

The Macroeconomic Consequences of Secretary Clinton's Economic Policies¹

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This paper assesses the macroeconomic consequences of presidential candidate Hillary Clinton's proposed economic policies. These include her policies on taxes and government spending, immigration, and the federal minimum wage. Our [analysis](#) of candidate Donald Trump's proposed economic policies was published several weeks ago.

Three scenarios are considered. First, we take Secretary Clinton's proposals at face value as outlined on her campaign's web site and in her speeches and interviews. Our understanding of Secretary Clinton's economic policies has also been informed by discussions with some of those working on economic policy for the campaign. The second scenario assumes that Secretary Clinton's policies are largely adopted, but on a smaller scale than she has proposed. The third scenario assumes a President Clinton will need to negotiate with a somewhat skeptical Congress, resulting in her policies being scaled back and adjusted in response to political realities. This final scenario would be a reasonable baseline, or most likely scenario, were Secretary Clinton to win the election.

Secretary Clinton has brought up other potentially relevant economic policies that are not included here, since either their macroeconomic impact is too small or they are at this point not sufficiently developed to quantify. These include, for example, her trade policy, such as her position on the pending [Trans-Pacific Partnership trade deal](#), what she calls [corporate short-termism](#), a potential [expansion of Social Security](#), and her proposal to [tax high-frequency trading](#).³

We use the Moody's Analytics⁴ model of the U.S. economy for this analysis.⁵ The model is similar to those of the Federal Reserve

Board and Congressional Budget Office for forecasting, budgeting and policy analysis. The Moody's model has been used to evaluate the plethora of fiscal and monetary policies implemented during the financial crisis, and many of the economic policies proposed by presidential candidates in other elections.

Quantifying the economic impact of Secretary Clinton's policies is complicated by the wide range of her proposals. Some are familiar and we had already modeled and analyzed them. Examples include some of her plans for infrastructure spending, immigration reform, and the minimum wage. However, some of her other proposals are more novel, such as paid family leave and early childhood education. Evaluating the economic consequences of her tax policies is also difficult given their intricacies, including her proposal for more graduated taxes on capital gains based on investors' holding periods. And some are beyond the scope of our macro model, such as a tax on high-frequency trading and a fee on large financial institutions.

To determine the longer-term economic impact of the candidate's policy proposals, the Moody's model is simulated over the decade through 2026. This is also consistent with the Congressional Budget Office's horizon for the federal government's budget and policy analysis. The assumption is that Secre-

tary Clinton's policies are implemented during her first term and not changed through the remainder of the decade, and no other significant fiscal policy changes are legislated. Federal Reserve policy is determined by the model in response to job market conditions, inflation, and financial market conditions, which will be impacted by Secretary Clinton's policies.

Secretary Clinton's economic proposals will result in a somewhat stronger U.S. economy. Near-term growth is supported by the stimulus provided by her spending plans in combination with much stronger foreign immigration. Increased government spending, particularly more infrastructure investment financed primarily by higher taxes on the well-to-do, acts as an economic stimulant. Greater government spending adds directly to GDP and jobs, while the higher tax burden has an indirect impact through the spending and saving behavior of high-income households. This mitigates the near-term negative impact on GDP and jobs since these households will not reduce their spending one-for-one in response to their higher tax bills and will use their savings and other financial resources. The higher minimum wage also crimps employment.

Longer-term growth under Secretary Clinton's policies is somewhat stronger because on net they expand the supply side of

the economy—the quantity and quality of labor and capital needed to produce goods and services. Most significantly, immigration reform, would greatly increase the size of the workforce and support stronger productivity. Her plan to increase spending on the nation's infrastructure will also boost business competitiveness and productivity. Her paid family leave plan would lift labor force participation, while increased spending on college education and early childhood education would raise the educational attainment of workers. However, there are also some long-term economic costs from the higher tax rates in the secretary's proposals, as they reduce the incentives to save, invest and work.

Her proposals also do little to directly promote increased private sector investment. The campaign has suggested that a proposal to reform the corporate tax code that would presumably promote business investment is forthcoming, but this is not included in this analysis as it has not been formally proposed.

It is noteworthy that the secretary would use tax policy in an effort to influence the behavior of businesses and financial institutions. This includes tax penalties for corporate inversions, in which U.S. domiciled companies become foreign companies to avoid U.S. taxation, and higher capital gains taxes on shorter-term investments. She also hopes that the proposed tax on high-frequency traders will reduce unproductive volatility in stock and bond prices, and the fee on large financial institutions will reduce their risk-taking. The macroeconomic consequences of these policy steps are difficult to determine, but are small.

The secretary has strongly embraced the need to increase the federal minimum wage, while this will have a negative employment affect, they will be modest given the long proposed phase in. And as long as her ambivalence over greater global trade, as reflected in her opposition to the Trans-Pacific Partnership trade

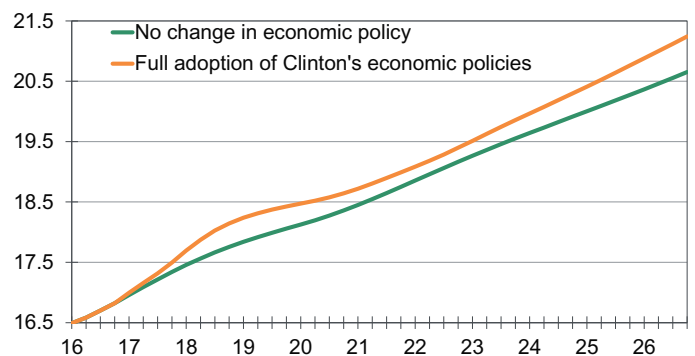
deal, does not intensify, it too should mean little for the economy over the 10-year horizon of this analysis.

Secretary Clinton's economic proposals will result in a modest increase in the federal government's budget deficits. If not for her proposal to eliminate the sequester—across-the-board cuts to defense and nondefense discretionary spending that are currently slated to start back up in 2018—her policies would be nearly deficit neutral. That is, the additional government spending she has proposed would be paid for largely by additional proposed taxes on wealthy and high-income households. Also limiting the negative fiscal impact of her policies is the resulting bigger economy, which generates more tax revenue and less spending on existing income support programs. The nation's debt load as measured by the ratio of federal debt outstanding to GDP is largely unaffected by her plan.

Under the scenario in which all of Secretary Clinton's stated policies become law in the manner proposed, the economy will grow somewhat more strongly (see Chart 1). The economic benefits of immigration reform and more infrastructure and other spending offset the negative effects of the higher minimum wage, tax increases, and larger budget deficits. By the end of her term, real GDP would be 1.7% larger than it would be under current law, and there would be 3.2 million more jobs. During Secretary Clinton's presidency, the average American household's real after-tax income would increase by about \$2,000, almost \$300 more than under current law. Under the scenarios

Macroeconomic Impact of the Clinton Policies

Real GDP, 2009\$ tril



Sources: BEA, Moody's Analytics

in which Congress significantly waters down her policy proposals, particularly on immigration reform, the economy will not grow quite as quickly, but would still be larger than it would have been with no change in economic policies.

Those who would benefit most from Secretary Clinton's economic proposals would be low- and middle-income households. Their tax bill is the same as it is today, but they are the beneficiaries of increased government assistance and a larger economy.⁶ High-income households pay much more in taxes under Secretary Clinton's policies.

Even allowing for some variability in the accuracy of the economic modeling and underlying assumptions that drive our analysis, four basic conclusions regarding the impact of Secretary Clinton's economic proposals can be reached: 1) They will result in a somewhat stronger U.S. economy with increased GDP and more jobs; 2) they will mostly benefit middle- and lower-income households; 3) they have little impact on the nation's fiscal situation, as they result in somewhat larger deficits but a mostly unchanged debt-to-GDP ratio; and 4) they exhibit faith in the ability of government policy to positively influence economic behavior.

On taxes⁷

Secretary Clinton wants to increase tax revenues by increasing taxes paid by high-income and wealthy taxpayers. She would accomplish this by adopting:

- » The "Buffet rule," which imposes a 30% minimum tax on taxpayers with adjusted gross income above \$1 million;
- » A 4% surcharge on adjusted gross income over \$5 million;
- » A 28% limit on the tax value of specified deductions (excluding charitable giving);

- » Tax on carried interest at the rate on ordinary income;
- » An estate tax with a top tax rate of 45% and a tax threshold on estates of \$3.5 million (\$7 million for married couples) that is not indexed to inflation;
- » A \$1 million limit on the lifetime gift tax exemption;
- » A new tax schedule for capital gains with rates that depend on asset holding periods; and
- » Limits on the use of tax-advantaged retirement accounts by taxpayers with very high balances.

She proposes one sizable tax break with the repeal of the “Cadillac tax” on health insurance. The idea behind this tax, which was enacted as part of the [Affordable Care Act](#), is to make it more costly for employers to provide high-end healthcare plans, and by so doing making beneficiaries of those plans more sensitive to the cost of healthcare. More sensitive beneficiaries would lead to more careful healthcare shopping, which in turn would slow the growth in healthcare costs.⁸

Secretary Clinton also wants to use the tax code to influence the behavior of businesses and financial institutions. The most noteworthy of these tax proposals include efforts to:

- » Limit corporate inversions by increasing the threshold for foreign ownership from 20% to 50% of the combined company shares, deter earnings stripping through limits on interest

deductions for U.S. affiliates of multinational companies, and imposing an “exit tax” on earnings that have not been repatriated;

- » Promote more equitable business compensation practices through reform of “performance-based” tax deductions for compensation of highly paid executives and tax credits for businesses that share profits with employees and hire apprentices;
- » Reduce risk in the financial system by imposing a tax on high-frequency trading and a “risk fee” on very large financial institutions;
- » Make fossil fuel production less attractive by eliminating tax incentives and requiring oil produced from tar sands to pay an excise tax to help finance a fund used for cleanup in case of a spill; and,
- » Promote infrastructure spending and community development through tax-advantaged Build American Bonds and New Market Tax Credits.

