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Global Brazil and
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Brazil’s Economy: Engines and Obstacles

Brazil’s economic growth fuels its domestic achievements and much of its international agenda. Brazil’s steadily growing economy propelled the South American giant into the global consciousness, initially among investors eyeing an emerging market. For Brazilians, the country’s successful blend of capitalism and social democracy now justifies the promotion of these ideals and Brazil’s economic interests abroad. Accordingly, Brazil has leveraged its domestic economic bona fides into international commercial and diplomatic power that it exercises across most regions of the world.

MACROECONOMICS IN TODAY’S BRAZIL

Sound macro policies, enhanced access to capital inflows, a transition from an import- to export-led economy, and a long period of favorable commodity prices and easy financing conditions have contributed to a profound economic and social transformation in recent years. Brazil’s GDP per capita is now twice as high as it was ten years ago, and the poverty rate has been reduced by almost half.

President Rousseff entered office on the heels of a 7.5 percent economic growth in 2010, with expectations for a 4.5 percent expansion in 2011. The strong economic performance in 2010 was underpinned by robust domestic demand fueled by rapid credit growth and expansionary monetary and fiscal policy. The unemployment rate is at its lowest level in eight years, and real wages have increased sharply. Thus, although Brazil faces near-term challenges—mostly those associated with a rapidly growing economy—the long-term prospects for the country are positive, provided the abundance is managed appropriately.

However, the economic story is not without concerns. At the time of the writing of this report, inflationary pressures have grown
noteworthy, and in major segments of the Brazilian economy some worry that overheating is taking place. Overheating pressures are manifesting themselves not only through higher inflation but also through a widening trade deficit and rapidly growing credit and asset prices.

There are also concerns that Brazil is now more vulnerable to major swings in global commodity prices; the country is too dependent on Asian demand for its future growth and thus would be vulnerable to setbacks in China and its neighbors; credit is growing rapidly, particularly in real estate markets such as the Rio and São Paulo regions, and asset prices may have worrisome bubble-like characteristics; and some important expected drivers of Brazilian expansion, such as tapping into pre-salt energy reserves, may take longer than anticipated to meet projections.

President Rousseff has made it clear that she is cognizant of these risks, and her appointments to head the Ministry of Finance and the Central Bank have a strong mandate to both offer critical continuity with the orthodox programs of the two preceding administrations and attend to these issues, of which the threat of inflation is increasingly seen as the most urgent. Indeed, a major source of consensus for macroeconomic policies lies in the shared Brazilian experience of rampant inflation in recent memory.

**CHALLENGES AHEAD**

The new government faces a wide range of economic challenges going forward that will require policy action. In the near term, the Brazilian government must remain attentive and resolute in its policies to avoid overheating and deal with the consequences of large capital inflows and a rapidly appreciating currency—the real has appreciated almost 40 percent against the dollar in the past two years—while trying to shape policies to protect and enhance the economic and social gains of the past decade.

Along with other major emerging-market countries, Brazil expressed concern about the U.S. Federal Reserve’s decision to release $600 billion in an effort to stimulate the U.S. economy (the so-called QE2), a move that Brazilians feared would drive more money into countries with high interest rates as investors sought a higher return on their money. The negative Brazilian response was due partly to frustration
with the absence of advance dialogue with the United States on monetary issues, and was also meant to balance simultaneous criticism of China. Among the tools used in response, Brazil raised its financial operations tax, known as the IOF, on foreign purchases of local bonds.

Brazil stands out in its region for a relatively high level of public debt, high public revenues, and low public investment. Between 2005 and 2008, for example, Brazil’s public sector invested, in terms of GDP, half of what Argentina, Chile, Colombia, Mexico, Peru, and Uruguay did. Improvements in this area will not be easy and will require fundamental changes in fiscal strategies. The country’s poor quality of physical infrastructure, for example, reflects this low level of public investment. To prepare for the World Cup in 2014 and the Olympics in 2016, Brazil has, however, begun to undertake a high-priority program to improve infrastructure. Labor, pension, and social security reform—issues that need to be tackled by the Rousseff administration—would greatly improve public savings and provide more flexibility for other spending priorities.

Doing business and forming small and medium-sized businesses in Brazil remains a challenge given the complexity of the tax system, high labor and corporate taxes, and the slow processes of judicial review for contract enforcement—issues that the Brazilian government itself acknowledges as obstacles. Brazil’s complex regulatory, tax, and protectionist regimes hamper foreign investment and slow the conditions for even more robust and equitable growth. As in the United States, addressing such structural challenges in Brazil is difficult because of domestic politics at the federal, state, and municipal levels. Trade policy will also test the Rousseff administration. Brazil is in the early stages of developing, among its small and medium-sized businesses, the facility for and the inclination to view foreign trade as a driver of growth and development.

