

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION



These policy briefs outline a series of recommendations from the Baker Institute for the incoming president's administration.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Five Major Challenges to the Beneficial Use of Non-Fresh Water, Including Oil- and Gas-Produced Water

Linda Capuano, Ph.D., Fellow in Energy Technology **Anna Mikulska, Ph.D.**, Nonresident Scholar in Energy Studies

Unconventional shale oil and natural gas extraction are important elements of the U.S. energy revolution. Increased domestic production has improved energy security while lower prices and more affordable energy have supported industrial expansion, created jobs, and fueled economic growth. Recent developments, however, have not been without challenges, two of which relate to water: 1) the industry's reliance on water as part of extraction by the method of hydraulic fracturing, and 2) the need to store, treat, and/or dispose of the large amount of "produced water" that is brought to the surface during production. At the same time, many states are coming to realize the potential for using produced water to meet growing water demand rather than injecting it into underground disposal wells.

This brief describes five high priority challenges that must be overcome to accelerate the beneficial use of produced and other non-fresh water sources. We also believe there is an active role for federal agencies, particularly the Department of Energy and its laboratories, to assist local, state, regional, and other stakeholders as they develop and adapt water policies and practices to convert produced and other non-fresh water supplies into a resource that is included in state water plans.

The volume of produced water in 2012 was approximately 2.4 billion gallons per day (bgpd), of which 75% was produced in California, Kansas, Oklahoma, Texas, and Wyoming. Although small compared with

the nation's total estimated water use of 355 bgpd, produced water can represent an important new water source, especially for more arid states. State water plans are already beginning to include the use of treated brackish and waste water. Treated produced water would add to this supply and further displace the use of fresh water, which would then be available for other purposes.

The Center for Energy Studies (CES) has actively engaged stakeholders, including government, industry, and academia, in this discussion. We have hosted workshops and conferences to clarify the challenges, share successful practices, and overcome barriers in produced water treatment and use. As a result, CES has provided insights to assist state and federal policymakers. Most recently, we partnered with the Ground Water Protection Council (GWPC), Interstate Oil and Gas Compact Commission. and National Rural Water Association (NRWA) to organize a National Produced Water Forum hosted by Oklahoma governor Mary Fallin. CES has also facilitated discussions on produced water and state water plans at the co-located September 2016 GWPC/NRWA Conference.

These discussions have convinced us that broad collaborative action is necessary to overcome challenges and successfully enable the beneficial use of non-fresh waters, especially produced water. CES also believes that federal participation in the following five high-priority challenges is essential in assisting local, state, regional, and other stakeholders as they develop and



There is the potential for treated oil and natural gas produced water and other nonfresh water sources to augment water supplies and displace the use of fresh water, which would then be available for other purposes in state water plans.

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Cite as

Capuano, Linda, and Anna Mikulska. 2016. Five Major Challenges to the Beneficial Use of Non-Fresh Water, Including Oil- and Gas-Produced Water. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. adapt water policies and practices related to produced water and other non-fresh water supplies:

- Standardize approaches to verify and test new water analysis and treatment technologies that are supported by impartial and objective guidelines.
- Develop comprehensive modeling methods to calculate and compare the environmental impact, carbon intensity, risks, costs, and other characteristics of using produced water when compared to other water sources, and collect the data needed to support the models.
- Clarify produced water ownership and liability to encourage industry's participation in treating and putting produced water to beneficial use.
- Communicate with and educate the public and other end-users about the potential benefits of using non-fresh water sources, including produced water.
- Create forums for centralized discussions to share successful regional practices in treating and using non-fresh water, including produced water.

The Department of Energy has already taken steps consistent with these measures. The Water–Energy Nexus crosscutting initiative in the DOE's FY2017 Budget Request supports lower–carbon, lower–energy, and lower–cost water treatment technologies, such as advanced desalination techniques, to provide additional water supplies. We believe, however, that the DOE should increase emphasis on the five priority challenges above to help accelerate the beneficial use of non–fresh water, including produced water.

For example, independent testing of water analysis and treatment methods by national laboratories could give industry and municipalities confidence in the method's accuracy and reliability and thus accelerate adoption of uniform methods. Developing and adopting rapid test and analysis techniques to quickly determine treatment requirements or intended uses of produced water will reduce the need for aboveground storage and the associated impact on the environment.

National laboratories could also play an important role in developing acceptable water quality guidelines for different uses. These guidelines could help clarify the technical challenges of designing water treatments for specific applications, and focus policy discussions on removing barriers and accelerating progress.

In addition, by sharing its modeling expertise, DOE's Energy Information Administration and its national laboratories could provide guidance in expanding GWPC, U.S. Geological Survey, DOE and other databases to include water quality and quantity data, and intended use requirements. This would support advanced modeling to minimize environmental impact and the cost of storing, treating, transporting, and using/disposing produced water.

DOE and its laboratories are also trusted educators who could assist in educating potential end-users on the benefits of using non-fresh water sources; the importance of conservation and reuse; and the ability to treat non-fresh water so that it meets standards for oil and natural gas, agriculture, industrial and other sectors.

Finally, current water policies and regulations are often tailored to local conditions, which make them complex and difficult to navigate. This presents an opportunity for the new administration to leverage federal agencies as facilitating leaders that engage local, state, and federal stakeholders in cross–region and interstate forums where policies and regulatory reforms are discussed and successful practices shared, thereby accelerating and promoting the development of new water resources while ensuring appropriate environmental safeguards.

In summary, we encourage expansion of the Water-Energy Nexus crosscutting initiative in the DOE's FY2017 Budget Request to include more emphasis on the five high priority items above. We also encourage the DOE, EPA, USDA, the Bureau of Land Management, and other federal agencies to continue to cooperate and partner with local and state governments as well as industry, agriculture, academia, and water consumers to enable the beneficial use of this new and much needed source of water.

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U.S. Energy Policy: Guidance for the Next Administration

Kenneth B. Medlock, III, Ph.D., James A. Baker III and Susan G. Baker Fellow in Energy and Natural Resources, and Senior Director, Center for Energy Studies

The last decade has unveiled significant change in global energy markets, with crude oil, natural gas, coal, and electricity markets all in the midst of transition. Developments in the U.S. have served as a principal antagonist, with the shale revolution at the epicenter. In fact, shale's impact on the global energy landscape has been so dramatic that the U.S. Department of State formally established the Bureau of Energy Resources in 2011 to manage three core objectives—energy diplomacy, energy transformation, and energy governance and access—which have been increasingly woven into the fabric of U.S. foreign policy. This stems from global recognition that the U.S. is now generally viewed as an "energy superpower." Maintaining this position requires balancing energy development with domestic and global environmental objectives, foreign policy objectives, and goals for long-term robust economic growth. Indeed, sustainability requires such calculus be performed and reexamined on an ongoing basis, particularly as technology continues to alter the landscape. In fact, the role of technology and the position of the U.S. as an innovator have been central to the shale revolution and will remain vital to the U.S. maintaining its newly emerged status.

ENERGY IS VITAL FOR ECONOMIC GROWTH, BUT THE SOURCES OF GROWTH ARE CHANGING

Energy is intimately linked with economic activity, a fact borne out by the role the wealthiest and most economically diverse

nations—the Organisation for Economic Co-operation and Development (OECD) played in shaping global energy demand growth in the 20th century. According to the International Energy Agency (IEA), the OECD accounted for almost 60% of global energy demand in 1990, a position that had been relatively stable for decades prior. This becomes even more striking when one considers that the OECD accounted for only about 1.1 billion of the world's 5.3 billion people in 1990. However, the two decades following 1990 brought significant change as the center of global economic activity shifted toward the developing non-OECD economies. Demographics are also shifting, as only 1.3 billion of the world's 7.4 billion people currently live in the OECD. As a result, we are already witnessing a profound impact on patterns of energy demand growth. By 2010, the OECD's share of global energy use had fallen to 42% and has continued to decline to about 39% currently. Thus, we see an emerging trend toward a future that is starkly different than the 20th century. Continued economic development in non-OECD nations will bring new energy demands from more than 6.1 billion people, over 1.1 billion of whom live in such abject poverty that they have no access to modern energy services—a condition referred to as "energy poverty."

The prevalence of energy poverty is one of the least understood and perhaps most important factors that will define the future of global energy use. As wealthier regions of the world strive to reduce their environmental impact through new technologies and advanced digitalization,



Continued economic development in non-OECD nations will bring new energy demands from more than 6.1 billion people, over 1.1 billion of whom live in such abject poverty that they have no access to modern energy services.

While a sustainable energy future requires clear and transparent regulation that promotes adequate capital investment to keep pace with aging infrastructure and the massive scale of the energy complex, longterm investments will be fueled by innovation. This means research and development is vital, and it carries significant public benefit.

such options may not always be readily available at an acceptable cost in poorer regions. Thus, both domestic and international policies as well as continued technological innovation will play critical roles in establishing the energy pathways poorer nations pursue as they strive to unburden themselves from poverty.

Looking ahead at the next two decades, it is difficult to project a future in which developing Asia is not a major driver of global energy markets. India, the ASEAN region, and China collectively account for 3 billion people, and the region promises to continue to be economically vibrant. Even at modest rates of economic growth across the region, over 400 million people will likely move into the middle class by 2030, which translates into significant energy demand growth, all while OECD demand continues to slow. Thus, future global energy markets will be driven by demands in the developing world. Given the unconventional energy resource potential in the Western Hemisphere— Canada, the U.S., Mexico, Venezuela, Brazil, and Argentina—the world is on the cusp of a shift in global energy trade that will redefine markets and geopolitical relationships. Policy in the U.S. and other OECD nations must come to grips with this impending paradigm shift relative to the status quo of the last century. This can present a challenge to achieving a sustainable future that balances economic growth, energy demand, and environmental objectives. Importantly, U.S.-led innovation is central to achieving these objectives while seeing the U.S. maintain its global status.

COMMERCIAL MOTIVATION VERSUS POLICY INCENTIVE: FUEL CHOICE AND THE ENVIRONMENT

Much of the recent environmental discourse has focused on transitioning to low-carbon energy. However, what's "good for the goose may not be good for the gander." For example, the last major buildout of coal-fired power-generation

infrastructure in the U.S. was in the late 1970s/early 1980s. Thus, given their age, decisions to either retire or retrofit a large fraction of the U.S. coal-generation fleet are looming. Given the abundance of low-cost U.S. natural gas available to the electricity sector for use in highly efficient natural gas generators, coal will find it increasingly difficult to maintain market share. In sum, the transition away from coal in the U.S. is commercially motivated. The same does not hold true in China and India, where a large fraction of coal-consuming infrastructure is much younger, and early retirement would force an enormous stranded cost and economic burden. This paints a very different reality in the developed OECD economies from that in the developing world, and it highlights the importance of technology in dealing with environmental issues in a very heterogeneous global energy market.

To be sure, market forces will always act to promote the most efficient allocation of resources possible, and understanding this is vital to avoiding the "law of unintended consequences." In the end, whether or not a policy intervention or regulatory measure is justified depends on the balance between the cost and benefit. The path that allows market mechanisms to determine the allocation of capital and penetration of new technologies with the fewest possible impediments will generally be the most successful. The energy challenge is one of significant scale and requires a long-term view if it is to be successfully addressed. Long-term goals can be sustainably achieved through fundamental research and development. This can be funded by modest taxes on energy development and use, which would encourage different behaviors by consumers and producers. So while a sustainable energy future requires clear and transparent regulation that promotes adequate capital investment to keep pace with aging infrastructure and the massive scale of the energy complex, long-term investments will be fueled by innovation. This means research and development is vital, and it carries significant public benefit.

SUGGESTED POLICY PATHWAYS: STABLE REGULATION, DEEPER INTEGRATION, AND TECHNOLOGY

Policies that more broadly address the future of energy while recognizing the global interconnectedness of energy markets are vital, and maintaining the position of U.S. leadership will require long-term thinking toward regulatory stability and innovation. As such, it is important that U.S. energy policy recognizes that oil, gas, and electricity markets are deeply integrated across Canada, the U.S., and Mexico. An integrated approach is important for ensuring energy security, and expansion of cross-border infrastructure will enhance trade and deepen the North American market. To ensure success, policy should create pathways for the market-oriented allocation of capital throughout the energy value chain so that market forces are the prime determinant of the future of the energy sector. Moreover, an emphasis on innovation will make new market outcomes both possible and sustainable.

Wide-scale reform of fiscal policy measures in the energy sector should also be considered. As one example, a modest tax on transportation fuels at the point of consumption would promote greater efficiency in end-use. This carries environmental benefits, but it also carries the important benefit of promoting greater resilience to future energy price movements. The associated tax revenues could be designated for infrastructure improvements and energy R&D. This, in turn, will create employment opportunities and encourage the expansion of human capital in the energy technology arena. More generally, both direct and indirect subsidization of energy resource development and energy technology deployment should be reconsidered across the energy landscape. Policy should consider a redirection toward funding basic R&D in energy technologies. Future breakthroughs can ultimately drive commercially successful technology deployment, which will have spillover effects that benefit long-term

environmental and energy security goals and ensure a continued leadership role for the U.S.

To this end, the new reality of U.S. energy must be woven into foreign policy and international trade negotiations while recognizing that global energy markets are becoming ever more integrated. This requires an expanded and permanent energy focus at the U.S. Department of State that is coordinated across Cabinets. This will include deepening relations with countries in the Middle East, where stability remains very important, and countries in Latin America and Africa, where private capital investment is desperately needed. Finally, the U.S. should take a leadership role in addressing energy poverty.

For success to be forthcoming, environmental concerns related to energy production and use must be confronted. For example, the federal government could work with states to establish baseline regulatory guidance for water use and disposal, with an emphasis on deploying new technologies. Another example involves streamlining infrastructure permitting so that it is not used as a de facto mechanism for addressing environmental issues. Prolonged delays in infrastructure investment can result in price spikes and broad negative economic and welfare consequences. With regard to methane emissions, policy could facilitate the use of currently available technologies, such as drones, for real-time monitoring so that "super-emitters" can be more readily identified and remediated. In addressing climate change, it is important to also consider greenhouse gases (GHGs) other than CO₂, particularly those with significantly greater impact such as methane (CH₄) and nitrous oxide (N₂O). Doing so could yield benefits by inviting a greater array of technologies targeting a broader array of GHGs to provide real solutions.

To conclude, energy and environmental policy should not be based on OECD-centric objectives. Rather, a broader approach is important to ensuring long-term engagement from the developing world and, ultimately, successful long-term outcomes in the energy and environmental policy arena.

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Cite as:

Medlock, Kenneth. 2016. U.S. Energy Policy: Guidance for the Next Administration. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

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U.S. Policy Toward the Hydrocarbon Industry in Latin America

Francisco J. Monaldi, Ph.D., Fellow in Latin American Energy Policy

OVERVIEW

Latin America holds the largest concentration of hydrocarbon reserves outside of the Middle East. The region's official proved oil reserve figure was 340 billion barrels (20% of the world's total) in 2015, second only to the Middle East with 803 billion (47%), and more than the U.S. and Canada, with a combined total of 227 billion barrels (13%). Latin America also has one of the world's largest estimated endowments of shale and other unconventional resources. Its natural gas endowment is not as relatively abundant, but still the region has proved reserves of 280 trillion cubic feet, compared to a combined 440 tcf in Canada and the U.S.²

This very favorable natural endowment contrasts with the poor performance of the sector in the region. While the U.S. and Canada together increased oil production by 73% in 2005-2015 from 9.9 million barrels/day to 17.1 mb/d, Latin America decreased production in the same period by 7%, from 11.1 mb/d to 10.3 mb/d. This underperformance is particularly striking since it occurred during a decade of very high oil prices. Resource nationalism is largely to blame for this wasted opportunity. The region has experienced a wave of expropriations and nationalizations, and some national oil companies largely mismanaged the opportunity given by the windfall.

The general underperformance of the sector hides the divergent production trajectories within the region. Venezuela, Mexico, and Argentina experienced the worst declines in production due to significant policy obstacles to private investment, while Brazil and Colombia did take advantage of the price boom, but even in these successful cases, some regulatory impediments increased. The recent oil bust has hit the Latin American oil industry very hard; both investment and production have been falling rapidly. Production declines in 2016 could reach as high as 400–500 thousand barrels a day, a dramatic drop of 4–5% in just one year, with Venezuela and Mexico again having the steepest declines in output.



LOOKING AHEAD

This critical situation has strengthened a trend that was already in the making: the re-liberalization of the oil industry throughout the region. Countries are starting to compete to offer the best conditions to foreign investors. This new opening cycle offers a significant opportunity for sector development and for foreign capital to flow into the region. If lessons from the past are learned, this could herald a new awakening in Latin America, but it could also end in failure if the institutional frameworks that support it are not strong enough.

Energy trade with Latin America will continue to grow. Latin America, a major importer of oil products from the U.S., represents close to one-half of U.S. product exports (or about 2 mb/d). As product demand peaks in the U.S., Latin America will continue to demand refined products from

U.S. policy should be geared toward supporting investment in Latin America's oil and gas sectors. Expanded production in the region contributes to U.S. energy security.

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Monaldi, Francisco. 2016. U.S. Policy Toward the Hydrocarbon Industry in Latin America. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. the U.S. Mexico's imports of U.S. natural gas have tripled in the past decade, to above 1 tcf per year. Latin America has also become a major importer of LNG from around the world, and this will likely continue. After the U.S. lifted its oil export ban, Latin America became a key destination for U.S. light crude exports. Since in Colombia, Mexico, and Venezuela production is increasingly of heavier crudes, it is likely that exports of light oil from the U.S. will be increasingly used to blend with these types of crudes to make them marketable. In turn, some of these blends will be re-exported to the U.S., where they can be processed domestically in its complex refining infrastructure.

RECOMMENDATIONS

U.S. policy should be geared toward facilitating and supporting investment in Latin America's oil and gas sectors. From a national security perspective, the expansion of production in the region contributes to energy security by providing a more diversified supply portfolio in a geographical area close to the U.S., thereby reducing the concentration of production from the Middle East. It also serves as a tool of economic integration with Mexico and the rest of Latin America. The growth of Latin America's hydrocarbon industry would generate economic opportunities and promote regional stability, which in turn would help support efforts to combat drug trafficking and the spread of terrorism.