Secretary Clinton's tax plan is similar to recent tax proposals put forward by the Obama administration in that it raises taxes on high-income taxpayers and works to make corporate inversions more difficult. However, it does not tackle the thorny question of whether U.S. multinationals should be taxed on a territorial basis, instead of on a global basis as they are now. Moreover, it does not propose broader corporate tax reform, something both the Obama administration and congressional Republicans have put forward. There appears to be some bipar-

tisan support around the principle of lowering marginal corporate rates and paying for this by scaling back various preferences in the code.

Her proposal would make the tax system more complex and less transparent.⁹ Most notable is the addition of a new minimum tax rate on income over \$1 million, a surcharge on income over \$5 million, and the cap on tax expenditures. This is effectively adding several forms of a minimum tax to the code, on what is already a complex individual alternative minimum tax. Capital gains taxation would also be substantially more complex under her tax plan.

Secretary Clinton's tax proposals would raise substantial revenue and make the tax system meaningfully more progressive. The plan raises an estimated \$1.46 trillion more in tax revenue over the next decade on a static basis—not accounting for the impact of the proposals on the economy and what that means for government tax revenue and spending—compared to current law (see Table 1). The burden of the tax hikes falls almost exclusively on the most highly paid.¹⁰ Only those with incomes of over \$300,000 would see their taxes rise meaningfully. Those with incomes between \$300,000 and \$750,000—those in the top 95% to 99% of the income distribution—would have an average tax increase of less than \$3,000. Those in the top 1% of the income distribution, who make over \$750,000 a year, would experience a tax increase of about \$78,000.

On spending¹¹

Secretary Clinton would use the additional tax revenues to pay for additional federal government spending. Broadly, there would be spending increases on infrastructure, education, paid family leave, and economic development. She has also proposed eliminating the sequester—across-the-board cuts to defense and discretionary nondefense spending—that are slated to be reinstated in 2018.¹²

Federal infrastructure investment would receive an infusion of \$300 billion over a five-year period, the bulk of which is direct spending on transportation and other projects. It also includes \$25 billion for a housing investment program to improve homeownership and link more families to better employment opportunities. And another \$25 billion would go to capitalize a “Strategic Infrastructure

Bank.” The bank would provide direct loans, loan guarantees, and other forms of credit enhancement, which would at least in theory support hundreds of billions in more private sector infrastructure spending. It would also help administer a Build American Bonds program, which was successful in financing a substantial amount of infrastructure development in the wake of the financial crisis.¹³

Table 1: Static Costs of Secretary Clinton's Tax and Spending Plan

\$ bil

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2016-2026
Tax Revenue	7.5	102.6	134.3	156.7	161.5	167.3	131.1	139.2	146.1	153.6	161.8	1,461.9
Personal income tax	0.0	30.4	54.9	73.5	85.5	94.3	107.2	112.4	118.0	124.1	130.4	930.7
Limit value of expenditures to 28%	0.0	23.1	32.7	35.4	38.0	40.3	42.8	44.9	47.1	49.6	52.1	406.0
4% surcharge >\$5 mil	0.0	0.7	2.6	9.6	12.9	13.6	15.7	16.5	17.3	18.2	19.1	126.3
Buffet rule	0.0	2.4	4.7	10.2	12.5	12.8	13.8	14.5	15.2	16.0	16.8	118.9
Cap gains holding period	0.0	-6.0	-4.7	-1.5	2.1	7.4	15.7	16.5	17.3	18.2	19.1	84.2
Incentives for development/infrastructure	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.5	-0.5	-0.5	-0.5	-0.6	-3.2
Eliminate energy incentives	0.0	0.6	1.1	1.1	1.2	1.1	0.7	0.7	0.7	0.8	0.8	8.8
Carried interest, mark to market, etc.	0.0	1.1	6.4	5.7	5.0	4.5	3.1	3.2	3.4	3.6	3.7	39.7
Additional assumed surcharge (college)	0.0	8.5	12.1	13.1	14.0	14.9	15.8	16.6	17.4	18.3	19.2	150.0
Corporate income tax	7.5	70.3	71.5	73.3	75.2	68.9	17.7	20.2	21.0	21.9	23.3	470.7
International reforms	0.0	3.4	6.9	7.5	8.2	8.9	10.3	10.8	11.3	11.9	12.5	91.7
Incentives for development/infrastructure	0.0	0.0	0.0	-0.1	-0.2	-0.4	-0.9	-0.9	-1.0	-1.0	-1.1	-5.5
Eliminate energy incentives	0.0	3.4	5.7	5.7	5.6	5.5	4.3	4.5	4.7	5.0	5.2	49.6
Limit drug ad deductions	0.0	2.8	4.0	4.4	4.7	5.0	5.3	5.5	5.8	6.1	6.4	50.0
Repatriation	7.5	53.9	48.1	49.0	50.1	43.1	-8.1	-6.5	-6.7	-6.9	-6.6	216.9
Financial institution "risk fee"	0.0	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	68.0
Other taxes	0.0	1.8	7.9	10.0	0.8	4.2	6.2	6.6	7.1	7.7	8.2	60.5
2009 estate and gift, etc.	0.0	1.8	7.9	10.0	13.4	17.3	19.9	20.9	21.9	23.1	24.2	160.5
Repeal Cadillac tax	0.0	0.0	0.0	0.0	-12.6	-13.1	-13.8	-14.3	-14.8	-15.4	-16.0	-100.0
Government spending	0.0	136.8	259.4	260.5	254.0	265.5	195.0	203.7	211.0	219.1	202.6	2,207.7
Mandatory	0.0	5.7	17.5	19.8	21.0	21.9	23.8	24.7	25.3	34.0	12.6	206.3
Expand ACA	0.0	17.1	24.2	26.2	28.1	29.8	31.6	33.2	34.8	36.6	38.5	300.0
Prescription drug changes	0.0	-11.4	-16.1	-17.4	-18.7	-19.9	-21.1	-22.1	-23.2	-24.4	-25.6	-200.0
Sequester repeal	0.0	0.0	9.5	11.1	11.6	11.9	13.3	13.6	13.7	21.8	-0.2	106.3
Discretionary nondefense	0.0	131.1	206.4	210.1	210.4	219.3	152.0	159.4	166.6	170.5	177.3	1,803.1
College Compact	0.0	28.4	40.3	43.6	46.8	49.6	52.7	55.3	58.1	61.0	64.1	500.0
Early childhood	0.0	11.4	16.1	17.4	18.7	19.9	21.1	22.1	23.2	24.4	25.6	200.0
Infrastructure	0.0	60.0	60.0	60.0	60.0	60.0	0.0	0.0	0.0	0.0	0.0	300.0
Energy/research	0.0	5.7	8.1	8.7	9.4	9.9	10.5	11.1	11.6	12.2	12.8	100.0
Economic development	0.0	5.7	8.1	8.7	9.4	9.9	10.5	11.1	11.6	12.2	12.8	100.0
Veterans programs	0.0	2.8	4.0	4.4	4.7	5.0	5.3	5.5	5.8	6.1	6.4	50.0
Paid family leave	0.0	17.1	24.2	26.2	28.1	29.8	31.6	33.2	34.8	36.6	38.5	300.0
Sequester repeal	0.0	0.0	45.7	41.1	33.4	35.2	20.2	21.2	21.4	17.9	17.0	253.1
Discretionary defense (sequester repeal)	0.0	0.0	35.5	30.6	22.7	24.3	19.2	19.6	19.1	14.5	12.7	198.3
Net deficit impact (ex interest)	7.5	-34.2	-125.1	-103.7	-92.5	-98.1	-64.0	-64.5	-64.9	-65.5	-40.8	-745.8

Sources: CBO, OMB, Moody's Analytics

Education spending would increase by \$700 billion over 10 years and include more money to support a range of initiatives for early childhood education and college. The biggest headlines include school funding for all 4-year-olds, assistance to defray childcare costs, and grants to states to support two years of free tuition at community colleges and/or four years of "debt-free"

education at public universities.¹⁴ There is also interest rate relief for student loan borrowers. Secretary Clinton has dubbed her proposals to increase aid for college education the "**College Compact**."

Workers would also receive **paid family and medical leave** for up to 12 weeks.¹⁵ This benefit would be worth at least two-thirds of workers' wages up to a ceiling, and

would cost an estimated \$300 billion over 10 years.

Economic development and research would get a sizable boost, with an additional \$200 billion over 10 years on a plethora of programs. This includes more support for youth job programs, help for the previously incarcerated to get back to work, monies for clean energy programs, and more investment

in both medical and nonmedical research, to name a few.

Secretary Clinton's spending initiatives, including the elimination of the sequester, cost \$2.2 trillion over 10 years on a static basis (see Table 1). So, without accounting for the impact of her proposed tax and spending changes on the economy and thus

on tax revenues and spending, her proposals will result in budget deficits that are nearly \$750 billion greater over 10 years than under current law.

