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The Macroeconomic Consequences of Mr. Trump's Economic Policies

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Introduction

This paper assesses the macroeconomic consequences of presidential candidate Donald Trump's proposed economic policies. These include his policies on taxes and government spending, immigration, and international trade. A similar analysis of candidate Hillary Clinton's proposed economic policies will be forthcoming.

The Macroeconomic Consequences of Mr. Trump's Economic Policies[1]

BY MARK ZANDI, CHRIS LAFAKIS, DAN WHITE AND ADAM OZIMEK[2]

This paper assesses the macroeconomic consequences of presidential candidate Donald Trump's proposed economic policies. These include his policies on taxes and government spending, immigration, and international trade. A similar analysis of candidate Hillary Clinton's proposed economic policies will be forthcoming.

Three scenarios are considered. First, we take Mr. Trump's proposals at face value as outlined on his campaign's web site and in his speeches and interviews. The second scenario assumes that Mr. Trump's policies are fully adopted, but on a smaller scale than he has proposed. The third scenario assumes a President Trump will need to negotiate with a somewhat skeptical Congress, resulting in his policies being scaled back and adjusted in response to political realities. This final scenario would be a reasonable baseline, or most likely scenario, were Mr. Trump to win the election.

Mr. Trump 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, his recent energy policy proposals, his seeming support for higher state-level minimum wages, and his ruminations on negotiating with investors in U.S. Treasury bonds and on bringing back the gold standard.[3]

We use the Moody's Analytics[4] model of the U.S. economy for this analysis.[5] The model is similar to that of the Federal Reserve Board and Congressional Budget Office for forecasting, budgeting and policy analysis. The Moody's Analytics 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 Mr. Trump's economic policies is complicated by their lack of specificity. The publicly available information is not sufficient to fully quantify all of his proposals. Thus, a number of assumptions are laid out in the paper. The assumptions are our own, but they are based on discussions with some of those working on economic policy for the Trump campaign.

To determine the long-term economic impact of the candidate's policy proposals, the Moody's Analytics 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 Mr. Trump's policies are implemented during his 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 Mr. Trump's policies.

Broadly, Mr. Trump's economic proposals will result in a more isolated U.S. economy. Cross-border trade and immigration will be significantly diminished, and with less trade and immigration, foreign direct investment will also be reduced. While globalization has created winners and losers in the U.S. economy in recent decades, it contributes substantially to the ongoing growth of the U.S. economy. Pulling back from globalization, as Mr. Trump is proposing, will thus diminish the nation's growth prospects.

Mr. Trump's economic proposals will also result in larger federal government deficits and a heavier debt load. His personal and corporate tax cuts are massive and his proposals to expand spending on veterans and the military are significant. Given his stated opposition to changing entitlement programs such as Social Security and Medicare, this mix of much lower tax revenues and few cuts in spending can only be financed by substantially more government borrowing.

Driven largely by these factors, the economy will be significantly weaker if Mr. Trump's economic proposals are adopted. Under the scenario in which all his stated policies become law in the manner proposed, the economy suffers a lengthy recession and is smaller at the end of his four-year term than when he took office (see Chart). By the end of his presidency, there are close to 3.5 million fewer jobs and the unemployment rate rises to as high as 7%, compared with below 5% today. During Mr. Trump's presidency, the average American household's af-

ter-inflation income will stagnate, and stock prices and real house values will decline.

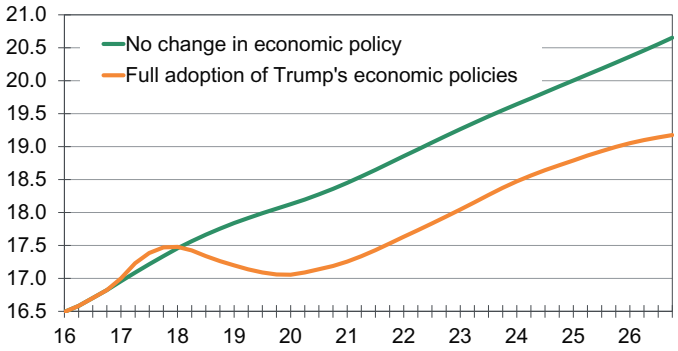
Under the scenarios in which Congress significantly waters down his policy proposals, the economy will not suffer as much, but would still be diminished compared with what it would have been with no change in economic policies.

Those who would benefit most from Mr. Trump's economic proposals are high-income households. Everyone receives a tax cut under his proposals, but the bulk of the cuts would go to those at the very top of the income distribution, and the job losses resulting from his other policies would likely hit lower- and middle-income households the hardest. The decline in wealth caused by weaker stock prices and housing values would be felt by all households.

Even allowing for some variability in the accuracy of the economic modeling and underlying assumptions that drive the analysis, four basic conclusions regarding the impact of Mr. Trump's economic proposals can be reached: 1) they will result in a less global U.S. economy; 2) they will lead to larger government deficits and more debt; 3) they will largely benefit very high-income households; and 4) they will result in a weaker U.S. economy, with fewer jobs and higher unemployment.

Macroeconomic Impact of Trump's Policies

Real GDP, 2009$ tril



Sources: BEA, Moody's Analytics

On taxes and spending

Mr. Trump has proposed a complete overhaul of the tax code and a massive reduction in the taxes paid by both individuals and corporations. Broadly, his tax plan would significantly lower marginal rates, make the tax code flatter and less progressive, and scale back deductions and other tax breaks. More specifically, the most significant proposed tax changes for individuals include:

- Replacing the current seven personal income tax brackets with three and reducing the top marginal rate from 39.6% to 25%.
- Increasing the standard deduction to $25,000 for single filers and $50,000 for joint filers, and indexing to inflation thereafter.
- Taxing capital gains and dividends at a 20% maximum rate.
- Eliminating federal estate and gift taxes.
- Eliminating the tax on investment income of high-income households to help pay for the Affordable Care Act.
- Taxing carried interest as ordinary business income.
- Limiting the value of itemized deductions, except for charitable contributions and mortgage interest payments.

