but has expired and been renewed on 16 occasions, sometimes on a retroactive basis.

R&D activity is essential to a competitive manufacturing sector and plays an important role in a healthy economy. A permanent and enhanced tax credit would further encourage investments

that support productivity gains and higher earnings for workers. A strong commitment to public support for business R&D activities would also promote international competitiveness and fairness.

Taken together, both full expensing for capital investment and permanent R&D support would enhance the competitive position of U.S. firms—especially manufacturing firms—while also dramatically simplifying the tax code and providing much-needed stability to the system. Obvious barriers are public perceptions about expensing and R&D incentives as giveaways to wealthy corporation owners and lack of appreciation for the spillover benefits of greater R&D spending. We return to this discussion below.

Treatment of Income Earned by Multinationals

Another well-known problem with our current system of business taxation is the fact that the U.S. is one of a very small number of countries that still uses a worldwide tax system, in which businesses are taxed on all of their income regardless of where it is earned. Foreign source income is not taxed until it is repatriated to the U.S., and credits are available for foreign taxes paid. A result of the U.S. worldwide system is that a large amount of foreign-source income is effectively sitting in foreign accounts with little chance of ever being repatriated back to the U.S.. A recent estimate places this in the neighborhood of $2 trillion (Drabkin, Serwin, and Tyson, 2013).

Most of our major trading partners have adopted territorial systems in which taxes are levied only on the income that is earned within a country's borders and foreign source income is either completely or largely exempted. Figure 2 shows the recent trend in countries moving to territorial tax systems. In 2000, only 13 of the 34 OECD countries had territorial systems. That number has more than doubled as of 2014, with an additional 15 countries adopting territorial structures. Only six of the 34 OECD countries (and none of the other G7 countries) have a worldwide system as of 2015: Chile, Ireland, Israel, Korea, Mexico, and the U.S.

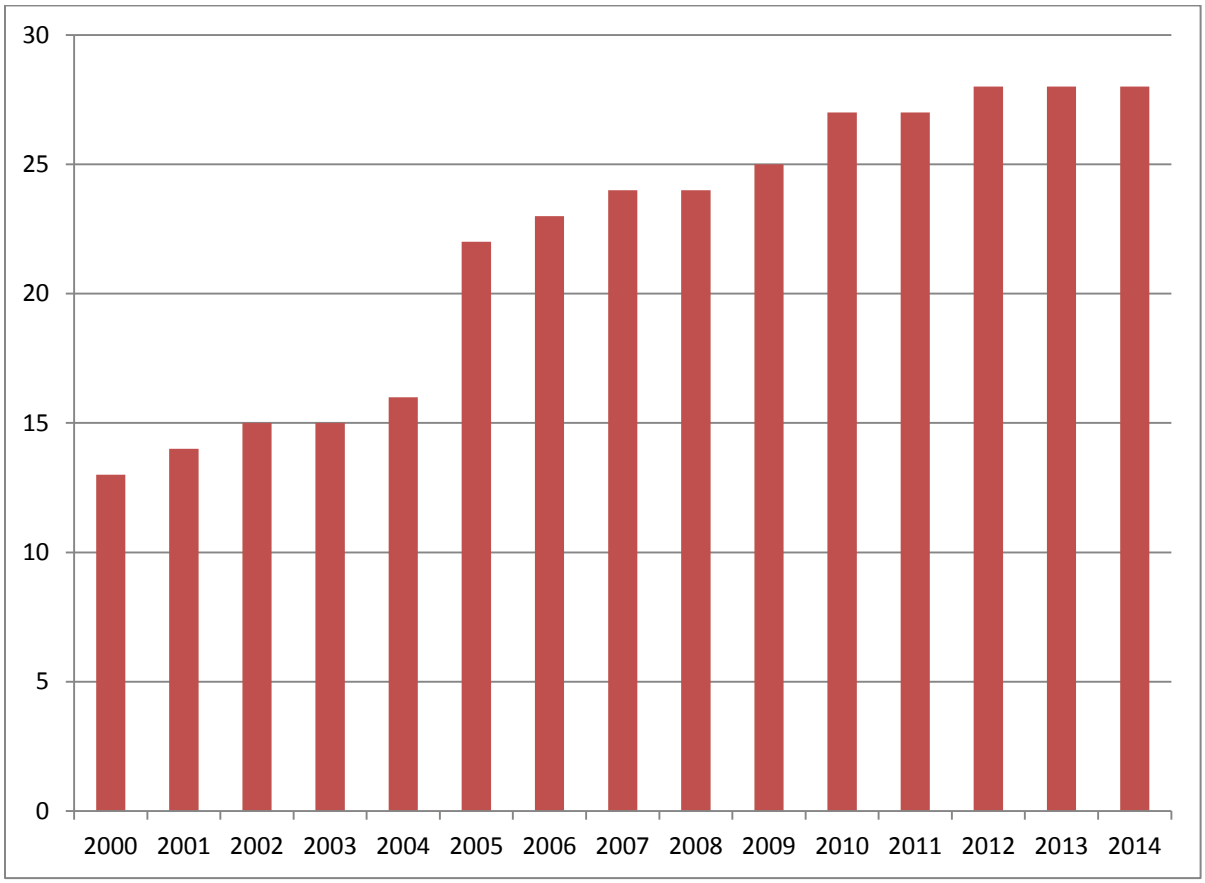
The system is further complicated by a short-term repatriation holiday enacted in 2004, during which companies could repatriate earnings to the U.S. at a much lower tax rate. IRS data reveal a significant degree of repatriation in response to the 2004 holiday (Redmiles, 2008). Since policy makers have shown they are willing to experiment with such holidays in order to receive at least some tax revenue from foreign source earnings, multinationals have even less incentive to repatriate existing balances without similar favorable treatment. Many businesses will simply await another holiday or fundamental reform that encourages broader repatriation.