Eliminating the sequester is expensive—an estimated \$560 billion over 10 years—and while Secretary Clinton has said she plans to pay for this by closing additional

tax breaks for high-income taxpayers, she has not yet articulated what those would be. We thus do not include them in our analysis. However, if she did find payfors for eliminating the sequester, her tax and spending proposals would increase the 10-year budget deficit by just under \$200 billion on a static basis.¹⁶

On immigration and trade

Secretary Clinton has endorsed a substantial reform of the nation's immigration laws, similar to that in the "[Border Security, Economic Opportunity, and Immigration Modernization Act of 2013](#)." Also known as the "Gang of Eight bill"—for the eight senators, including Republicans and Democrats, that crafted the legislation—the act passed the Senate in a bipartisan vote, but stalled in the House and never became law.

There are big changes to immigration law in this reform, which would expand some programs and shrink others. Family-based immigration would be increased by uncapping the annual number of green cards that can be issued to spouses and unmarried children of existing legal permanent residents. It would also expand existing employment-based immigration, including exempting foreigners with STEM graduate degrees or PhDs in any field from the cap on green cards. In addition, it would expand the number of temporary immigration visas for skilled and unskilled workers. It would also create a points-based immigration track that would reward individuals with greater education, English fluency, and other factors. Perhaps

most controversially, the reform includes a path to legalization for undocumented immigrants living in the country who meet certain criteria.

According to an [analysis](#) of the Gang of Eight legislation by the Congressional Budget Office, it would increase legal immigration to the U.S. by approximately 1 million per annum. Within a decade, the U.S. population would be about 3% larger than it would be without the change in immigration law. The legislation would result in a substantial increase in the number of both high-skilled and low-skilled immigrant workers.

To presage our estimate of the economic impact of this immigration reform, the CBO determined that the Gang of Eight legislation would increase real GDP by 3.3% in 10 years compared with what GDP would have been without the change. The increase in population also lifts the labor force and employment. There would be close to 6 million more jobs in 10 years, as the additional population would add to the demand for goods and services and, in turn, the demand for labor. Productivity would also receive a mea-

surable boost, as the "immigration of highly skilled immigrants would tend to generate additional technological advancements, such as new inventions and improvements in production processes."¹⁷

While Secretary Clinton is pro-immigration, she has seemingly become more ambivalent about global trade as the presidential campaign has worn on. Most prominent is her intensifying [opposition to the Trans-Pacific Partnership trade deal](#)—an agreement among 12 Pacific Rim nations including the U.S., but excluding China. And her threshold for supporting trade agreements in general has also risen.¹⁸

Failure of the TPP to become law would in and of itself have little impact on the U.S. economy, and is thus not considered in our analysis.¹⁹ But if the failure of the TPP to become law signals a slowing or even an end to globalization, a process that has been under way more or less since World War II, then it would eventually weigh on economic growth. Globalization creates economic winners and losers, but it has been a meaningful net plus for the economy and is likely to be even more so going forward.

On the minimum wage

Secretary Clinton supports significantly increasing the federal minimum wage. Her proposal is fashioned on recent legislation, the "[Raise the Wage Act](#)," proposed by Democratic Senator Patty Murray. The legislation would increase the federal wage floor from its \$7.25 an hour to \$12 an hour by the end of her presidential term, and indexed to increase with consumer price inflation after that. The lower

tipped minimum wage that currently stands at \$2.13 an hour would also be eliminated.

This is a much more aggressive minimum wage plan than previously proposed by Democrats. Senator Tom Harkin had proposed in 2013 a minimum wage increase to \$10.10 an hour, indexed to inflation thereafter, and an increase in the tipped minimum wage to just 70% of

the regular minimum wage. However, it is lower than the \$15 an hour wage proposal recently adopted by the Democratic National Committee.

The economic impact of the minimum wage is the source of endless debate. The CBO weighed in on the debate not too long ago when it evaluated [Senator Harkin's 2013 legislation](#) and, presaging our results,

found that increasing the minimum wage would impact low-wage workers in two principal ways. First, most would receive higher pay that would increase their fam-

ily's income, and some would see their income rise above the federal poverty threshold. But second, some jobs for low-wage workers would be eliminated, the income

of most workers who became jobless would fall substantially, and the share of low-wage workers who were employed would fall modestly.

Scenario 1: Secretary Clinton at Face Value

To quantify the impact of Secretary Clinton's proposals on the U.S. economy, the Moody's Analytics model of the U.S. economy was simulated incorporating the candidate's tax and spending, immigration, and minimum wage policies.²⁰

Assumptions

A number of assumptions are required in order to quantify Secretary Clinton's economic proposals. These assumptions are consistent with her stated economic policies and perspectives as represented on her web site and in her speeches and interviews, although given anticipated economic and political constraints, many of them are relaxed in the two other scenarios considered in this analysis.

On tax policy, we adopt many of the assumptions made by the Tax Policy Center, but updated to include changes to Secretary Clinton's proposals since the TPC's analysis. Most notable, we assume an additional \$150 billion in additional revenue over 10 years from another levy on high-income taxpayers, which is used to pay for her recently expanded proposal for free or subsidized tuition to college students. We also assume that revenues are raised through a tax on repatriation of corporate profits currently held overseas by U.S. multinationals. This is based on a proposal already put forward by the Obama administration, which would raise \$217 billion over 10 years. The monies would ostensibly defray the costs of the increased spending on infrastructure in Secretary Clinton's proposal. Finally, we assume a "risk fee" on large financial institutions that is based on how these institutions fund themselves. The greater their reliance on non-deposit liabilities, the higher their fee. This is fashioned off of another [Obama proposal](#) and would raise an estimated \$68 billion over 10 years.

With regard to government spending, we adopt many but not all of the assumptions made by the Committee for a Responsible Federal Budget. On infrastructure spending, we assume it will be used to finance construction of roads, bridges, rail, transit, broadband, ports, waterways, airports, energy, dams and levees. While this may be designed to encourage more state and local government investments—federal Highway Trust Fund spending, for example, requires a 20% state match for non-interstate road projects and a 10% match for interstate systems projects—this is not assumed in our analysis.²¹

On education spending, we assume that Secretary Clinton's proposals on student loan debt will be similar to those in Senator Elizabeth Warren's [student loan refinancing plan](#) and a bipartisan proposal to [streamline the plethora of loan forgiveness programs](#) into one. While Secretary Clinton argues that her proposals on additional funding for college education will encourage states to increase their share of education spending and also slow the growth in the costs of higher education, we assume neither in our analysis.

We assume that [paid family leave](#) proposed by Secretary Clinton will be adopted via an expansion of the current [Family and Medical Leave Act](#). FMLA currently guarantees up to 12 weeks of unpaid leave with employer benefits for qualified medical and family reasons. However, due to various exemptions, the FMLA covers only about 60% of American workers, and even if workers are covered, many cannot afford to take advantage of the FMLA's guarantee of 12 weeks unpaid leave given the large loss of income it entails.

Military and nondefense discretionary spending is assumed to increase above what is in current law given the assumed expiration of the sequester. This provides

a substantial boost to government outlays beginning in fiscal 2018. Finally on entitlements, we assume changes in line with her proposals to change Medicaid expansion provisions under the Affordable Care Act, expand insurance subsidies, reduce prescription drug costs, and repeal the mandatory sequester. Secretary Clinton has put forward several possible expansions of the Social Security program, but these are considered to be more aspirational than actual proposals and are not included in our analysis.

With regard to immigration reform, as previously discussed we assume Secretary Clinton's plan is similar to that in the Gang of Eight's 2013 legislation. One key assumption is that under the reform, undocumented workers attain legal status gradually over a four-year period. Moreover, while not all of the undocumented will achieve legal status, we assume that not quite three-fourths of the undocumented labor force will, as those in the labor force have a significant incentive to do so given the greater income they will earn.

As to trade policy, it is assumed that the Trans-Pacific Partnership trade deal fails to become law. It is possible that the deal could be renegotiated to include stronger language around labor laws and human rights, things Secretary Clinton has argued for, but that would likely take years and is not assumed. We also assume there is no material change to previous trade deals, including NAFTA and the WTO-based trade relationship with China.

Economic and fiscal impact

If Secretary Clinton's economic policies are fully implemented as she has proposed, the U.S. economy will grow somewhat more strongly than if there were no changes to policy. Real GDP is expected to grow by 2.7% per annum during Secretary Clinton's presi-