On the corporate side of the tax code, the biggest changes include:

- Reducing the corporate tax rate to 15% from its current 35%.
- Pass-through businesses such as S-corporations and partnerships also only pay no more than 15%.
- One-time repatriation tax of 10% of corporate profits held overseas.
- Foreign subsidiaries of U.S. companies pay taxes on profits in the year they are earned.
- Repealing most tax breaks for businesses and the corporate minimum tax.

Mr. Trump's tax plan is similar to other recent tax reform proposals put forward by the Republican Congress and the Obama administration, in that all these plans lower tax rates, close loopholes, and scale back deductions and breaks in the code. However, the scale of the changes Mr. Trump is proposing is many times larger. According to an analysis by the Tax Policy Center, the static cost of his tax proposals—not accounting for the impact of the proposals on the economy and what that means for government tax revenue and spending—is $9.5 trillion over the next decade compared with current law. Tax revenues as a percent of GDP will fall to their lowest point on a sustained basis since World War II.[6]

How or whether the Trump tax cuts will be paid for is also unclear. To fully pay for the cuts and not add to the federal budget deficit, government spending must be reduced by 20%. However, except for his references to eliminating waste in government and block-granting Medicaid, the candidate has not proposed any other spending reductions. Instead, he has proposed more spending on veterans' healthcare, suggested that spending on the military should increase, and intimated that there should be no changes to Social Security and Medicare spending. Mr. Trump's stance on immigration, including building a wall between the U.S. and Mexico and significantly increasing outlays on immigration officers, may also be very costly to the government.

Mr. Trump's tax plan will make the tax code simpler than the status quo, but creates complications. Fewer deductions and breaks in the code will simplify things substantially, as will eliminating alternative minimum taxes. However, allowing pass-through businesses, which are currently taxed at personal tax rates, to instead be taxed at a lower corporate tax rate will complicate things. Without additional rules, enterprising individual taxpayers would be able to become pass-through entities to take advantage of the lower rates. Mr. Trump's tax plan also does

not tackle the thorny question of whether U.S. multinationals should be taxed on a territorial basis, instead of on a worldwide basis as they are now.

All taxpayers receive a tax cut under Mr. Trump's plan, but most of the cuts go to those with the highest income. High-income and wealthy households will benefit substantially from the lower marginal rates on income, dividends and capital gains. The alternative minimum tax and estate and gift taxes will be eliminated. Carried interest, which accrues to wealthy investment managers, will be taxed at the plan's low business tax rates. And the surcharge on investment income that high-income households currently pay to help fund Obamacare will be repealed.

The tax code under Mr. Trump's plan will thus be much less progressive than the current tax code. More than one-third of the proposed tax cuts on personal income will go to the top 1% of income earners, with the average taxpayer in this group receiving a reduction in their tax bill of $275,000. Taxpayers in the bottom 99% of income earners will receive a tax cut of less than $2,500.

On immigration and trade

Mr. Trump strongly advocates for big changes to U.S. immigration and trade policies. Broadly, his policies would be a significant retreat from the increasing globalization of the U.S. economy since World War II. Among the most controversial is his proposal to remove 11.3 million undocumented immigrants living in the U.S., making up 3.5% of the population and 5.1% of the labor force.[7]

It is likely that this goal will be pursued through greater deportations and a mix of policies that make gainful employment more difficult and therefore contribute to so-called voluntary self-deportation. Mr. Trump's campaign is calling for a national electronic employment verification system, also known as e-verify. This program, which is utilized by some states and municipalities, allows employers and law enforcement to enter an individual's identification information into an online database that verifies that they are a legal resident or legal immigrant with permission to work. This makes it more difficult for undocumented immigrants to find work and would contribute to voluntary deportations.

In addition, Mr. Trump has called for tripling the number of Immigrations and Customs Enforcement officers from 5,000 to 15,000. This would facilitate an increase in workplace raids that have declined under President Obama. It is unlikely that ICE officers would engage in residential raids to round up immigrants, given the likely high budgetary, political and even humanitarian costs.

The candidate's campaign web site also calls for ending federal grants for so-called sanctuary cities, where city employees and police officers are prevented by local ordinance from inquiring about immigration status. Finally, Mr. Trump is calling for the construction of a wall across the entire U.S./Mexican border to deter entry and re-entry of new and previously deported undocumented immigrants.

Mr. Trump has also expressed skepticism of the trade deals the U.S. has made in recent decades, strongly criticizing the early-1990s' North American Free Trade Agreement, or NAFTA, China's entry into the World Trade Organization's trade framework in the early 2000s, and the Trans-Pacific Partnership agreement with a number of Pacific Rim nations (but not China) that is currently being considered by Congress. Mr. Trump does not appear to be anti-trade per se, but he insists that these are poor trade arrangements that are not in the best interest of the U.S. and should at the very least be renegotiated.

He also said he believes that some of our trading partners, most notably the Chinese, are taking advantage of their trade relationship with the U.S. He has argued that the Chinese are keeping their currency artificially low relative to the U.S. dollar in an effort to run big trade surpluses with the U.S. In response, he has proposed that a 45% tariff be imposed on Chinese imports to the U.S. until China allows its currency to freely float.

The candidate has also expressed displeasure with Mexico over the illegal immigrants crossing the U.S. border and has argued for a 35% tariff on products imported from companies that outsource U.S. jobs to that country and to pay for the wall between the two countries.