While a transition to a territorial system would enhance competitiveness, it would not come without challenges, many of which are widely recognized.[6] The problems are not insurmountable with careful attention to the very important transition issues. As we discuss in greater detail below, a transition tax on previously-accumulated active foreign-source earnings,

[6] See Gravelle (2012) for a thorough and useful discussion.

along with a simultaneous reduction in the maximum tax rate on corporate income, would go a long way toward countering many of the perceived shortcomings of a territorial system for the U.S..

Figure 2: Number of OECD Countries with Territorial Tax Systems, 2000-2014



Source: PwC and the OECD Tax Database as reported in "Evolution of Territorial Tax Systems in the OECD," PwC, Prepared for the Technology Council, available at:
http://www.techceocouncil.org/clientuploads/reports/Report%20on%20Territorial%20Tax%20Systems_20130402b.pdf.

III. Potential Economic Benefits of Pro-Growth Business Tax Reform

We recently prepared an analysis of the literature on the economic impacts of business tax reform for the National Association of Manufacturers, focusing specifically on GDP, investment, and employment (Bruce, Gurley-Calvez, and Murray, 2015). In this section, we summarize that work after laying out the five-prong NAM plan for pro-business tax reform. We note in advance that our intent in the earlier report was to illustrate the overall impact of such a tax reform plan rather than advocate for any specific element of the NAM platform.

The five components of the NAM plan for business tax reform are as follows:

1. A maximum corporate tax rate of 25 percent (or lower);
2. An international tax system that is closer to a territorial system than the current hybrid worldwide system (along with a one-time transition tax on previously-accumulated active foreign source earnings);
3. A robust cost recovery system (while the NAM policy agenda does not specify a specific plan, our analysis was based on full expensing of all capital equipment purchases);
4. A permanent policy toward research and development (the NAM plan calls for a strengthened and permanent R&D tax credit of 20 percent as opposed to the current 14 percent); and
5. Parallel changes for non-corporate pass-through businesses (a lower tax rate on pass-through income, full expensing for capital equipment, and permanent and enhanced R&D provisions).

While this platform is admittedly aggressive, it is not unlike that recently enacted in the United Kingdom. It also comprises elements included in many of the more widely-discussed recent proposals. In this section, we summarize our prior research on the economic impacts of such a pro-business tax reform package. Additional details for each component can be found in the Appendix.

Taken together, we estimate that the pro-business NAM tax plan would add almost one percentage point (about 0.9) to GDP growth on an annual basis.[7] The cumulative ten-year impact between 2015 and 2024 would be an increase in GDP of just over $12 trillion relative to the August 2014 baseline projections from the Congressional Budget Office (2014).[8] About 42 percent of this impact would be the result of the lower tax rates on corporate and non-corporate pass-through income. A higher share—about 58 percent—of the combined effect would be attributable to the expensing and R&D provisions.