Table 2: Secretary Clinton at Face Value

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg annual growth		
												2016-2020	2016-2026	
Real GDP (2009\$ bil)	16,650.2	17,241.6	17,934.6	18,337.5	18,552.9	18,853.5	19,238.5	19,685.6	20,131.4	20,584.4	21,060.5		2.7	2.4
% change	1.8	3.6	4.0	2.2	1.2	1.6	2.0	2.3	2.3	2.3	2.3			
Employment (mil)	144.4	147.5	151.7	154.3	154.9	155.2	156.5	158.2	159.9	161.6	163.4		1.8	1.2
% change	1.8	2.1	2.9	1.7	0.4	0.2	0.8	1.1	1.0	1.1	1.1			
Unemployment rate (%)	5.0	4.5	3.7	3.7	4.4	5.0	5.4	5.4	5.4	5.4	5.3			
Real median household income (2009\$)	51,241.7	51,928.3	52,894.0	53,257.5	53,279.5	53,436.3	53,635.8	53,934.1	54,255.7	54,641.4	55,057.3		1.0	0.7
% change	1.2	1.3	1.9	0.7	0.0	0.3	0.4	0.6	0.6	0.7	0.8			
Consumer Price Index (1980-1982=100)	240.3	246.9	254.0	261.5	268.2	274.6	280.5	286.3	292.0	297.6	303.4		2.8	2.4
% change	1.4	2.7	2.9	2.9	2.6	2.4	2.2	2.1	2.0	1.9	1.9			
S&P 500 Stock Index	1,964.7	1,981.2	2,002.5	1,973.3	2,098.2	2,296.6	2,513.4	2,716.9	2,919.7	3,156.3	3,427.9		1.7	5.7
% change	-4.7	0.8	1.1	-1.5	6.3	9.5	9.4	8.1	7.5	8.1	8.6			
FHFA House Price Index	371.9	383.9	392.4	402.0	415.2	431.4	451.1	473.3	495.8	515.7	530.9		2.8	3.6
% change	3.4	3.2	2.2	2.4	3.3	3.9	4.6	4.9	4.8	4.0	2.9			
Federal funds rate (%)	0.6	2.1	4.1	4.6	4.5	4.1	3.6	3.2	2.9	2.8	2.7			
10-yr Treasury yield (%)	2.4	3.6	4.2	4.4	4.6	4.6	4.4	3.8	3.8	3.6	3.5			
Federal government debt (\$ bil)	14,059.5	14,923.8	15,939.3	16,764.6	17,723.1	18,765.5	19,896.7	21,101.9	22,278.3	23,274.4	24,412.1			
Debt-to-GDP ratio (%)	75.9	76.2	76.1	76.3	78.0	79.6	81.2	82.7	83.9	84.3	85.0			
													Cumulative	
Federal budget deficit (\$ bil)	-632.7	-725.9	-905.1	-983.8	-1,026.9	-1,077.8	-1,144.4	-1,174.9	-1,204.8	-1,241.2	-1,257.6		-3,642	-10,742
Deficit-to-GDP ratio (%)	-3.4	-3.7	-4.3	-4.5	-4.5	-4.6	-4.7	-4.6	-4.5	-4.5	-4.4			
Government interest payments - federal (\$ bil)	494.3	632.5	823.2	981.5	1031.5	1062.3	1092.8	1117.6	1145.7	1175.7	1206.2			
Interest-to-GDP ratio (%)	2.7	3.2	3.9	4.5	4.5	4.5	4.5	4.4	4.3	4.3	4.2			

Sources: BEA, BLS, S&P, FHFA, Treasury, Moody's Analytics

dency, compared with 2.3% under current law (see Tables 2 and 3). By the end of her term in 2020, real GDP would be 1.7% larger under her plan.

Employment also receives a lift under the secretary's plan. During her presidency, the economy would create 10.4 million jobs, 3.2 million more than under current law. Unemployment is also lower, with the unemployment rate falling as low as 3.7% in the middle of her term, and ending her presidency in 2020 at 4.4%. Under current law, the unemployment rate hovers just below 5% between now and the end of the decade.

With unemployment below the economy's estimated full-employment unemployment rate throughout much of her term, interest rates rise higher than under current

law. The federal funds rate rises to a peak of 4.6%, almost a percentage point more than under current law. Ten-year Treasury yields are also higher by about 75 basis points during her presidency.

The living standards of the typical American family will improve somewhat due to Secretary Clinton's policies. Real median household income is higher as a result of her policies when she leaves office. However, stock prices and house value are not much different under her plan than under current law; more corporate profits and larger household incomes are a plus for asset prices, but they are offset by the negative impact of higher interest rates.

The economic benefit of Secretary Clinton's proposed plans are also evident over the coming decade. With her plan,

GDP is expected to grow by 2.4% per annum through 2026, compared with 2.1% under current law. By 2026, real GDP is \$550 billion or 2.7% larger. This supports 6.1 million more jobs. Unemployment is largely unchanged due to a commensurate increase in the labor force, primarily due to immigration reform.

The bigger economy under Secretary Clinton's plan helps with the federal government's fiscal situation. The additional tax revenues and reduced government spending result in a \$540 billion increase in the dynamic 10-year budget deficit compared with current law. The primary deficit, which excludes the government's interest payments is \$310 billion, and the nation's debt to GDP is effectively unchanged compared with current law.

Table 3: Current Law

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg annual growth		
												2016-2020	2016-2026	
Real GDP (2009\$ bil)	16,650.3	17,150.2	17,609.9	17,951.4	18,239.3	18,598.7	19,009.9	19,409.5	19,777.9	20,138.0	20,507.8		2.3	2.1
% change	1.8	3.0	2.7	1.9	1.6	2.0	2.2	2.1	1.9	1.8	1.8			
Employment (mil)	144.4	146.9	149.3	151.0	151.6	152.3	153.4	154.6	155.5	156.4	157.4		1.2	0.9
% change	1.8	1.7	1.6	1.1	0.5	0.4	0.7	0.7	0.6	0.6	0.6			
Unemployment rate (%)	5.0	4.7	4.6	4.7	5.0	5.1	5.1	5.0	5.0	4.9	4.9			
Real median household income (2009\$)	51,241.8	51,801.6	52,509.8	52,822.2	52,989.5	53,286.1	53,670.8	54,065.5	54,466.8	54,901.1	55,378.6		0.8	0.8
% change	1.2	1.1	1.4	0.6	0.3	0.6	0.7	0.7	0.7	0.8	0.9			
Consumer Price Index (1980-1982=100)	240.3	246.9	253.8	260.9	267.3	273.4	279.6	285.8	292.1	298.3	304.8		2.7	2.4
% change	1.4	2.7	2.8	2.8	2.4	2.3	2.3	2.2	2.2	2.1	2.2			
S&P 500 Stock Index	1,966.5	1,992.5	2,000.2	2,012.6	2,183.3	2,398.3	2,567.5	2,720.6	2,873.4	3,057.4	3,272.6		2.6	5.2
% change	-4.6	1.3	0.4	0.6	8.5	9.8	7.1	6.0	5.6	6.4	7.0			
FHFA House Price Index	371.9	383.9	392.5	401.9	415.0	431.0	449.4	469.2	489.2	508.4	526.0		2.8	3.5
% change	3.4	3.2	2.2	2.4	3.3	3.8	4.3	4.4	4.3	3.9	3.5			
Federal funds rate (%)	0.6	2.0	3.6	3.7	3.6	3.6	3.7	3.8	3.7	3.7	3.7			
10-yr Treasury yield (%)	2.4	3.6	4.0	4.0	4.0	4.0	4.1	4.1	4.2	4.2	4.2			
Federal government debt (\$ bil)	14,060.6	14,952.0	15,928.0	16,646.6	17,508.9	18,448.3	19,464.5	20,559.7	21,666.2	22,633.5	23,789.8			
Debt-to-GDP ratio (%)	75.9	76.7	77.6	77.6	78.7	79.8	80.8	82.0	83.2	83.8	84.8			
													Cumulative	
Federal budget deficit (\$ bil)	-640.2	-748.2	-818.7	-903.8	-941.5	-986.0	-1,038.5	-1,090.8	-1,157.0	-1,223.7	-1,289.0		-3,412	-10,197
Deficit-to-GDP ratio (%)	-3.5	-3.8	-4.0	-4.2	-4.2	-4.3	-4.3	-4.4	-4.4	-4.5	-4.6			
Government interest payments - federal (\$ bil)	494.3	630.6	806.1	936.6	970.5	1003.5	1047.7	1090.8	1136.4	1182.8	1230.2			
Interest-to-GDP ratio (%)	2.7	3.2	3.9	4.4	4.4	4.3	4.4	4.4	4.4	4.4	4.4			

Sources: BEA, BLS, S&P, FHFA, Treasury, Moody's Analytics

Near-term stimulus

Near-term economic growth under Secretary Clinton's plan is fueled by the stimulus provided by her spending plans in combination with much stronger foreign immigration. Increased government spending, particularly more infrastructure investment, financed primarily by higher taxes on the well-to-do, acts as a stimulant.

Greater government spending adds directly to GDP and jobs, but the higher taxes have an indirect impact through the spending and saving behavior of high-income households. Since these households will not reduce their spending one-for-one in response to their higher tax bills and will use their savings and other financial resources, this mitigates the near-term impact on GDP

and jobs. This is especially true for affluent taxpayers, who are much less likely to change their spending behavior due to a tax increase than lower- and middle-income consumers. To get a sense of the difference, consider that we estimate the marginal propensity to consume out of after-tax income for those in the bottom quintile of the income distribution is 0.86. In other words, for every dollar increase in taxes, spending is reduced by 86 cents. In contrast, the marginal propensity to consume for those in the top quintile is only 0.49 (see Appendix).

The economic benefit of the stimulus is ultimately offset by higher interest rates, which results from the addition of stimulus to an economy that it is already operating at full employment. The somewhat larger bud-

get deficits also add to the increase in rates.²² These so-called crowding-out effects can significantly reduce the size of government spending multipliers. The fiscal stimulus provided during the financial crisis had large multipliers as the economy had a significant amount of slack, and there was no crowding out.²³ However, a year from now when Secretary Clinton's spending proposals would take effect, those multipliers would be much smaller as the economy is expected to be at full employment. The crowding out would be substantial.

For example, in early 2009 at the depths of the Great Recession, the multiplier on traditional infrastructure spending, like that Secretary Clinton has proposed to significantly increase, was 1.43. That is, a \$1

increase in infrastructure spending would increase GDP by \$1.43 one year after the increase in spending. The infrastructure multiplier is expected to be an estimated only 1.11 when Secretary Clinton's infrastructure spending plan would begin. Across all government spending, the average fiscal multiplier is an estimated close to 1.0. While the negative crowding out effects on GDP and jobs take time to manifest themselves, they eventually do.

Immigration boost

Also boosting the economy, near and longer term, is Secretary Clinton's proposed reform to immigration laws. Indeed, there is no policy she has proposed that provides a more potent boost to the economy than immigration reform. Driving this is the 10.4 million additional legal immigrants and their dependents that are expected to come into the U.S. over the next decade under the new law. Of these immigrants, 8.9 million will be of working age, and of these 6 million will ultimately be in the labor force and almost all will have jobs. These estimates are very similar to the CBO's assessment of the impact of the reforms.