Scenario 1: Trump at Face Value

To quantify the impact of Mr. Trump'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 trade policies.[8]

Assumptions

A number of assumptions are required in order to quantify Mr. Trump's economic proposals. These assumptions are consistent with Mr. Trump's stated economic policies and perspectives as represented on his web site and in his 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 largely adopt the assumptions made by the Tax Policy Center. Key among them is that itemized deductions for individuals will be limited to 10% of their deductions or exemptions, except for charitable giving and mortgage interest payments. It is also assumed that rules are adopted to limit shifting of individual income to business income to take advantage of the proposal's lower business tax rates. We assume that legislation is passed in summer 2017 making the tax cuts retroactive for the entire year; the spending cuts begin in the

Table 1: Mr. Trump at Face Value

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg Annual Growth 2016-2020	Avg Annual Growth 2016-2026
Real GDP (2009$ bil)	16,650.3	17,272.5	17,376.3	17,122.0	17,118.5	17,388.4	17,784.4	18,210.2	18,599.2	18,895.3	19,116.6	0.6	1.4
Percent change	*1.8*	*3.7*	*0.6*	*-1.5*	*-0.0*	*1.6*	*2.3*	*2.4*	*2.1*	*1.6*	*1.2*		
Employment (mil)	144.4	148.4	148.9	146.1	144.0	142.9	143.8	145.6	147.0	147.5	147.3	-0.1	0.2
Percent change	*1.8*	*2.7*	*0.3*	*-1.9*	*-1.4*	*-0.7*	*0.6*	*1.3*	*1.0*	*0.3*	*-0.1*		
Unemployment rate (%)	5.0	3.5	3.7	5.7	6.8	7.3	6.7	5.5	4.5	4.3	4.8		
Consumer price index (1980-82=100)	240.3	249.6	263.2	274.3	283.5	290.7	297.2	303.7	310.4	317.0	323.8	3.4	3.0
Percent change	*1.4*	*3.9*	*5.4*	*4.2*	*3.3*	*2.5*	*2.2*	*2.2*	*2.2*	*2.1*	*2.1*		
S&P 500 Stock Index	1,966.5	1,695.1	1,472.4	1,605.5	1,850.0	2,084.3	2,281.6	2,470.1	2,623.2	2,759.9	2,902.3	-1.2	4.0
Percent change	*-4.6*	*-13.8*	*-13.1*	*9.0*	*15.2*	*12.7*	*9.5*	*8.3*	*6.2*	*5.2*	*5.2*		
FHFA House Price Index	371.9	380.4	370.3	366.8	382.6	400.0	415.8	433.6	453.7	470.4	475.2	0.6	2.5
Percent change	*3.4*	*2.3*	*-2.6*	*-1.0*	*4.3*	*4.6*	*3.9*	*4.3*	*4.6*	*3.7*	*1.0*		
Federal fund rate (%)	0.6	4.0	6.3	5.7	4.5	3.1	2.9	3.1	3.2	3.6	3.7		
10-Year Treasury yield (%)	2.4	5.6	8.6	7.9	7.0	6.5	5.9	5.7	5.8	6.2	6.7		
Federal government debt ($ bil)	14,060.6	15,224.6	16,837.7	18,665.4	20,953.4	23,465.3	26,137.4	28,913.7	31,705.8	34,410.1	37,472.7		
Debt-to-GDP ratio (%)	75.9	77.0	80.8	87.6	95.3	102.6	109.6	116.1	122.2	128.1	135.2		
Federal budget deficit ($ bil)	-640.2	-1,182.9	-1,538.9	-2,009.3	-2,230.7	-2,395.8	-2,511.3	-2,596.0	-2,694.8	-2,879.8	-3,151.0		
Deficit-to-GDP ratio (%)	-3.5	-6.0	-7.4	-9.4	-10.2	-10.5	-10.5	-10.4	-10.4	-10.7	-11.4		
Government interest payments - federal ($ bil)	494.3	659.0	931.4	1162.8	1238.9	1297.4	1385.7	1498.7	1622.6	1733.1	1844.2		
Interest-to-GDP ratio (%)	2.7	3.3	4.5	5.5	5.6	5.7	5.8	6.0	6.3	6.5	6.7		

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

fourth quarter of 2017 with the start of the federal government's fiscal year.

With regard to government spending, we assume no changes in the entitlement programs and military spending relative to current law. Spending on veterans programs is assumed to be increased by just more than $500 billion over the next decade. To help defray the costs of the tax cuts and other spending, we assume that more than $1.5 trillion will be cut from other discretionary nondefense outlays over the next decade. Additional meaningful cuts would require the elimination of federal agencies, mass layoffs, and the curtailment of many public services. This is not likely, and thus the bulk of the tax cuts, equal to $9.5 trillion over the next decade, are deficit financed.

Removing 11.3 million undocumented people will be difficult logistically, and will take time. Mr. Trump estimates that the deportations would take two years, though this does not seem feasible. For context, the most removals ICE has ever done in a given year was during 2012 when it deported just more than 400,000 immigrants, and during the Great Recession the undocumented population declined by an estimated at most 500,000 a year.[9] Therefore, it is assumed it will take eight years to complete the removals, and that this will be largely accomplished through the national adoption of the e-verify system.

As to trade policy, it is assumed that the Trans-Pacific Partnership trade deal fails to become law. But although Mr. Trump is uncomfortable with NAFTA and the WTO-based trade relationship with China, it is assumed that they are not materially changed. Tariffs on Chinese and Mexican nonoil imports are imposed, with half the respective 45% and 35% tariff increases implemented in mid-2017, and the other half at the start of 2018.[10] It is also assumed that China and Mexico respond with in-kind increases in tariffs on U.S. exports to their nations. While China and Mexico would certainly challenge the legality of the U.S. tariffs, and would likely prevail as the tariffs appear to violate WTO and NAFTA rules, the U.S. is assumed to hold steadfast. It is further assumed that, although the U.S. is flaunting international trade law, this does not result in a broader fraying of global trade agreements. And although Mr. Trump has chastised other nations for their trading practices such as Japan, we assume no other nation faces higher U.S. tariffs.