**Conclusions**

The Task Force notes that, in this context, near-term attention to the threats of inflation and overheating more broadly is warranted. In 2010, inflation reached 5.8 percent, well above the 4.5 percent target. Nonetheless, the Task Force finds that the Rousseff administration—which has pursued a round of budget cuts, raised interest rates, and taken steps to regulate consumer credit—has reacted prudently, although even greater attention to these concerns and a greater willingness to
acknowledge threats earlier is warranted. This is also an area, given the importance of Brazil's economy globally, in which it is in the interests of the United States and other G20 powers to work closely with Brazil to avoid problems that may produce significant contagion regionally and worldwide.

**BRAZIL’S TRADE AND INVESTMENT RELATIONSHIP WITH CHINA: RISKS AND REWARDS**

Brazil’s economic relations with China are at once mutually beneficial, competitive, and a real challenge to the long-term diversification of the Brazilian economy. Trade and investment were the focus of Rousseff’s visit to China in April 2011, the first major foreign trip of her presidency. Brazil has gained considerably from its trade and investment relations with China over the past decade. Commodity prices reached record-high levels driven mainly by the impressive growth of the Chinese economy and its demand for natural resources. In the first two quarters of 2010, China became the primary buyer of Brazilian exports, ahead of the United States, and the number-two source of Brazilian imports, behind the United States.

This increase in trade flows, however, has triggered an imbalanced relationship, generating increasing concern among Brazilian policymakers and the private sector about deindustrialization. As of the first quarter of 2010, approximately 79 percent of Brazilian exports to China consisted of basic goods and raw materials (soy, iron ore, and oil), but more than 90 percent of imports from China were capital or manufactured goods. In 2009, the industrial sector share of Brazil’s GDP fell to 15.5 percent, the lowest figure since 1947. Many in Brazil are concerned that loose monetary conditions in the United States and large foreign exchange interventions in China have caused the real to soar against the dollar and the yuan, and cheap Chinese imports have damaged the country’s manufacturing base.

As part of China’s broader strategy to secure natural resources in the developing world, China became Brazil’s leading investor in 2010, with estimates of $12 billion to $20 billion invested primarily in the steel, oil, mining, transportation, and energy sectors. The upcoming World Cup and the Olympic Games, as well as the need to explore newfound
reserves of oil offshore, are drawing more Chinese investments to Brazil, particularly for infrastructure projects. In Brazil, concern is increasing over whether China will abide by market rules, in particular with respect to real estate and intellectual property rights.

Brazil’s investments in China are much more modest, but relevant nonetheless as Brazilian companies move to China to target Chinese consumers and to use the country as an export platform to other regions, including to Brazil itself. Still, some Brazilian national champions—themselves supported by low-cost, government financing—cannot compete with even more heavily subsidized Chinese companies. For example, the Brazilian aircraft manufacturer Embraer, which has a factory in China, competes with a Chinese regional maker whose plane resembles the Brazilian model.

The Rousseff administration has identified its relationship with China as one of its major strategic challenges. As Brazil-China asymmetries persist, trade deals with other major economies—notably the European Union (talks are already under way) and the United States—will become more attractive to Brazil. In her first several months in office, Rousseff has moderated Lula’s criticism of U.S. monetary policy, and the Task Force expects Rousseff to seek closer ties to the United States to balance China. U.S. treasury secretary Timothy F. Geithner, who visited São Paulo and Brasília in advance of the February 2011 G20 meeting of finance ministers, emphasized the impact of Chinese monetary policy on both economies during his discussions in Brazil.

Conclusions and Recommendations
China and Brazil are helping fuel each other’s growth, meet each other’s needs, and thus strengthen each other’s international position. The Brazil-China partnership is likely to be one that grows significantly stronger in the years ahead and, as is often the case, the Task Force expects deepening and extensive economic ties to create an incentive for greater political and diplomatic coordination. The Task Force recognizes that the growing importance of this relationship with China enhances Brazil’s ability and inclination to act independently of the views of the United States and other neighbors in this hemisphere.

Both Brazil and the United States have an interest in mitigating volatility in emerging economies. The Task Force acknowledges Brazil’s forcefully stated concern that the United States’ second quantitative easing and China’s artificial undervaluing of the yuan attracts hot
money to Brazil, drives up the value of Brazil’s real, and adds overheating pressures in the form of higher inflation, a widening trade deficit, and rapidly growing credit and asset prices. With the slowness of the U.S. recovery, U.S. interests are, for the moment at least, divergent to some degree, and Brazil and the United States are not likely to be able to consistently coordinate monetary policy closely, because both countries are sensitive first and foremost to their domestic circumstances and constituencies. Nonetheless, the Task Force finds that Brazil’s escalating criticism of Chinese monetary policy illustrates an alignment between Brazilian and U.S. concerns and thus provides an opportunity for greater cooperation and coordination between Brazil and the United States going forward.

The Task Force encourages both governments to maintain and expand channels of communication on monetary policy, especially with respect to China, in an effort to reinforce the message that a floating Chinese currency would be beneficial to the global economy. Brazil and the United States each approach China carefully, balancing relationships that are both complementary and competitive. The Task Force suggests that Brazil and the United States agree to common language to describe challenges of China’s undervalued currency, in order to underscore their shared concern.