- The end of the U.S. oil export ban was a good step toward energy integration that will promote efficiency and trade.
- LNG exports to Latin America should be facilitated, given that it is one of the most geographically attractive markets for the U.S.
- Mexico's energy reforms offer a tremendous opportunity to expand energy trade with Mexico and develop markets for the U.S. oil supply chain and to integrate them with Mexico's. U.S. foreign and commercial policy should aim to support the reforms and the integration of the two countries' energy sectors. The

- U.S. could, for instance, offer technical assistance and facilitate the deployment of investments to help achieve integration through shared pipelines and appropriate transportation infrastructure for supply chain expansion.
- The incorporation of the energy sector in the investment arbitration mechanisms of trade and investment treaties could help strengthen the property rights of U.S. investors and bring stability to the sector.³
- The U.S. should support World Bank and Inter-American Development Bank technical assistance programs to Latin American countries. These programs should be aimed at strengthening the region's institutions and legal frameworks for energy investment, promoting long-term policy stability. Colombia, and more recently Mexico, offer some interesting policy options for the rest of the region.
- Cuba has significant oil and gas potential in the deep waters of the Gulf of Mexico. It is in the U.S. interest that these resources are developed in an environmentally sustainable manner in concert with the U.S. energy industry.

ENDNOTES

- 1. See the BP Statistical Review of World Energy 2016. If we use alternative measures of reserves from more conservative unofficial sources, the region still has a resource potential exceeded only by the Middle East and rivaling the U.S. and Canada.
- 2. Latin America has been much less explored than the northern part of the Hemisphere and there are strong reasons to believe that the potential resources yet to be discovered are significant. The region has been underexplored largely due to institutional and political factors.
- 3. The Center for Energy Studies, the Mexico Center, and the Latin America Initiative at the Baker Institute have published research on these topics. See: www.bakerinstitute.org/center-for-energy-studies and www.bakerinstitute.org/energy.

RECOMMENDATIONS FOR THE NEW ADMINISTRATION

Making Health Care Affordable Again

Vivian Ho, Ph.D., James A. Baker III Institute Chair in Health Economics and Director, Center for Health and Biosciences

The Affordable Care Act (ACA) is the Democratic Party's attempt to provide health insurance coverage for as many Americans as possible in the face of longstanding, unrelenting increases in health care costs. Some of the ACA provisions were based on correct economic principles:

- Coverage sold by private insurers.
- Purchasing pools to promote insurer competition to lower prices and raise quality.
- Coverage for those with pre-existing conditions, with a mandate to buy coverage to prevent adverse selection.
- Financing of coverage through taxes on insurers, medical device makers, and drug companies; and reduced Medicare rates for doctors and hospitals, who all stand to gain from greater insurance coverage.

But the law simultaneously specified overly generous coverage provisions, which raised costs for both taxpayers and middle-income purchasers of ACA Marketplace coverage. Because each ACA-constructed local insurance market has so few competitors, insurers have no incentive to control costs. I recommend that the next administration repeal the ACA, but maintain the concept of state-based insurance Marketplaces with the following changes:

1. Expand the pool of individuals allowed to purchase catastrophic coverage beyond age 30.

Many healthy adults are choosing to pay the penalty for not purchasing coverage rather than buy a Marketplace plan, because they are healthy and use almost no health care services. Allowing these people to buy catastrophic coverage will be a more attractive option and will bring needed revenues to the market that will lower overall premium levels.

2. Expand the current 3-to-1 age-rating limit to 4-to-1 for those aged 26 and above, or to younger adults without two living parents.

The ACA specifies that insurers can charge their oldest customers premiums that are no more than three times those of younger customers. Persons aged 45 to 54 are overwhelmingly represented in insurance Marketplaces, because the 3-to-1 agerating limit requires younger persons to pay too high a premium to subsidize the care of older, sicker patients. Enticing younger persons to enroll will raise the average level of health of the insured pool, which potentially lowers everyone's premiums. The lower premiums cannot be extended to individuals who can be covered under their parents' insurance plan, because doing so would shift substantial private costs to the public sector.

3. Eliminate the requirement to cover preventive care in all health insurance policies.

The public policy priority should be protection against catastrophic circumstances. While providing financial assistance to cover preventive services yields some health benefit, the costs raise health insurance premiums for everyone and add to taxpayer costs.



Repealing Obamacare and replacing it with market-based coverage that is both compassionate and prudent will make health care affordable again, which will guarantee access to insurance coverage for all Americans.

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Ho, Vivian. 2016. Making Health Care Affordable Again. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

4. Reform the risk adjustment formula currently used to reimburse insurers.

Marketplace insurers are compensated for enrolling patients with more documented illnesses, in order to discourage cherrypicking of customers. Full risk adjustment encourages insurers to fully document patient illnesses, but provides no incentive to control costs. Partial risk adjustment, combined with more valuebased purchasing, can control costs while avoiding the selective exclusion of the sickest patients.

5. Foster accountable care organizations (ACO) within state Marketplaces that are analogous to those funded by Medicare.

ACOs are groups of hospitals and/or physicians who voluntarily organize and receive shared financial compensation to manage the entire continuum of care for patients, from prevention to acute care. New legislation should incentivize these ACOs to lower medical spending through a shared savings program pegged to mean per capita spending in each local region. This approach addresses the shortage of competition by encouraging large health care providers to become direct competitors to insurers.

6. Reduce the generosity of the ACA's Medicaid expansion.

Obamacare expanded Medicaid with a blank check. Medicaid per capita spending is much higher than predicted. Adults up to 150% of the federal poverty level should receive Medicaid, but it should be funded at a per capita cost that is predetermined and adjusted annually to the overall (not medical) CPI.

7. Lift the employer mandate for providing coverage to firms with 100+ workers instead of 50.

Smaller firms lack the resources to simultaneously build their businesses and navigate complicated insurance markets and federal regulations. The labor market will encourage many of these firms to offer coverage to talented workers. Firms

that rely disproportionately on low-wage workers should be allowed to gain coverage from Medicaid, rather than face federal government penalties.

Health care costs continue to rise because the price of health care services continues to rise uncontrolled. The insurance provisions of the ACA do nothing to restrain this cost growth. Repealing Obamacare and replacing it with market-based coverage that is both compassionate and prudent will make health care affordable again, which will guarantee access to insurance coverage for all Americans.

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Blue Marble Health and Vaccine Science Diplomacy

Peter J. Hotez, M.D., Ph.D., Fellow in Disease and Poverty, Baker Institute, and U.S. Science Envoy

Since 2000, we have seen significant improvements in global health, especially in regard to poverty-related infectious diseases (also known as neglected diseases) affecting low-income countries. Many of these improvements resulted from initiatives launched by the George W. Bush administration and expanded by President Barack Obama. They include the President's Emergency Plan for AIDS Relief, the President's Malaria Initiative, and the USAID Neglected Tropical Disease (NTD) Program. In addition, the United States has been a major contributor to The Global Fund to Fight AIDS, Tuberculosis and Malaria and Gavi, The Vaccine Alliance. Successes (as measured by the Gates Foundation-supported Global Burden of Disease Study) include a 50%-90% reduction in child mortality from vaccine preventable diseases, and major reductions in mortality or disease prevalence from neglected diseases—AIDS, TB, malaria, and the NTDs.1

Countering these achievements are some new and important global health trends that will need to be addressed by the next administration.

BLUE MARBLE HEALTH

Today, a new and defining feature of the world's poverty-related neglected diseases is that they are no longer mostly the purview of the poorest and most devastated African nations. Analyses conducted since 2013 have instead determined that most of these diseases are now found in the G20 nations, together with Nigeria (which has a larger GDP than several G20 countries). While

these countries account for almost 90% of the global economy, they also host huge numbers of the world's hidden poor who are afflicted with poverty-related neglected diseases, including most of the worm infections, protozoan NTDs such as Chagas disease, and leishmaniasis, dengue, leprosy, and TB, as well as major noncommunicable diseases such as cancer, cardiovascular disease, and diabetes. Thus, traditional dichotomous notions of global health that compare developing to developed countries have been replaced with a paradigmatic change—one I've described in my research as "blue marble health."

The major tenet of blue marble health that the G20 now account for most of the world's poverty-related diseases—has important considerations and ultimately, policy consequences. For example, the epicenter of the 2015–16 Zika epidemic is in northeastern Brazil—an intense concentration of poverty in Latin America's wealthiest economy. Argentina, Brazil, and Mexico—the three largest economies in Latin America—host most of the region's Chagas disease and leishmaniasis cases. Similarly, the U.S. Gulf Coast states including Texas, Louisiana, and Florida where the largest numbers of impoverished Americans live, are at risk for Zika and Chagas disease. An estimated 12 million Americans now live with at least one NTD. Southern Europe is also now a "hot zone" of tropical infections, including malaria, dengue, West Nile virus, and schistosomiasis, due in part to economic downturns.² Impoverished regions of China, India, and Indonesia, all G20 countries, account for most of Asia's neglected diseases.



Today, a new and defining feature of the world's poverty-related neglected diseases is that they are no longer mostly the purview of the poorest and most devastated African nations ... most of these diseases are now found in the G20 nations, together with Nigeria.

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Hotez, Peter. 2016. Blue Marble Health and Vaccine Science Diplomacy. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

CONFLICT AND CLIMATE CHANGE

After poverty, the next most important factors now driving new neglected diseases may be conflict and climate change. The collapse in health systems infrastructure in conflictridden Guinea, Liberia, and Sierra Leone allowed Ebola virus infections to kill 11,000 people in West Africa in 2014–15. But we have seen far larger numbers of people perish due to kala-azar resulting from the Sudanese wars.³ Now, several neglected diseases have emerged in territories occupied by the Islamic State, including leishmaniasis, known by locals as the "Aleppo evil," and there has been resurgence in measles and polio.⁴ Climate change, together with human migrations and unchecked urbanization, may also be fueling new tropical diseases in southern Europe and the Western Hemisphere.

RECOMMENDATIONS

1. Pivot the U.S. State Department Office of Global Health Diplomacy toward blue marble health

The blue marble health concept offers a unique opportunity to effect disease reduction by engaging the leaders of the G20 countries. Specifically, through future summits, a renewed commitment to provide access to essential medicines for neglected diseases that target vulnerable populations in each of the G20 nations could result in a two-thirds or more reduction in the global burden of poverty-related neglected diseases. Focusing on the G20 could provide an important new mission for the U.S. Department of State's Office of Global Health Diplomacy. In addition, the recognition that conflict is a new and important driver of disease also suggests a need to develop command centers shared between the U.S. Departments of State and Defense to recognize the outbreaks that will surely arise in conflict areas in the Middle East, North Africa, and elsewhere.

2. Create a center of excellence for neglected diseases in the United States

The findings of blue marble health and the fact that 12 million Americans live with a neglected

tropical disease signal the need to establish a center of excellence for research and development (R&D) on new ways to monitor and prevent these diseases.

3. Strengthen the GHSA to incorporate "vaccine science diplomacy"

The current version of the Global Health Security Agenda (GHSA) is strong in the areas of surveillance and disease outbreak detection but not in areas linked to neglected disease product development. A new Coalition for Epidemic Preparedness Innovations has been proposed; however, engaging the G20 could also promote an R&D agenda. Specifically, 20 national funds for neglected disease R&D, such as the one recently established by the Japanese Global Health Innovative Technology Fund, could capture the innovation potential of each of the G20 nations in order to produce an urgently needed new generation of drugs, diagnostics, and vaccines for global and blue marble health. A key element here is to foster international scientific cooperation between the G20 nations in programs of vaccine science diplomacy.

ENDNOTES

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- 3. W. Al-Salem, J.R. Herricks, and P.J. Hotez, "A review of visceral leishmaniasis during the conflict in South Sudan and the consequences for East African countries," *Parasites & Vectors* 9 (2016): 460.
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RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

High Cancer Drug Prices: The Harm to Americans and Proposed Solutions

Hagop Kantarjian, M.D., Nonresident Fellow in Health Policy, Center for Health and Biosciences, and Chairman, Leukemia Department, The University of Texas MD Anderson Cancer Center

Vivian Ho, Ph.D., James A. Baker III Institute Chair in Health Economics and Director, Center for Health and Biosciences

THE PROBLEM

High cancer drug prices are a significant contributor to health care costs in the United States. The average annual price of new cancer drugs increased from less than \$10,000 before 2000 to \$145,000 in 2015.

Annual drug industry profits average 20%, the second-highest of any industry. The drug industry needs to make reasonable profits to survive, sustain investment, and fulfill its fiduciary duty toward shareholders. But in its recent laser-focused desire to maximize profits, the drug industry has crossed the line into profiteering—maximizing profits even when it harms patients.

Despite numerous discussions in the media and elsewhere, cancer drug prices are escalating at an alarming rate. The price per year of life gained from such therapies increased from \$54,000 in 1995 to \$207,000 in 2013 (adjusted for inflation). In contrast, real (inflation adjusted) median U.S. <u>household income</u> decreased by 4% between 1999 and 2015. In Europe and elsewhere, the prices of older drugs remain close to their launch prices, unless new benefits are discovered after the drug is on the market. Not so in the U.S., where prices rise an average <u>8-12% annually</u>. Newer drugs enter the market at higher prices every year, partly justified by the high prices of older drugs.

The pharmaceutical industry and its lobbying groups (for example, the Pharmaceutical Research and Manufacturers of America [PhRMA]), under criticism, repeat the same mantra: the high cost of research and development; benefit justifies price; market forces settle prices at reasonable levels; and price regulation stifles innovation and hinders important research and discoveries. None of the arguments is convincing. First, independent studies calculate the cost of R&D is only 10% of the \$1 billion-\$2.6 billion figure claimed in industry-supported studies (all by the same source, the Tufts group). Eighty-five percent of basic research is conducted in academic centers, while the drug industry spends only 1.3% of its budget on basic research, but 20-40% on advertisements and promotion. Over 50% of important research discoveries emerge from independent research, largely funded by taxpayers. The drug industry recently shifted its strategy from in-house R&D to buying most of their pipelines from small biotechnology companies, further increasing prices. Second, studies show no <u>relationship</u> between a drug's benefit and its price. Third, drug companies enjoy monopoly-like conditions that discourage price competition. Fourth, innovation is driven by independent academic scientists who continue their mission of research and discovery regardless of drug prices.

Multiple studies document the harm to Americans of high drug prices. Medical



Generic imatinib, a chronic myeloid leukemia drug, is priced at \$5,000-\$8,000/year in Canada, \$400/year in India, and \$140,000/ year in the U.S.

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An abbreviated version of this paper appeared in U.S. News & World Report on Dec. 12, 2016.

Cite as:

Kantarjian, Hagop, and Vivian Ho. 2016. High Cancer Drug Prices: The Harm to Americans and Proposed Solutions. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. costs and out-of-pocket expenses result in high rates of bankruptcies among cancerpatients. About 20–35% of patients delay, abandon, or compromise treatments because of difficulties in meeting costs. Survival rates also drop. The 8- to 10-year survival rate for chronic myeloid leukemia (CML) is 80% in Europe, where treatment is available and affordable to all patients. In the U.S., high drugs prices force many patients to omit or compromise treatment, so that the five-year survival rate for CML is only 60%. The high cost of drugs is the most significant health care concern of Americans.

GENERIC DRUGS

Despite scrutiny of high cancer drug costs, prices continue their relentless ascent. Two issues compound the problem. First is the increasing shift of health care costs and drugs to patients, as insurers seek to reduce spending. But high out-of-pocket expenses deter more than a third of patients from seeking timely care or buying needed drugs. The second is the spillover of high drug prices to generics. Complex regulations and bureaucracies, and drug shortages, have created monopolistic opportunities for drug companies that can increase the price of generics to exorbitant levels. The three latest publicized scandals by Turing, Valiant, and Mylan are the most excessive form of a common pricing strategy by the drug industry. Generic imatinib (a CML drug) is priced at \$5,000-\$8,000/year in Canada, \$400/year in India, and \$140,000/ year in the U.S. For a generic drug to be priced low, at least 3 to 5 generics must be available in the market. However, the average cost of \$5 million to file for Food and Drug Administration approval of a drug in 2016, and average time to approval of 4 years, discourage many companies from filing for generic approvals. Currently, about 3,800 generic drug applications are under FDA consideration. The FDA should review its procedures and timelines, reduce filing costs to less than \$1 million, reduce approval times to less than 6-12 months, and ensure continuous availability of multiple generics in the U.S. market.

The drug industry has expressed the desire to be "part of the solution." Some industry CEOs favor lowering prices, arguing that affordable drugs have deeper market penetration, keep more patients alive who continue to use these medications, and thus generate more long-term revenues. However, the industry also launched a \$100+ million public relations campaign in 2017 to defend high-price policies.

RECOMMENDATIONS

How can we address high cancer drug prices? Here are several solutions:

- 1. Allow Medicare to negotiate drug prices (estimated to <u>save \$400 billion \$800 billion</u> over a decade).
- 2. Establish mechanisms to review the benefits of drugs and define fair prices during or following FDA approval.
- 3. Encourage cancer organizations to incorporate price into the assessment of "treatment value."
- 4. Prevent strategies that delay the availability of generics (this saved the U.S. health care system \$227 billion in 2015 and \$1.46 trillion over a decade).
- 5. Improve the FDA generics approval process and reduce the cost of filing.
- 6. Request transparent reporting of drug industry R&D costs to justify price.
- 7. <u>Allow cross-border importation</u> of cancer drugs for personal use if the U.S. price is prohibitive.
- 8. Disallow <u>direct-to-consumer advertising</u> of cancer drugs (the U.S. and New Zealand are the only nations that allow this). Such advertising creates false impressions and false markets, which increase costs.

These measures have so far been opposed in Congress because of the influence of the drug industry lobby. Our legislators have been representing drug industry interests rather than the interests of the Americans who elected them. We hope that future legislation will show that the U.S. remains a cherished democracy rather than a feared "pharmaceutocracy."

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Invest in Global Child Nutrition

Farhan Majid, Ph.D., L.E. and Virginia Simmons Fellow in Health and Technology Policy

OVERVIEW

Fetal growth restriction, suboptimal breast–feeding, stunting, wasting, and micronutrient deficiencies in vitamin A and zinc were associated with more than three million deaths globally in children younger than five years of age in 2011, representing 45% of all child deaths that year. Well–nourished children are less likely to be infected by disease and more likely to grow up healthy, smart, and wealthier. Investing in child nutrition and alleviating child hunger in low–income settings are not only important from an ethics and equity perspective, but also make economic sense.



In the context of U.S. involvement in global issues, surveys by the Kaiser Family Foundation have found that Americans consider improving health in developing countries an important priority for the next U.S. president and Congress. Sixtyone percent of Americans believe the U.S. should play at least a major role in improving global health. Ninety-three percent of Americans say that investments in child health are a top or important priority. Global health spending is one of the few topics that enjoys bipartisan support. Three key recommendations from research in the economics and epidemiology of child nutrition are highlighted below.