Economic impact

The U.S. economy will weaken significantly if Mr. Trump's economic policies are fully implemented as he has proposed. The economy will suffer a recession that begins in early 2018 and extends into 2020 (see Table 1). During this downturn, real GDP

Table 2: The Economy Under Current Law

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg Annual Growth 2016-2020	Avg Annual Growth 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
Percent 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
Percent 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		
Consumer price index (1980-82=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
Percent 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
Percent 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
Percent change	*3.4*	*3.2*	*2.2*	*2.4*	*3.3*	*3.8*	*4.3*	*4.4*	*4.3*	*3.9*	*3.5*		
Federal fund 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		
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		
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 Dept., Moody's Analytics

will decline peak to trough by close to 2.4%. This would be an unusually lengthy recession—even longer than the Great Recession—although the severity of the decline in economic activity would be more consistent with a typical recession suffered since World War II. Employment will continue to decline and unemployment will rise into the next presidential term, with the unemployment rate peaking at 7.4% in summer 2021.[11]

For the typical American family, Mr. Trump's policies will mean that their standard of living will effectively go nowhere, at least during his term in office. Real income per capita will be near $45,000 when he is sworn in, and it will be about the same when his term ends. Stock prices, which will get hammered early in his presidency given the weaker economy and higher interest rates, will make their way back and end his term about where they were when he took office. House prices will follow roughly the same path. It will be a difficult four years for the typical American family.

The economic damage created by Mr. Trump's policies is also stark when considering how the economy would perform if there were no significant changes to policy. That is, current law regarding tax and spending policy, immigration and trade policies, and all other fiscal policies remain in place. In this current law scenario, employment is expected to increase by 6 million jobs during Mr. Trump's presidency (see Table 2). This compares with a decline of 3.4 million jobs over the same period if the candidates' policies are fully implemented.

Bigger deficits, higher debt load

Mr. Trump's economic policies hurt the economy due in part to the large budget deficits and heavy debt load that result from his tax and spending policies. Even on a *static* basis, the deficit in 2020, the last year of his term, will be close to $1 trillion greater than if there were no changes to tax and spending law. By 2026, the end of the budget horizon, the deficit will be almost $1.6 trillion greater.

The large tax cuts and bigger deficits actually support stronger consumer spending and economic growth, particularly early in Mr. Trump's term, before the negative impacts of the higher interest rates caused by the large deficits take hold. Since the economy is operating at full employment when the tax cuts take effect, the so-called crowding-out effects from the larger deficits appear quickly.[12] That is, the increased government borrowing causes interest rates to increase, crowding out private sector activities such as business investment, housing, and consumer spending on vehicles and other durables.[13]

Also mitigating the longer-run lift to consumer spending from the tax cuts is that most of the cuts accrue to high-income consumers. Well-to-do consumers spend

a significantly smaller proportion of any reduction in their taxes than do 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, 86 cents out of every dollar in reduced taxes is spent. In contrast, the marginal propensity to consume for those in the top quintile is only 0.49 (see Appendix).

There are some long-term economic benefits from the lower marginal personal and corporate tax rates in Mr. Trump's proposals. Most notably, they would significantly reduce the marginal effective tax rate on investment by nearly 10 percentage points. All else being equal, this would incent more savings and investment.[14] The proposals would also have the desirable effect of reducing the cost of equity financing of investment over debt financing, which would reduce leverage in the economy.

However, these benefits are overwhelmed by the mounting deficits and debt and resulting higher interest rates. The nation's debt load rises from 75% of GDP currently to over 100% by the end of Mr. Trump's first term and more than 130% a decade from now. Long-term interest rates are much higher as a result. Over the next decade, 10-year Treasury yields are expected to average 6.6%, compared with near 4% in the current-law scenario.[15] Businesses' cost of capital and households' borrowing costs are much higher, despite the lower marginal rates, which act as a corrosive on investment and ultimately on productivity and GDP growth.

Immigration and trade supply shock

The economy also suffers as Mr. Trump's immigration and trade policies act like a negative supply shock.[16] Requiring millions of undocumented immigrants to leave the country reduces the size of the labor force, and the higher tariffs on imports from two of our largest trading partners increase the price of imported goods. The result is a smaller economy and higher inflation, something akin to stagflation.

As undocumented immigrants leave the country, the labor market will tighten with the contracting labor force. The undocumented currently account for over 5% of the labor force, which is more than the labor forces of North Carolina and South Carolina combined. As the immigrants leave, the already-tight labor market will get tighter, pushing up labor costs as employers struggle to fill the open job positions. Many of these positions will go unfilled because, by the time the Trump administration is under way, the U.S. is expected to be at full employment, meaning there will be no slack labor out of which to hire workers.

Moreover, recent research has shown that immigrants are imperfect substitutes for native U.S. workers due to different occupation choices and skills.[17] For example, where undocumented immigrants work as manual laborers in agriculture, it is unlikely that many natives are interested in performing these labor-intensive jobs even at modestly higher wages. It is even the case that farms that struggle due to labor shortages may prompt native job losses in upstream and downstream industries.

This is consistent with the Moody's Analytics analysis of Arizona's undocumented immigration crackdown. In 2008, Arizona enacted mandatory e-verify for all employers, and in 2010 the state passed a law that allowed police to check immigration status during traffic stops. We used a state-level panel model to estimate Arizona's predicted share of the undocumented population based on historical rates and the strength of the Arizona economy.[18] By 2015, the state's share of the U.S. undocumented population was 0.8% below where it would otherwise be expected to be, and the timing of this shortfall is consistent with being caused by Arizona's laws. This translates to about 45,000 undocumented immigrant jobs that have been lost, although the damages appear to be fading over time and these losses are down from almost 110,000 lost jobs at the peak of the impact in 2012.[19]

Mr. Trump's immigration policies will thus result in fewer jobs, potentially severe labor shortages, and higher labor costs. This will ultimately cause businesses to more aggressively raise prices for their products. The tight job market and higher inflation prompts the Federal Reserve to normalize interest rates quickly, and then to push rates above their long-run equilibrium.[20] This monetary tightening contributes to the recession that hits about a year after Mr. Trump takes office.