**DOMESTIC ASSETS**

For generations, abundant and varied economic resources have promised to bring prosperity to Brazil. In the 1970s, Brazil looked poised to break into the ranks of the world’s wealthiest nations. But by 1982, the so-called Brazilian economic miracle had withered with the onset of the Latin American debt crisis. Now, however, Brazil’s expertise in tropical agriculture and its growing mineral resource production have coincided with rising global commodities prices and demand.

Brazil is again well positioned to make productive use of its natural endowments. Income from and jobs generated by natural resources will likely continue to expand the middle class and sustain domestic growth, helping boost Brazil’s economy from the world’s eighth-largest to the fifth-largest as early as 2016. Over the next decade, Brazil’s domestic development will rest on four pillars of growth: agriculture, mining and metallurgy, a growing middle class, and energy production.\(^6\)
Brazil’s Economy: Engines and Obstacles

**AGRICULTURE**

Brazil uses its agricultural might and knowhow to ensure food security both at home and overseas. Brazil is the fourth-largest exporter of food globally; a world leader in staples like soy, sugarcane, coffee, and beef; and a major producer of a wide range of items including tobacco, cotton, orange juice, and cashews. As a country just shy of 200 million people, Brazil produces enough food to meet the minimum caloric requirements of about 250 million. Though 10 million Brazilian citizens still lack food security, this figure is a 75 percent reduction from a decade earlier and is due in large part to the success of the Fome Zero program and strong economic growth. Much of the credit also goes to Brazilian advances in agricultural technology.

Brazilian agricultural innovations have made agriculture more efficient and have expanded farming to parts of the country where crops could not grow roughly a decade ago, converting Brazil into an agriculture powerhouse with industrial-scale farming. The Brazilian Agricultural Research Corporation (Empresa Brasileira de Pesquisa Agropecuária, known as Embrapa) has worked since its inception in 1973 to develop new farmland and has modified varieties of seeds to grow in those environments. Agriculture now makes up a quarter of Brazilian GDP and accounts for 40 percent of export revenue. According to some estimates, pastureland covers nearly 25 percent of the country and 150 million acres of arable land remain uncultivated.

Within the framework of the BRICS countries, Brazil has become integral to the international effort to mitigate problems of food production and hunger, which has included a commitment to develop a joint strategy to ensure access to food for vulnerable populations. Cooperation is strongest in Africa. Embrapa África, in conjunction with the Brazilian Agency for Cooperation (ABC), has personnel stationed in Ghana, Mozambique, Senegal, and Mali to coordinate food security programs, which generates goodwill for Brazil and an opportunity for cooperation with the United States. Initiatives under way from Latin America to the Middle East to Oceania point to Brazil’s global ambitions.

**Conclusions and Recommendations**

The Task Force finds that Brazil’s technological innovation in agriculture has allowed the country to capitalize on its natural resources and global economic conditions in order to carve out a place for itself on
the world stage. Moreover, with more than one billion people undernourished worldwide, Brazil’s growing contribution to global food stores makes it a fundamental part of any international approach to food security.

Brazil and the United States are among the largest agricultural producers and exporters in the world. Agricultural technologies developed by U.S. companies are already being used to improve land productivity in Brazil, and barriers to further expansion (to the extent that any remain) are the subject of bilateral government discussions. The Task Force encourages the U.S. Department of Agriculture (USDA) to enhance capacity for cooperation on innovation and deployment of new technologies and development of standards. The USDA should provide funds for U.S. scientists to work with their counterparts in the Brazilian Embrapa. In addition, the Task Force recommends that the USDA consult with Embrapa in the development of genetically modified organisms (GMOs) to ensure that U.S. products meet Brazilian standards.

**MINING AND METALLURGY**

Mineral extraction provides Brazil with the material to address the country’s infrastructure deficit and also serves as a major source of national revenue. The country produces and exports significant amounts of nickel, copper, bauxite, iron ore, and other elements of common alloys like steel. Indeed, Brazil is the world’s third-largest producer of bauxite (used in the most cost-effective method of producing aluminum) and the ninth-largest producer of steel. It is increasing its steel production with investment from Chinese and U.S. companies and boosting exports through new plants and ports. Like its agriculture, Brazil’s mineral assets are a valuable commodity that makes Brazil a vital trading partner for any member of the international community, especially those poised for infrastructure-dependent growth.

**GROWING MIDDLE CLASS AND DOMESTIC DEMAND**

Perhaps the largest component of Brazil’s economic growth at home is its expanding middle class. Bolsa Familia, Fome Zero, subsidized loans for housing, and an increase in the minimum wage (which rose 62 percent in real terms under Lula) have lifted an estimated thirty million
people out of poverty in the past eight years. Though more than ten million Brazilians (5.21 percent of the population) live on less than $1.25 per day and Brazil remains the third most unequal country in Latin America, Brazil’s Gini coefficient has declined from 0.61 to 0.54 since 2001.