Recommendation 1: Invest early, especially in the first 1000 days of life

The 1,000 days between conception and age two present a critical window of opportunity for investing in a child's nutritional health. Chronic adult health conditions, including heart disease, type 2 diabetes, and obesity, can be triggered by nutritional deficits during this period. In fact, investments before birth shape not only adult health, but also labor markets and socioeconomic

well-being. In general, rates of returns are understood to be highest in the first 1,000 days, and broadly fall with age, though they still remain positive.

Recommendation 2: Do not underestimate small investments

Economists have argued that small investments in child nutrition may lead to large changes over the course of life. Better child nutrition improves nutrition later in life (self-productivity), boosts non-nutritional outcomes (cross-productivity) and increases the rate of returns in later life investments (dynamic complementarity).

Evidence that low birth weight is highly correlated with stunting between the ages of 0 and 5, and that childhood heights are correlated with adult heights, is consistent with processes of self-productivity.

Majid (2015) shows that Muslim Indonesian children who were in utero during Ramadan score 7.4% to 8.4% lower on cognitive and math tests. A randomized trial involving nutritional supplements targeted at Guatemalan children in first 1,000 days of life resulted in a 46% increase in male wages, and significantly

Investing in child nutrition and alleviating child hunger in lowincome settings are not only important from an ethics and equity perspective, but also make economic sense.

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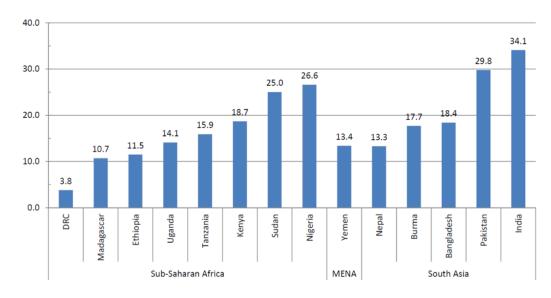
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Cite as

Majid, Farhan. 2016. Invest in Global Child Nutrition. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

BENEFIT-COST RATIOS OF A STUNTING REDUCTION PACKAGE



SOURCE Behrman et. al 2015.

NOTE DRC = Democratic Republic of Congo; MENA = Middle East and North Africa.

higher cognitive skills for males and females, after 35 years. Such findings highlight the high economic returns to small changes in child nutrition during critical periods of development.

Recommendation 3. Investments in child nutrition provide one of the best "bang for the buck" for future generations

Behrman et. al (2015) highlight average benefit-cost ratios for a package of services to reduce stunting in 14 high-risk developing countries in Asia and Africa. The median benefit-cost ratio is 18.7 (Kenya), with a range from 3.8 (Democratic Republic of Congo) to 34.1 (India). Moreover, the benefit-cost ratios for most countries appear to be significantly greater than one. Among the interventions considered are universal salt iodization, iron fortification of staples, and supplementation of iron-folic acid, vitamin A, and therapeutic zinc, as well as community-based nutrition programs and deworming.

In 2008, a distinguished panel of economists ranked the most effective solutions to the world's 10 biggest challenges. Five of the top 10 challenges involved malnutrition. Investments in zinc and vitamin A were voted the no. 1 most

cost-effective solution for malnutrition in children, followed by iron and salt iodization (no. 3), biofortification (no. 5), deworming and other nutrition programs at school (no. 6), and community-based nutrition promotion (no. 9).

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RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Improving the Future of America's Children

Quianta Moore, M.D., J.D., Baker Institute Scholar in Health Policy

There are approximately 74 million children in the United States, and 21% of them live in families with incomes below the federal poverty threshold. Poverty puts children at risk for poorer health and reduced educational achievement. The vitality of a nation depends, in part, on the wellbeing of future generations. Yet unlike other developed countries, the U.S. has not prioritized the welfare of children; it ranks near the bottom on standard measures of child health and well-being among Organisation for Economic Co-operation and Development (OECD) nations. For instance, the overall health of American children ranks second to last, and educational achievement in math, reading, and science is ranked 21st out of 25, with 25 being the worst. Poor health and educational outcomes could be related to inadequate brain development during childhood.

Advances in neuroscience and developmental biology demonstrate that a child's health and ability to learn is determined by how well the brain develops during the first few years of life. The brain controls the biological effects of all other organ systems and influences intelligence, learning, health, and behavior. Because the brain controls these different aspects of human life, impaired brain development as a child can lead to low educational outcomes and suboptimal physical, mental, and behavioral health, which together cause decreased functioning in society when these children reach adulthood. Therefore, investments in early childhood to support healthy brain development can improve children's health and learning, thus reducing societal costs in remediation, health care, mental health services, and incarceration.

CAUSES OF POOR BRAIN DEVELOPMENT

There is a critical window from birth to age 4 when the brain development of a child is most affected. During this period, new neuronal connections are formed at the rate of 700 new connections per second. Neurons that remain inactive or are rarely stimulated are eliminated, and those that are stimulated by experience are strengthened and maintained. The caregiver's response to the child's verbal or nonverbal communication, often called "serve and return," shapes which neuronal connections remain and which are eliminated, making caregiverchild relationship the most significant influence on brain development. Negative caregiver-child interactions, such as insecure parental attachments, can create irreversible changes in the brain that impede the child's intelligence, learning, behavior, and mental health. Many external factors influence the caregiver-child relationship (Table 1), and families living in poverty are most at-risk for

experiencing negative influences.



The vitality of a nation depends, in part, on the well-being of future generations.

FACTORS THAT INFLUENCE EARLY CHILDHOOD BRAIN DEVELOPMENT

Positive Influences		Negative Influences		
Parent	Child	Parent	Child	
Supportive relationships	Loving relationships	Domestic violence	Poor housing	
Economic security	Adequate prenatal and child care	Maternal stress/ depression	Adverse childhood experiences	
Adequate health care	Adequate nutrition	Poverty	Insecure parent attachments	
Adequate nutrition	Safe and stimulating environments	Lack of social support	Lack of stimulation	

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Cite as

Moore, Quianta. 2016. Improving the Future of America's Children. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

POLICY RECOMMENDATIONS

Current federal policies can have a greater positive impact on reducing deficits and strengthening the economy if there is a focus on supporting the optimal brain development of the next generation. There is strong evidence that investments in early childhood yield 7 to 10 percent per year return on investment, measured by increased school and career achievement and reduced expenditures for remedial education, health, and the criminal justice system. Therefore, we recommend revisions to the following current policies:

1. Expansion of the Early Head Start Program (EHS)

Head Start (HS) programs have demonstrated greater parental involvement and higher earnings for participating children when they reach their 20s. Several evaluations of the Early Head Start program have demonstrated improved parent-child relationships and higher cognitive, language, and socialemotional development in children who participated in EHS compared to those who did not. However, there often are not enough spots in HS and EHS to enroll all children from low-income working families that need child care. We recommend increasing funding for HS and EHS to increase access to these evidence-based programs for all children who need it.

2. Increase licensure requirements and wages for child care workers

Licensing requirements for child care workers vary by state and often do not require more than a high school diploma. Additionally, wages are very low and, therefore, retaining skilled providers is difficult. Because low-income children in working families spend a lot of time with child care providers, we recommend policies that support additional training and increased wages for child care workers.

3. Provide federal funding for mandatory parenting classes for those enrolled in Women, Infants, Children (WIC) and Supplemental Nutrition Assistance Program (SNAP)

Evidence-based parenting programs have been consistently identified as one of the most cost-effective evidence-based public policy solutions for child welfare. We recommend a requirement and additional funding for states that receive federal funds for WIC and SNAP to provide free parenting classes to families receiving benefits.

Raising healthy children results in healthy adults. In order to increase the capacity of American children to become productive citizens and compete in a global economy, it is vital that future federal policies include a focus on improving children's brain development.

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RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

What the Next U.S. Administration Should Know When Considering an Approach to Resolving the Israel–Palestine Conflict

Samih Al-Abid, Ph.D., Diana Tamari Sabbagh Fellow in Middle Eastern Studies **Yair Hirschfeld, Ph.D.,** Isaac and Mildred Brochstein Fellow in Middle East Peace and Security in Honor of Yitzhak Rabin

Efforts to bring Israelis and Palestinians together to reach a comprehensive agreement on the issues that divide them were not successful during the Obama administration, despite the commitment shown by the president and Secretary of State John Kerry during talks launched in July 2013. Some of the causes for the failure of negotiations can be attributed to the political realities in both Israel and Palestine. However, other contributing factors ensured the negotiations would not be successful.

WHAT WENT WRONG?

Four principal factors worked together to undermine the negotiations between Israelis and Palestinians during the last round of U.S.-sponsored talks, in 2014. These included an undefined U.S. role: an underestimation of the distance that remained between the parties and what it would take to bridge that difference; a failure by the U.S. to obtain a common understanding and commitment to the package of assurances it offered to launch talks; and the perception that the secretary of state was without a clear mandate and that the president was not prepared to put his weight behind the negotiations when one of the parties failed to meet its commitment.

An Undefined U.S. Role

Neither the president nor the secretary of state was clear about the United States' role in the negotiations. Would it act as a convener, a facilitator, or a mediator, or would the U.S. special relationship with Israel cause it to take up Israeli interests as its own? It is essential to provide a clear definition of the U.S. role.

It may be necessary for the U.S. to present each side with a different package of assurances in order to address the interests of each party that reach beyond the Israel-Palestine relationship. Nevertheless, it is essential to adopt full transparency in regard to the assurances given to each side because they reflect upon the other party.

Underestimating the Distance Between the Parties

The U.S. seemed to underestimate the distance between the parties' positions and what remained to be decided between them. For example, it was obvious early on that Israel was not prepared to accept the pre–June 1967 border as a starting point for talks on territory. Had the U.S. better appreciated this fact, it could have identified the levers necessary to not only get the parties to the negotiating table but also keep them there for a determinate period until an agreement was reached.



At this point, it will be half the battle to get the parties to accept the risk of negotiations. The other half will be keeping them at the table for a set period of time until a resolution is reached.

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Cite as:

Al-Abid, Samih and Hirschfeld,
Yair. 2016. What the Next U.S.
Administration Should Know When
Considering an Approach to Resolving
the Israel-Palestine Conflict. Policy
Brief: Recommendations for the New
Administration. Rice University's
Baker Institute for Public Policy,
Houston, Texas.

A Lack of Common Understanding About "the Package" to Launch Talks

The U.S. assured the Palestinian side that it had secured from Israel a commitment regarding the incentive package to launch the talks. This assurance turned out to be overly optimistic. Achieving this incentive package will be essential in preparing for negotiations. The U.S. will have to develop an incentive package for both sides in order to launch the talks. Understandings should include:

- Terms of reference for the territorial agreement will be based on the pre-June 1967 border with agreed land swaps.
- An understanding on a settlement freeze.
- Detailed understandings on Palestinian state-building based on a quid pro quo approach in support of reaching territorial understandings.
- Guidelines for achieving recognition of the state of Palestine and a Palestinian commitment to refrain from accessing international legal mechanisms during the course of negotiations.

No Political Weight Behind the U.S. Initiative

The White House was not prepared to put its full political weight behind the secretary of state for the talks. Secretary Kerry was left to navigate without a clear mandate and without either carrots (e.g., utilizing the size of future foreign assistance to Israel or the Palestinians as an inducement) or a possible backstop strategy to compel the parties to stay in compliance with commitments and see the process through until the end. While this shielded the president from direct blame for the failure of the talks, it also sent a signal to Israel that reaching an agreement with Palestine was not a top priority for the U.S.

WHAT WILL IT TAKE FOR TALKS TO BE RELAUNCHED AND SUCCESSFUL?

At this point in the history of negotiations between the two sides, it will be half the battle to get the parties to accept the risk of negotiations and take mutually supportive action on a combined top-down and bottom-up basis, enabling their respective

hardened constituencies to regain trust in the legitimacy of the negotiating process. The other half will be keeping them at the table for a set period of time until a resolution of the conflict is reached.

In this context, a U.S. public diplomacy strategy on the Israeli–Palestinian negotiations should identify U.S., Israeli, and Palestinian interests in resolving the conflict in an effort to obtain public support for negotiations.

In addition to pursuing a multilateral framework for relaunching negotiations, as has been proposed recently, five things are necessary for a successful relaunching of talks:

- 1. Achieve Palestinian and Israeli recognition of the territorial parameters for a resolution to the conflict, and define the ongoing process and identification of the end game so there is no misunderstanding and no possibility that the parties can reverse course or merely benefit from the package of incentives (see item #3) without paying into the process.
- An initial agreement that negotiations will continue for a predetermined time with specific milestones in mind until the end game is reached.
- 3. A package of phased economic and/ or political incentives that make it very difficult for either side to not return to and stay at the table.
- 4. Pre-prepared "sticks" from third-party states—most notably, the U.S.—to compel the parties to move forward and be true to their commitments, e.g., temporary suspension of aid.
- A dispute resolution mechanism that does not give one side veto power over the process so that it is stalled indefinitely.

In sum, U.S. reengagement in the Israeli–Palestinian conflict would need to be designed to positively reshape the conditions on the ground, implement and build on successes in the negotiations, and engage a larger number of players invested in and committed to a lasting, comprehensive, and durable Israeli–Palestinian peace based on the two-state solution.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

U.S. Military Action in the Middle East: The Next President Should Seek Congressional Approval

Joe Barnes, Bonner Means Baker Fellow

The United States has been at war against ISIS for two years without specific congressional approval. President-Elect Donald J. Trump's future policies in Iraq and particularly Syria remain unclear. Still, his comments during the campaign, though far from definitive, offer some clues. Unlike his opponent, Hillary Clinton, he appears willing to cooperate more closely with Russia on Syria. All signs indicate that he places a much lower priority on removing the Assad regime than he does on defeating ISIS. Indeed, he has promised to increase military action against the organization. In other words, our war against ISIS will continue and perhaps intensify.

Given this likelihood, the Trump administration should push for formal congressional authorization of ongoing operations against ISIS and any significant increase in U.S. military action in Syria or Iraq.

The War Powers Resolution of 1973¹ was passed to limit the president's ability to initiate a war without congressional approval. It includes a provision mandating that Congress pass—either before or after the fact—an authorization for use of military force (or AUMF).

Previous administrations have asserted that the resolution places unwarranted constraints on the president's constitutional prerogatives as commander in chief. Its constitutionality has never been definitively determined by the U.S. Supreme Court. Nonetheless, President George H.W. Bush sought and received an AUMF for the Gulf War in 1991. President George W. Bush

likewise obtained an AUMF authorizing action against Al-Qaeda in 2001.² A year later, he also secured an AUMF for the invasion of Iraq.³ President Barack Obama did not request an AUMF for the intervention in Libya (and was widely criticized for his failure to do so). He submitted a draft AUMF at the time of the 2013 crisis over the Syrian regime's use of chemical weapons, though the draft was overtaken by events when a U.S. attack in Syria was averted by a Russian initiative to broker a deal.⁴ In 2015, Obama submitted a draft AUMF to authorize military action against ISIS.⁵

The 2015 draft AUMF is still languishing on Capitol Hill. No one appears particularly exercised about the situation. Congress can quibble about the scope and duration of the draft authorization. The president can appear to meet legal niceties while still proceeding with military action; the administration claims it has sufficient authority to act against ISIS under the 2001 AUMF. Meanwhile, the war goes on. President Trump should either push for passage of Obama's 2015 AUMF or submit his own.

There are real advantages to seeking an AUMF.

By seeking—and aggressively pushing for—an AUMF that would include an escalation of U.S. military action in Iraq and especially Syria, the president can secure congressional "buy in" for the effort. There will, of course, always be carping on Capitol Hill. But a vote on an AUMF—by compelling members of Congress to make formal their positions—would force senators and



Whoever is elected in November should push for formal congressional authorization of both the ongoing operations against ISIS and any significant increase in U.S. military action in Syria.

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Cite as:

Barnes, Joe. 2016. U.S. Military Action in the Middle East: The Next President Should Seek Congressional Approval. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

representatives to accept at least partial ownership of the policy.

President Trump can also bring an AUMF to the table in international negotiations. It will strengthen the president's hand by showing substantial domestic support for his policy. This will send a clear signal of resolve to U.S. clients and competitors alike.

Not least, getting an AUMF is simply the right thing to do.

As a nation, we need a more open and extended discussion of U.S. policy in the Middle East. This is a region, after all, where 20 years of intervention, large or small, has cost more than 4,000 U.S. lives, trillions of dollars, and vast expenditures of diplomatic effort. The result: the strategic position of the U.S. is arguably worse than on the eve of the September 11 attacks. Perhaps the U.S. should stick with Obama's risk-averse "light touch" approach in the region. Perhaps the U.S. should deploy more "robust" (i.e. deadly) military options. Perhaps the U.S. should even cut its losses and reduce its current involvement. But one thing is certain: the next administration needs to make a clear and compelling case for its Middle East policy. Otherwise, it risks drifting into conflicts or commitments without domestic political support.

President Trump will no doubt be able to find lawyers at the Justice or State Departments willing to provide some legal justification for whatever he wants to do in the Middle East. That, after all, is what such lawyers do. Presidential advisors will grouse at the onerous task of gaining congressional passage of an AUMF. Members of Congress will squirm at actually making a decision.

But any significant escalation of U.S. military action in Iraq and Syria demands more than legal casuistry or a cynical game of pass the blame. These issues demand debate. The American public deserves it. And an AUMF— however clumsy and frustrating it may be— is the best way to get it.

ENDNOTES

- 1. For text of the War Powers Resolution of 1973, see: https://www.law.cornell.edu/uscode/text/50/chapter-33.
- 2. For text of the 2001 AUMF, see: https://www.gpo.gov/fdsys/pkg/PLAW-107publ40/html/PLAW-107publ40.htm.
- 3. For text of the 2002 AUMF, see: https://www.gpo.gov/fdsys/pkg/PLAW-107publ243/content-detail.html.
- 4. For text of the proposed 2013 AUMF, see: http://www.cnn.com/2013/08/31/us/obama-authorization-request-text/.
- 5. For text of the proposed 2015 AUMF, see: https://www.washingtonpost.com/news/post-politics/wp/2015/02/11/obamas-request-for-congressional-authorization-to-fight-the-islamic-state-full-text/.
- 6. On the potential risks of a no-fly zone in Syria, see: http://www.cfr.org/conflict-assessment/no-fly-zone-doesnt-mean-no-war-zone/p38257.
- 7. For Obama's views on safe zones in Syria, see: http://www.bloomberg.com/
 politics/articles/2016-04-24/obama-says-syria-safe-zones-won-t-work-as-merkel-backs-the-idea.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

U.S. Relations with the Gulf Cooperation Council

Kristian Coates Ulrichsen, Ph.D., Fellow for the Middle East

President Barack Obama leaves his successor a mixed legacy when it comes to political and strategic relations with the six states of the Gulf Cooperation Council (GCC).1 Institutional links between the United States and the GCC deepened considerably during Obama's two terms in office. However, President Trump will have to rebuild ties of trust with ruling elites in the Persian Gulf states shaken by U.S. policy toward the Arab uprisings in 2011, the civil war in Syria, and, not least, by the nuclear negotiations with Iran. From a U.S. perspective, the administration that enters office in January 2017 also will need to manage carefully a set of partnerships with key states intent on pursuing regionally assertive policies in Yemen, Egypt, and Libya.