Less trade

The large increase in tariffs on Chinese and Mexican imports supported by Mr. Trump further exacerbates inflation pressures. The U.S. imports nearly $500 billion in goods a year from China, and another almost $300 billion from Mexico, accounting for approximately 35% of total U.S. non-petroleum goods imports. Outside of Canada, no other country comes close as a source of imports.

Slapping a 45% tariff on Chinese imports and 35% on non-petroleum Mexican imports thus increases overall goods import prices by approximately 15%. This in turn lifts overall U.S. consumer prices by almost 3% at its peak six quarters after import prices increase, according to the Moody's Analytics model. The inflationary effect of the tariff hikes are heightened since they are assumed to occur in late 2017 and early 2018 when the economy is operating above full employment.

U.S. importers will quickly look for other sources to replace the more expensive Chinese and Mexican imports, but this will take time. Manufacturers in Southeast Asia would be most likely to step in, but it will not be easy for them to ramp up production sufficiently, at least not quickly. It is also unlikely that global manufacturers would expand their operations in the U.S., at least not for a while. Given the extreme uncertainty that would be created by the tariffs, including questions regarding how long they would remain in place, on top of the long lead times involved in developing greenfield manufacturing facilities in the U.S., manufacturers would likely be very cautious and move slowly.

Adding to the economic fallout from the hike in U.S. tariffs is the response by China and Mexico. They would most likely retaliate with in-kind tariffs on U.S. imports. This would be a big hit to U.S. exports, as we ship well over $100 billion in products a year to China, and almost $250 billion to Mexico,

accounting for approximately one-fourth of total U.S. goods exports. Canada is the largest destination for U.S. goods exports, followed by Mexico and then China.

The value of the U.S. dollar also rises, as global investors are attracted to higher U.S. short-term interest rates due to the more aggressive Fed, and the extraordinary global uncertainty created by the trade war between the U.S. and its largest trading partners. The U.S. economy is on shaky ground, but the global economy is in even worse shape, making the U.S. seem like a safe haven for scared global investors. A similar dynamic occurred during the recent financial crisis and Great Recession.

The hit to U.S. exports from the higher Chinese and Mexican tariffs and stronger U.S. dollar is significant. At the peak of the impact in 2019, U.S. real exports are reduced by nearly $85 billion, according the Moody's Analytics model.

U.S. trade with the rest of the world will shrink as a result of Mr. Trump's tariffs, and could decline further if the candidate's seeming skepticism of past U.S. trade deals translates into no future deals. How his administration approaches future trade deals will be evident in how it handles the pending Trans-Pacific Partnership. If ratified as currently written by Congress, the TPP will have small macroeconomic consequences for the U.S., although most estimates suggest it will add to real GDP and incomes.[21] More importantly, the TPP represents the next key step in the steady liberalization of global trade that has occurred since World War II. If the TPP fails to become U.S. law, which seems likely in a Trump presidency, then the ongoing globalization of the U.S. economy may falter. This will not show up in the economic statistics in a given year, but it will mean a smaller U.S. economy as the years go by.

Scenario 2: Mr. Trump Lite

It is unrealistic to think that Mr. Trump will get all of his economic policy proposals through Congress and into law. With a Trump win, the House and Senate would almost certainly remain Republican controlled, but lawmakers would surely balk at the scale of his proposed policy changes. Even some of his economic advisors have publicly explained that some of those proposals would need to be pared back. This scenario considers how the economy would perform if the candidate gets the policies he wants, but on a smaller scale.

Assumptions

A key assumption driving this scenario is that Mr. Trump's tax cuts are substantially reduced; on a static basis they cost the U.S. Treasury *only* $3.5 trillion over the next decade. This assumes much smaller reductions in marginal personal tax rates, particularly for higher-income taxpayers,[22] and a smaller increase in the standard deduction. About one-third of the cost of the tax cuts are assumed to be paid for by reductions in discretionary nondefense spending, and the rest of it is deficit financed.

Mr. Trump follows through on his plan to require undocumented immigrants to leave the country, but only two-thirds of the immigrants, equal to just more than 6 million people, ultimately leave the country. It turns out it is practically much more difficult to get the undocumented to leave, although this is still a significant hit to the labor force. The U.S. is also assumed to impose tariffs on Chinese and Mexican imports as the candidate wants, but that these nations do not retaliate with in-kind hikes in tariffs on imports from the U.S. There is no trade war.

Economic impact

While Mr. Trump's economic policy proposals are materially scaled back in this scenario, the economy still suffers significantly (see Table 3). That is because unlike in the previous scenario, the negative supply shock to the economy from the decline in the labor force and higher tariffs is only modestly offset by the fiscal stimulus provided by the deficit-financed tax cuts. The tax cuts are still large in this scenario, but not nearly as large. Stagflation—higher inflation and weakening growth—creates a predicament for the Federal Reserve and adds to the economy's woes. The Fed's initial response is to raise rates more aggressively to combat the accelerating inflation.

The economy thus slides into recession by 2018. Recession eventually quells the inflation and, with unemployment rising, convinces the Federal Reserve to reverse course and ease monetary policy. Short-term interest rates quickly hit the zero lower bound, and the Fed resumes quantitative easing—purchases of long-term Treasury securities.[23] By the end of the 10-year forecast horizon in 2026, the securities on the Fed's balance sheet expand by an additional $1.3 trillion to nearly $6 trillion. This pushes down 10-year Treasury yields despite the larger budget deficits and the government's greater borrowing needs. This supports stock prices and housing values. There is some irony here since Mr. Trump has stated much skepticism over the merits of QE. But without the additional QE, the economy would have performed even worse.