Our analysis also suggests that the business tax reform plan would add nearly 1.5 percentage points to investment growth on an annual basis. This would amount to a cumulative increase of just over $3.3 trillion between 2015 and 2024.[9] Most—about four-fifths—of the combined impact is the result of full expensing, with the corporate and individual tax rate reductions contributing about ten and three percent, respectively. The R&D incentive contributes most of the remainder.

[7] The initial-year impact would be slightly greater as a result of the territorial system transition tax.

[8] It is difficult to project impacts on real (inflation-adjusted) GDP because pro-business tax reform would be expected to affect prices. A projection of a more appropriate GDP deflator series is beyond the scope of this project. Using the CBO (2014) GDP deflator, the cumulative real GDP impact between 2015 and 2024 would be about $10.7 trillion in 2015 dollars.

[9] Again, the territorial system transition tax would add a modest amount in the first year. Using the CBO (2014) GDP deflator series, the cumulative impact on real investment would be nearly $3 trillion.

Finally, we conclude that the pro-business plan would add between 492,000 and 522,000 jobs per year, or over 6.5 million jobs over ten years.[10] About 31 percent of the combined ongoing employment impact arises from the corporate tax rate reduction, and a similar share results from the shift to a territorial system. The expensing and individual tax rate reductions contribute about 15 percent each, with the remainder from the R&D incentives.

Two caveats are in order. First, these estimates do not account for any possible monetary response from the Federal Reserve. It is not clear whether the Fed would respond to the enactment of pro-growth tax reform, but an analysis of a likely response was beyond the scope of our earlier analysis. Second, the analysis does not consider the extent to which the simultaneous enactment of these five major policy changes in the NAM plan would generate impacts that are smaller than the individual estimates in the literature.[11] It is not clear whether the effects of reduced tax rates on corporate and pass-through income are larger or smaller than would be anticipated in the context of broader reforms. With all of this in hand, we view the combined estimates as reasonable, and are confident that any adjustments to account for policy simultaneity would not substantially reduce them.

IV. Major Barriers to Corporate Tax Reform

With growing consensus on the problems with our business tax system and their solutions, along with the sizeable potential economic gains from reform, it is a worthwhile exercise to consider the remaining barriers to meaningful progress. We focus our discussion here on matters of revenue impact and the distribution of the tax burden.

Revenue Neutrality

The prevailing tax policy climate in the U.S. is such that anything resembling a tax increase is effectively dead on arrival. The practical outgrowth of this is the notion that any tax reform proposal must be revenue-neutral if is to have any chance of passage. This constraint on the policy discussion is unfortunate. Concerns over short-term and longer-term revenue adequacy are indeed quite important, but we must not lose sight of the other prominent goals of tax reform such as efficiency, fairness, and simplicity. It is also worth noting that the insistence of revenue neutrality for major tax reform proposals is not at all consistent with our annual approach to government operations as evidenced by perennial budget deficits and a growing national debt.

[10] The initial-year impact is higher by 1.46 million jobs due to the Drabkin, Serwin, and Tyson (2013) estimates of the effect of the territorial system transition tax.

[11] On one hand, the Drabkin, Serwin, and Tyson (2013) estimates of the economic benefits from the shift to a territorial system are likely lower bounds given their assumption of a constant corporate tax rate. On the other hand, and by the same token, the estimates regarding expensing and R&D incentives are likely upper bounds.

To be sure, the revenue impact of a pro-business tax reform package would not necessarily be negative in the long term. A complete discussion of the relative merits of dynamic revenue scoring is not necessary in the context of this report. Suffice it to say that a pro-business tax reform package could potentially increase total tax revenues in the long term if we consider impacts on other tax revenue streams in a full-budget analysis.

On that note, it is important to consider business tax reform within the context of a broader tax reform effort. Even if we desire revenue neutrality for the broader reform package, it is not necessary to impose revenue neutrality on every individual component. It is incumbent on policy makers who desire pro-business tax reform to emphasize this point within the context of more realistic and pragmatic revenue constraints.

Distributional Concerns

A similar barrier to business tax reform involves the incorrect public perception of business taxes as a tax on the relatively-wealthy owners of capital. Any effort to reduce business taxes—and especially corporate income taxes—is viewed as an injustice that further tips the income distribution in favor of the wealthy. Estimated distributional impacts have become prominent components of any tax reform debate in recent years, and have meant the death knell for more than one reasonable proposal.