The greatest and fastest-paced increase in incomes is occurring among Brazilians in the classe C, Brazil’s middle or consumer class. In 2009, 61.1 percent of all Brazilians were members of classes A, B, or C, up from 37.9 percent in 2003. The aggregate purchasing power of classe C is responsible for between 31 and 46 percent of the Brazilian economy. Clase C consumers make up the largest discrete economic group in Brazil. In stark contrast to China, Brazil has seen lower incomes grow at substantially faster rates than higher incomes over the past decade, accounting for shrinking income inequality.

As the middle classes have grown in size and prosperity, their spending habits have shifted as well. According to the 2010 Brazilian census, 69 percent of Brazil’s middle class own their own homes; more than 20 percent own a car; 89 percent have mobile phones; 50 percent own computers (more than 30 percent of whom have broadband connections); and all have televisions. Brazil’s manufacturing base largely sells to this internal market (indeed, the Ministry of Development, Industry, and Foreign Trade encourages Brazilian businesses to export more), but some Brazilian goods are being priced out by Chinese imports.

Expansion of credit has underpinned rising Brazilian purchasing power. Though the share of domestic credit in the Brazilian economy appears low (at about 46 percent of GDP, compared with 80 percent in Chile) given its level of income, Brazilian borrowers pay a relatively high interest rate of 20 to 25 percent. As new consumers rapidly take on debt, monetary policy authorities in Rousseff’s administration are keenly aware of the risk of excess leverage and are taking steps to tighten credit.

Conclusions
Brazil has deliberately created an environment in which upward mobility is within the reach of the vast majority of its population. Brazil’s domestic market is a crucial driver of the country’s economy and will attract an increasing number of international partners, in the region and abroad, who hope to gain greater access to Brazilian consumers. In light of the contributions of the housing debt crisis to the U.S. financial crisis, the Task Force finds that ensuring the financial literacy of and
developing savings vehicles for Brazil’s newest consumers will be critical to preventing their financial overstretch and possible damage to Brazil’s growth prospects.

**DOMESTIC CONSTRAINTS**

Brazil’s successes in meeting long-standing challenges such as poverty and inequality are undeniable. At the same time, Brazil’s swelling middle class, substantial deepwater oil finds, and upcoming major international sporting events raise expectations and create new challenges for Brazil. Its major undertakings for the next decade are to absorb and build on its achievements and reduce remaining social deficits. How Brazil fares on these counts will significantly influence its economic growth and ultimately will affect how it projects itself internationally.

Brazil’s ability to compete over the long term on the world stage, with the likes of China and India, depends on improving infrastructure, elevating the quality of basic education, increasing the number of skilled laborers who supply burgeoning Brazilian industries, and creating socially and environmentally sustainable conditions in which innovation and small businesses can flourish. If it cannot meet these challenges, it risks falling behind.

The stakes for Brazil are high: popular expectations of a progressive and positive trajectory place great pressure on Brazil’s democratically elected leaders. In light of its experience of hyperinflation, inequality, poverty, and social exclusion, backsliding could have profound and negative implications for the health of its democracy and social contract.

**INFRASTRUCTURE**

Brazil requires massive investment across the spectrum of basic infrastructure to meet current needs and to maintain its recent rapid pace of growth. Forty-three percent of Brazilian households—some 25 million families—live in inadequate housing without consistent access to clean water, sewage disposal, and garbage collection. Brazil’s aging seaports handle 95 percent of Brazil’s exports, yet are ranked 123 out of 139 countries in the World Economic Forum’s most recent global competitiveness report. The lack of an integrated national rail system forces most producers in the interior to send their goods to port via
trucks, but only 10 percent of the nation’s roads—accounting for roughly 124,000 miles crossing a country of more than 3 million square miles—are paved.

Airports are also overwhelmed, with seven of the country’s top twenty airports experiencing frequent congestion delays; São Paulo’s international airport is ranked third worst in the world for flight delays. Telecommunications saw significant investment following privatization a decade ago, allowing mobile phone use to increase to nearly eight hundred accounts per thousand people by 2008, leapfrogging fixed land lines that had just three hundred accounts per thousand.

Rousseff was the architect of the R$642 billion Program to Accelerate Growth (PAC, implemented from 2007 to 2010), and its nearly R$1 trillion successor PAC II (covering 2011 through 2014), which seek to address these infrastructure shortcomings. Increased electricity generation capacity accounts for nearly half of the proposed PAC II budget, housing and transportation a further 40 percent and water, sewage, and urban infrastructure the remaining 10 percent. If fully implemented, PAC II would go far toward boosting Brazil’s investment in infrastructure above its historical 2 percent of GDP toward the 4 to 5 percent many analysts suggest is required to maintain rapid economic growth. Brazil’s northeast, which receives significant infrastructure investment from the government (for example, the Suape port complex outside of Recife), is the country’s fastest-growing region, expanding at a rate of 2 percentage points higher than the rest of the country.