The increase in immigration is not expected to have a material impact on native employment. Recent research shows that immigrants are imperfect substitutes for U.S. workers due to their different occupational choices and skills. For example, where undocumented immigrants work as manual laborers in agriculture, it is unlikely that many natives are interested in performing these jobs even at modestly higher wages. Moreover, while some natives may compete directly with immigrants, others will benefit as immigrants consume goods and services, supporting growth in their local economies. Each immigrant generates so-called demand spillovers for their local economy resulting in the creation of an estimated two new jobs.²⁴

Amnesty for undocumented immigrants will also have a positive impact on the wages of these workers. The ability to work in the formal economy will allow them to transition into other fields and jobs that better reward the accumulation of human capital. In addition, this would likely increase their bar-

gaining power and allow them to more easily find alternative employment. Workers who achieve legal status will receive an estimated wage boost of 6%, the amount that workers were estimated to gain from the 1986 immigration amnesty.²⁵

Supply-side cross-currents

Secretary Clinton's economic policies also support long-term economic growth by increasing the supply side of the economy, namely the amount and quality of labor and private and public capital and how labor and capital are combined to produce goods and services. These policies include immigration reform and increased public infrastructure, and policies that increase the supply and quality of labor, including her College Compact, early childhood education and childcare support programs, and paid family leave.

The supply-side effects of her policies are not all positive as they raise marginal tax rates on saving and investment and labor of high-income households, thus reducing their incentive to save, invest and work. But taken together, Secretary Clinton's policies are a small, but meaningful, net plus for the economy's supply side and thus long-term economic growth.

Immigration reform provides the largest support to long-term growth by increasing total factor productivity. TFP measures the GDP created by factors other than capital and labor. Immigrants lift TFP as they are more likely than natives to be entrepreneurs and innovators, and studies have shown that having more skilled immigrants increases total factor productivity.²⁶ By 2026, TFP is expected to be approximately 70 basis points higher as a result of increased immigration. This is similar to the CBO's estimate of the TFP impact of immigration reform.

Greater infrastructure spending also lifts productivity, albeit only gradually. Investment in physical public capital as envisaged in Secretary Clinton's plan takes an estimated nine years to be fully productive, and the return on that capital is an estimated 8% per annum.²⁷ For context, private capital has an estimated return of closer to 10%. Applying this to the \$300 billion in increased infrastructure spending Secretary Clinton has

proposed increases productivity in 2026 by just over 10 basis points.

Greater funding to defray the costs of a college education should lift educational attainment. Financial support for early childhood education and paid family leave should reduce the costs associated with work, and thus increase labor force participation and hours worked. It will take at least several years before these policies have a meaningful impact on the economy, but key to a stronger economy is a larger and more educated workforce.

Reducing the costs of a college education as Secretary Clinton has proposed should increase enrollment. There is research on the impact of tuition and financial aid policies on college-going. While estimates vary depending on the type of aid and socioeconomic group considered, a \$1,000 change in per-student college costs is associated with a 3- to 5-percentage point difference in college enrollment rates.²⁸ Students from low-income backgrounds attending two-year community colleges are likely to be more price-responsive, while middle-income students at four-year flagship universities are less so. Secretary Clinton's College Compact should thus ultimately increase enrollment.

Increasing support for early childhood education should also ultimately reap economic benefits. According to the best known study on the issue, which examined outcomes for children of one preschool program, the benefits, including greater lifetime earnings, the non-earnings benefits of reduced transfer payments and remedial education expenditures, and savings from less demand on the criminal justice system, are substantial.²⁹ Studies conducted on a variety of other preschool programs find similarly large earnings and societal benefits.³⁰ Mitigating the potential benefit is the take-up of preschool programs, as many children are already enrolled in early education.³¹

The childcare support in Secretary Clinton's proposals should also lift labor force participation and hours worked, as the extra time and scheduling flexibility provided by childcare should allow for increased employment. However, the research on this is

mixed, as some find moderate but significant impacts while others find no impact at all. While the labor force impact may not be large, it seems unlikely there would be no participation response.³²

Labor force participation should receive a boost from paid family leave, since it is **estimated** that no more than 40% of workers currently have private paid leave coverage, generally for the birth of a child. Recent research examining the participation impact of California's paid family leave plan increases the probability that mothers will be working one year after the birth of their child by almost 20%.³³ There was also evidence that hours worked by mothers were measurably higher during the second year of the child's life.

Taken together, increased spending on education and paid family leave is estimated to increase labor productivity by 6 basis points by 2026 and aggregate hours worked by nearly 20 basis points. These are small, but measurable, economic impacts.

There are some long-term economic costs from the higher marginal personal tax rates in Secretary Clinton's proposals, as they reduce the incentives to save, invest and work. While the burden of the higher tax rates falls almost exclusively on high-income taxpayers, these filers receive most of the investment income. The consequences for private investment are evident in the nearly 2 percentage point increase in the marginal effective tax rate on new investment—the rate of return on a marginal or break-even investment project.³⁴ The largest marginal rate increases would be on equity financed intellectual property investments by corporate entities. The smallest increases would be on pass-through entities that use debt to finance investment. The disincentive effects of Secretary Clinton's plan on investment reduce the economy's productivity by more than an estimated 10 basis points by 2026.

Secretary Clinton's tax proposals also increase the effective tax rate on the labor

income of high-income taxpayers, reducing their incentive to work. Across all taxpayers, the effective tax rates on labor income would rise by 0.5 percentage point.³⁵ For those in the top quintile, the effective rate would increase by a full percentage point. The higher marginal rate on labor income is expected to reduce hours worked by an estimated 7 basis points by 2026.

Adding up all the supply-side cross-currents, the positive effects of Secretary Clinton's policies outweigh the negative ones, lifting productivity by approximately 75 basis points and aggregate hours worked by 10 basis points by 2026.

Minimum wage increase

Secretary Clinton has proposed raising the minimum wage to \$12 an hour by 2021. Economists are divided on the economic effects of higher minimum wages, particularly with its impact on employment. Some believe the employment effects are insignificant, while others find a significant effect. Important literature exists on both sides of the debate, and new research continues to pour in.

Most studies showing a small employment effect from a higher minimum wage have examined small minimum wage hikes.³⁶ Businesses are able to adjust by increasing prices or employee performance standards and avoid reducing payrolls. However, Secretary Clinton's proposal envisages a historically large increase in the minimum wage. Under her proposed increase, the inflation adjusted minimum wage in 2021 would be \$10.50, compared with the previous peak of \$8.50 in 1968. The plan would also gradually increase the tipped minimum wage, which is currently \$2.13, to parity with the regular minimum wage. Moreover, both the tipped and regular minimum wage will be indexed to the growth in median wages and will thus not be eroded by inflation.

While the weak growth in low-skilled wages in recent decades is an oft-cited rea-

son to increase the minimum wage, to a significant extent this weak growth reflects low demand for low-skilled labor caused by globalization and technological change. Raising the minimum wage to historically high levels at a time of structurally weak low-skilled labor demand increases the risk of employment losses. This is consistent with evidence from the broader labor demand literature showing that employment is more sensitive to wage hikes now than it was in the past.³⁷ In addition, the size of Secretary Clinton's minimum wage hike means that it will affect workers in a broader range of industries than past hikes. These industries include globally competitive manufacturing, which is even more responsive to wage increases than the always minimum-wage-sensitive service sector.

We thus assume a modest negative effect of minimum wage hikes on labor demand similar to that assumed by the Congressional Budget Office.³⁸ The number of workers affected by the phase-in of the minimum wage is estimated using wage data from the Current Population Survey. We also account for planned increases in state minimum wages, different minimum wages for tipped and non-tipped workers, and our forecasts of expected average hourly wage growth, inflation, and underlying labor force growth.³⁹

Based on this analysis, Secretary Clinton's proposed minimum wage hike is found to have a negative effect on GDP and jobs, reducing employment by 650,000, equal to 0.4% of all jobs,⁴⁰ once fully implemented by 2021.⁴¹ However, low-wage workers affected by the minimum wage who hold onto their jobs, some 14% of all workers, will benefit from an average increase in their earnings of 13%. The greater wage income earned by workers receiving the higher minimum wage is substantially more than the wage income lost by those workers who lose their jobs due to the higher minimum wage.

Scenario 2: Secretary Clinton Lite

It is unrealistic to think that Secretary Clinton will get all of her economic policy proposals through Congress and into law. Even with a Clinton victory, the Senate may well remain under Republican control and the House almost certainly will. Congress would thus surely balk at the scale of her proposed policy changes. This scenario considers how the economy would perform if the new president largely gets the policies she wants, but on a smaller scale.

Assumptions

Behind this scenario is the assumption that Secretary Clinton's proposed tax and government spending increases are substantially reduced; on a static basis, the increase in tax revenues over the next decade is reduced to \$950 billion and spending increases to \$1.65 trillion. The static 10-year budget deficit of \$700 billion is only modestly lower than in the Secretary Clinton at Face Value scenario.

In this scenario, we assume that Secretary Clinton's proposed 4% surcharge on taxpayers with incomes of more than \$5 million and higher estate and gift taxes do not get through Congress. Several other smaller tax initiatives also fail to make it through, including the risk fee on large financial institutions and the surcharge on high-income taxpayers. Federal outlays are reduced commensurately with the lower tax revenues. The secretary's plan for higher education is scaled back in line with her initial plan from a few months ago, which only provides free college tuition for two-year degrees and means-tested debt-free tuition

for four-year degrees. Funding for early childhood education and paid family leave are also scaled back.