It is important to emphasize that business taxes are ultimately borne by people at all points on the income distribution. They are born by workers through lower wages or employment opportunities, by consumers through higher prices on final goods and services, and by the owners of capital in the form of lower returns to investment. And the owners of capital are not necessarily high-wealth or even high-income individuals; they include the large number of individuals with corporate stocks in their retirement accounts. In essence, we all pay business income taxes in one way or another.

Despite a large volume of theoretical and empirical literature on the incidence of the corporate tax, consensus has proven elusive. Earlier analysis concluded that the owners of capital bear most of the burden of the corporate income tax, but more recent studies have indicated that workers bear more than half, and perhaps as much as 70 percent.[12] If workers bear any of the burden, pro-business tax reform that potentially reduces revenue can and should be viewed as pro-worker tax reform because it would increase employment and wages.

Alternatively, even if the owners of capital bear most of the burden of the corporate income tax, it is important to recognize that many workers are owners of capital to the extent that they hold corporate stock directly or as part of their retirement savings. As such, workers could enjoy a separate longer-term benefit from a reduction in the tax rate due to the resulting increases in the values of their retirement accounts.

[12] For a critical evaluation of the theoretical and empirical literature on the incidence of corporate income taxes, see Gravelle (2010 and 2011).

It will be important for proponents of business tax reform to untangle and emphasize the complexity of the true distribution of the broader tax burden (or the benefits of tax reform). The research suggests that a reduction in business income taxes could generate benefits for the broader population in the form of higher wages or employment opportunities for workers, lower prices for consumers, and increased returns to savings for anyone holding corporate stock in their portfolios. Business owners would do well to come forward with clear plans for how they might transfer some of the gains from tax reform to these broader constituencies.

These impacts will have important effects on the distribution of the overall tax burden that should not be ignored in the policy discussion. As with the revenue neutrality issues discussed above, we should also avoid placing excessive importance on the distributional consequences of individual elements of a broader tax reform package. The potential distribution of the costs and benefits of business tax reform should be examined in light of the total distribution of costs and benefits of the broader tax reform package.

V. Conclusions

A classic result from the tax theory literature is that higher rates of tax should be levied on less-mobile or less-distortable tax bases, such that the total distortion from the tax system is minimized. Decades ago, it might have been true that U.S. corporate capital was less mobile than other taxable bases. Advances in technology, transportation, and tax accounting have made corporate capital (and business capital more broadly) much more mobile, to the point that the decision to pay U.S. corporate income taxes has become almost voluntary. Indeed, economic activity can be relocated for tax purposes via accounting or legal actions even if production activities do not actually move physically.

It is perfectly legal and in the profit-maximizing interests of shareholders to minimize total tax payments by moving activity to lower-tax jurisdictions. This carries important costs for manufacturers who, partly in response to the changing global business tax environment, employer fewer and fewer American workers. A decision to move production off-shore is a decision to reduce or end the employment of Americans.

Most developed countries have recognized the unparalleled mobility of business capital and the shrinking revenue importance of corporate income taxes, and have begun to think of their business tax systems as more of an economic development tool than a revenue source. Our business tax system drives a wedge between the owners of mobile capital, who can more-easily escape U.S. tax burdens, and the owners of immobile capital, which remains within our borders either due to economic constraints or sheer patriotism. Owners of both types of business capital deserve a more pro-business tax system that is based on efficiency, fairness, and simplicity. The recent reforms in the U.K. follow this approach, embracing global competition by providing lower rates and a more permanent and stable policy environment without targeted preferential tax breaks. The U.S. would do well to learn from their experiences.

Appendix – Additional Details on the Economic Impacts of Pro-Business Tax Reform

Lower Corporate Tax Rates

An extensive array of empirical studies have explored the economic effects of changes in corporate tax rates over time and across countries.[13] Most studies find a negative relationship between tax rates and economic growth, but few have explored the possible impact of a large-scale reduction in the top corporate income tax rate along the lines considered here. A notable exception is a 2010 report from the Milken Institute (DeVol and Wong, *et al.* 2010) that uses an economic growth model to explore a number of tax changes similar to those considered here. Specifically, they simulate the impact of a 13-percentage-point reduction in the maximum corporate income tax rate, from 35 percent down to 22 percent (the average among OECD countries at the time), phased in over five years.