Full implementation is not ensured, however. The original PAC suffered from implementation delays, and only 40 percent of the earmarked funds were spent by the end of 2009, although election-year stimulus boosted PAC spending to 74 percent of the proposed total. Major projects related to the 2014 World Cup and 2016 Olympics, such as a high-speed rail line between São Paulo and Rio de Janeiro, are significantly delayed. Project costs and capacity constraints, in the physical labor available to complete projects and in BNDES’s ability to complete project financing, will likely increase as critical dates approach.

The politicization of major projects and the lack of suitable financing outside BNDES (commercial banks are unable to provide funding at the interest rate, tenor, and volume required) limit the number of concurrent initiatives that can be undertaken and slow the development of projects once they are approved. Indeed, BNDES’s own February 2011 assessment of near-term infrastructure investment identified only
R$380 billion worth of projects in electricity generation, telecommunications, sanitation, and transportation between 2011 and 2014.

Conclusions and Recommendations
As the upcoming host of both the 2014 World Cup and the 2016 Olympics, Brazil has a unique opportunity to leverage these events to push urban infrastructure to the top of its national agenda in a manner that supports strong economic growth and promotes sustainable development. Rio de Janeiro in particular offers an opportunity to anticipate critical long-term urban infrastructure needs in a rapidly developing megalopolis and leverage compressed investment timelines to establish a template for building the green economies and smart cities of the future, including in the United States. However, it will be important that these investments be carried out without adding to overheating pressures.

U.S. and Brazilian industry, working in partnership with federal and local government agencies, would be well positioned to deliver innovative solutions to the challenges of city-scale infrastructure investment. The Task Force welcomes the development of the U.S.-Brazil Joint Initiative on Urban Sustainability (JIUS), as envisioned by the Environmental Protection Agency (EPA) and formally initiated during Obama’s trip to Brazil in March 2011.

The Task Force encourages interagency support for and progress on JIUS, which works to identify and support sector-specific infrastructure investment opportunities in transportation, air quality, water and wastewater, energy, waste, and land redevelopment infrastructure projects. JIUS will leverage planned event investments and focus on green growth and sustainability as a means of jointly ensuring a green, smart, and energy-efficient build-up of major Brazilian infrastructure in advance of major world events.

EDUCATION
Access to public education for primary and secondary students eluded Brazil for much of its history. The social welfare program Bolsa Familia has fostered record primary and secondary school enrollment. But by age twelve, Brazilian students, girls especially, begin dropping out; the rate rapidly accelerates at age sixteen, the legal age for formal employment. The quality of public education remains poor and highly variable by state, location within a city, and socioeconomic status. According to
Brazilian national education assessments, between 1995 and 2007, no significant improvement was observed in the levels of learning by Brazilian students in the grades analyzed.

During the same period, Brazil dedicated significant resources to education: conditional cash transfers were first linked with school attendance in 2001, and education spending increased by 66 percent between 2000 and 2007, according to the OECD. Brazil’s public expenditure on education as a percentage of GDP (5.2 percent) is comparable to U.S. spending (5.5 percent) and greater than Russia, India, and China. Yet Brazil ranks well below these other emerging economies in math, science, and reading indicators. Indeed, of the 139 countries reviewed by the World Economic Forum for competitiveness, the overall quality of Brazil’s primary education system was ranked 127. Brazil fared similarly poorly in a December 2010 OECD cross-country study, though it did show marginal improvement in quality of math and science education.$^{10}$

Historically, Brazil has spent more heavily on higher education. Still, the number of vocational and technical schools in Brazil falls well short of satisfying Brazilian demand for skilled labor.$^{11}$ Public vocational and technical schools, which expanded under Lula, make up approximately 30 percent of all such institutions. Brazilian tertiary institutions are not training enough students to produce high value-added goods. Private companies often have to educate their own employees. As of 2007, nearly 80 percent (four of every five) of skilled laborers in Brazil undertook a firm-based training program. In a country with massive infrastructure needs, in 2008 only 6 percent of master’s and doctoral degrees were in engineering and architecture. Likewise, only 13 percent of university graduates studied in a science-related field in 2010.

Brazilians often acknowledge that perhaps the most important challenge now before them is to provide universal and quality public education in its primary, secondary, and vocational schools. The Brazilian government has set a target of reaching OECD-education levels by 2021. Brazil’s education ministry and a public-private coalition supporting the UNESCO project Educação para Todos (Education for All) have committed to a spending target of 7 percent of GDP by 2015. Alongside these efforts, Todos pela Educação (Everyone for Education), a movement financed by the private sector, works to bring together civil society organizations, educators and school systems, and public officials to ensure quality basic education for all Brazilian youth by 2022.
Conclusions and Recommendations  
The Task Force finds that Brazil’s long-term ability to uphold its social contract, sustain its economic trajectory, and solidify its standing as a global power depends on the development of an improved and integrated education system at the primary and secondary levels. An improved education system would not only retain students but also provide quality education with access to opportunities in the workplace and in tertiary education. Likewise, Brazil’s continued economic growth depends on the country’s ability to convert its massive consumer class into a producing one that supports labor demands and generates innovation. This, in turn, requires more efficient investment in all levels of public education and a focus on science and engineering in tertiary education institutions.