Secretary Clinton is able to follow through on her plan to reform immigration law, but it too is whittled back from what she has proposed. This includes reducing the expansion of family-based visas and the new merit visa that is meant to clear the current backlog. We assume that immigration flows will increase by just over 500,000 a year under this scenario, about half of what we assume in the At Face Value scenario. While amnesty for undocumented immigrants will be a heavy political lift, we assume that it is also passed into law.

As in the At Face Value scenario, minimum wages in this scenario are assumed to increase to \$12 an hour by 2021 and the tipped minimum wage is phased out, but they are *not* indexed to inflation.

Economic impact

While Secretary Clinton's economic policy proposals are materially scaled back in this scenario, the economy still benefits (see Table 4). Real GDP expands by 2.7% per annum during her presidency, and by the end of her presidential term in 2020, real GDP is \$170 billion larger than under current law. This supports 1.6 million additional jobs, which pushes the unemployment rate down to 4% by the time she leaves office.

While GDP and job growth in this scenario falls short of that in the Secretary Clinton at Face Value scenario, unemployment is somewhat lower in this scenario during her presidential term. This largely reflects slower labor

force growth primarily due to the scaling back of immigration reform and the number of immigrants coming to the country. The tighter labor market prompts the Federal Reserve to more aggressively tighten monetary policy and drives 10-year Treasury yields higher. Growth is slower early in the next decade.

Long-term growth is stronger in this scenario than under current law, but it falls well short of that in the At Face Value scenario. Over the coming decade, real GDP growth is 2.2% per annum compared with 2.1% under current law, but 2.4% in At Face Value. Largely behind these differences are the assumptions concerning immigration reform and the number of migrants coming to the country, and spending on education and paid family leave and the resulting boost to the economy's supply side.

The nation's fiscal situation is weaker under this scenario than compared with current law and in the At Face Value scenario. The 10-year dynamic budget deficit after accounting for the effects of the policy changes on the economy is close to \$750 billion larger than under current law. This is a bit more than the assumed static cumulative deficit of \$700 billion.

Of note is the long-term employment impact of not indexing the minimum wage to inflation, as we assumed in this scenario. By the end of the decade, employment is reduced by less than 400,000, some 300,000 fewer job losses than when the minimum wage is indexed. Inflation and state minimum wages slowly but steadily ease the bite of the non-indexed minimum wage on employment.

Scenario 3: Secretary Clinton Goes Back to Washington

Given the current political discord, it is reasonable to expect that the next Congress would put up substantial roadblocks to Secretary Clinton's economic policy proposals. The current Republican-controlled Congress supports tax cuts and reform, and less non-military spending, not higher taxes and more spending. And it has been largely steadfast

in its opposition to larger deficits. It is thus difficult to envisage any future Congress acquiescing to Secretary Clinton's proposals. In this scenario, the next Congress makes the secretary's proposals more politically workable. It would be a potential baseline, or most-likely scenario, if Secretary Clinton became president.

Assumptions

We assume in this scenario that a President Clinton must work with a Congress that has a similar makeup to the current one; it is Republican-controlled, although the Republican majority in both the Senate and House is smaller. This scenario is characterized largely by continued political gridlock.

Table 4: Secretary Clinton Lite

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg annual growth	
												2016-2020	2016-2026
Real GDP (2009\$ bil)	16,650.2	17,210.9	17,889.7	18,301.6	18,505.9	18,781.0	19,102.9	19,474.3	19,854.0	20,249.3	20,681.2	2.7	2.2
% change	1.8	3.4	3.9	2.3	1.1	1.5	1.7	1.9	1.9	2.0	2.1		
Employment (mil)	144.4	147.3	151.3	153.7	153.9	153.9	154.5	155.5	156.5	157.6	158.9	1.6	1.0
% change	1.8	2.0	2.7	1.6	0.1	-0.0	0.4	0.6	0.6	0.7	0.8		
Unemployment rate (%)	5.0	4.5	3.6	3.4	4.0	4.6	5.1	5.3	5.4	5.5	5.4		
Real median household income (2009\$)	51,241.7	51,905.4	52,918.8	53,343.9	53,406.1	53,587.3	53,738.1	53,985.4	54,260.7	54,613.1	55,009.8	1.0	0.7
% change	1.2	1.3	2.0	0.8	0.1	0.3	0.3	0.5	0.5	0.6	0.7		
Consumer Price Index (1980-1982=100)	240.3	246.9	254.0	261.6	268.6	275.2	281.5	287.6	293.6	299.5	305.5	2.8	2.4
% change	1.4	2.7	2.9	3.0	2.7	2.5	2.3	2.2	2.1	2.0	2.0		
S&P 500 Stock Index	1,964.7	1,978.1	2,005.7	1,975.6	2,092.8	2,278.1	2,473.8	2,659.4	2,847.6	3,072.9	3,333.6	1.6	5.4
% change	-4.7	0.7	1.4	-1.5	5.9	8.9	8.6	7.5	7.1	7.9	8.5		
FHFA House Price Index	371.9	383.9	392.4	402.2	415.9	432.9	453.8	477.5	502.0	524.1	541.5	2.8	3.8
% change	3.4	3.2	2.2	2.5	3.4	4.1	4.8	5.2	5.1	4.4	3.3		
Federal funds rate (%)	0.6	2.1	4.1	4.7	4.7	4.5	4.0	3.6	3.2	2.9	2.8		
10-yr Treasury yield (%)	2.4	3.6	4.2	4.5	4.7	4.8	4.7	3.9	4.2	3.9	3.8		
Federal government debt (\$ bil)	14,059.5	14,917.6	15,917.4	16,732.1	17,692.4	18,747.3	19,905.9	21,154.3	22,383.7	23,439.2	24,639.6		
Debt-to-GDP ratio (%)	75.9	76.3	76.3	76.3	78.0	79.7	81.6	83.4	85.0	85.8	86.8		
												Cumulative	
Federal budget deficit (\$ bil)	-632.7	-714.6	-892.0	-979.8	-1,032.5	-1,092.7	-1,174.5	-1,215.7	-1,253.0	-1,293.9	-1,313.6	-3,619	-10,962
Deficit-to-GDP ratio (%)	-3.4	-3.7	-4.3	-4.5	-4.6	-4.6	-4.8	-4.8	-4.8	-4.7	-4.6		
Government interest payments - federal (\$ bil)	494.3	631.8	821.0	983.2	1,039.9	1,078.9	1,117.3	1,146.9	1,176.4	1,205.4	1,234.6		
Interest-to-GDP ratio (%)	2.7	3.2	3.9	4.5	4.6	4.6	4.6	4.5	4.5	4.4	4.3		

Sources: BEA, BLS, S&P, FHFA, Treasury, Moody's Analytics

The \$1.65 trillion in tax increases over the next decade proposed by Secretary Clinton are cut down to a price tag of only \$350 billion. Most of the revenue comes from a onetime windfall from the repatriation of corporate profits currently held overseas for tax purposes. We also assume a small tweak to the way carried interest is taxed. The increase in government spending is scaled back to equal the increase in tax revenues. Secretary Clinton is only able to get the increased funding she wants for more infrastructure spending and some of what she has requested for early childhood education. Additionally, we assume fewer states opt into the Medicaid expansion provisions of the Affordable Care Act, reducing the cost of the federal incentives to convince them otherwise.

As in the previous scenarios, Secretary Clinton gets her way on immigration reform, but in this scenario we assume the additional immigration flows are only 250,000 a year, or one-fourth that in the At Face Value scenario. This is achieved by assuming that only employment-based immigration is expanded, with no additional programs or family-based immigration expansions. There is no amnesty for undocumented immigrants in this scenario.

We also assume in this scenario that the federal minimum wage rises to only \$10.10 by 2021, and there is no inflation indexation. The tipped minimum wage only increases proportionately to the minimum wage, and thus never achieves parity with the regular minimum wage.

Economic impact

With most of Secretary Clinton's economic policy proposals failing to become law in this scenario, it is not surprising that the economy's performance is similar to that experienced under current law (see Table 5). Real GDP growth is 2.4% per annum during her presidential term and 2.2% over the next decade. This compares with 2.3% and 2.1%, respectively, under current law. Real GDP by 2020 is \$60 billion higher than under current law, and less than \$200 billion higher by 2026.

Employment is as expected a bit higher and unemployment a bit lower in this scenario than under current law, but modestly so. By 2026, there are 1.5 million more jobs. Given the somewhat tighter job market, interest rates are marginally higher.