By the time the recession ends in 2019, real GDP declines by 1.3%, employment falls sharply, and the unemployment rate peaks at more than 9%. In some respects, this scenario is more debilitating than the previous scenario in which Mr. Trump gets all that he wants. Cushioning the economic blow from his immigration and trade policies in the previous scenario is the fiscal stimulus provided by the massive tax cuts. The tax cuts and the stimulus in this scenario are much smaller.

The economy eventually rebounds more strongly from recession in this scenario, ending the forecast horizon a decade from now on a sounder footing. The government's fiscal situation does not erode nearly as much; it takes until nearly the end of the forecast horizon for the nation's debt load to rise over 100% of GDP.

Table 3: Mr. Trump Lite

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg Annual Growth 2016-2020	Avg Annual Growth 2016-2026
Real GDP (2009$ bil)	16,650.3	17,045.3	16,945.4	16,930.2	17,026.7	17,250.6	17,661.1	18,154.7	18,636.8	19,068.3	19,414.9	0.4	1.5
Percent change	*1.8*	*2.4*	*-0.6*	*-0.1*	*0.6*	*1.3*	*2.4*	*2.8*	*2.7*	*2.3*	*1.8*		
Employment (mil)	144.4	146.1	144.1	142.5	141.6	141.2	142.3	144.2	146.1	147.8	148.8	-0.4	0.3
Percent change	*1.8*	*1.2*	*-1.4*	*-1.1*	*-0.6*	*-0.3*	*0.8*	*1.4*	*1.3*	*1.2*	*0.7*		
Unemployment rate (%)	5.0	4.9	6.8	8.3	8.9	9.3	8.7	7.7	6.5	5.8	5.6		
Consumer price index (1980-82=100)	240.3	249.3	261.9	271.8	280.1	287.0	293.5	299.9	306.5	313.1	319.8	3.1	2.9
Percent change	*1.4*	*3.7*	*5.1*	*3.8*	*3.1*	*2.5*	*2.2*	*2.2*	*2.2*	*2.1*	*2.1*		
S&P 500 Stock Index	1,966.5	1,824.3	1,784.2	1,864.8	2,036.3	2,209.9	2,365.0	2,503.7	2,688.9	2,877.5	3,163.6	0.7	4.9
Percent change	*-4.6*	*-7.2*	*-2.2*	*4.5*	*9.2*	*8.5*	*7.0*	*5.9*	*7.4*	*7.0*	*9.9*		
FHFA House Price Index	371.9	386.8	402.1	412.2	421.2	430.7	443.7	458.4	471.3	479.9	483.5	2.5	2.7
Percent change	*3.4*	*4.0*	*3.9*	*2.5*	*2.2*	*2.3*	*3.0*	*3.3*	*2.8*	*1.8*	*0.8*		
Federal fund rate (%)	0.6	2.1	3.4	3.1	2.2	0.8	0.2	0.1	0.3	0.9	1.4		
10-yr Treasury yield (%)	2.4	3.6	4.0	3.8	3.6	3.1	2.5	2.1	2.1	2.4	2.9		
Federal government debt ($ bil)	14,060.6	15,008.1	16,323.9	17,723.5	19,382.2	21,204.1	23,141.5	25,129.7	27,061.5	28,787.6	30,699.5		
Debt-to-GDP ratio (%)	75.9	77.0	80.6	84.6	89.6	94.7	99.1	102.7	105.7	107.8	110.7		
Federal budget deficit ($ bil)	-640.2	-869.1	-1,284.3	-1,537.5	-1,658.4	-1,777.5	-1,844.9	-1,867.0	-1,882.4	-1,925.3	-2,031.7		
Deficit-to-GDP ratio (%)	-3.5	-4.5	-6.3	-7.3	-7.7	-7.9	-7.9	-7.6	-7.4	-7.2	-7.3		
Government interest payments - federal ($ bil)	494.3	631.1	804.2	925.4	956.2	978.3	1005.8	1039.3	1089.8	1157.0	1233.9		
Interest-to-GDP ratio (%)	2.7	3.2	4.0	4.4	4.4	4.4	4.3	4.2	4.3	4.3	4.5		

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

Scenario 3: Mr. Trump Goes to Washington

It is very unlikely that the next Congress would completely go along with Mr. Trump's economic policy proposals, even if only on a small scale. The current Republican-controlled Congress supports tax cuts and reform, and less non-military spending, but it has been largely steadfast in its opposition to larger deficits. It is difficult to envisage any future Congress acquiescing to the much larger deficits that would result from Mr. Trump's proposals. In this scenario, the next Congress makes Mr. Trump's proposals more workable and deficit-neutral. It would be a potential baseline, or most-likely scenario, if Mr. Trump became president.

Assumptions

We assume in this scenario that a President Trump is working with a Congress that has a similar makeup to the current one: It is Republican-controlled, but the Republicans do not have a supermajority in the Senate. This Congress insists that Mr. Trump's tax cuts are scaled back so that they are paid for by government spending cuts.

This scenario is characterized by more political compromise, in which congressional leaders, and to some extent Democrats, have a greater say in the appropriations process. The $9.5 trillion in tax cuts over the next decade proposed by Mr. Trump are whittled down to a price tag of just more than $1 trillion. Approximately two-thirds of the tax reductions come via changes to the personal income tax, and more of the tax cuts are assumed to be concentrated at lower income levels. We also assume a decline in the corporate income tax rate, but the top marginal rate comes down only to 30%, as opposed to the Trump proposed 15%. The corporate tax code is also moved over to a territorial system.