This tax rate reduction was estimated to increase annual real GDP growth initially by 0.3 percentage points during the first three years, 0.2 percentage points for the next four years, and 0.1 percentage points in the next two years. Growth in real gross private non-residential fixed investment was projected to exceed baseline growth by between 0.9 and 0.1 percentage points, with the impact steadily decreasing over time. Total nonfarm employment increased from a net addition of 90,000 jobs in the first year to a cumulative impact of over 2 million jobs relative to baseline growth by the tenth year. Stronger growth in the earlier years is presumably due to the slack in the economy in the aftermath of the Great Recession.

The time period for the Milken analysis (beginning just after the recent recession), the size of the tax rate reduction, and the phased-in nature of the change might lead us to view these impacts as too large. However, a more recent analysis by Gravelle (2014) yields similar impacts from a ten-percentage-point reduction in the maximum corporate tax rate that is not phased in. Applying a series of assumptions to general results from her earlier work (Gravelle and Smetters, 2006), Gravelle provides a set of estimates of the increase in output and wages that center on about 0.4 percent. Based on our review of these studies, we assume that a ten-percentage-point reduction in the maximum corporate income tax rate would increase annual GDP by 0.3 percent, investment by 0.15 percent, and total employment by 150,000 jobs.

Shift to a Territorial System

While much has been written about the merits and potential pitfalls of a territorial system of taxation for American multinationals, the issue has received relatively little attention in the form of serious modeling of the potential macroeconomic impact from such a change. The notable exception is a recent report from researchers at the Berkeley Research Group (Drabkin, Serwin, and Tyson, 2013). Based on their earlier firm-level analysis of the economic impacts of a temporary repatriation tax holiday, they estimate the impact of a shift from the current system to a stylized territorial system. Specifically, the authors assume a stylized territorial system

[13] See McBride (2012) for a recent overview.

along with a transition tax along the lines proposed in February 2013 by then-House Ways and Means Chairman Dave Camp (R-MI).

Drabkin, Serwin, and Tyson (2013) predict that such a stylized territorial system would result in about $114 billion per year in increased repatriated earnings. This would generate significant amounts of new economic activity in the form of increased investment and employment among affected firms, and increased consumption by the owners of capital. In total, a shift to a territorial system would generate annual flows of about $22 billion in GDP, about $11 billion in new investment, and about 154,000 new jobs. Just over 70 percent of this activity would be the direct result of new activity among affected businesses, and the remainder would be indirect effects fueled by the consumption activity of the owners of capital.[14]

The authors recognize that a shift to a territorial system would almost certainly be accompanied by a transition tax given the approximately $2 trillion in previously-accumulated active foreign source earnings that could otherwise go untaxed. Consequently, they explore the impacts of a transition tax mirroring that in the Tax Reform Act of 2014 as introduced by then-House Ways and Means Chairman Camp. They assume that about half of accumulated foreign earnings would be repatriated—about $1 trillion—and would generate a one-time increase in business investment of $99 billion, in GDP of $208 billion, and in employment of 1.46 million jobs.

Robust Capital Cost Recovery

Rapid cost recovery serves as an incentive to promote investment. Full expensing of all business costs and asset purchases would represent the most aggressive form of cost recovery and the strongest incentive for investment aside from direct subsidies. Expensing allows immediate cost recovery on input purchases and the acquisition of income-producing assets, thus enhancing business cash flow and removing distortions in the tax code by allowing businesses to recover costs as they are incurred. By enhancing business and worker productivity, expensing of investment costs may support job creation and earnings growth. Finally, by generally treating all capital purchases equally regardless of asset type or lifespan, expensing will result in lower administrative and compliance costs.

Elements of expensing and bonus depreciation have appeared prominently in the tax code, though the provisions have been subject to ongoing structural change and expiration/re-adoption, which creates significant uncertainty for investors. So-called ”bonus depreciation,” for example, stood at 30 percent in 2012 and 50 percent in 2013, well below the 100 percent bonus of 2010. On December 16, 2014, Congress extended bonus depreciation at 50 percent for the 2014 tax year. Expensing under Sec. 179 has provided small and medium businesses with the opportunity to immediately deduct costs associated with modest levels of capital

[14] It should be noted that the Drabkin, Serwin, and Tyson (2013) analysis holds the maximum corporate income tax rate at the current 35 percent level. With a simultaneous reduction in the top rate to 25 percent, the actual economic impacts would be larger.

acquisition. In 2013, there was a $500,000 limit and a $2 million phase-out threshold for Sec. 179 expensing. While the level of qualified investment dropped to $25,000 in 2014, the limit was increased back to $500,000 in December 2014, on a retroactive basis.