GREATER INSTITUTIONALIZATION ...

The GCC lacks an integrative decision—making structure for the pooling of sovereignty, and difficulty in reaching consensus has undermined attempts to align policies on internal and external issues. Robust bilateralism hindered GCC-wide coordination on issues ranging from trade and investment to defense cooperation, and interoperability as member-states (and their international partners) was often negotiated bilaterally rather than through the GCC as a bloc. Saudi officials expressed strong displeasure when Bahrain and Oman "broke ranks" to sign individual Free Trade

Agreements (FTAs) with the United States in 2004 and 2006, respectively, as the George W. Bush presidency showed a preference to deal bilaterally with its partners in the GCC.

The Obama administration has instead made concerted efforts to engage (and coordinate policy) with the GCC as a bloc, particularly on defense and security policy:

- A GCC-U.S. Strategic Cooperation Forum was created on March 31, 2012, and ministerial meetings have since been held annually.
- The September 2013 meeting of the Strategic Cooperation Forum saw the formation of a joint US-GCC Security Committee to address issues related to counter-terrorism and border security.
- In December 2013, Obama issued a presidential determination making it possible for the first time to sell arms to the GCC as a bloc.
- Two heads of state summits were held at Camp David in May 2015 and in Riyadh in April 2016, although policymakers from both the U.S. and the GCC have expressed frustration at the lack of tangible followup from each of the meetings.

... BUT MULTIPLE FLASHPOINTS

Many in GCC states will not be sorry to see Obama leave office. US-Gulf relations have come under significant strain since 2011 by the general incomprehension of ruling elites in the Gulf at the administration's approach to regional affairs. GCC officials interpreted the so-called "pivot to Asia" to imply tacit U.S. abandonment of their interests just



The next president will have to rebuild ties of trust with ruling elites in the Persian Gulf states shaken by U.S. policy toward the Arab uprisings in 2011, the civil war in Syria, and, not least, by the nuclear negotiations with Iran.

¹ The GCC was founded in 1981 and its six member states are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

policymakers in GCC states no longer felt assured of U.S. backing:
 U.S. policy responses to the Arab Spring caused anger among many officials in the Gulf at the withdrawal of support from a longstanding political ally in Egypt and initial calls on the Bahraini ruling family

to reform.

as U.S. outreach to Iran reinforced such

perceptions. For the first time since the U.S. became directly involved in regional security

structures in the Persian Gulf in the 1980s,

- Subsequent inaction in Syria, readiness to work with Muslim Brotherhood-led governments in Tunisia and Egypt in 2012, and diplomatic outreach to Iran contributed further to Gulf unease toward U.S. responses to the Arab Spring.
- An in-depth March 2016 profile of the "Obama Doctrine" in The Atlantic elicited a furious response in the Gulf at the president's reference to "free-riders," which many felt was aimed primarily at them.

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Cite as:

Coates Ulrichsen, Kristian. 2016. U.S. Relations with the Gulf Cooperation Council. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

LOOKING TO THE FUTURE

Two major points of friction in the US-GCC relationship appear set to outlast the Obama administration's remaining time in office. The most visceral is the U.S. outreach to Iran that has taken place since 2013:

- Saudi officials expressed anger at the fact that initial U.S. negotiations with Iran were kept secret from them for nearly two years and that they were not subsequently involved in the international negotiating process in Geneva.
- The Joint Comprehensive Plan of Action reached in July 2015 exposed very different views of the Iranian "threat," which, for Gulf policymakers, lay not in Tehran's nuclear program but in Iran's support for militant non-state actors such as Hezbollah and, recently, Houthi rebels in Yemen.

Gulf-led military operations in Yemen may also elicit rising U.S. unease should the campaign there continue indefinitely and without clear political resolution. The conflict in Yemen highlighted the new assertiveness in GCC policies as the Gulf states acted collectively in a bid to secure their interests:

- It constituted an important evolution in regional security structures as the locus of decision-making lay in Gulf capitals rather than external partners in Washington, DC, or elsewhere.
- The Yemen operation also marked the first use of the joint military command that was launched by the GCC in December 2014, alongside joint naval and police forces created at the same time.

While the U.S. has provided intelligence and targeting support to coalition forces, American political and military officials have expressed concern that the Yemen operations have diverted Gulf attention away from the coalition against the Islamic State in Iraq and Syria, and deepened the vacuum of authority that has opened up spaces for Al Qaeda in the Arabian Peninsula to exploit in eastern Yemen.

The challenge for the Trump administration is to ensure that longstanding political and security relationships with the Gulf states survive temporary recent setbacks in an environment in which GCC officials pursue hawkish regional agendas that prioritize their own security and strategic interests that may not always align with those of the US. Gulf policymakers do not, however, possess a viable alternative to the US-led security guarantee that underpins the regional security architecture, and are unlikely to develop one during the next presidential cycle. The new administration therefore should continue to coordinate with the GCC in security policy but expect to come under pressure from Gulf officials for accelerated arms sales and expedited approval in Congress.

RECOMMENDATIONS
FOR THE NEW
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A Strategy Toward Defeating ISIS

Ambassador Edward P. Djerejian, Director, Baker Institute for Public Policy

The Islamic State is a threat to every country in the Middle East and to the international community at large. With this common enemy, a coherent strategy and international coalition must contain and destroy ISIS' command structure as a terrorist organization that occupies territory in Syria and Iraq, and that has proven its capacity for terrorist attacks internationally. However, a successful campaign against ISIS is far from guaranteed and will require a better understanding of radical jihadist groups and a balanced strategy that applies post-9/11 lessons to counter them. This international coalition must be one in which every member is committed to contribute effectively to the goal with political, economic, intelligence, and military support. It cannot be in name only and for the half-hearted.

DEFINING A STRATEGY

The key elements of a coherent strategy for defeating ISIS would involve both a nearer-term coordinated counterterrorism policy with a military component and a longer-term geopolitical approach to address the underlying causes of radical jihadism in the broader Middle East. In this latter respect, U.S. strategy should consider the geopolitical effects of the struggle against ISIS, including the role of Iran and Russia and the situation of failing states in the region.

We must understand that this is a struggle between the forces of moderation and extremism primarily within the Muslim world of some 1.6 billion people. It is a struggle of ideas on what constitutes the true face of Islam and Muslim society. ISIS and other radical groups seek to establish themselves as credible participants in this debate.

The United States and international community cannot determine the outcome of this struggle, but can try to support whatever forces of moderation exist in these countries and societies to help further marginalize the extremists. We should learn from history that Western involvement and intervention in the Middle East has had some longterm negative consequences. Therefore, we must address the current challenge intelligently. The deficits in the region are well known: the lack of real political participation, faulty educational systems, deficient economies, systemic corruption, high rates of youth unemployment, and human rights abuses. It is the primary responsibility of the region's countries and societies to address such issues by ending civil and sectarian conflicts and establishing credible and efficient governance. Accordingly, our approach should be based on a true understanding of the forces at play in the region and a clear definition of what we support and oppose. The United States should take the lead in this international effort.

A basic statement that would frame a strategic approach to the challenge of extremism could be as follows:



The key elements of a coherent strategy for defeating ISIS would involve both a nearer-term coordinated counterterrorism policy with a military component and a longer-term geopolitical approach to address the underlying causes of radical jihadism in the broader Middle East.

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Djerejian, Edward P. 2016. A Strategy Toward Defeating ISIS. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. We differ with those who—whatever their religion—practice terrorism, resort to violence, reject the peaceful resolution of conflicts, oppress minorities, preach intolerance, disdain political pluralism, or violate internationally accepted standards regarding human rights. Simply stated, religion does not determine, positively or negatively, the nature of our relations with other countries. Our quarrel is with extremism per se, and the violence, denial, intolerance, intimidation, coercion, and terror that accompany it.

Within the framework of these considerations, we seek to help resolve regional conflicts and promote sustainable regional stability. Equally important, we seek to promote political and economic reforms in the broader Middle East, with a keen appreciation of the culture and traditions of the region's societies and countries. This is a long-term goal that could help bolster the political economies of the region and stem the appeal of extremists who exploit popular frustrations.

Within this strategic concept, specific policies could be articulated that coordinate nearer-term counterterrorism programs and longer-term strategic goals of marginalizing extremists. But it is important that both approaches move forward concomitantly, lest we face further policy failures. That is why it is critical that the United States and its partners in and outside of the region come to common understandings on the strategy and the specific requirements for translating words into deeds. Containing and trying to destroy radical groups such as Al-Qaeda and ISIS through military and counterterrorism operations are essential and must be pursued aggressively, but they are not sufficient to reach the overall goal of marginalizing the region's extremists. Islamist radicals effectively use religion as a tool to attain their political ends: the destabilization and destruction of both the "near enemy" (the regimes in the Middle East) and the "far enemy" (the secular international community). Their goal is to establish regimes or a "caliphate" in their image of Islam.

BUILDING PARTNERSHIPS, TAKING ACTION

To reach a political settlement in Syria is a daunting challenge given the specific and differing political interests of the players inside and outside of Syria. What is needed is a deeper understanding of the domestic and international parties involved in Syria their interests, motivations, strengths, and limitations—and an evaluation of where they align with our own. The U.S. must be pragmatic in pursuing partnerships that help accomplish its key interests: counterterrorism, regional and international stability, and humanitarian relief for the Syrian people. Looking at the longer-term, a tenet of U.S. policy toward Syria must be good governance. Political, economic, and social exclusion by a regime toward its people is ultimately destabilizing. In seeking solutions for Syria, policymakers should pursue a system of sustainable inclusion of Syria's multi-ethnic and multi-confessional society within the country's territorial borders. Along with the defeat of ISIS, this goal should be promoted by the U.S. with the regional and international actors involved in Syria.

To obtain a consensus on a strategy with a broad-based coalition will require strong leadership, especially on the part of the United States. As recent terrorist incidents demonstrate, the brutal turmoil in Syria, Iraq, and the region as a whole has consequences far beyond the borders of the Middle East. But this is an opportunity for bold and strategic diplomacy. Russia faces a real threat of Islamic extremism within the Russian Federation. Western countries and Israel are targeted as major enemies. Arab regimes and Iran are targeted by Al-Qaeda and ISIS as "impious." Regional leaders in the Middle East, therefore, have a major responsibility to counter radical jihadist ideology and their militant agenda.

The challenge is great. The time has come for a coherent strategy to guide operational policies, lest we be reduced to merely responding to one lethal event after another in merely a crisis management mode.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

The North American Nexus

Ambassador Edward P. Djerejian, Director, Baker Institute for Public Policy

One of the greatest responsibilities President Trump and his administration will have is to define a coherent foreign policy strategy that enables the United States to effectively pursue American interests abroad and successfully manage the daunting challenges of the 21st century. The policy issues are many, including bolstering our global alliances; structuring effective relations with the growing economies of Asia; strategizing key relationships with countries such as Russia and China; moving from conflict management to conflict resolution in the Middle East; and addressing transnational challenges such as terrorism and radical jihadism, climate change, and global health.

The United States will not succeed unless it is operating from a very strong national base. There is much to do on this score. Globalization and technological change have produced winners and losers. The United States must address the inequalities in our society that may be the product of both. Doing so requires strong economic growth, and creating jobs and raising wages for many deprived Americans. It is a given that a strong economy and a solid sociopolitical position will enhance the ability of our country to successfully address our foreign policy interests. But too often, our leadership loses focus on the opportunities in our own neighborhood.

THE OPPORTUNITY

The Trump administration should consider adopting a renewed North American strategy. With due diligence to border security, especially with Mexico, we must depart from focusing largely on our territorial borders as the limits of our political and economic potential and embrace our position as an integral part of North America along with Canada and Mexico. Our three countries, acting in concert, can emerge as the global superpower of the 21st century, in sharp contrast to an emerging China, Russian ambitions, and a Europe challenged from within. This is not a formula for an economic union, but for strategic coordination that goes beyond presidential summits to achieve, jointly, economic and social prosperity and enhanced mutual security of all our borders and people.

Together, the United States, Mexico, and Canada comprise an enormous market of nearly 500 million people and a \$20 trillion dollar economy. Canada and Mexico are America's number one and number three trading partners, respectively, with Mexico poised to take the number two spot from China in the next few years. Jointly, the three states present a formidable manufacturing platform, comparable and even superior to any other in the world, including China. As a result of NAFTA, labor markets, companies, supply chains, laws and standards have become increasingly



The Trump administration should consider adopting a renewed North American strategy. Acting in concert, the U.S., Mexico and Canada can emerge as the global superpower of the 21st century. Together, they comprise an enormous market of nearly 500 million people and a \$20 trillion dollar economy.

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Djerejian, Edward P. 2016. *The North American Nexus*. Policy Brief:
Recommendations for the New
Administration. Rice University's
Baker Institute for Public Policy,
Houston, Texas.

integrated across North America's borders. President Trump has been critical of NAFTA, and there may be areas for renegotiation in the agreement, such as labor, intellectual property, work visas, and rules of origin. Still, a modernized and fair agreement can serve as a valuable catalyst for increased prosperity and the achievement of foreign and domestic policy priorities on this continent.

Energy is clearly a major opportunity. The abundance of unconventional energy resources has already transformed North America's position in global energy markets, even without an integrated approach across Canada, the United States, and Mexico. Collectively, North America stands on the precipice of forever changing the global energy landscape and, closer to home, transforming energy access across the continent, especially when considering the geographic diversity for siting natural gas and renewable electricity options. The flow of energy across borders must be a tenet of North American energy policy, as a more united strategy toward North America's economic and energy landscapes would position these three countries to consolidate socioeconomic power on this continent, and enable them to encourage, by their example, democracy, the rule of law, and peace and security beyond North America.

OVERCOMING OBSTACLES

This is not to say that a coherent North American strategy will be an easy task. Political obstacles remain, as well as questions about the scope of a North American strategy, particularly Mexico's role in security issues inside and outside of the Western hemisphere, and the opportunities for an increased role for Canada within NATO. Economically, we must continue to be vigilant to ensure that competition remains strong and monopolies are kept in check. These are important questions. They should

be asked and answered by these three partner nations together, as all three have much to gain from a deeper, more comprehensive North American strategy. Integration engenders long-term success, whereas isolation leads to just that, isolation, and worst of all, failure.

After a campaign that so clearly signaled the need for economic renewal and political leadership, the next administration is in a unique position to take bold steps to accomplish this mandate. Increased coordination between the United States, Mexico, and Canada will be critical for achieving American foreign policy priorities in the years ahead and should be a tenet of the Trump administration's foreign policy.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

The U.S.-Saudi Relationship: Ripe for Improvement

Jim Krane, Ph.D., Wallace S. Wilson Fellow for Energy Studies

The U.S. Saudi relationship has faltered under the Obama administration, accelerating a long-running deterioration since the end of the Cold War when the partnership lost much of its strategic rationale.

Some observers argue that America should now step further away, given the newfound bounty of U.S. shale oil. But Saudi Arabia is an increasingly important player in a complexifying Middle East. The kingdom is also the largest supplier in an oil market that is being altered by climate change.

Given America's keen interest in these areas, the incoming president should work to rebuild ties with Riyadh. An increase in American support would incentivize the kingdom to place more importance on U.S. goals, and might reverse the emerging trend—since King Salman's accession in 2015—for Saudi actions that run contrary to U.S. interests. Even modest American efforts can be effective. Saudi Arabia is more eager to cooperate with the United States than the reverse. Barring an unforeseen event, the kingdom does not have to be on the list of knotty issues facing President Trump.

CRITICAL VOICES

President Trump will hear that the kingdom operates at cross-purposes to American values on women, religious tolerance, democracy, and terrorism. Critics argue that increased U.S. oil production frees America from dependence on Saudi crude and the need to paper over our differences. Why spend upwards of what O'Hanlon estimates at \$50 billion per year to protect Saudi Arabia (and the Gulf monarchies) when the kingdom shares few of our values?

Some of the kingdom's fiercest critics are in the U.S. Congress. Congress' recent law allowing 9/11 families to sue the kingdom—overriding Obama's veto—exacerbated the estrangement.

SAUDI RETORTS

From the Saudi perspective, the grievances are more manifold, but the options fewer. Riyadh views the Obama administration as compounding the errors of the George W. Bush years, when America invaded Iraq and allowed an Iran-dominated government to steer the country into Tehran's orbit.

Since then, Obama has pulled U.S. troops out of Iraq and Afghanistan, reduced the U.S. Navy presence in the Persian Gulf, reneged on a threat to strike Syria, encouraged revolutionaries in Tunisia and Egypt, and, most worryingly, concluded a deal with Iran, the Saudi arch-nemesis.

For the kingdom, the Iran nuclear deal portends a broader U.S.-Iran reconciliation, which comes amid Iranian ascendance in Iraq, Yemen, Syria, and Lebanon. Still, the kingdom has few options for external protection for itself and its oil shipments, which mainly flow to Asia. Even if America wanted to give up the role, China isn't ready to accept it. An alliance with Russia would be unwise. For now, Washington is the sole option.

REASONS FOR A RAPPROCHEMENT

Despite the differences, the U.S.-Saudi friendship retains value.

Saudi spare oil production capacity has been a strategic asset for the importing world. The kingdom's ability to offset



A Saudi Arabia outside the U.S. orbit has demonstrated the ability to become a disruptive force.

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Cite as:

Krane, Jim. 2016. The U.S.-Saudi Relationship: Ripe for Improvement. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. outages has calmed markets and prevented price spikes. But Saudi spare capacity has shrunk. The incoming president should reiterate America's interest in the kingdom's ability to cover supply shocks.

Further, American firms are consistent winners in the kingdom's capital projects market. Saudi students have flocked to U.S. universities, which increases American "soft power" inside the kingdom. American friendship even comes with a small level of influence within OPEC.