As concern about education quality and reform increases in both the United States and Brazil, the Task Force encourages the U.S. Department of Education and leading U.S. practitioners to engage with their Brazilian counterparts and the Brazilian Ministry of Education to share lessons learned and best practices, including the U.S. community college model. The Task Force recommends increased research and exchange partnerships between U.S. and Brazilian universities and academic institutions across a range of subject areas, particularly in fields related to engineering, math and sciences, and international relations.

The Task Force encourages the U.S. Department of State’s Bureau of Educational and Cultural Affairs to increase the funding available (through initiatives like the Fulbright program) for American scholars to work and teach in Brazil and for Brazilian counterparts to study and teach in the United States, which requires increased flexibility and timeliness in granting of visas. The Task Force also recommends additional State and Defense Department funding for Portuguese-language programs.

Innovation

Fostering innovation and enterprise is squarely on the domestic and international agenda of the Brazilian government. Indeed, the Ministry of Science and Technology has acknowledged and begun to address Brazil’s deficit in innovation. The Brazilian government also recognizes the importance of technology transfer from abroad as an engine of domestic innovation and growth. Trends are positive as, over the past
five years, the Brazilian government has moved toward the commercial-  
ization of innovation, shifting away from the state-based investment  
in science and technology that characterized the military era and has  
since remained. For example, the Rousseff administration has moved  
to privatize Brazil’s civil aviation industry, which has traditionally been  
controlled by the military.

Research and development (R&D) are underfunded in Brazil rela-

tive to other countries, and the funding that is in place does not pro-
duce results at the rates seen elsewhere. Notably, Brazil and South  
Korea had similar levels of GDP per capita thirty years ago. Today,  
however, South Korea has grown to be more than three times richer  
than Brazil (in purchasing power parity terms). South Korea invests  
more than 3 percent of its GDP in innovation; in Brazil the figure is  
just over 1 percent.

Brazil’s historic and current comparative advantage in commodi-
ties has itself distorted the incentive structure for innovation. In 2000,  
manufactured goods accounted for nearly 60 percent of Brazil’s  
exports, and primary goods totaled just over 20 percent. In 2009, pri-
mary goods overtook manufactured goods—a reversal that starkly  
illustrates the growing competitive disadvantage. The sheer volume of  
foreign demand, from India and especially China, for raw goods like  
soya, iron ore, and beef drives Brazil’s growing emphasis on commodi-
ties exporting.

The quality of science education and know-how in Brazilian aca-
demia is strong, but the gulf between the academy and ideas reaching  
the market is large. At universities, leading academics tend to view a  
disconnection between the scholarly research they conduct and the  
commercial application of their results. Academia is not viewed as an  
instrument of economic development as it is in Boston or San Fran-
cisco, for example.

Brazil’s inefficient and complex regulatory environment—along  
with poor infrastructure, inadequate education, high and complex  
taxes, and rigid labor requirements—make it costly and difficult to com-
mercialize new technology and start new businesses in Brazil. Accord-
ing to the World Bank, it takes 120 days to register a business in Brazil,  
compared with twenty-two in Chile and just six in the United States.

A tradition of heavy state involvement in industry from the time of  
Brazil’s independence, through industrialization, and up to the present  
day has led Brazilians to look to the state for guidance in what and how
to produce. Brazil’s Financing Agency for Studies and Projects (FINEP, associated with the Ministry of Science and Technology) has an annual budget of approximately $2.5 billion to fund scientific and technological development, from R&D for large companies to local innovation systems. Annually, FINEP provides financing for three thousand companies in Brazil (both domestic and foreign), the majority of which are start-ups. Moreover, some parastatal companies have themselves been sources of innovation and demonstrate Brazil’s ability to become a world-class innovator in certain scientific and technical sectors.

Brazil increased its agricultural productivity via Embrapa and built the world’s second-largest biofuels industry, as a result of Pro-alcool, the government’s ethanol promotion program. State-controlled Petrobras has likewise emerged at the forefront of deep-sea oil drilling technology. The Fundação Oswaldo Cruz (Fiocruz), a state-funded public health institution, and its Farmanguinhos and Bio-Manguinhos programs in particular, are world-class examples of innovation in the health sector. These successes suggest that state-driven industrial policy can yield significant results on a large scale, although economists are divided over the long-term benefits of state-directed industrial policies. Although Brazil lacks a strong culture of private innovation, individual entrepreneurship is common—one of every eight adults has created his or her own business, one of the highest rates in the world, though many of these businesses are likely outside the formal economy.

Conclusions and Recommendations
The Task Force finds that low levels of innovation in Brazil and a dearth of mechanisms needed to foster innovation hamper the country’s potential over the long run. The legacy of heavy state intervention in industry will be hard to overcome, and, indeed, many Brazilians prefer the status quo. Though a drastic shift in the culture of innovation is unlikely in the near term, the Brazilian government can pursue steps to encourage small and medium-sized businesses by beginning to simplify government bureaucracy and by promoting private-sector collaboration with the nation’s universities.