Deficit-neutrality is achieved by largely curbing nondefense discretionary spending, but there are also some assumed reductions in mandatory outlays. The federal government's deficit and debt load increase over the next decade, but the increases are in line with those in current law on a static basis.

As in the previous scenarios, Mr. Trump gets his way on immigration, but in this scenario one-third of the current undocumented workers or some 3.7 million people, ultimately leave the country. Chinese and Mexican imports to the U.S. also face higher tariffs, but they are assumed to remain in place for only a year, because U.S. lawmak-

Table 4: Mr. Trump Goes to Washington

	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	Avg Annual Growth 2016-2020	Avg Annual Growth 2016-2026
Real GDP (2009$ bil)	16,650.3	17,112.6	17,252.9	17,560.4	17,938.7	18,174.4	18,451.6	18,761.7	19,152.3	19,440.7	19,688.8	1.5	1.7
Percent change	*1.8*	*2.8*	*0.8*	*1.8*	*2.2*	*1.3*	*1.5*	*1.7*	*2.1*	*1.5*	*1.3*		
Employment (mil)	144.4	146.6	146.6	147.5	149.0	148.8	148.9	149.3	150.4	150.9	151.0	0.6	0.4
Percent change	*1.8*	*1.5*	*-0.0*	*0.6*	*1.0*	*-0.1*	*0.1*	*0.2*	*0.7*	*0.4*	*0.1*		
Unemployment rate (%)	5.0	4.8	5.7	5.9	5.4	5.8	6.0	6.1	5.7	5.6	6.0		
Consumer price index (1980-82=100)	240.3	248.9	259.7	262.0	270.5	277.2	283.5	289.8	296.1	302.5	309.0	2.4	2.5
Percent change	*1.4*	*3.6*	*4.3*	*0.9*	*3.3*	*2.5*	*2.3*	*2.2*	*2.2*	*2.1*	*2.2*		
S&P 500 Stock Index	1,966.5	1,996.2	1,997.4	2,032.6	2,201.5	2,405.8	2,583.1	2,738.8	2,919.5	3,113.1	3,339.2	2.3	5.4
Percent change	*-4.6*	*1.5*	*0.1*	*1.8*	*8.3*	*9.3*	*7.4*	*6.0*	*6.6*	*6.6*	*7.3*		
FHFA House Price Index	371.9	386.4	399.3	400.4	414.8	428.9	443.4	458.2	472.5	486.5	499.8	2.2	3.0
Percent change	*3.4*	*3.9*	*3.3*	*0.3*	*3.6*	*3.4*	*3.4*	*3.3*	*3.1*	*3.0*	*2.7*		
Federal fund rate (%)	0.6	2.0	4.0	2.9	1.8	2.6	2.6	2.7	2.7	2.7	2.7		
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	14,981.2	16,047.0	16,848.7	17,689.2	18,690.1	19,743.9	20,929.9	22,224.2	23,352.8	24,661.7		
Debt-to-GDP ratio (%)	75.9	76.6	78.3	80.0	80.1	81.8	83.5	85.4	87.1	88.5	90.5		
Federal budget deficit ($ bil)	-640.2	-796.6	-933.2	-896.3	-957.8	-1,051.6	-1,058.4	-1,233.4	-1,319.1	-1,348.8	-1,444.1		
Deficit-to-GDP ratio (%)	-3.5	-4.1	-4.6	-4.3	-4.3	-4.6	-4.5	-5.0	-5.2	-5.1	-5.3		
Government interest payments - federal ($ bil)	494.3	630.7	806.8	906.0	919.7	966.8	1002.8	1037.1	1097.7	1152.0	1191.1		
Interest-to-GDP ratio (%)	2.7	3.2	3.9	4.3	4.2	4.2	4.2	4.2	4.3	4.4	4.4		

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

ers are placated by China's continued moves to liberalize its currency, a process that began last summer, and the progress made on stemming illegal immigration across the Mexican border. China and Mexico do not retaliate with in-kind tariff hikes on U.S. products and services.

Economic impact

The U.S. economy is able to avoid a recession in this scenario, but growth comes to a near standstill early in Mr. Trump's term. Employment barely budges in the first two years, and over his four years as president just over 2.8 million jobs are created (see Table 4). This is about half as many jobs as would be created if there were no changes to current economic policy. Job growth in this scenario is not quite enough to absorb the growth in the working-age population, and unemployment drifts higher, rising to near 6% at points in his administration.

Long-run economic growth also falls short in this scenario. Over the next decade, real GDP is expected to grow by 1.7% per annum compared with just more than 2% under current law. This is a small difference in any given year, but over the years it adds up. Real GDP in 2026 stands at almost $19.7 trillion in this scenario compared with $20.5 trillion under current law.

Behind this poorer performance is a smaller workforce as undocumented workers leave and a stronger U.S. dollar prompted by China's currency liberalization. Contrary to assertions that the Chinese yuan is significantly undervalued, held down by Chinese currency policy, it is somewhat overvalued. This is evident from the large capital outflows Chinese authorities have been working to stem for more than a year.[24] China's economy has been sputtering, and global investors have turned leery on the country's growth prospects. Even domestic Chinese investors recognize the likelihood that China's currency will decline in value and have been pulling money out of the country. The U.S. trade deficit thus increases in this scenario.

There are important long-term economic benefits from lower marginal tax rates and the adoption of a territorial corporate tax system, but these changes are too small in this scenario to have a meaningful impact on growth, at least not over the next 10 years.

Conclusions

Presidential candidates often put forward proposals that are as much political statements as firm policy positions. No one expects that their proposals will get through the legislative process and into law fully intact. But while the policy proposals put forward by candidates are generally overstated, they are a statement on their philosophy and priorities.

Mr. Trump's economic policy proposals should be considered through this lens. He has suggested that he might be willing to bend his position on taxes and perhaps tariffs. He has even intimated that his policy statements are simply a negotiating stance—he is asking for a lot more up front than he ultimately expects to get.