On security, cooperation remains strong. Although the Saudis have lost interest in U.S. goals in Syria and have instead confronted what they see as Iranian meddling in Yemen, Saudi leaders appear willing to make concessions.

Saudi cooperation on ISIS, Syria, and Yemen could probably be improved by U.S. reassurance on its "security umbrella" and perhaps an increase in intelligence and military ties.

IRAN

America and Saudi Arabia will continue to disagree over Iran, although the Saudis at least went through the motions of supporting the 2015 Iranian nuclear deal.

Ultimately, Riyadh will accept that the U.S. and Iran share common goals in Afghanistan and Iraq, where ISIS threatens Iranian interests even more than ours. At the same time, we should reinforce support for a united Iraqi military under centralized control and disbanding of sectarian militias.

As long as Iran cooperates on the nuclear front, the incoming U.S. president should make clear to Riyadh— and Congress—that Washington will not block Iran's return to the international fold.

HUMAN RIGHTS

A Saudi Arabia outside the U.S. orbit has demonstrated the ability to become a disruptive force. Had America maintained stronger ties, it might have been able to coax the kingdom back from the brutal bombing of Yemen, which—besides killing civilians—has created operating space for

al-Qaida. The kingdom's 2016 execution of Shia cleric Nimr al-Nimr may well have gone ahead in the face of Washington's protests because of the deteriorating relationship. Stronger ties allow America to push back against maltreatment of Saudi Shia.

The kingdom's treatment of women remains a hurdle. Grandstanding by U.S. politicians on the issue of women driving has made the Saudi ban harder to overturn. Wouldbe reformers face accusations of caving in to American pressure. These concerns are more effectively voiced in private.

CLIMATE

Climate change poses an urgent area for U.S.-Saudi cooperation. Saudi Arabia remains economically dependent on oil exports and politically dependent on energy subsidies. Both undermine the kingdom's stability and that of the global climate.

An economically diversified Saudi kingdom would present a stronger ally, and would have less reason to oppose climate action. Reforming fossil fuel subsidies would reduce the kingdom's unsustainable energy demand and carbon footprint, while preserving oil for more valuable use.

The kingdom is making progress on both fronts. It raised energy prices in January 2016 and promises to continue price increases for five years. Its diversification into petrochemicals presents a "future proofed" way to monetize oil without burning it. A Saudi Aramco IPO would further the diversification agenda.

Climate cooperation also matters because Saudi Arabia is on the climate front line. Summer temperatures exacerbated by the greenhouse effect are breaking records and reaching the limits of human tolerance.

CONCLUSION

In short, despite many differences, the United States and Saudi Arabia maintain important mutual interests. The chaos enveloping parts of the Middle East underlines the kingdom's need to retain American hard security. With modest effort, the incoming president can improve U.S. influence with this important regional powerhouse.

RECOMMENDATIONS
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ADMINISTRATION

Taking Political Parties Seriously in the Arab World

Marwa Shalaby, Ph.D., Fellow for the Middle East and Director, Women's Rights in the Middle East Program

Almost all Arab states currently hold regular elections at the national or local level, or both. Political elites and voters alike take elections very seriously, and they are increasingly significant battlegrounds for issues and policy debates. In the absence of other forms of democratic governance in most parts of the MENA, political parties can play a more decisive role as the bridge between the ruling elites and the general public, as the parties channel the public's demands and grievances. Despite the central role of parties in the political process—especially in the aftermath of the Arab Spring—political scientists¹ and policymakers have greatly downplayed their capacity to promote stability and consensus-building in the turbulent, polarized MENA region. There is, however, ample evidence that political inclusion and pluralism can further political stability, curb violence and radicalization,² and minimize the likelihood of a military coup.³ Hence, the new administration should pay special attention to advancing more accountable and inclusive political systems in the Arab world. This goal can only be achieved by strengthening the role of emerging and established political parties, and by providing the support and resources they need to be stabilizing agents in the region.

In response to a global wave of democratization following the end of the Cold War and the accompanying rise of Islamism throughout the Middle East, many Arab countries ushered in a period of political liberalization during the 1990s. Electoral competition became the norm, although most political organizations

operated under close state supervision and even repression. For instance, political parties were allowed to form in some capacity in a number of Arab states (Lebanon, Jordan, Morocco, Tunisia, and Algeria), but were restricted in others—operating under different labels (i.e., "political societies" in Bahrain and "blocs" in Kuwait)—or were completely outlawed (Qatar, the UAE, and Saudi Arabia).

By the start of the 21st century, most of the secular and Islamist opposition parties, as well as the pro-regime parties, had mastered the rules of the game and were largely co-opted by the power-holding elites. These parties actively participate in elections with well-defined support bases and electoral strongholds, albeit with internal fragmentation, ideological polarization, and vague electoral platforms. Remarkably, despite their visible presence in the political arena for almost two decades before the Arab Spring, evidence shows that opposition parties were not the catalysts for mass uprisings and never demanded the demise of the long-standing regimes in Morocco, Egypt, ⁴ Jordan, and Tunisia.

In the aftermath of the Arab uprisings, newly formed political parties mushroomed in transitioning Tunisia, Egypt, and Libya. However, most of these emerging parties encountered numerous organizational and financial challenges, especially when faced with the electoral savvy of well-funded, highly organized Islamist forces. Elsewhere in the region, regimes have undertaken major political and electoral reforms to mitigate the possible effects of the uprisings. These include quota



The new administration should pay special attention to advancing more accountable and inclusive political systems in the Arab world. This goal can only be achieved by strengthening the role of emerging and established political parties in the region.

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Cite as:

Shalaby, Marwa. 2016. Taking Political Parties Seriously in the Arab World. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

reforms (Jordan and Algeria); granting women the right to vote and run for office (Saudi Arabia) as independents; reforming electoral laws (Kuwait); and introducing constitutional amendments (Bahrain). Morocco, in particular, introduced significant constitutional reforms in 2011 to appease the opposition and meet the demands of the revolutionary "February 20th Movement." In a move toward strengthening the role of political parties, the new constitution stipulates that the party acquiring the plurality of seats in the parliament is responsible for appointing the prime minister. The new reforms have also granted extended political and cultural rights to Morocco's ethnic minorities and women.

A recent study analyzing the policy congruency between political parties and the public in the current Moroccan parliament found strong evidence that political elites are indeed responsive to public opinion.⁶ Interestingly, the authors found that the two largest parties in the parliament (Istiqlal and PJD) are responsive not only to their support bases, but also to general public opinion. These findings demonstrate that parties have the capacity to play an important role in the political arena and to be truly representative of the public, even in more autocratic settings. Most importantly, these results also emphasize that gradual, incremental reforms may be the way out of the current governance crisis throughout the region.

Promoting strong, inclusive political party systems in the Arab world should be a top priority for the new administration. The U.S. should exert more pressure on the region's transitioning and autocratic regimes to reform their electoral systems and allow legitimate channels of opposition. Their efforts should primarily focus on the extended freedom to associate and form, less restrictive fundraising and campaigning laws, and the assurance of transparency and integrity in the electoral process. Rigged elections or the facade of legitimate elections will lead to further disenchantment by the public and greater mistrust in the political process. One key to resolving the crisis of legitimacy in the region today is to build pluralistic political systems in which

opposition voices—as well as those of other marginalized groups, including women and ethnic minorities—are integral parts of the decision—making process. The continual marginalization of these voices will lead to heightened levels of popular discontent, instability, and even violence.

ENDNOTES

- 1. Previous work on political parties in the MENA region has focused on their role as legitimizing tools for the incumbent regimes (Sater 2009), their importance to political events (i.e., for distributing rents and access to clientelistic politics) (Lust 2006), and their importance for determining, and rewarding, the regime's loyal followers and to punish opponents (Blaydes 2011).
- 2. Studies have shown that political inclusion of marginalized groups and opposition, mainly Islamist forces, may lead to lower levels of radicalization and conflict (see Schwedler 2006, 2011).
- 3. Joseph Sassoon, Anatomy of Authoritarianism in the Arab Republics, Cambridge University Press, 2016.
- 4. In Egypt, the Muslim Brotherhood was not the catalyst of the uprisings of January 2011. However, they joined forces later with the revolutionary youth in Tahrir Square calling for the ousting of the regime.
- 5. See http://carnegieendowment.
 org/2013/11/13/path-to-sustainablepolitical-parties-in-arab-world-pub-53575.
- 6. Marwa Shalaby and Abdullah Aydogan, "Parliamentary Agenda Priorities and Responsiveness under Authoritarianism" (paper presented at the 2016 Meeting of the American Political Science Association).

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

U.S. Engagement with Islamists

A.Kadir Yildirim, Ph.D., Research Scholar, Center for the Middle East

The nexus between religion and politics in the Middle East is one of the most vital issues U.S. policymakers must understand. Islamists in the region, in particular, are major political actors. Yet U.S. foreign policy engagement with nonviolent Islamists has been quite limited, barring circumstances that necessitated such interactions. This is despite the Obama administration's efforts to integrate the role of religion into American foreign policy formulation. A policy of nonengagement with nonviolent Islamists may harm U.S. interests in the region.

Engagement with Islamists parties and groups would recognize them as legitimate political actors in their own political systems. This requires that no distinction be made between secular and Islamist parties. Lack of communication likely may lead to policy choices that might undercut U.S. interests in the region. Hence, Islamists should be included in policy discussions when they assume governmental roles. When they are in opposition, the U.S. must establish communication in order to gain greater insight into the perspectives of these Islamist groups and their large constituencies, allowing for opportunities to determine areas of disagreement and potential collaboration. Such engagement, however, should only apply to Islamists who reject violence and respect the electoral process.

The limitations of exclusively partnering with secular actors have become increasingly evident in recent years in the form of growing violence, democratic lapses, and deteriorating human development. The U.S. should therefore cautiously engage with Islamist parties while working on other channels. In particular, Ennahda Party in Tunisia, Party

for Justice and Development in Morocco, and Islamic Action Front in Jordan are candidates for such engagement. A multi-pronged policy that can engage both secular and nonviolent Islamist parties may produce a more successful foreign policy agenda that furthers short— and long—term U.S. objectives in the Middle East, including ending violence, establishing political stability, and promoting democratic governance.



WHY ENGAGE ISLAMISTS?

There are three reasons why engagement with nonviolent Islamists should be a priority. First, Islamists are the best organized political groups throughout the Middle East and are collectively the most popular political blocs. Ignoring these groups and their extensive support bases may undermine public perceptions of the U.S. and, by extension, weaken the legitimacy of U.S. regional policies. Indeed, survey data show that U.S. policies are largely viewed unfavorably throughout the region.² Second, Islamists wield extensive religious authority. While their discourse on socioeconomic matters and mass marginalization resonates with many, Islamists are also popular due to their successes in overlaying political rhetoric with religious parlance, regardless of their authenticity, or lack thereof, to Islamic tradition.

Third, Islamists historically have been the most vocal incubators of anti-American and anti-Western sentiment.³ This poses a distinctly new and potent threat to U.S. security. Recent evidence suggests that negative perceptions of U.S. foreign policy in the Middle East can become the single

A multi-pronged policy that can engage both secular and nonviolent Islamist parties may produce a more successful foreign policy agenda that furthers short—and long—term U.S. objectives in the Middle East, including ending violence, establishing political stability, and promoting democratic governance.

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Cite as:

Yildirim, A.Kadir. 2016. U.S.
Engagement with Islamists. Policy
Brief: Recommendations for the
New Administration. Rice University's
Baker Institute for Public Policy,
Houston, Texas.

most important cause of anti-American sentiment and acts of violence.⁴ In this regard, minimizing anti-American sentiment is paramount.

SHORT-TERM BENEFITS

In the short-term, engagement with nonviolent Islamists can curb anti-American sentiment and legitimize counter violent extremism efforts. Typically, anti-American sentiment infused with religious discourse boosts opposition to U.S. policies and spurs detractors to engage in violent reprisal. Islamists have always faced pressure from secular opposition groups and governments. They are in search of new roles in the post-Arab Spring era in Egypt, Tunisia, Morocco, Jordan, and Libya. Yet since the Arab Spring, Islamists feel intense competition from extremist militant groups, or radical jihadists, for conservative constituencies. While secular pressures have led to Islamists' exclusion from power, mostly in tandem with U.S. policy priorities in the region,⁵ radical jihadists are an entirely new source of political competition.

It is crucial to note that engagement with Islamists is not a one-sided deal. Just as it would benefit the U.S., it would also provide Islamists the political legitimacy they fervently seek. Islamists are generally pragmatic political actors who have a knack for compromise. As the cases of Tunisian Ennahda and the Moroccan Party for Justice and Development Party clearly demonstrate, Islamists will value political opportunities. Nonviolent Islamists have a vested interest in separating themselves from radical jihadists in order to gain external recognition and legitimacy.

LONG-TERM BENEFITS

A long-term solution to the region's deep-seated problems requires addressing root causes. Lack of education, political repression, underdevelopment, and high levels of inequality contribute to political extremism and violence. One of the most effective means of incentivizing Islamists toward the democratic process is through

economic reforms. In countries where economic liberalization reforms are inclusive and benefit the previously marginalized Islamic support base, both the Islamic constituency and Islamist parties become more open to pluralism and democratic governance.⁶ The implications of this process of engagement go beyond Islamists themselves. The support base of Islamist groups is composed of undereducated masses with significant levels of religious sensitivity and a deep perception of political and economic marginalization. Providing this constituency with a stake in the future of their countries via economic transformation will create a robust incentive mechanism for enduring social transformation and also prevent a possible slide to jihadism. When nonviolent Islamists and radical jihadists share ideological similarities as it relates to anti-Westernism, instrumental use of religion, and political exclusion, anchoring nonviolent Islamists in the democratic process will help create a permanent wedge between the two and further legitimize the electoral process over its alternatives. Thus, the next administration should prioritize supporting economic change in regional economies to pave the way for long-lasting socioeconomic transformation, which will usher in greater democratization and make Islamists and their social support bases part of this process.

ENDNOTES

- 1. Office of Religion and Global Affairs, U.S. Department of State: http://bit.ly/2gHsjVu.
- 2. Pew Research Center's Global Attitudes Project (2012): http://pewrsr.ch/2ghr1gH.
- 3. "It's the Policy Stupid: Political Islam and US Foreign Policy" by John L. Esposito: http://bit.ly/2foo8v1.
- 4. Sam Mullins, "The Road to Orlando: Jihadist-Inspired Violence in the West, 2012–2016," Combatting Terrorism Center at West Point, June 16, 2016: http://bit.ly/2f3HaZm.
- 5. Amaney Jamal, *Of Empires and Citizens: Pro-American Democracy or No Democracy at All?* (Princeton: Princeton University Press, 2012).
- 6. A.Kadir Yildirim, Muslim Democratic Parties in the Middle East: Economy and Politics of Islamist Moderation. (Bloomington, IN: Indiana University Press, 2016).

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

The Next Engine of U.S. GDP Growth: The Market for Ideas

Edward J. Egan, Ph.D., Baker Institute Fellow, and Director, McNair Center for Entrepreneurship and Innovation

The U.S. economy has undergone a fundamental shift in structure in the last three decades toward becoming an innovation economy. This shift has created enormous untapped potential, which can only be realized by learning to trade in ideas. But rather than advancing and adopting policies to promote this new driver of economic growth, U.S. policymakers have continued to live in a pre-innovation economy paradigm and are considering legislation that would hamper the market for ideas.

Innovation, loosely defined, is invention followed by commercialization. Trade in inventions leads to more efficient and widerranging commercialization, and is made vastly easier when inventions are associated with property rights, particularly patents.

around 3.5 years before the introduction of the America Invents Act (AIA) in 2011 and now stands at just over 2 years.³

The USPTO spends an average of just 18 hours per patent application. Lemley argues that there should be a balance between expending resources in reviewing applications and allowing the courts to address problematic patents. But given pervasive claims of excessive patent litigation, reports that between one—third and one—half of all litigated patents are found invalid, the backlog of patent applications, and the low level of review by patent examiners, it is likely that patent quality is inefficiently low.

The USPTO's budget request for 2017 is around \$3.3 billion. But, unlike other federal agencies, the USPTO is not supported by



This one market could single-handedly restore GDP growth to levels last seen in the 1980s.

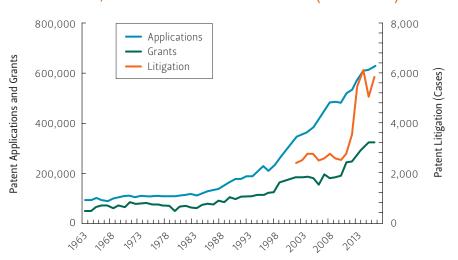
RENEWING THE FOUNDATION FOR GROWTH

U.S. GDP is currently \$18.4 trillion, with a real growth rate of 1.1%. Using estimates from the economic literature, a mature market for patents could generate 5% additional annual growth for the U.S.—that is, this one market could single–handedly restore GDP growth back to levels last seen in the 1980s. 2

Unfortunately, the first crucial foundation for the market for ideas—the patent office—is drastically underfunded.

There are currently around 2.5 million active patents available to be traded, with likely around 1 million patents caught in the U.S. Patent and Trademark Office (USPTO) backlog. The average time needed to process a patent application peaked at

PATENT GRANTS, APPLICATIONS AND LITIGATION (1963-2015)



SOURCE Baker Institute, 2016.

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Cite as:

Egan, Edward J. 2016. The Next Engine of U.S. GDP Growth: The Market for Ideas. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

appropriations. The USPTO collects its budget in fees and then must ask Congress if it can keep them.⁵ Each year, the U.S. spends half a trillion dollars on research and development, but the government does not spend a cent to provide inventors with high-quality, tradable property rights.⁶

CURRENT LEGISLATION HINDERS GROWTH

The majority of large high-technology firms are publicly traded, have a short-term focus, and view patents as more of a costly nuisance than the long-term foundation of their business. Perhaps in response to lobbying from this group, bills like H.R. 9 "The Innovation Act," S. 1137 "PATENT Act," H.R. 2045 "Targeting Rogue and Opaque Letters Act of 2015," and H.R. 1832 "Innovation Protection Act" have been introduced before the 114th Congress. Each of these bills intentionally weakens the enforcement of patents, making it easier to ignore and infringe them. Only S. 632 "STRONG Patents Act of 2015" is more balanced.

These bills often use patent trolls—those exerting patents in bad faith—as an excuse to make litigation harder and so infringement easier.⁸ Meanwhile, patent owners legitimately exerting their patents are having their rights curtailed, and patent intermediaries, who act as market makers for the market for ideas, are discouraged from entry. The second crucial foundation of the market for ideas—the ability to trade in patents—is being undermined.