There is considerable evidence that provisions enhancing capital cost recovery lead to greater investment and, in some instances, stronger economic growth. Academic work by Zwick and Mahon (2014) summarizes the literature noting a "consensus prediction" that bonus depreciation has a small but positive effect on investment (p. 3).[15] House and Shapiro (2008) similarly find that bonus depreciation had large impacts on capital investment in 2002 and 2003. Part of this finding reflects the temporary nature of the provisions. Cohen and Cummins (2006), on the other hand, find less support for stimulative effects. While the range of estimates shows considerable variation, bonus depreciation does appear to have positive effects on business investment.

The JCT (July 3, 2014) evaluated a proposal that would create a permanent 50 percent bonus depreciation allowance. Because of the potential magnitude of this provision and its impact on investment and the economy, JCT took into account the possible intervention of the Federal Reserve to temper economic growth. The estimated effects of the larger allowance include a 0.1 to 0.2 percent increase in GDP, depending on the model and assumptions employed by JCT. The investment response was significant, ranging from increases of 0.4 to 0.9 percent. Employment effects however, were small, with a maximum estimate of 0.05 percent and a lower bound negative impact of 0.05 percent if the Federal Reserve responds aggressively to increased economic growth.

The JCT (May 2, 2014) also evaluated a proposal to permanently increase expensing under Sec. 179 from $25,000 to $500,000, with a $2 million phase-out and an indexing provision. While the JCT cited research showing the stimulative effect of such a provision, they concluded that the impacts were too small to capture with their models of the macroeconomy. The U.S. Department of the Treasury (2010) concluded that by extending expensing (via 100-percent bonus depreciation) through 2011, $50 billion in new investment would result. No estimates were provided on how this would affect the macro economy.

There is little empirical evidence on the consequences of a full expensing system. One exception is a study by the Tax Foundation (June, 2014) that evaluated several cost recovery proposals including a system of full expensing. Not surprisingly, the expensing system yielded the strongest effects on economic growth, much stronger than any of the other plans that were evaluated. The long-term impacts include a 5.13 percent increase in GDP, a 15.4 percent increase in the capital stock, and 885,300 jobs. These estimates are much larger than what would be implied by the existing literature. Gravelle (2014), for example, argues that complete

[15] Zwick and Mahon (2014) develop their own independent estimates by looking at the behavior of 120,000 corporate firms and conclude that bonus depreciation increased capital investment by 17.3 percent between 2001 and 2004, compared to 29.5 percent growth in the 2008 to 2010 window. A key finding is that firms seeing cash flow gains are the most likely to respond to bonus depreciation opportunities.

elimination of the corporate income tax would boost investment spending by only 0.7 percent. Moreover, the Tax Foundation estimates do not account for possible intervention by the Federal Reserve to slow the heated pace of economic growth.

With these estimates in hand, we assume impacts that lie between the JCT (July 3, 2014) estimates regarding permanent bonus depreciation—an admittedly less-aggressive policy change—and the Tax Foundation (June 2014) estimates. Specifically, we assume that full and permanent expensing would increase annual GDP by 0.35 percent, investment by 1.2 percent, and employment by 0.05 percent (or approximately 74,000 to 79,000 jobs per year).

Enhanced and Permanent R&D Incentives

Policies to promote private sector research have long been embedded in the tax code. Current tax policy allows for the immediate deduction of R&D expenditures and the temporary availability of tax credits to qualifying firms. Similarly, the R&D tax credit was introduced in 1981 to further incentivize research that can yield productivity spillovers to the economy. The R&D credit has several components, including the alternative simplified credit (ASC), which provides a 14 percent nonrefundable tax credit for qualified research expenditures (QREs) in excess of a base amount, with a one year carryback and 20 year carry forward.[16] By providing the credit for activity in excess of the base amount, the intent is to stimulate additional research spending beyond levels that would typically occur. QREs include, among other things, the wages and salaries of workers engaged in research activities. So while the ASC incentivizes research activity, it also directly supports job creation. Together the R&D expensing provision and tax credit give taxpayers greater flexibility in realizing cost recovery.