Having said this, what he is asking for is fiscally unsound. His tax and spending proposals will result in very large deficits and a much higher debt load. A future Congress may be able to rein in this profligacy, but it will not be easy, as there is a gulf between what he says he wants on taxes and spending and what it will take to make the budget arithmetic work.

He is also very suspicious of globalization. His willingness to threaten higher tariffs on U.S. trading partners and his sharp criticism of major trade deals signal a reversal on the long-running expansion of U.S. trade and foreign investment. Requiring millions of undocumented immigrants to leave the country also signals less openness to the rest of the world.

The upshot of Mr. Trump's economic policy positions under almost any scenario is that the U.S. economy will be more isolated and diminished.

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 Analytics 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 5).[25]

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; it is only 0.48 for those in the top quintile of the distribution.

Stock prices affect only 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.[26]

The housing wealth effect impacts 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.

Table 5: 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

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.

10-year Treasury yield

The yield on the 10-year Treasury bond is the key long-term interest rate in the Moody's Analytics 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 in Treasury bonds in times of financial market and geopolitical stress. Table 6 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, which proxies for the real equilibrium funds rate, inflation expectations, 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 7).

Table 6: 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 7: 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

Endnotes

1 Moody's Analytics provides economic analysis only 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 ongoing analysis by Moody's Analytics 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 Mr. Trump's economic policies and positions, this paper includes numerous hyperlinks to the candidate's web site and relevant speeches and interviews. Here is a short video of Mr. Trump's energy policy speech.
4 Moody's Analytics, a unit of Moody's Corp., 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 The Tax Foundation has also done an analysis of the Trump Tax Plan. It finds that "Mr. Trump's plan would cut taxes by $11.98 trillion over the next decade on a static basis. However, the plan would end up reducing tax revenues by $10.14 trillion over the next decade when accounting for economic growth from increases in the supply of labor and capital."
7 Pew Research Center estimated that there were 11.3 million undocumented immigrants in 2014, which is 3.5% of the nation's 318 million population. The number of undocumented immigrants in the labor force was 8.1 million in 2012, equal to 5.1% of the labor force.
8 The results presented in this paper consider the combined impact of all of Mr. Trump's proposals, but the impact of each of the proposals in isolation is available upon request.
9 These estimates are provided by the Pew Research Center.
10 To be more precise, Mr. Trump has talked of a 35% tariff on Mexican imports of U.S. companies that outsource to Mexico as well as to pay for the wall he plans to build between the two countries. We assume that to operationalize this, the tariff will need to be applied to all nonoil imports from Mexico.
11 The economy's full-employment unemployment rate is estimated to be below 5%. This is consistent with estimates from the Congressional Budget Office and the Federal Reserve.
12 This is in contrast to the fiscal stimulus used to combat the Great Recession. The temporary tax cuts and government spending increases that policymakers implemented during 2008-2010 provided a more substantive boost to the economy given that it was operating with substantial excess capacity. There were no crowding-out effects.
13 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.
14 According to the Tax Policy Center, the marginal effective tax rate on nonresidential business fixed investment would decline from 23.2% currently to 13.8% under Mr. Trump's proposals.
15 This likely understates the increase in long-term interest rates that would actually occur given the increase in the government's debt load. In a previous Moody's Analytics study measuring fiscal space, we found that countries with debt-to-GDP ratios of over 125% often experience a very sharp increase in interest rates as investors lose faith that the government will be able to service that debt in the long run.
16 The deportation of undocumented immigrants also has significant negative demand side impacts on the economy as the purchasing power of these immigrants also leaves the country.
17 A good representative study authored by Gianmarco I.P. Ottaviano and Giovanni Peri that makes this point can be found here.
18 The econometric analysis supporting this analysis is available upon request.
19 The results are largely unchanged whether the econometric analysis compares Arizona to all U.S. states, or just nearby states with large undocumented immigrant populations, including Colorado, Utah, California, New Mexico and Nevada.
20 Moody's Analytics estimates the long-run equilibrium federal funds rate target to be 3.25%.
21 An excellent and representative study of the macroeconomic impact of the Trans-Pacific Partnership agreement is provided by the Peterson Institute.
22 This is consistent with recent comments by Mr. Trump on the campaign trail.
23 The Moody's Analytics macro model allows for quantitative easing if the federal funds rate predicted by the model's Federal Reserve reaction function falls below negative 25 basis points (see Appendix). The magnitude of the QE determined in the model is conditioned by the experience of the Great Recession.
24 Chinese foreign exchange reserves have fallen from close to $4 trillion at their peak in mid-2015 to closer to $3 trillion currently.
25 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 more than $90,000.
26 The Congressional Budget Office (2007) provides a useful survey of this literature with an emphasis on the U.S. experience.

About the Authors

Mark M. Zandi is chief economist of Moody's Analytics, where he directs economic research. Moody's Analytics, a subsidiary of Moody's Corp., is a leading provider of economic research, data and analytical tools. Dr. Zandi is a cofounder of the company Economy.com, which Moody's purchased in 2005.

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Dr. Zandi is the author of Paying the Price: Ending the Great Recession and Beginning a New American Century, which provides an assessment of the monetary and fiscal policy response to the Great Recession. His other book, Financial Shock: A 360º Look at the Subprime Mortgage Implosion, and How to Avoid the Next Financial Crisis, is described by the New York Times as the "clearest guide" to the financial crisis.

Dr. Zandi earned his BS from the Wharton School at the University of Pennsylvania and his PhD at the University of Pennsylvania. He lives with his wife and three children in the suburbs of Philadelphia.

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Moody's Analytics added the economic forecasting firm Economy.com to its portfolio in 2005. This unit is based in West Chester PA, a suburb of Philadelphia, with offices in London, Prague and Sydney. More information is available at www.economy.com.

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