The Task Force urges action within the U.S. Congress to allow technology transfer to accompany Brazilian purchases of U.S. military equipment. These transfers would boost bilateral trade, U.S. industry, and defense cooperation and simultaneously support Brazil’s technology and innovation agenda.
Brazil’s investment in health research is providing tangible benefits and important successes in developing interventions for disease, including HIV/AIDS and the so-called neglected diseases that disproportionally affect low- and middle-income countries (such as malaria, tuberculosis, and leprosy). The Task Force encourages the U.S. Department of Health and Human Services and the National Institutes of Health to foster partnerships with their Brazilian counterparts to help build global health capacity and collaborate in scientific research projects that could help generate novel diagnostics, therapeutics, and vaccines.
Endnotes

2. For the purposes of this report, biofuels refers specifically to alcohol-based fuels.
3. Bolsa Familia, a social welfare program initiated by former president Lula, provides cash transfers to families conditional on primary school attendance and basic medical care for children.
5. However, a supply shortfall coupled with rampant domestic demand led Brazil to temporarily import ethanol from the United States in early 2011.
6. The promise and challenges of Brazil’s energy sector are so fundamental to the contours of the new Brazil that energy is addressed in greater depth in the final section of this report.
7. Strands of soya and wheat, historically grown in temperate climates like South Dakota and Korea, have been altered to grow in tropical Brazil. An army of thousands of trucks spread tens of millions of tons of lime across soils in the central farming belt of the country throughout the late 1990s and early 2000s. The lime reduced acidity in the soil to levels at which crops can grow, effectively creating new farmland on what had been dusty rolling hills.
8. Clase C is Brazil’s middle class, which earns between R$1,115 and R$4,807 per month and is bracketed by classes A and B and classes D and E.
9. However, with median monthly incomes between R$2,950 and R$5,350, the wealthier Clase B spent approximately R$1 trillion in 2010 and may still be the primary driver of Brazil’s consumer economy.
10. Education shortcomings result in part from high levels of grade repetition, inefficient disbursement of funding by states and municipalities, and too little local government spending on development programs not related to education, which have been shown to matter at least as much for education outcomes as spending on education per se.
11. Brazilian firms require a median of nearly six weeks to fill a skilled vacancy, compared with four weeks in South Africa and just two weeks in India and China.
12. China, by comparison, devotes 1.54 percent of GDP to R&D, which amounts to 5.27 times Brazilian gross spending on investment. Russia spends 1.04 percent of its GDP on R&D, slightly more than Brazil in gross terms. The U.S. share of 2.77 percent nets it 17.30 times gross Brazilian spending.
13. Commodities exports are directly dependent on market pricing and foreign demand and are thereby most vulnerable to external shock.


15. Brazil emits an average of 1.4 metric tons of carbon dioxide (t CO₂) per ton of oil equivalent (toe) energy consumed—less than 60 percent of the global average of 2.41 t CO₂ per toe.

16. The Cerrado is Brazil’s savannah region.


18. According the U.S. Energy Information Administration, proven reserves are estimated quantities that analysis of geologic and engineering data demonstrates with reasonable certainty are recoverable under existing economic and operating conditions.

19. Brazil is already a net oil exporter, but imports lighter grades of oil, diesel, and naphtha to fill gaps in domestic production.

20. These estimates are lower than Petrobras’s official projections.

21. Biomass provides a further 5 percent of generation; nuclear power, natural gas, and coal-fired plants account for the rest.

22. The Intergovernmental Panel on Climate Change reports that the majority of global climate models indicate an increase in precipitation in southern Brazil and a decrease in northeastern Brazil under a wide range of future scenarios. Projections for the Amazon basin are less reliable, however, with wide disagreement among models even under similar scenarios.

23. Flex-fuel vehicles reached 94 percent of Brazil’s new car sales in August 2009, and by March 2010 Brazil had more than ten million flex-fuel vehicles on the road.

24. The monitoring systems are coordinated by the National Institute for Space Research (INPE) and the Brazilian Institute of the Environment and Natural Resources (Ibama).

25. Related financing mechanisms include the Green Protocol, requiring state banks to ensure the sustainability of projects they finance, environmentally oriented taxes and credit restrictions on rural environmental offenders, and major funds, such as the National Fund on Climate Change and the Amazon Fund. These two funds in particular have broad mandates to combat climate change on a system-wide level, integrating specific reduction projects with efforts to improve research, education, communication, and policymaking.

26. Though commonly used, the business-as-usual baseline is not a particularly well-defined measure, varies by country, and can be subject to industry interests.

27. Some 79 percent of the Cerrado has already been converted to agricultural use. While conversion of the Cerrado forest emits less carbon dioxide than conversion of the Amazon, preservation of the Cerrado is important because it maintains a high level of biodiversity.

28. The CDM allows Annex I countries (those with binding emissions reduction targets) to fund emissions-reduction projects in non–Annex I countries (which do not have binding targets) and use the resulting credits to partially meet their own reduction goals.