CONCLUSION

A market for ideas encourages specialization in invention, matches inventions to their most efficient forms of commercialization, and broadens the range of products available to consumers. It is also an economic force in and of itself that may be capable of single-handedly restoring U.S. prosperity.

To harness the power of the market for ideas, the U.S. must do two things: it must fund the patent office to 21st century levels, and it must bring the market for ideas out from behind closed doors in a way that enhances, rather than curtails, the rights of

patent owners. Pushing crippling regulation onto this nascent free market will sacrifice one of America's best hopes for growth in the new economic era.

- 1. See U.S. Bureau of Economic Analysis.
- 2. See Jay Walker, "The Real Patent Crisis Is Stifling Innovation," *Forbes*, June 18, 2014. The article quotes a Forester Research report that states: "U.S. firms annually waste \$1 trillion [about 5.5% of GDP] in underused intellectual property assets by failing to extract the full value of that property through partnerships." Also see "How do you find a manufacturer to license your product?" *U.S. News & World Report*, June 10, 2002, which states that \$120 billion of licensing activity took place in 2002. If this value has increased with inflation, and any increase has surely been much more dramatic, this would be 0.85% of today's GDP.
- 3. See https://www.uspto.gov/aia_implementation/bills-112hr1249enr.pdf.
- 4. Mark Lemley, "Rational Ignorance at the Patent Office," *Northwestern University Law Review* 95, no. 4 (2000).
- 5. Section 22 of the AIA allowed the patent office to deposit excess fees into a reserve fund, which would be available for use in the event of a government shutdown. Prior to the introduction of the AIA, the Congressional Research Service estimated that Congress had diverted more than \$1 billion of the patent office's fees between 1990 and 2011. See Glenn J. McLoughlin, "U.S. Patent and Trademark Office Appropriations Process: A Brief Explanation," Congressional Research Service (7–5700, RS20906), 2014.
- 6. "Research and development (R&D)—Gross domestic spending on R&D—OECD Data" at data.oecd.org.
- 7. See https://www.govtrack.us/congress/bills/114/s632/summary.
- 8. There is scant evidence that patent trolls are a systematic problem. The courts, the Federal Trade Commission, and the Department of Justice have been aggressively pursuing instances of patent trolling. See, for example, Joe Mullin, "In a first, East Texas judge hits patent troll with attorneys' fees," ARS Technica, Dec. 20, 2015.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Prosperity Through Growth: Unleashing the Power of U.S. Small Business

Edward J. Egan, Ph.D., Baker Institute Fellow, and Director, McNair Center for Entrepreneurship and Innovation

In 1999, small business was growing at around 5% per year in real terms.^{1,2} The small business sector accounted for about 40% of the overall U.S. economy and was contributing 2% to U.S. gross domestic product (GDP) growth.³ This growth is achievable again today.

Small business owners have repeatedly said that the lack of debt financing is preventing their growth.⁴ At the same time, community banks—which have the closest relationships with small business and are best able to assess their risks and returns—have suffered disadvantages under regulation for decades and were disproportionately hit by the 2008 financial crisis. Changing community banking regulation could unleash the power of free enterprise and put America back on the path to prosperity.

WHAT IS A SMALL BUSINESS?

A small business is a firm with fewer than 500 employees. In 2011, the United States had almost 5.7 million small businesses, representing 99.7% of all U.S. employer firms. These firms employed 48% of the nation's labor force. Most small businesses are truly small: Over 60% have zero to four employees, and more than 90% have fewer than 20 employees. Small business has a meaningful representation in every sector of the U.S. economy except for mining and utilities. Any American can become a small business entrepreneur.

SMALL BUSINESS IN DECLINE

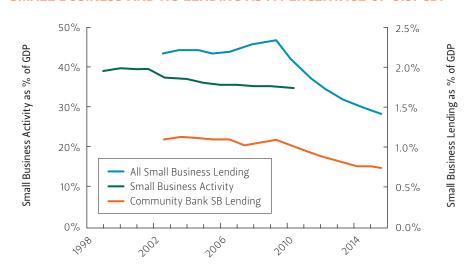
Before the turn of the millennium, small business produced a greater contribution to U.S. GDP than large business. In the seven years leading to the 2008 financial crisis, small business GDP contribution fell to around 46% of non-farm private sector economic output. In real terms, small business GDP went from just under \$5.2 trillion in 2000 to just over \$5.4 trillion in 2007.7 Annual average real growth was around 1% during these 7 years.

The 2008 financial crisis made matters considerably worse. The average real growth rate of small business from 2008 to 2010 was -1.5%. Data is not available for the past five years.⁸



The U.S. could see 2% GDP growth from its small business entrepreneurs again.

SMALL BUSINESS AND ITS LENDING AS A PERCENTAGE OF U.S. GDP



SOURCE Baker Institute, 2016.

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Cite as:

Egan, Edward J. 2016. Prosperity Through Growth: Unleashing the Power of U.S. Small Business. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

UNCOMPETITIVE BANKS

The loan market share of the top 10 banks increased from 30% in 1980 to 50% in 2010.9 It may now exceed 60%. In 2002, 9,466 banking institutions were lending to small business. 10 This year there are just 6,058, and the vast majority—more than 92%—are community banks. Only 456 other banks are active in small business lending in the U.S. today.

Community banks do not have the economies of scale or the diversity of scope of large banks. They have been in decline for decades. As a consequence, the small business loan market has dramatically decreased in real terms. This year's \$286 billion of loan activity is 30% below the value of the market a decade ago adjusting for inflation.

THE SMALL BUSINESS ADMINISTRATION

The Small Business Administration (SBA) was founded in 1953. Enabling access to capital for small business is a crucial part of its core mandate. The SBA requested a total budget of \$860 million in 2016. Of this amount, just \$3.3 million was set aside to subsidize small business loans provided through private banks under the 7a loan guarantee program. SBA reform should be a priority for the new administration.

LESS TAXES VS. MORE LENDING

Lowering corporate tax rates would likely stimulate small business growth. However, increasing access to loans is a more effective solution:

- A tax reduction is more of today's money tomorrow, whereas a loan is tomorrow's money today. Debt capital allows immediate investment in growth.
- 2. Professionally assessed loans pay for themselves. The government does not need to forgo spending, or increase the deficit, to finance them.
- 3. Universal corporate tax reductions do not target growth from small business. Constraints on tax reductions may create perverse incentives that undermine growth.

- 4. 100% of a loan is often used to capitalize a firm for growth. A reduction in corporate taxes may lead to increased dividends, one-off consumption, etc.
- 5. Competitive loans provided by knowledgeable local professionals will flow to small businesses that offer the best risk-return trade-off first; loans select for growth.

The federal government will need a nuanced approach to properly stimulate small business growth. However, a core focus should be on creating a level playing field for community banks to compete to provide small business loans. With growth-oriented investment coming from local, knowledgeable professionals, the U.S. could see 2% GDP growth from its small business entrepreneurs again.

- 1. Research assistance provided by Dylan Dickens.
- 2. Small business economic data from SBA. Urban, unchained CPI data from the Bureau of Labor Statistics.
 - 3. U.S. GDP data from the World Bank.
- 4. See, for example, Bank of America (2015), "Small Business Owner Report"; Wells Fargo (2016), "Small Business Survey"; and Federal Reserve Banks of New York, et al. (2014), "Joint Small Business Credit Survey Report."
 - 5. U.S. Department of Commerce
- 6. Small business size, sector data from the Small Business Administration.
 - 7. Real amounts in 2010 U.S. dollars.
- 8. There is no up-to-date data on small business GDP contributions. The Bureau of Economic Analysis has requested funds from Congress to address this.
- 9. D. Corbae, P. D'Erasmo, "A Quantitative Model of Banking Industry Dynamics," 2013.
 - 10. Small business lending data from FDIC.
- 11. Since 1994, changes to banking regulation have almost all favored large banks.
- 12. FY2016 Congressional Budget Justification, SBA. Note that \$153 million will be used in the 7a program's administration.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

The Key Driver of Economic Growth in the 21st Century: High-growth, High-tech Entrepreneurship

Edward J. Egan, Ph.D., Baker Institute Fellow, and Director, McNair Center for Entrepreneurship and Innovation

The U.S. has entered a new economic era based on technological innovation, entrepreneurship, and free market capitalism: High–growth, high–technology firms accounted for more than two–thirds of all U.S. GDP growth over the last decade.^{1,2}

A 2011 report estimated that high-growth, high-tech firms make up around 21% of the economy.³ From 2005 to 2014, the mature subset of these firms grew at an average real annual rate of between 5% and 7%.⁴ These figures imply that this sector has been contributing more than 1% of U.S. GDP growth, which has averaged just 1.5% over the last decade.

The high-growth, high-tech sector appears about to increase dramatically. With potential double-digit growth from this sector, combined with its ever-greater role in the economy, the U.S. could see 5% GDP growth from this new vanguard of free enterprise. Policy to support this sector could enhance and hasten its rise, or could destroy this new American dream.

THE UNMEASURED POWERHOUSE

The U.S. has the largest and most sophisticated venture capital (VC) industry in the world. In real terms, VC investment doubled from under \$30 billion across 3,237 companies in 2002 to over \$60 billion across 4,561 companies in 2015.⁵ It now accounts for around one–third of a percent of U.S. GDP.

But most of the GDP contribution of high-growth, high-tech firms comes after VC investment has ended. There is little public data on this crucial sector. Estimates suggest that it now makes up between 10% and 30% of the economy, and is expanding rapidly.

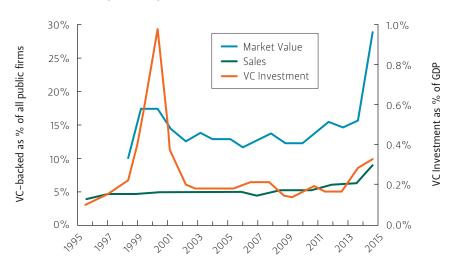
EXPLOSIVE GROWTH

In the last 10 years, high-growth, high-tech firms have dominated U.S. markets for initial public offerings (IPOs) and for acquisitions of private companies; they now account for an average of more than 90% of each market's value each year.⁶ This incredible flow of new firms changed the composition of big business. In 2014, 15% of all public market capitalization came from high-growth, high-tech firms; in 2015, it was over 28%. In October 2016,



The U.S. could see 5% GDP growth from this new vanguard of free enterprise.

VC INVESTMENT, SALES, AND MARKET VALUE



SOURCE Baker Institute, 2016

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Cite as:

Egan, Edward J. 2016. The Key Driver of Economic Growth in the 21st Century: High-growth, Hightech Entrepreneurship. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. the five largest U. S. firms were Apple, Alphabet (Google), Microsoft, Amazon.com, and Facebook. Every one of these firms was VC backed.⁷

ENHANCING COMPETITION

Large firms are less competitive than they used to be. On average across 13 recorded sectors of the U.S. economy, more than 26% of revenue came from the 50 largest firms in 2012.8 This worrying 4% increase from 1997 prompted calls for anti-trust intervention. But high-growth, high-tech firms are intensely competitive. They disrupt conventional markets, create new products and services, or add new dimensions of competition through platforms. In recent years, platforms have enabled competitive new markets for everything from accommodation to labor, and transport to retail.

EMPOWERING START-UPS

High-growth, high-tech firms rely on different markets for capital, training, partners, labor, and services to serve different parts of their life cycle. Policy to enhance these markets must be tailored appropriately.

At an early stage, start-ups participate in urban entrepreneurship ecosystems. These ecosystems include angel investors, VCs, accelerators, incubators, co-working spaces, and hubs. Firm equity is their currency. One U.S. policy goal should be to increase early-stage capital that competes on the basis of returns to investment.

Changes to the tax code to lower the cost of start-up equity should target only market-based investment; nonmarket investment can do an extraordinary amount of harm. The carried interest revenue procedure applies to partnership agreements used in alternative investments, including VC.9 Removing or ameliorating the carried interest revenue procedure from VC would reduce market-based investment in start-up firms.

SUPPORTING EXPANSION

Supporting later-stage expansion may be even more important than enhancing early-stage growth. Mature high-growth, high-tech firms could flourish if they had more open access to domestic and global markets for capital, talent, and their products.

Acquisitions and initial public offerings provide crucial access to capital for the commercialization of high-growth, high-tech ideas. Exceptions to regulations for high-growth, high-tech firms should be considered as a part of broader regulatory reform in domestic capital markets.

Likewise, high-skill immigration reform, trade policy with strong intellectual property provisions, sector-specific regulation reform, and promotion of STEM education would all help America's high-growth, high-tech firms achieve and sustain double-digit growth.

- 1. Research assistance provided by Ben Baldazo, Carlin Cherry, and Avesh Krishna.
- 2. U.S. GDP and GDP growth from the World Bank.
- 3. IHS Global Insight, "Venture Impact: The Economic Importance of Venture Capital–Backed Companies to the U.S. Economy," NVCA, 2011.
- 4. Data from COMPUSTAT, VentureXpert, and Bureau of Labor Statistics. Sales growth was 5% and market capitalization growth was 7% for publicly traded VC-backed firms.
 - 5. PWC Moneytree.
- 6. Data from Global New Issues, SDC Mergers & Acquisitions, and VentureXpert. The acquisition market shift came first in 2006; the IPO market followed four years later in 2010.
- 7. Microsoft received less VC investment than the others. David Marquardt and Technology Venture Investors held just 6.2% of Microsoft's stock in 1985.
- 8. Economic Census (1997 and 2012), Census Bureau.
- 9. Revenue Procedure 93–27, 1993 C.B. 343, clarified by Rev. Proc. 2001–43, 2001–2 C.B. 191. Internal Revenue Service.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Whither NAFTA?

The North American Free Trade Agreement (NAFTA) has become progressively more controversial in the United States. President-elect Trump has, accordingly, called for a critical evaluation of multilateral trade agreements, including NAFTA. Still, the United States economy has benefited from its free trade relationship with Canada and Mexico. Over the course of 23 years, NAFTA states have created one of the world's largest and most dynamic economic blocs, with nearly 500 million people and a GDP of \$22 trillion.

The Trump administration's reevaluation of NAFTA, aimed at expanding American job creation, should focus on modernizing the agreement to add new chapters that level the playing field—ensuring equitable conditions among member nations in order to benefit American workers, while at the same time advancing our country's and the continent's economic potential.

NAFTA AND THE UNITED STATES

Since 1994, trade between NAFTA states has expanded substantially. In 2016, Canada was America's foremost trading partner with a 16.4% share of all U.S. trade. Mexico was third, with a share of 14.5%. In the same year, the NAFTA region had combined trade of more than \$1.2 trillion—nearly equivalent to Asia's entire intraregional trade.¹ At the same time, Canada and Mexico's trade surpluses vis-à-vis the U.S. are less than those of China, Japan, and Germany. America's trade deficit with Mexico was responsible for only 8.9% of the total U.S. trade deficit in 2014, as opposed to 56% with China, 17% with Europe, and 10.6% with Japan.²

Overall, NAFTA's effects on the U.S. have been mixed and the subject of debate.³ U.S. investment in Mexico (\$92.8 billion) has

been much higher than Mexico's investment in the U.S. (\$16.6 billion).4 Nonetheless, Mexican FDI in the U.S. may be responsible for over 100,000 U.S. jobs. 5 Since NAFTA was signed, exports of American goods and services to Mexico grew from \$41.5 billion in 1993 to \$211.8 billion today—more than twice current U.S. exports to China.⁶ Exports to Canada grew from \$100 billion in 1993 to \$250 billion. Mexico's exports to the U.S. are composed of 40% U.S. components, surpassing both Canada (25%) and China (4%), indicating that American supply chains are well positioned within the North American manufacturing platform. In addition, U.S. agricultural exports to Mexico have grown substantially. Mexico is today the third largest agricultural export market for the U.S., topping \$20 billion in 2016.7

NAFTA's impact on jobs and wages has also been mixed. An estimated six million jobs in the U.S. are currently affected by trade with Mexico.⁸ Some U.S. sectors have lost jobs to Mexico, while others have gained jobs dependent on exports to Mexico. According to one study, an estimated 200,000 American job losses per year can be linked to NAFTA, but the agreement also annually creates about 160,000 jobs dependent on NAFTA exports, leaving an annual total of 40,000 job losses directly attributable to the agreement.9 It is, however, important to recognize that automation is increasingly responsible for many of the manufacturing jobs lost in the U.S,¹⁰ a trend that is likely to continue. On wages, it has been publicly noted that NAFTA has hurt some workers and jobs, as in the case of auto manufacturing. 11 However, there is also evidence that companies in the U.S. and Mexico that are globally engaged pay better wages than those focused exclusively on the domestic market.¹²



U.S. firms and workers are best served by an examination of the agreement to improve and modernize the relationship and make it more equitable to all partners. A reworked agreement can benefit the American economy, as well as that of Canada and Mexico.

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Cite as:

2016. Whither NAFTA?. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

MODERNIZING & ENHANCING NAFTA

A strong case can be made to modernize and enhance NAFTA. These efforts should be guided by the fact that Canada, the United States, and Mexico are complementary economically. A complete renegotiation of NAFTA would present serious difficulties because every industry sector would come to the table with demands that would be extraordinarily difficult to meet. Dissolution of the bloc in favor of higher trade barriers between the three states would jeopardize the economic growth that has resulted from the agreement. U.S. firms and workers are best served by an examination of the agreement to improve and modernize the relationship and make it more equitable to all partners. A reworked agreement can benefit the American economy, as well as that of Canada and Mexico. Side agreements and new chapters to NAFTA—addressing labor, environmental, energy, intellectual property, currency, financial, and anticorruption issues, among others—can accomplish this goal.

In this process, Mexico's economic practices should be examined so American workers do not have to compete against locations made unfairly cheap by inadequate labor conditions and regulatory standards. Efforts to modernize and enhance NAFTA should aim for a convergence of standards to benefit companies and workers in the U.S., Mexico, and Canada.

In the long run, it will be most beneficial to the U.S. to reaffirm America's partnership with its neighbors and leverage its strength to consolidate a North American platform that enables it to compete far more effectively with other regions. Withdrawing from NAFTA altogether will hurt the American economy, American leadership, and American competitiveness.

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RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Immigration and the United States: A Path to Resolution

Tony Payan, Ph.D., Françoise and Edward Djerejian Fellow for Mexico Studies, and Director, Mexico Center

Americans have made it clear that U.S. immigration policy cannot stand as is. Many see the increased diversity that comes with immigration as a threat to national identity. Others see unauthorized migration as a government failure to effectively control immigration flows. Given these perceptions, the nation's immigration problems will be difficult—but not impossible—to resolve. This brief outlines overarching principles and specific policy proposals that, with the necessary political will, can productively address this complex issue.