Table 5: Secretary Clinton Goes Back to DC

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg annual growth	
												2016-2020	2016-2026
Real GDP (2009\$ bil)	16,650.2	17,168.3	17,658.5	18,025.8	18,330.0	18,695.4	19,130.0	19,569.9	19,949.3	20,314.7	20,699.9	2.4	2.2
% change	1.8	3.1	2.9	2.1	1.7	2.0	2.3	2.3	1.9	1.8	1.9		
Employment (mil)	144.4	147.0	149.5	151.2	152.1	152.9	154.3	155.7	156.8	157.8	158.9	1.3	1.0
% change	1.8	1.8	1.7	1.1	0.6	0.5	0.9	0.9	0.7	0.6	0.7		
Unemployment rate (%)	5.0	4.7	4.5	4.6	4.9	5.1	5.0	4.9	4.8	4.8	4.8		
Real median household income (2009\$)	51,241.7	51,818.0	52,557.8	52,901.4	53,044.0	53,299.9	53,666.7	54,071.0	54,441.9	54,847.8	55,289.4	0.9	0.8
% change	1.2	1.1	1.4	0.7	0.3	0.5	0.7	0.8	0.7	0.7	0.8		
Consumer Price Index (1980-1982= 100)	240.3	246.9	253.9	261.0	267.3	273.4	279.4	285.4	291.4	297.4	303.4	2.7	2.4
% change	1.4	2.7	2.8	2.8	2.4	2.3	2.2	2.1	2.1	2.1	2.0		
S&P 500 Stock Index	1,964.7	1,967.8	1,972.8	1,980.8	2,151.8	2,374.9	2,586.5	2,758.5	2,918.8	3,114.3	3,349.8	2.3	5.5
% change	-4.7	0.2	0.3	0.4	8.6	10.4	8.9	6.6	5.8	6.7	7.6		
FHFA House Price Index	371.9	383.9	392.5	402.1	415.6	432.0	450.8	470.6	489.9	507.6	523.1	2.8	3.5
% change	3.4	3.2	2.2	2.5	3.3	3.9	4.3	4.4	4.1	3.6	3.0		
Federal funds rate (%)	0.6	2.0	3.7	3.8	3.6	3.5	3.5	3.4	3.4	3.3	3.3		
10-yr Treasury yield (%)	2.4	3.6	4.0	4.0	4.0	3.9	3.9	3.8	3.8	3.8	3.8		
Federal government debt (\$ bil)	14,059.5	14,911.3	15,819.8	16,476.9	17,290.1	18,194.7	19,214.7	20,339.7	21,451.2	22,399.7	23,522.4		
Debt-to-GDP ratio (%)	75.9	76.4	76.8	76.5	77.3	78.3	79.3	80.6	81.8	82.4	83.5		
												Cumulative	
Federal budget deficit (\$ bil)	-632.7	-692.6	-765.8	-852.4	-906.7	-960.1	-1,061.6	-1,102.3	-1,147.5	-1,196.8	-1,254.2	-3,217	-9,940
Deficit-to-GDP ratio (%)	-3.4	-3.6	-3.7	-4.0	-4.1	-4.1	-4.4	-4.4	-4.4	-4.4	-4.5		
Government interest payments - federal (\$ bil)	494.3	630.4	805.4	934.1	964.6	992.5	1030.7	1069.7	1111.7	1151.9	1191.0		
Interest-to-GDP ratio (%)	2.7	3.2	3.9	4.3	4.3	4.3	4.3	4.2	4.2	4.2	4.2		

Sources: BEA, BLS, S&P, FHFA, Treasury, Moody's Analytics

Interestingly, the government's fiscal situation is somewhat stronger in this scenario than in the other scenarios. The cumulative 10-year budget deficit is about \$250 billion less than under current law, and the nation's debt-to-GDP ratio is more than a percentage point lower. This reflects the static deficit

neutrality of the tax and spending changes assumed in this scenario, and the economic benefit of the increased foreign immigration and greater infrastructure spending. There are also few negative supply-side effects from raising tax revenues on repatriated corporate profits.

The employment impact of the minimum wage is also very modest in this scenario. At the peak of the job losses in 2019, there are only 215,000 fewer jobs, and by 2026 the job losses are close to 50,000. By the end of the decade, only 2.4% of the labor force is affected by the minimum wage.

Conclusions

Presidential candidates often put forward proposals that are as much political statements as firm policy positions. Indeed, Secretary Clinton's proposals have become somewhat more expansive in recent weeks as she has worked to address the policy concerns of Senator Bernie Sanders, her chief political rival

for the Democratic presidential nomination. Most notable being a significant scaling up of the College Compact and the tax increases on high-income taxpayers needed to pay for it.

But while the policy proposals put forward by candidates are generally overstated, and no one expects that their proposals will

get through the legislative process and into law fully intact, they are a statement on their philosophy and priorities. Secretary Clinton's economic policy proposals should be considered through this lens.

Evident from her proposals is the belief that the country needs to invest more in

education, infrastructure and workers, and that the well-to-do, and to a lesser degree financial institutions and businesses, should pay for it. While her budget arithmetic does not completely add up, it is pretty close, and the nation's debt load under her plan is no different than under current law.

She is also very pro-immigration, as the reforms to immigration law she supports would result in a near doubling of the legal immigrants that come to the U.S. each year,

and the reforms will make immigration laws more employment-based than they are currently. She also wants a path to legalization for the more than 11 million undocumented immigrants living here.

There are still some obvious gaps in her economic proposals. She has said little about corporate tax reform, something that appears to have bipartisan support and could, if done well, result in a more globally competitive U.S. economy. Her views on more open global trade have been

muddled by her intensifying opposition to the Trans Pacific Partnership, the current trade deal on the legislative table. But other deals are in train, and her support for the continued globalization of the U.S. economy is necessary for the nation to realize even the modest economic growth in our projections.

Nonetheless, the upshot of our analysis is that Secretary Clinton's economic policies when taken together will result in a stronger U.S. economy under almost any scenario.

Appendix

This appendix provides the econometric basis for the marginal propensity to consume by income quintile estimates used in the analysis, and the equations in the Moody's model for the 10-year Treasury yield and federal funds rate.

Marginal propensity to consume

Spending by consumers in each quintile of the income distribution is modeled based on more than a quarter-century of data through 2014 from the Bureau of Labor Statistics' Consumer Expenditure Survey (see Table 6).⁴²

Consumer spending per capita by income quintile is determined by income per capita by quintile, stock wealth, homeowners' equity, and the household debt service burden. The model is log linear and has fixed effects for each income quintile. The income and wealth distribution are linked to consumer spending in the model as income and wealth by quintile are determined by aggregate income and wealth and mean-to-median inequality.

The marginal propensity to consume out of after-tax income is, as expected, much larger for lower-income groups than for higher-income groups. For those in the bottom quintile of the income distribution, the MPC out of income is estimated to be 0.86, while it is only 0.48 for those in the top quintile of the distribution.

Stock prices only affect the spending of consumers in the top quintile with a wealth effect of 9.4 cents. That is, for each \$1 increase in stock wealth, consumer spending

in the top quintile increases by nearly a dime. The implied aggregate stock wealth effect among all consumers is closer to 2 cents, which is consistent with other econometric estimates of this effect.⁴³

The housing wealth effect influences spending decisions by consumers in the top two quintiles of the distribution, and is estimated at close to 7 cents. The implied aggregate housing wealth effect across all consumers is thus almost 3 cents. This is smaller than most estimates of the housing wealth effect, although these estimates are based on data prior to the housing bust and financial crisis.

Debt service burdens—the share of after-tax income that households must devote to servicing their debt to remain non-delinquent—also impact consumer spending, but only for those in the bottom quintile. It is somewhat surprising given the massive

household leveraging and deleveraging before and after the financial crisis, that debt burdens do not explain spending for other income groups. Other measures of household financial stress that are part of the Moody Analytics model were also tested for inclusion in the model of consumer spending, but to no avail.

Table 6: Explaining Consumer Spending by Income Quintile

Dependent variable: Consumer expenditures per capita
 Estimation period: 1987 to 2014
 Estimation: Linear estimation after one-step weighting matrix

Explanatory variables:	Coefficient	t-statistic
Constant	3.044	19.370
Income per capita, first quintile	0.861	21.840
Income per capita, second quintile	0.759	24.710
Income per capita, third quintile	0.743	30.210
Income per capita, fourth quintile	0.622	9.350
Income per capita, fifth quintile	0.485	8.080
Stock wealth, fifth quintile	0.094	4.600
Debt service burden, first quintile	-0.023	-1.890
Housing wealth, fourth and fifth quintiles	0.072	1.650
Fixed effects, first quintile	-0.733	
Fixed effects, second quintile	-0.412	
Fixed effects, third quintile	-0.349	
Fixed effects, fourth quintile	0.252	
Fixed effects, fifth quintile	1.250	
Adjusted R-square	0.995	
Durbin-Watson statistic	0.733	

Note: The variables in this model are cointegrated. Since this is a long-run model of income inequality, this allows the use of least squares estimation. Note: Newey-west standard errors are used.

Sources: Census Bureau, BEA, BLS, Moody's Analytics

Table 7: Explaining the 10-Year Treasury Yield

Dependent variable: 10-yr Treasury yield
 Estimation period: 1980Q1 to 2016Q1
 Estimation: Least squares

Explanatory variables:	Coefficient	t-statistic
10-yr Treasury yield, lagged 1 period	0.827	26.80
Federal funds rate	0.152	5.75
S&P Volatility (VIX index)	-0.104	-1.36
Federal debt-to-GDP ratio, lagged 1 period	0.011	3.25
Excess reserves-to-GDP Ratio, lagged 1 period	-0.023	-1.45
Adjusted R-square	0.978	
Durbin-Watson statistic	1.522	

Sources: Treasury Dept., S&P, Federal Reserve, Moody's Analytics

Table 8: Explaining the Federal Funds Rate

Dependent variable: Federal funds rate
 Estimation period: 1980Q1 to 2016Q1
 Estimation: Least squares

Explanatory variables:	Coefficient	t-statistic
Federal funds rate, lagged 1 period	0.751	17.01
Real potential GDP growth, 3-yr MA	0.126	1.76
Unemployment gap	-0.264	-3.97
Inflation expectations	0.454	5.02
S&P Volatility (VIX index), 2-qtr MA	-0.262	-1.68
Adjusted R-square	0.96	
Durbin-Watson statistic	1.71	

Sources: Treasury Dept., S&P, Federal Reserve, Moody's Analytics

10-year Treasury yield

The yield on the 10-year Treasury bond is the key long-term interest rate in the Moody's macro model. The yield is modeled as a function of the federal funds rate and variables that influence the size of the term premium—the Treasury debt-to-GDP ratio, excess reserves-to-GDP ratio, which proxy for the Federal Reserve's quantitative easing,

and stock market volatility, which captures the flight-to-quality to Treasury bonds in times of financial market and geopolitical stress. Table 7 shows the equation for the 10-year Treasury yield.