29. More than 70 percent of registered projects are sponsored by EU countries that can use the resulting credits within the EU carbon trading system.

30. Developing countries are often referred to as part of the Global South, a categorization that evolved from Cold War-era delineations between the First, Second, and Third Worlds.

31. As a founding member of the League of Nations, Brazil tried and failed in 1919 to obtain a permanent seat on the body’s Council for the Principal Allied and Associated...
Powers. Brazil has been elected a nonpermanent member of the UNSC five times in the post–Cold War era and a record ten times overall. In line with wider efforts to expand the influence of nontraditional powers, Brazil has worked with other non-P5 countries to pursue a permanent seat on a remodeled Security Council.


34. See http://www.whitehouse.gov/sites/default/files/uploads/Brazil_ATEC.pdf.

35. The G20 took on increasing importance during the global financial crisis of 2008 and 2009 and was elevated to head-of-state-level meetings. During the 2009 summit in Pittsburgh, the G20 officially replaced the G8 as the premier forum for global economic coordination.

36. Since 2008, developing and transition countries have gained 4.59 points in voting power within the World Bank, increasing their total voting power to 47.19 percent. Brazil’s share has risen from 2.07 to 2.24 percent. In the IMF, Brazil now has 1.38 percent of voting rights. In October 2010, in advance of the G20 summit in South Korea, G20 finance ministers agreed to reallocate more than 6 percent of IMF voting rights to emerging economies and to reassign two board seats previously held by Europeans. The IMF managing director has called the agreement, approved in December 2010, “historical” and “the biggest reform ever in the governance of the institution.” The reforms, supported by the United States, place Brazil within the fund’s ten largest shareholders.


38. Chile, however, tops Colombia in total trade flows with Brazil.


40. Associate members of Mercosul are Bolivia, Chile, Colombia, Ecuador, and Peru.

41. The Central Bank reports that as many as eight hundred Brazilian firms invest abroad; Central and South America receive the greatest share of Brazilian investment at 23.2 percent. In turn, these regions are responsible for 32.3 percent of the foreign revenues of Brazilian firms investing abroad. BNDES has extended loans or lines of credit to Brazilian companies in Argentina, Chile, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Honduras, Mexico, Paraguay, Peru, Uruguay, and Venezuela. In Argentina, for example, approximately 30 percent of foreign investment comes from Brazil.

42. Though Latin Americans tend to deride Brazil for its economic self-interest, Brazil points instead to examples where it has put stability and regional development above individual national interest. In 2007, for example, Brazil agreed to reduce Paraguayan debt owed as a result of the 1973 Treaty of Itaipú, which specified that Brazil essentially finance the entire construction of the shared hydroelectric Itaipú dam, and that resource-strapped Paraguay would repay Brazil through amortized payments deducted from the electric energy that it sold exclusively to Brazil. Paraguayans widely view Itaipú as a symbol of Brazilian dominance. Indeed, the Paraguayan deputy foreign minister asserted that the original fifty-year deal reflected “the realpolitik of an ant staring up at an elephant.” In 2009, Lula renegotiated the terms of the treaty, promising to triple compensation paid to Paraguay for its unused electricity and pledging the construction of a transmission line to Asunción. For some in Brazil, Lula’s gesture was viewed as a concession with an air of altruism. For Paraguay and others in Latin America, the move was a step to correct the historically unjust arrangement.
For example, see Lisa Kubiske, “Peres and Abbas Visits in Perspective,” U.S. Embassy in Brasilia, December 2, 2009.

Refer to online appendix of signed bilateral agreements at http://www.cfr.org/brazil_task_force/.

Barack Obama, “Remarks by the President at the Summit of the Americas Opening Ceremony,” Port of Spain, Trinidad and Tobago, April 17, 2009.

See online appendix of signed bilateral agreements at http://www.cfr.org/brazil_task_force/.

The United States agreed to modify an export loan program and establish a temporary assistance fund for the Brazilian cotton industry. In exchange, Brazil abandoned plans to impose more than $800 million of sanctions, which had been approved by the WTO in 2009.


Trade declined by 26 percent in 2009, driven largely by a 34 percent decline in U.S. imports from Brazil, but rebounded by 28 percent in 2010 to reach $59.3 billion, supported by a 35 percent surge in U.S. exports. In 2010, the United States exported $35.3 billion worth of goods to Brazil, primarily chemicals, computer and electrical equipment, transportation equipment, and other machinery and fabricated metals. U.S. imports from Brazil were just $23.9 billion, crude oil imports accounting for nearly 33 percent of the total, followed by primary metal manufacturing, agricultural products, and machinery. U.S.-Brazil trade has been largely balanced for the past quarter century; the United States was a net importer from Brazil from 1985 to 1994 before flipping to a net exporter from 1995 to 2001, back to a net importer from 2002 to 2007, and once again a net exporter from 2008 to the present.


Itamaraty—under the current foreign minister—is now developing a department that will streamline U.S.-related policy.