Before going further, the benefits of an orderly flow of migrants to the U.S. should be noted. Immigrants inject vitality into the American economy; they bring their intellectual and scientific talents to U.S. research and development efforts, and help boost U.S. labor force productivity. There is little evidence that diversity in migration has been a zero-sum equation for America. A century of Latino migration, for example, has resulted in millions of law-abiding citizens who contribute to the U.S. economy and are as patriotic as any other American.

In light of this, there are two primary questions to consider: What is the long-term role of immigrants in the United States? And how do we deal with the 11 million unauthorized migrants already here? Each issue deserves its own policy track.

THE CORE PRINCIPLES OF A NEW IMMIGRATION SYSTEM

The U.S. economy and national security should be the core concerns of a new immigration system. Any new visa system

would have to consider the potential economic contribution of a new migrant. In addition, there must be a vetting process that eliminates migrants who represent a security risk at any level. Family reunification should be a contributing factor, but should no longer be the primary reason for approved migration to the United States.

No policy should a priori exclude an individual because of his or her status as a minority in the larger American landscape. Discrimination has no place in a new immigration system. Diversity adds value to the American experience. For all of the debates about immigration, U.S. Latino population growth has slowed considerably in the last five to ten years, due largely to a dramatic slowdown of Mexican migration. The migration of Mexicans is now at net zero or negative, meaning they are leaving the U.S. and returning to Mexico. Today, the largest number of migrants is from Central America; this is an issue that will require Mexico's cooperation through a wellstructured, region-wide plan. Antagonizing Mexico is not likely to help stem the flow from Central America.

OUTLINING STRATEGIES IN BROAD STROKES

It is impractical to attempt the mass deportation of millions of individuals. The activities necessary to find and apprehend unauthorized migrants will create a panic, a bureaucratic nightmare, and a humanitarian crisis that will tarnish America's reputation for moral leadership, increase social and racial tensions within



It is important to signal early in the administration that immigration issues will be resolved in a way that allays Americans' fears, increases border security, and restores sanity to the U.S. immigration system.

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Cite as:

Payan, Tony. 2016. *Immigration and the United States: A Path to Resolution*. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston. Texas.

the country, and cause bedlam at the border. A radical deportation approach is likely to have long-lasting consequences that are neither necessary nor desirable.

Instead, unauthorized migrants should be categorized by their particular circumstances (mixed status family, migrants brought to the U.S. under the age of five, etc.); a viable and politically acceptable strategy should then be devised to resolve the immigration status of each group. This will not be a quick fix, but it avoids a policy that treats all migrants the same across the board. It is a strategy already favored by many Americans, who say it would be acceptable for many migrants to stay in the United States if, in return, border security is tightened. A Donald Trump presidency has the political capital to carry out this plan.

CATEGORIES OF UNAUTHORIZED MIGRANTS

Criminal aliens should be targeted for deportation. President Obama's deportation policies have already targeted this group and have a record of success. A continuation of this policy suffices for now.

The 2012 Deferred Action for Childhood Arrivals initiative, which makes certain undocumented migrants who came to the U.S. as children exempt from deportation, should be ratified. Most of the 750,000 beneficiaries of DACA are fully integrated into mainstream America. At this point, there is hardly any reason to target them. The four to five million unauthorized migrants who belong to mixed-status families should be a priority for reprieve. If they have been here more than five years, are working, have paid their taxes, and have at least one relative who is a legal resident or citizen, they should be placed in a virtual line inside the United States to obtain a green card. Penalties should include a fine for having entered the U.S. without authorization and permanent exclusion from U.S. citizenship.

All other unauthorized individuals should be given the chance to depart voluntarily and—from their home country—apply for readmission, with no penalty for their previous status in the U.S. Some will stay in the U.S., but many will leave and likely apply for re-entry. Those in the latter group should be considered on a case-by-case basis as they wait in a *real line* to re-enter the U.S. legally. This group could apply for permanent residency but be barred from citizenship.

BORDER SECURITY

Americans largely support a policy that allows most unauthorized migrants to stay in the U.S. if, in return, border security is increased. But border security must be balanced against other important issues. One is the environmental impact that the border wall is beginning to have on the borderlands. A wall does not have to be a physical structure, however. Additional resources and boots on the ground can ensure the effectiveness of a virtual wall that allows for the detection and detention of nearly 100% of unauthorized border crossers. Technology is an important component of these measures.

CONCLUSION

It is important to signal early in the administration that immigration issues will be resolved humanely, and in a way that allays Americans' fears, mitigates the harsher consequences of anti–immigration sentiment, increases border security, and restores sanity to the U.S. immigration system.

ENDNOTE

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RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Preparing for Future Chinese Leadership Changes: A Diplomatic Full-Court Press

Steven W. Lewis, Ph.D., C.V. Starr Transnational China Fellow

Unbeknownst to Americans voting in November, the future direction of U.S.-China relations may very likely have been set at the annual plenary session of the Communist Party Central Committee in Beijing just weeks before. Party chief Xi Jinping may decide to dial back his anticorruption campaign that has expelled hundreds of thousands of cadres, step up political reforms designed to solidify rule of law and strengthen a more independent judiciary, and shift his attention to restructuring China's export economy in the face of growing competition from overseas. Or, he may decide to continue the costly purges, centralize more leadership organs, and whip up nationalistic support for his government by picking territorial fights.

Only those in Xi's inner circle know which direction he will take China, but either way he must start to choose a new leadership team at the October plenary session. Five of the seven Politburo Standing Committee members will be too old to serve beyond the new 19th Party Congress in fall 2017. Under current party constitution rules, Xi himself must retire by the 20th Party Congress in 2022, and so in October in Beijing he must gradually begin to show his hand: will he reveal the next generation of leaders who will replace him in six years or will he change the party constitution to stay in power beyond 2022?

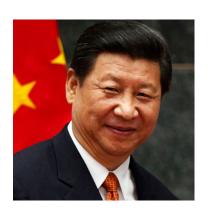
President Trump's administration will have to carefully watch the October party meetings to know the correct strategy for dealing with China in the first few years.

Should we be patient with a retiring Xi and court his hand-picked successors in the Politburo, or should we turn a cold shoulder to a Xi "turning Putin" and break out the Cold War playbook, preparing for increased conflict between the U.S. and China? No matter Xi's plans, the next administration must strengthen and restructure interactions between senior American officials and identified future successors to Xi Jinping and his senior leaders in order to prepare for uncertainty and potential instability in relations.

Accordingly, we make the following proposals for a diplomatic full-court press that will increase and strengthen the number of "contact points" between the Trump administration and the future leadership of China:

Proposal 1

Continue the biannual U.S.-China Strategic and Economic Dialogues (S&ED), but try to strengthen them, yet increase the number of direct meetings between the U.S. president and the CCP general secretary. The U.S. must make sure that China continues to bring to its side of the table senior leaders responsible for strategic/foreign policy and economic/financial policy. State Councillor Yang Jiechi, former foreign minister and former ambassador to the U.S., and longtime steward of U.S.-China relations within their bureaucracy, is required to retire in 2018. The new U.S. president should press Xi Jinping to make sure the future head of the strategic track of negotiations is as familiar



The new U.S. president must strengthen and restructure interactions between senior U.S. officials and identified future successors to China's President Xi Jinping and his senior leaders in order to prepare for uncertainty and potential instability in relations.

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Cite as:

Lewis, Steven W. Preparing for Future Chinese Leadership Changes: A Diplomatic Full-Court Press. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. with U.S. officials at many levels as Yang. Given the uncertainty in Chinese future leadership, the goal of the U.S. president should be to bring in to the S&ED as many members of the CCP Politburo as possible, as often as possible. China has a history of trying to fob off lower-ranking ministers who are not Politburo members as hosts for visiting American senior Cabinet secretaries. U.S. presidents have rarely done so, but they should consider upgrading the S&ED by sending the vice president to the meetings in order to induce more Chinese Politburo members to participate. On a related note, if Xi Jinping begins to identify a successor at the Party Congress in 2017, the American president should press Xi to include the successor in future S&EDs, and encourage both to visit the United States as often as possible. The U.S. president may consider inviting the American vice president, or even a bipartisan team of former U.S. presidents— George W. Bush and Barack Obama have 16 years experience negotiating with Chinese officials—to serve as "strategic hosts" to any possible successor to Xi, affording a future Chinese leader a unique symbolic honor as they escort him/her around the U.S. and introduce him/her to U.S. leaders and policymakers.

Proposal 2

President Trump should consider enhancing and "deformalizing" the U.S.-China Consultation on People-to-People Exchanges by proposing to Xi Jinping that it be hosted by distinguished former American statesmen instead of only the U.S. secretary of state and the Politburo member responsible for cultural affairs. The consultation seemingly addresses nonstrategic and noneconomic interactions—culture, education, science and technology, women's issues, health, and sports—but actually it sets the freedom of interaction of a powerful American civil society and the potentially powerful and yet nascent Chinese civil society. Chinese officials at all levels admire and respect the way American civil society works with the U.S. government on critical public issues, and thus they welcome U.S. and

international NGOs to work with Chinese NGOs, even though they fear American intelligence officials are using them to subvert Communist Party rule.

China's recent adoption of parts of Russia's draconian foreign NGO registration law threatens the stable interaction of American and Chinese civil societies, and thus the role of corporations, universities, research institutions, and nonprofits in solving shared problems in global health, global warming, and even space exploration. The new U.S. president should consider charging retired statesmen—people who have a reputation for excellence and leadership—with the hosting of mutually respectful and beneficial people-to-people exchanges. Perhaps Presidents Bush and Obama could be invited to take up this critical task, since both created valuable exchanges with China in energy, science, and education that they should wish to preserve. President Trump could use the credibility such senior statesmen could impart. Former U.S. presidents, with their ability to attract comprehensive media coverage and their access to Nobel laureates, Olympic and professional athletes, movie stars, public intellectuals, and corporate and NGO leaders alike, are a tool uniquely available to current American presidents. Xi Jinping cannot call on his former rivals in the CCP to help him in this way.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Drug Policy Is Evolving. Prohibition Inhibits Progress.

William Martin, Ph.D., Director, Drug Policy Program
Katharine A. Neill, Ph.D., Alfred C. Glassell, III, Postdoctoral Fellow in Drug Policy

U.S. drug policy is at a critical juncture. Growing numbers of policymakers, local and state officials, medical professionals, and law enforcement personnel recognize that dreams of a "drug-free America" will never be fulfilled. Just 10% of American adults believe the war on drugs is a success, an alltime low.1 Twenty-eight states allow some use of marijuana for medical purposes, eight permit its recreational use, and the numbers in both categories seem sure to grow. Rising concern about opioid abuse and overdose deaths has spurred calls for an increased focus on drug treatment and prevention as an alternative to harsh punishment. Given this climate, the next administration has an opportunity to move away from failed measures, establish a more sensible understanding of drug use, and influence drug policy at all levels of government.

This process is already underway, as reflected in the 2015 *National Drug Control Strategy* prepared by the White House Office of National Drug Control Policy.² That document speaks of increased emphasis on prevention over incarceration, early intervention with both youth and adults, expanded access to treatment, support of proven harm-reduction measures, efforts to reduce the stigma of problematic drug use and assist people in recovery from substance use disorders, and a "smart on crime" approach to drug enforcement and sentencing reforms. We applaud these developments.

We regard it as a fundamental fault, however, that the *Strategy* does not examine or even appear to acknowledge the possibility that the very foundation of U.S.

drug policy—prohibition—is seriously flawed, can never succeed, and produces more harm than the drugs it seeks to control. It has stimulated the growth and prosperity of organized crime in Latin America and elsewhere. By incarcerating and labeling millions of individuals as criminals because of their drug use, it has created a burden society can no longer afford to bear. And despite periodic reports of record drug seizures, it has scarcely affected the supply of illicit drugs. When prohibition makes one drug harder to obtain, producers and dealers will supply another, often more dangerous substitute. Rates of illegal drug use remain about the same as they have for more than 40 years.3

We do not have a romantic or naive view of the quite real, damaging, and sometimes irreversible consequences of harmful drug-related behavior that affects millions of Americans each year. But there is broad consensus in the medical and scientific community that substance abuse should be treated as a medical and public health problem, not a crime. We already do that with the two-thirds of substance use disorders involving alcohol. It is time we widened that scope to include drugs that cause far less personal and social harm. Given this understanding, we offer the following recommendations, all of which can be expanded at length.4

Recommendation 1: Reschedule cannabis

Cannabis (marijuana) should be removed from Schedule I of the Controlled Substances Act, which deems it to have "a high



The very foundation of U.S. drug policy—prohibition—is seriously flawed, can never succeed, and produces more harm than the drugs it seeks to control.

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Cite as:

Martin, William and Neill, Katharine
A. 2016. *Drug Policy Is Evolving. Prohibition Inhibits Progress*. Policy
Brief: Recommendations for the New
Administration. Rice University's
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Houston, Texas.

potential for abuse" and "no currently accepted medical use in treatment in the United States." Heavy use of cannabis can have significant negative effects, but fewer than 10% of users get into trouble with it. The assertion that it has no currently accepted medical use is patently false, as a rapidly growing body of scientific research and extensive practical experience by people with myriad afflictions make clear.

Whatever scheduling of drugs is needed should be done by properly credentialed and impartial scientists, not by the Drug Enforcement Administration, a law enforcement agency that has benefited handsomely from cannabis prohibition.

Recommendation 2: Advocate for expanded funding for treating and managing opioid use disorders

The Comprehensive Addiction and Recovery Act (CARA), signed into law in 2016, was an important step toward establishing a federal commitment to addressing opioid use. It shifts focus from punishing drug users to expanding their access to treatment, but it remains seriously underfunded. The \$181 million that was authorized falls short of the estimated \$1 billion needed.⁵ The administration should push for increased funding to strengthen CARA and boost support for opioid–management tools not included in CARA.

Recommendation 3: Encourage research

All aspects of drug policy should have a strong research component, an essential element of progress toward sensible policy. Cannabis is an obvious candidate for research, not only to establish with reasonable confidence whether and which of the claims by proponents, opponents, and impartial researchers regarding the therapeutic potential of marijuana rest on solid ground, but also to provide empirical information about real and alleged risks of legalizing cannabis for "recreational" use. After decades of blocking research on the potential benefits of cannabis, the National Institute on Drug Abuse has acknowledged that such research is needed and the DEA has agreed to increase the number of sites to grow the strains needed for proper research, but this remains a slow process. The White House should exert pressure to establish a clear pathway for this research to proceed.

Research should also include careful examination of the costs and benefits of harm-reduction and health-oriented approaches other nations are using to deal with drug use and abuse. Notable and largely successful examples are the Netherlands' "coffee shops" that sell cannabis to adults; Uruguay's legalization of sales through government-run dispensaries; Switzerland's heroin maintenance programs; and Portugal's decriminalization of all drugs, balanced by substantial investments in prevention, treatment, and resources to help marginalized users reintegrate into society.

CONCLUSION

If followed, these recommendations would be a significant but sensible pivot away from the failed policies of prohibition toward a realistic approach to drug use. By taking the lead on research and communication with the public about policy alternatives, the White House could provide political cover to legislators and encourage bipartisan solutions at all levels of government.

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RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Bargaining with China: Exchange Rate Policy

Russell A. Green, Ph.D., Will Clayton Fellow in International Economics

China follows many practices that tilt the playing field in its favor, which the U.S. should rightly seek to change. Exchange rate policy no longer belongs on the list. Rather, it is the U.S. approach to China's exchange rate policy that lags reality. Offering to recognize China's shifts in policy presents a valuable bargaining chip in negotiations with China on more pressing matters and can institutionalize China's role as a custodian of global stability, a win-win arrangement.

China has actively prevented yuan depreciation for over two years, which promotes rebalancing globally and with the United States. China's government aims to improve financial stability, for instance, in better communication strategies that calm markets. Chinese officials now regularly repeat that they have no intention of using exchange rate depreciation as a policy tool.

China could hardly change their exchange rate policy in a more favorable direction, so punishing China for currency manipulation could not possibly induce a better outcome. Countries that truly deserve scrutiny like Taiwan and sometimes Korea would see that adopting good behavior does not beget U.S. appreciation.

The shift in China's exchange rate policy ties in with Chinese President Xi Jinping's goal to achieve China's potential as a global power and, more specifically, for the yuan to serve as a reserve currency. If the U.S. offers to support these goals, it can change the dynamic of cooperation in the area of global economic governance, which is a top priority for restoring a balanced trade relationship.

An even stronger offer would be to create a new G-7-style grouping that

includes China. This should be a smaller high-table grouping of finance ministers and central banks focused on the international financial system. By including China, this arrangement would more effectively promote good global governance and also help institutionalize the shift in China's exchange rate policy. China's rising economic power necessitates its inclusion, and the G-7 structure has grown outdated in ways that extend beyond China's absence.

This policy would represent a significant gesture by the U.S. to China, and therefore provide leverage on other issues. At the beginning of a new administration, this could usefully set a tone of cooperation. Where to apply that leverage may depend on evolving priorities.

Despite the perception that this proposal may represent a gift to China, in reality it gives very little. The rise of China as an economic power will eventually require from the U.S. all of the measures described in this brief. The question is only one of timing. The U.S. should accelerate the timing so that our policy shift looks magnanimous rather than grudging. By shifting now the U.S. does so on its own terms and gains more in return.

BACKGROUND

China has made strong efforts to prevent a weaker yuan. China's foreign exchange reserves have fallen by almost US\$1 trillion since July 2014. Despite this, the yuan has depreciated almost 8% against the dollar over that period, 3% of which came across two days in August 2015. Depreciation



The rise of China as an economic power will eventually require from the U.S. all of the measures described in this brief... By shifting now, the U.S. does so on its own terms and gains more in return.

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Cite as:

Green, Russell A. 2016. Bargaining with China: Exchange Rate Policy.
Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

despite massive intervention indicates a risk that this effort from China cannot last forever.

The value of this proposal depends on China continuing to strengthen. As Barry Eichengreen and Ben Bernanke have pointed out, by resisting exchange rate depreciation China faces some thorny policy choices.² It has already put in place measures to limit capital outflows, but these may prove insufficient to stem reserve losses if U.S. monetary policy tightens further. Additional capital controls work against China's larger goal of establishing the yuan as a global reserve currency, as well as hinder capital market development and damage its reputation for policy stability.