Federal funds rate

The federal funds rate equation in the model is specified as a Federal Reserve

reaction function. The funds rate is thus determined by real potential GDP growth (proxy for the real equilibrium funds rate), the unemployment gap (the difference between actual unemployment and the natural rate of unemployment), inflation expectations, and stock market volatility to account for financial market conditions (see Table 8).

Endnotes

- 1 Moody's Analytics provides economic analysis and does not endorse or support any political party or candidate, including those in the 2016 U.S. presidential election. This paper is part of the company's ongoing analysis of the economic implications of the candidates' policy proposals in the 2016 U.S. presidential election. Moody's Analytics has published a series of reports throughout the election cycle analysing the candidates' proposed tax and economic plans.
- 2 Some authors of this report have made contributions to the presidential campaigns for Democratic and Republican candidates during this election cycle, and one author previously served as an economic advisor to the 2008 John McCain presidential campaign.
- 3 To help document Secretary Clinton's economic policies and positions, this paper includes hyperlinks to the candidate's web site and relevant speeches and interviews.
- 4 Moody's Analytics, a unit of Moody's Corporation, provides economic analysis to market participants to help them measure and manage risk. It operates independently of Moody's Investors Service, the credit ratings agency.
- 5 A detailed description of the Moody's Analytics model of the U.S. economy is available [here](#). More detailed validation documentation is available on request.
- 6 Secretary Clinton has intimated that she will soon propose some tax cuts for middle-income taxpayers.
- 7 Our analysis of Secretary Clinton's tax proposals relies significantly on a similar [analysis by the Tax Policy Center](#).
- 8 There is a [consensus](#) among economists that the Cadillac tax would reduce costly distortions in the healthcare system.
- 9 The complexity of Secretary Clinton's tax proposals is provided by Dan White, *Candidate Report Card: The Democrats*, Economy.com, March 2016.
- 10 The Tax Foundation has also done [an analysis of the Clinton Tax Plan](#). It finds that "Hillary Clinton's plan would raise tax revenue by \$498 billion over the next decade on a static basis. However, the plan would end up collecting \$191 billion over the next decade when accounting for decreased economic output in the long run."
- 11 Our analysis of Secretary Clinton's spending proposals relies significantly on a similar [analysis by the Committee for a Responsible Federal Budget](#).
- 12 The sequester is currently not in effect due to the [budget deal](#) achieved at the end of 2013 in the wake of the government shutdown.
- 13 Build America Bonds, which supported more than \$180 billion in infrastructure spending during the financial crisis, are a more efficient way of helping to finance infrastructure spending than traditional tax-exempt municipal debt, as tax-exempt municipal debt ends up benefiting not just infrastructure projects but also high-income purchasers of the debt. See the [statement](#) of Frank Sammartino, Assistant Director for Tax Analysis of the Congressional Budget Office, in a hearing of the Senate Finance Committee.
- 14 This is defined as tuition low enough that it could be funded through a combination of a "realistic family contribution" and part-time work rather than student loans.
- 15 Similar to the FAMILY Act sponsored by Senator Kirsten Gillibrand (D-NY). Unlike the FAMILY Act, however, Secretary Clinton does not support an across the board payroll tax increase to pay for the plan (nor an employer mandate) and instead would pay for it with a portion of her proposed taxes on the wealthy.
- 16 Secretary Clinton has [stated](#) that "we must go further by ending the sequester for both defense and nondefense spending in a balanced way." We assume this is done in the same manner proposed by President Obama in his fiscal 2017 budget [proposal](#) and [scored](#) by CBO.
- 17 CBO continues that "total factor productivity (TFP, the average real output per unit of combined labor and capital services) would be higher by roughly 0.7 percent in 2023 compared with what would occur under current law. The increase in TFP would make workers and capital alike more productive, leading to higher GDP, higher wages, and higher interest rates."
- 18 Secretary Clinton [responded](#) to written questions from the Oregon Fair Trade Campaign: "I've laid out a three-part test for any trade agreement to earn my support: it must (1) create American jobs, (2) raise wages, and (3) improve our national security. My approach to trade would be to establish and enforce fair rules so that our workers compete on a level playing field and countries do not race to the bottom on labor, the environment, and so much else. And we can bring others along in having higher labor, environmental, and other standards."
- 19 An excellent and representative study of the macroeconomic impact of the Trans Pacific Partnership agreement is provided by the [Peterson Institute](#).
- 20 The results presented in this paper consider the combined impact of all of Secretary Clinton's proposals, but the impact of each of the proposals in isolation is available upon request.
- 21 We do not include the potential impact of Secretary Clinton's proposed infrastructure bank on infrastructure spending in our analysis. In theory, the bank could fund a significant amount of additional investment. If fashioned off of the [Transportation Infrastructure Finance and Innovation Act](#) program, it would provide federal credit assistance through direct loans, loan guarantees, and lines of credit to finance surface transportation projects. The proposed \$25 billion in seed money for the infrastructure bank could support as much as \$250 billion in federal loans over a five-year period. Those loans, in turn, could make up approximately one-third of total project costs, so in all the infrastructure bank could support as much as \$750 billion in total additional infrastructure development. However, given the significant uncertainties involved in the operation and success of such an infrastructure bank, it is not included in our analysis. This is a conservative assumption that likely understates our estimated economic benefit of Secretary Clinton's economic plan.
- 22 The impact of government deficits and debt on interest rates is captured in the Moody's Analytics model through the 10-year Treasury yield equation. See Appendix for a description of this equation.
- 23 A discussion of fiscal multipliers during the financial crisis and how they vary depending on where the economy is in the business cycle is provided in Alan Blinder and Mark Zandi, *How the Great Recession Was Brought To An End*, Moody's Analytics white paper (2010).
- 24 The impact of immigrants on these demand spillovers is assessed in Gihoon Hong and John McLaren, *Are Immigrants a Shot in the Arm for the Local Economy*, NBER working paper (2015).
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- 32 For more information on the labor force participation rate impacts a literature review is available in L. J. Bettendorf, E. L. Jongen, and P. Muller, *Childcare Subsidies and Labour Supply—Evidence From a Large Dutch Reform*, Labour Economics (2015).
- 33 Charles L. Baum and Christopher J. Ruhm, *The Effects of Paid Family Leave in California on Labor Market Outcomes*, *Journal of Policy Analysis and Management* (2016).
- 34 According to the Tax Policy Center's [analysis](#) of Secretary Clinton's tax policies, the marginal effective tax rate on nonresidential business fixed investment would rise from 23.2% currently to 24.9% under her proposals.
- 35 The same TPC analysis estimates that the effective tax rate on labor income for all taxpayers would rise from 24.6% currently to 25.1% under Secretary Clinton's proposals.
- 36 See Barry Hirsch, Bruce Kaufman, and Tehyana Zlenska, *Minimum Wage Channels of Adjustment*, Industrial Relations (2015).
- 37 See, for example, Andreas Lichter, Andreas Peichl, and Sebastian Siegl, *The Own-Wage Elasticity of Labor Demand: A Meta-Regression Analysis*, The Institute for the Study of Labor working paper (2014).
- 38 Specifically, our analysis follows a very similar approach and uses the same elasticities for teenagers and adults as the CBO uses in its minimum wage analysis of the Harkin minimum wage legislation.
- 39 State minimum wage data come from the Economic Policy Institute's [Minimum Wage Tracker](#). Our analysis does not take into account city-level minimum wage hikes.
- 40 These estimates of the job losses due to the minimum wage do not take into account the larger low-skilled labor force that would result from immigration reform. However, the greater willingness of immigrants to locate to the parts of the country where demand for their labor is highest, and the endogeneity of the migration decision to labor demand, will minimize the extent to which new immigrants are made jobless by the minimum wage. The responsiveness of migration to labor demand can be seen in the return of many undocumented immigrants to Mexico in the aftermath of the Great Recession.
- 41 The most convincing recent research has found a meaningful negative effect of a higher minimum wage on employment. See Jonathan Meer and Jeremy West, *Effects of the Minimum Wage on Employment Dynamics*, NBER working paper (2015). This paper also shows why other research has had difficulty statistically identifying a negative effect as past minimum wage hikes have been

quickly eroded by inflation and minimum wage hikes in other nearby states. Other recent research uses detailed firm-level data to show that minimum wage hikes cause some businesses to fail and others to come into existence. This suggests that the long-run effects of minimum wage increases may be significantly larger than the short-run effects usually estimated in the literature, as labor-intensive firms gradually go out of business and are replaced by firms that use fewer workers. Finally, while much of the past research has relied on data aggregated to the county or state level, recent research has shown that when individual workers are tracked over time, the 2007-2009 minimum wage hike appears to have had a significant negative effect on employment.

- 42 The [CES](#) data serve a range of purposes, most notably the construction of the U.S. consumer price index. For reference, according to the 2014 CES survey, those in the first quintile made less than \$15,500 during the year. The second quintile made between \$15,500 and \$32,000, the third quintile made between \$32,000 and \$55,000, the fourth quintile made between \$55,000 and \$90,000, and the fifth quintile made over \$90,000.
- 43 The [Congressional Budget Office](#) (2007) provides a useful survey of this literature with an emphasis on the U.S. experience.

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