Studies have shown that U.S. tax policy toward R&D is less generous than in many other developed countries. For example, the OECD (October 2013) ranked the U.S. R&D tax policy 22nd in 2009. Business organizations, including the National Association of Manufacturers, the Information Technology and Innovation Foundation (ITIF, 2010), along with academics (e.g. Tyson and Linden, 2012) and the Obama administration have advocated a permanent and expanded credit ranging from 17 to 20 percent to foster additional research and to improve the U.S. position as a leader in global innovation. While the Camp plan proposed to make the R&D tax credit permanent, it also eroded the basic deduction for R&D expenditures through implementation of a five year amortization schedule. The JCT estimates that this provision alone would generate $192 billion in tax revenue. Weakening the R&D incentive would cause the U.S. position in the international community to diminish even further. On the other hand, maintenance of the deduction, coupled with an enhanced and permanent R&D tax credit would increase the incentive to conduct research that enhances productivity and economic growth.

[16] The current system actually includes several different credits in addition to the ASC. For background see U.S. Government Accountability Office (2009), which discusses policy changes that might enhance the effectiveness of federal R&D tax policy.

There is considerable empirical evidence showing that tax policy can spur research activity. Carroll *et al.* (2011) provide a review of the microeconomic literature that has focused on individual firm and entrepreneur responses to tax policy.[17] This research generally seeks to identify how tax policy affects the net price (i.e. business cost) of conducting R&D. While the magnitude of responses shows considerable variation, there is compelling evidence that tax policy does affect research activity. Carroll *et al.* note that from a macroeconomic perspective the current ASC leads to $10 billion in short-term research spending and $22 billion in long-term research spending, lending credence to the microeconomic studies.

A small number of studies have explored the consequences of an expanded ASC. The JCT (May 2, 2014) evaluated a permanent ASC of 20 percent with a base of 50 percent for QREs in the previous three years. JCT notes that the ASC could increase research spending by as much as 10 percent, but the effects on the macro economy are simply too small to capture with their models. Carroll *et al.* (2011) considered a similar proposal for a permanent ASC of 20 percent. They rely on estimated price responses drawn from the literature and the consequences of a larger ASC for the price of conducting R&D. Their estimates, based solely on data for corporations, show an R&D spending increase of $5 to $11 billion, a long-term impact on employment of 100,000 jobs and significant increases in worker earnings.

The trade group ITIF (2010) also evaluated a 20 percent ASC and estimated near-term job gains of 162,000 based on information on credit usage by corporations. This relatively large figure reflects in part the slack that was present in 2010 and thus the economy's ability to create jobs with a smaller degree of crowding out; job gains would not be as pronounced if the economy was closer to full employment. In 15 years, the larger ASC would lead to a $66 billion increase in GDP. The channel for this increased output is productivity gains that accrue to the economy from greater research activity.

Finally, the Milken Institute (DeVol and Wong, *et al.* 2010) considered a 25 percent increase in the ASC (moving the credit from 8 percent to 10 percent). The dynamic model of the macro economy used in the Milken report captures feedbacks from credits to growth and economic growth to credit usage (this is analogous to dynamic scoring in a revenue estimating context). Their estimates show a 0.1 percent annual increase in GDP and a 4.8 percent increase in business fixed investment. Employment would jump by 510,000 by 2019 (a 0.4 percent gain) and manufacturing employment would increase by 316,000 (a 2.5 percent gain).

While none of the above studies specifically estimates the macroeconomic impact of an enhanced and permanent R&D incentive that aligns with the NAM proposal, the Milken Institute report does estimate impacts of a similar (yet now outdated) change along with a similar reduction in the top corporate income tax rate. We rely on the relative magnitudes of the estimated impacts from the Milken study to calculate estimated impacts for the NAM R&D incentive. Specifically, we apply the ratio of effects from the R&D incentive and the corporate tax rate reduction in the Milken study to our assumed effects of the corporate tax rate

[17] See Appendix A of Carroll *et al.* (2011).

reduction. This amounts to annual increases of just over 0.16 percent of GDP, 0.08 percent of investment, and 0.024 percent of employment (or between 36,000 and 38,300 jobs per year).