For now the yuan's role in the global economy is growing rapidly. The currency's share of global foreign exchange trading has grown to 4% from almost zero 10 years ago. It has gained enough usefulness as a reserve currency that the International Monetary Fund (IMF) now reports sovereign holdings of yuan assets among the six other major currency holdings. The global role of the currency should continue to trend upward in the absence of a major disruption.

China appears motivated to raise its stature in the international financial architecture. Establishing the yuan as a global reserve currency has helped motivate China's recent efforts to resist depreciation. The process of obtaining IMF approval for the yuan to join other major currencies in the Special Drawing Rights basket appears to have facilitated several reforms. China loosened capital controls, reformed domestic capital markets, and made steps toward greater market determination of the yuan.³

The current set of groupings for high–level stewardship of the international financial system are inadequate for effective global governance. International financial stability requires a grouping of finance ministers and central banks that is small enough to be confidential and efficient enough that it may act quickly in a crisis. It must also include the leaders of all key global economies and financial centers.⁴

The G-7 is an artifact of an earlier age before the advent of the euro and before China's rise. The G-20 has rightly taken the G-7's place as the preeminent grouping for coordinating international policies at the leaders level. But for matters of international financial policy—to calm markets in times of crisis or to maintain discipline on the "rules of the game"—it is far too large and unwieldy.

A grouping with the U.S., Eurozone, Japan, China, and the UK would suffice to cover the essential markets and currencies. China is moving in the direction of a likeminded shepherd of the international financial system, and its inclusion would provide further momentum. The G-7 was essential to corralling Japan into a policy against depreciation of the yen after the election of Prime Minister Shinzo Abe in 2014, and its stance against competitive depreciation provided a platform that China adopted in the G-20. A new grouping could continue this helpful role more effectively and efficiently in the future.

- 1. A portion of the decline may derive from valuation changes as non-dollar reserves fell in dollar terms.
- 2. Eichengreen: http://bit.ly/2dlxxUf. Bernanke: http://brook.gs/2dmes0n.
 - 3. See http://bit.ly/2db4y3h.
- 4. See, for instance, the analysis in Bergsten, C. Fred and Russell A. Green, Ed. International Monetary Cooperation: Lessons from the Plaza Accord After Thirty Years. Washington: The Peterson Institute for International Economics. 2016.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

The Vital Role of the White House Office of Science and Technology Policy in the New Administration

Kirstin R.W. Matthews, Ph.D., Fellow in Science and Technology Policy **Kenneth M. Evans, Ph.D.**, Postdoctoral Fellow in Science and Technology Policy **Neal F. Lane, Ph.D.**, Senior Fellow in Science and Technology Policy

Innovation is a 21st century imperative for private industry in the U.S. and around the world. It relies on a skilled and diverse workforce as well as continuing advances in science and technology (S&T)—the type of advances made possible by strong public and private investments in research and development (R&D). The influence and endproducts of S&T research are present in almost every aspect of daily life. To ensure the future prosperity of all Americans—particularly those who have been left behind in recent decades the next administration will be challenged to create new policies and initiatives that improve science, technology, engineering and math (STEM) education and training at all levels; to support pathbreaking science and engineering research; and to unleash the power of private sector innovation through partnerships with states, universities, national laboratories, and private industry.

The president's S&T-related decisions rely, in large part, on information—data and analysis—from the White House Office of Science and Technology Policy (OSTP) and, specifically, on advice from the president's science advisor. The presidential transition is a critical period for ensuring that science and technology are responsibly and effectively represented during the policymaking process in the White House. Since the new administration will immediately be faced with a host of challenges requiring timely S&T advice, it is important for the president to quickly appoint a science advisor; to put together an OSTP team; to ensure that OSTP

has the support of, and access to, other White House offices and councils as required; to establish S&T policy priorities; and to navigate the ongoing budget process for federal R&D investment.

The Baker Institute Science and Technology Policy Program recently produced a full report on the operations and policy work of the White House Office of Science and Technology Policy. Recommendations for the next president and science advisor were developed for the report with input from experts across the country. The summary below lists five of these recommendations for consideration by the president early in the administration.



RECOMMENDATIONS TO THE PRESIDENT OF THE UNITED STATES

Recommendation 1

Early in the post–election transition period, select a nationally respected scientist or engineer to serve as science advisor and assistant to the president for science and technology. Once in office, the president should nominate this candidate for the position of OSTP director. Qualifications to consider for the role of science advisor include: national recognition and respect as a leader in science and engineering; extensive knowledge of the federal government as well as global science and technology policy experience; strong connections to the S&T community; and established leadership,

The new president should quickly appoint a science advisor; put together an OSTP team; ensure OSTP has the support of, and access to, other White House offices and councils as required; and establish S&T policy priorities.

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Cite as:

Matthews, Kirstin R.W., Kenneth M. Evans and Neal F. Lane. 2016. The Vital Role of the White House Office of Science and Technology Policy in the New Administration. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas.

communication, diplomatic, political, and management skills.

Recommendation 2

Direct the Office of Presidential Personnel to seek the advice of the science advisor before filling the many sub-Cabinet and other senior agency positions related to S&T and before nominating presidential appointees for government positions with major S&T-related responsibilities.

Recommendation 3

Consult with the science advisor to quickly appoint a diverse membership for the President's Council of Advisors for Science and Technology (PCAST). Early in the administration, the president should establish a practice of regularly meeting with PCAST and charging it to carry out studies and issue reports on topics that the president considers particularly important to the nation.

Recommendation 4

Renew the existing executive order for the National Science and Technology Council (NSTC) or develop a presidential directive detailing its operations. Charge OSTP, in consultation with the Office of Management and Budget (OMB), PCAST, and the NSTC Cabinet secretaries and agency heads, to:

- a. Draft a strategy paper outlining the administration's innovation goals, and release it in the first 100 days.
- b. Organize and oversee a multi-year planning process to monitor progress.
- c. Prepare action agendas for biannual meetings of the NSTC principals, chaired by the president, to review progress.
- d. Develop policy options for the president's consideration; convene meetings of agencies and nongovernment experts; and draft executive orders and presidential directives to move the president's innovation agenda forward.

Recommendation 5

Ensure that OSTP has the leadership, access, structure, and resources to enhance the integration of science and technology in policymaking within the executive office of the president and across federal agencies.

 a. Continue to house the OSTP director and staff in the Dwight D. Eisenhower Executive Office Building.

- b. Nominate four OSTP associate directors and determine the focus and structure of OSTP.
- c. Clarify the role and responsibilities of the chief technology officer.
- d. Ensure the science advisor is included in all Cabinet meetings attended by other assistants to the president, particularly when issues related to science and technology are likely to be discussed.
- e. Direct all White House budget and policymaking entities to collaborate closely with OSTP on a broad range of policies that have a science and technology component.
- f. In the annual budget request to Congress, include adequate funding for OSTP to retain the number of knowledgeable and well-trained full-time staff members necessary to handle an increased workload and ensure continuity between administrations.

CONCLUSION

Science, technology, and innovation are vital to America's economy and workforce, and the competitiveness of U.S. industry. They assure our nation's security, the quality of our environment, and the safety, health, and overall well-being of the American people. Considering the many policy challenges that relate to science and technology, and the accelerating pace of scientific discovery and technological innovation around the globe, it is critically important for the president to quickly to appoint a science advisor and organize a capable OSTP. Both can then begin to engage the many executive departments and agencies that support R&D and rely on science and technology advances to carry out their missions. It is in this spirit that the recommendations above are offered. We aim to underscore sound practices, help identify opportunities for the new administration, and ensure appropriate attention is given to fastchanging science, technology and innovation knowledge to ensure its utilization in the development of federal policy.

This policy brief is based on a study funded by a grant from the Richard Lounsbery Foundation. For the full report and recommendations, please see www.bakerinstitute.org/0STP2016.

RECOMMENDATIONS
FOR THE NEW
ADMINISTRATION

Why NASA Should Change Its Present Course

George W.S. Abbey, Senior Fellow in Space Policy

INTRODUCTION

Human spaceflight and the U.S. civil space program are both well past their half—century anniversary. Yet for over five years and counting, the nation has not had the capability to launch humans into space. The space shuttle, the most advanced and capable spacecraft ever built, was arbitrarily retired in July 2011. Rather than continue to fly in space, U.S. shuttles now adorn museums across the country. The only U.S. human presence in space today is onboard the international space station (ISS).

The ISS has proven to be an outstanding research facility and a model for international cooperation.

America relies on Russia, an outstanding ISS partner, for flying U.S. astronauts to and from the station. The cost to the U.S. of such flights is a bargain, contrary to the comments of some observers. Russia provides not only flights to and from the station, but also a rescue vehicle that is attached to the ISS that can safely return astronauts to Earth in an emergency. America has no capability to accomplish either of these required functions.

Without the space shuttle, carrying cargo to and from the ISS has become a problem. Russia has an unmanned vehicle that can carry limited cargo loads to the space station, but it has no capability to return cargo. Contractors SpaceX and Orbital ATK can provide logistical support for the ISS to a limited degree, but only SpaceX can return cargo.

Looking ahead, the space station will play a critical role in helping to provide the answers that will enable long-duration human spaceflight. Every effort should be made to maximize research that will support this long-term goal on board the station.

CURRENT NASA PROJECTS

NASA is developing two major projects, the Space Launch System (SLS) and the Orion Multi-Purpose Crew Vehicle. The initial version of the SLS is designed to lift a 70 metric ton payload to low Earth orbit (LEO); another SLS version is planned to have an LEO capability of more than 130 metric tons, as directed by Congress. Yet to be defined are missions that utilize the larger specified lift requirement. The Orion spacecraft is larger than the Apollo spacecraft that carried astronauts to the moon. NASA is developing Orion, and funding the development by private industry of two additional capsules that will transport astronauts to the ISS.

Orion and the SLS have had a significant impact on NASA's budget, and the agency has very little money left over to use for actual exploration. During a joint Senate-NASA presentation in September 2011, NASA stated that the projected development cost for the SLS project was \$18 billion through 2017, which included \$10 billion for the SLS rocket, \$6 billion for Orion, and \$2 billion for upgrades to the launch pad and other facilities at Kennedy Space Center. A subsequent independent cost assessment



As a new administration takes office, a critical reassessment of NASA's current programs and future is essential to ensure the nation's continued leadership role in human spaceflight.

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Abbey, George W.S. 2016. Why NASA Should Change Its Present Course. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. report considered the projected costs and schedules to be optimistic. Production and operation costs for the SLS and Orion presently consume more than \$3 billion annually. Two recent General Accountability Office (GAO) reports contain warnings about the costs and schedules for the SLS and Orion, and for Exploration Ground Systems (EGS). These three elements constitute the major components of NASA's Exploration Systems Development Program. The GAO believes the projected costs for the SLS and EGS are too low, and raises concerns about the feasibility of a November 2018 first launch of the SLS. The GAO also states that cost and schedule estimates for Orion have failed to meet more than half of the best practices for creating such estimates, thus making them suspect.

Three competing heavy-lift rockets in the same class as the SLS are under development in the private sector. SpaceX is developing the Falcon heavy booster and Blue Origin is developing the new Glenn booster. United Launch Alliance, a joint venture of Lockheed and Boeing, is developing the Vulcan rocket, with an upper stage being optimized for use between Earth and the moon. These are all expected to cost significantly less to fly than the SLS.

RECOMMENDATIONS

NASA's annual budget is substantial and its effectiveness is a function of how the funds are spent. The next logical step for extending a human presence beyond Earth orbit is a return to the moon. Mars is a "bridge too far," with many unresolved technical issues. A mission to the moon, only three days from Earth, provides the opportunity to not only develop needed experience but also to resolve technical issues and prove and qualify the needed systems for a voyage to Mars. The world's spacefaring nations, with the exception of the U.S., all support a return to the moon; such an effort would provide an excellent opportunity for the U.S. to continue the outstanding international cooperation demonstrated so clearly by the ISS.

The present NASA budget, if properly spent, could support a return to the moon. This would necessitate a reassessment of the need for a NASA SLS—as opposed to using launch vehicles developed by industry—and the viability and usefulness of a NASA Orion spacecraft to support human spaceflight. The construction and assembly of the ISS has proven the value and usefulness of a large structure in space. Neither the Orion nor the two capsules being funded by NASA to carry crews to the ISS have any capability to support the assembly of large structures in space, such as the ISS. A shuttle-type reusable spacecraft developed by Boeing that has successfully flown several times in space—a scaled-up X-37—could not only accomplish missions envisioned for the NASA-funded capsules, but could also provide a capability to do assembly in orbit. And the assembly of new, large structures in Earth orbit could well contribute to the optimum architecture for human missions beyond Earth orbit.

NASA's current plan speaks of human flight to Mars but lacks any description of the architecture, spacecraft, or systems needed to achieve this goal—and more importantly, it fails to project the cost of such a voyage.

As the National Research Council's congressionally chartered Committee on Human Spaceflight once wrote, for NASA "to continue on the present course ... is to invite failure, disillusionment, and the loss of the longstanding international perception that human spaceflight is something the United States does best." The committee made this comment in a June 2014 report. In the years since, NASA has nevertheless continued on the same course. As a new administration takes office, a critical reassessment of NASA's current programs and future is essential to ensure the nation's continued leadership role in human spaceflight.

RECOMMENDATIONS
FOR THE NEW
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U.S. Fiscal Policy

John W. Diamond, Ph.D., Edward A. and Hermena Hancock Kelly Fellow in Public Finance
George R. Zodrow, Ph.D., Baker Institute Rice Faculty Scholar and Allyn R. and Gladys M. Cline Chair of Economics, Rice University

One of the most important issues currently confronting the United States is the unsustainable nature of current fiscal policy. In the absence of meaningful reform, current policies will lead to growing budget deficits, long-run increases in the debt-to-GDP ratio, reductions in economic growth, and a less competitive U.S. economy. The Congressional Budget Office's long-term budget outlook shows that in 2016 spending is 21.1% of GDP and revenue is 18.2% of GDP. This implies a deficit of 2.9% of GDP. Over the last 50 years (1966–2015), spending was 20.2% of GDP and revenue was 17.4% of GDP. Thus, in 2016, spending is 0.9% higher and revenue is 0.8% higher than the 50-year average. By 2046, CBO projects that current policies imply that spending will increase to 28.2% of GDP while revenue will increase to 19.4% of GDP. This implies a deficit equal to 8.8% of GDP and a debtto-GDP ratio of 141%. The rapid growth in the deficit and debt over the next three decades is caused by projected increases in spending on Social Security, Medicare and other health care programs, and interest payments on the government debt. Social Security expenditures are projected to increase from 4.9% to 6.3% of GDP. Government health care expenditures are projected to increase from 5.5% to 8.9% of GDP. Interest payments on the debt are projected to increase from 1.4% of GDP to 5.8% of GDP. Other non-interest, non-entitlement spending is projected to decrease from 9.2% of GDP to 7.3% of GDP. The projected increase in Social Security and health care expenditures is related

to demographic changes as the baby boom generation ages, as life expectancy increases, and as health care costs per beneficiary grow faster than GDP.

It is obvious that closing this fiscal gap (the difference between spending and revenues) will require either a reduction in spending or an increase in revenues. While we cannot count on GDP growth alone to close the fiscal gap, increasing GDP growth will reduce the amount that spending must be cut or revenues increased to close the gap, and thus should be a primary concern in addressing the unsustainability of current fiscal policy.

In the United States, several groups have published ambitious plans for fiscal reforms that are designed to address the debt issue through various combinations of expenditure reductions and revenue-increasing tax reforms. These plans typically require sizable reductions in expenditures, which could only be accomplished by major entitlement reform.

These plans also propose an increase in revenues. Note that individual income tax revenue as a share of GDP is projected to increase significantly even before any policy changes are adopted to address the unsustainable nature of the U.S. budget. CBO projects that individual income taxes will increase from 8.8% of GDP in 2016 to 10.5% of GDP in 2046. The growth in revenues is a result of individuals being pushed into higher tax brackets over time as nominal income grows faster than the tax bracket income cutoffs. Unfortunately, these built-in tax increases are negligible relative to the projected increases in



While we cannot count on GDP growth alone to close the fiscal gap, increasing GDP growth will reduce the amount that spending must be cut or revenues increased to close the gap, and thus should be a primary concern in addressing the unsustainability of current fiscal policy.

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Cite as:

Diamond, John and George Zodrow. 2016. U.S. Fiscal Policy. Policy Brief: Recommendations for the New Administration. Rice University's Baker Institute for Public Policy, Houston, Texas. spending. Whether revenue as a share of GDP remains at the projected level or is increased as part of a grand bargain, it is imperative that the United States reform its tax system to reduce economic distortions and maximize economic growth. Otherwise, the combination of rising taxes as a share of GDP and a relatively distortionary tax system could significantly hamper economic growth. This is particularly important given that, in general, the efficiency costs of economic distortions increase exponentially with the rate of tax.

Indeed, the income tax system in the United States is ripe for reform. The last fundamental reform of the system was the much-celebrated Tax Reform Act of 1986 (TRA86), which followed the classic model of a base-broadening, rate-reducing reform that financed significant corporate and personal rate cuts with the elimination of a wide variety of tax preferences. However, since that reform the top marginal tax rate has increased to 39.6% (with an additional 3.8% rate applied to certain investment income) from the 28% top rate enacted under TRA86, while the number and value of individual tax preferences have grown substantially. The arguments for reform are the same as those made during the debates surrounding the Tax Reform Act of 1986 (e.g., McLure and Zodrow 1987; Diamond and Zodrow 2011): high individual tax rates coupled with widespread tax preferences inefficiently distort decisions regarding labor supply, saving, consumption patterns, and methods of compensation, significantly complicate administration of and compliance with the tax system, encourage tax avoidance and evasion, and result in a tax system that is widely perceived to be fundamentally unfair.

The corporate income tax in the United States is also ripe for reform. The statutory tax rate in the United States is now the highest in the world among the industrialized countries, we no longer have relatively low marginal effective tax rates, and most of our international competitors have moved to "territorial" tax systems, under which the foreign source income of their multinationals is exempt from

domestic taxation—in contrast to the U.S. system under which such income is subject to a residual domestic tax. High statutory rates exacerbate all of the inefficiencies of the current tax system, encourage tax avoidance and evasion, and increase administrative and compliance costs. In addition, high statutory tax rates are especially harmful in the modern globalized economy, as they drive capital out of the country and create incentives for income shifting to lower tax jurisdictions that significantly reduces U.S. revenues.

With growing competition from abroad, the U.S. must reform its fiscal policy to reduce debt, maximize economic efficiency—including minimizing the distortions caused by the tax system—and maintain its areas of competitive advantage.

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