Tax Reform for Pass-Through Entities

Pass-through entities such as general partnerships, limited partnerships and S corporations file entity-level income returns with the IRS (e.g. form 1065 and 1120S) but tax is not assessed at the entity level. These firms would be important beneficiaries of a pro-growth tax reform agenda. Firm-level income and deductions, including Section 179 depreciation deductions are allocated to the partners or shareholders on K-1 forms. This income is then reported by the partners and shareholders on their individual tax returns (Schedules D and E). Sole proprietorship income is similarly reported through the individual tax system on Schedule C. Taxes are then calculated based on the individual's total taxable income, including interest income and earnings from wage and salary jobs. Thus, the statutory tax rate on pass-through income depends on the household's total taxable income. In 2013, individual income tax receipts accounted for 47 percent of federal revenues (Office of Management and Budget, 2013) and we estimate that pass-throughs account for about 13 percent of individual income tax receipts.

While the NAM plan does not specify a specific tax rate for pass-throughs, for the purposes of this analysis, we assume a top tax rate of 25 percent on pass-through income and the same cost recovery and R&D reforms discussed under the corporate income tax. Moreover, this discussion is limited to the tax rate change, since the other two impacts are included in earlier sections. Although there are studies examining the macroeconomic effects of individual income tax rate changes, none of the analyses address this particular set of policy changes. Thus, we review the general literature on individual income tax rate changes and make adjustments for the relative size of pass-through receipts in our estimates below.

A number of studies examine the impacts of individual income tax changes on GDP with any reductions in revenue offset by reductions in spending or deficit spending.[18] This analysis however, estimates the economic impacts of pro-business tax reforms without specifying when or how the revenue will be offset. However, it is important to note that the general caution from this literature that the ultimate macroeconomic effects depend crucially on how rate reductions are financed (as well as how the Federal Reserve responds to tax-induced increases in economic growth). Dennis *et al.* (2004) estimate that a 10 percent cut in income tax rates generates a -1.5 to 0.8 percent change in GDP depending on model and financing assumptions. Holding revenue constant, Barro & Redlick (2011) estimate that a decrease in average marginal tax rates of one percentage point results in an increase of 0.5 percent in per capita GDP. In contrast to these modest estimates, Romer and Romer (2010) find that increasing tax revenue by one percent of GDP would decrease GDP by 2 to 3 percent. However, assumptions in their model have been questioned by others in the literature (e.g. Favero and Giavazzi, 2009).

[18] See Gale and Samwick (2014) for an accessible overview of this literature.

Mertens and Ravn (2013) examine the short-run dynamic effects of personal and corporate tax changes and find that a decrease in the individual tax rate of one percentage point increases the tax base by 1.6 percent after one year. Carroll *et al.* (2001) find that a 10 percent decrease in tax rates results in an 8.4 percent increase in receipts. The elasticities implied by these studies are larger than those with offsetting revenue assumptions, but smaller than the Romer and Romer (2010) estimates. For the purposes of our investigation, we take the average of similarly-calculated elasticities based on the reported results from Mertens and Ravn (2013) and Carroll *et al.* (2001). We further multiply this average elasticity by 0.127 to account for the fact that income from pass-throughs represents about 12.7 percent of total income on individual tax returns (based on our calculations using IRS Statistics of Income data). We apply the end result to an average tax rate change of one percent, which is our estimate of the equivalent change in the overall marginal tax rate from reducing the top tax rate on pass-through income to 25 percent. The end result is an annual projected increase in GDP growth of about 0.073 percent.

Carroll *et al.* (2000a) estimate the effects of individual income tax rate changes on small business investment and find that a five percentage point increase in tax rates reduces net investment by 9.9 percent. We apply a similar set of calculations to this estimate to arrive at an expected annual impact on investment of 0.048 percent as a result of the reduced maximum tax rate on pass-through income.

Finally, several studies examine the effects of tax rate changes on employment. Chetty (2012) synthesizes 17 studies, accounts for frictions such as adjustment costs and estimates elasticities of 0.25 (extensive margin) to 0.33 (intensive margin). Mertens and Ravn (2013) find that a one percentage point decrease in tax rates increases per capita employment by 0.8 percent. Carroll *et al.* (2000b) estimate an elasticity of wage payments to tax prices of 0.37. We adopt a similar approach to converting these estimates into a reasonable employment impact by averaging similarly-calculated and deflated elasticities. This generates an annual employment impact of 0.051 percent or approximately 76,000 jobs.

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