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THE BRAZILIAN MIRACLE AND ITS LIMITS

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I. INTRODUCTION

BRAZIL has enjoyed a high status among developing countries through much of the twentieth century. Its large size and population, coupled with abundant natural resources, made it a “sleeping giant” that had dwarfed even its colonizer, Portugal, well before independence arrived in the early nineteenth century. But for most of its history, the “sleeping giant” did not awaken—as Brazilians jokingly observed, “Brazil is the country of the future, and always will be.” Even its miracle years of 1967-1974 proved short-lived, culminating in a much longer period of debt, inflation, and declining wealth and welfare.

As of 2012, Brazil appears once again to be enjoying its status as a leading developing economy, this time as a member of the “BRIC” group of emerging markets poised to challenge the position and influence of the developed economies. Yet, the country’s long history of failing to live up to its promises raises the question of whether this period is any different than other episodes of rapid growth in the past. This paper explores the issue over three sections. In the first section, the paper makes the case that this current period does indeed offer evidence of performance worthy of celebration. In the second section, the paper reviews some of the areas of strong performance and establishes that there are grounds to believe that something durable and sustainable might be happening in Brazilian politics and the economy. In particular, the argument centers on the consensual support for a “pragmatic neoliberal” orientation to economic policy that combines elements of both market and state-led models of development. In the third section, the paper considers some of the

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deep challenges that continue to face Brazil and limit the possibility of meaningful and sustainable development progress. The conclusion reviews the evidence and warns that Brazil has made important strides on the backs of good policy and sound economic management. Nevertheless, there are real risks of falling into a commodity trap and losing out in the longer term to other emerging markets, particularly China.

II. A BRAZILIAN MIRACLE?

Brazil's development progress, particularly over the 2000s, has granted it a starring role among emerging markets, one of the so-called "BRIC" countries. As of 2012, Brazil's economic performance led it to surpass the United Kingdom as the sixth largest economy in the world, and its greatly improved international stature manifested itself in a variety of ways, including successful bids to host both the 2014 World Cup and the 2016 Summer Olympics. This newfound stature comes as something of a surprise for long standing observers of the Brazilian political economy. From the 1980s into the early 2000s, a wide array of analysts focused on what were believed to be critical impediments to overcoming deeply rooted economic, political, and social problems. Brazil's political institutions, in particular, made the country "ungovernable," suffering from what Barry Ames called a "deadlock" and Bolívar Lamounier referred to as "hyperactive paralysis."¹

These institutional dysfunctions suggested that policymakers would not be able to get policy solutions to long-standing problems through the chaotic legislative environment. Those problems included enormous challenges like bringing down high levels of poverty and inequality; reforming financially unsustainable social policies that did little for the mass of Brazilians; promoting adjustments among uncompetitive producers, dependent on decades-old protection and incapable of integrating into a globalizing economy; improving inadequate infrastructure, suffering from years of neglect; cleaning up severely disordered public finances; and perhaps most notably, taming the high persistent inflation that had been the scourge of the country since the 1940s. In short, the set of challenges facing Brazilian policymakers was formidable and appeared to overwhelm the political mechanisms for advancing and implementing solutions.²

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1. Barry Ames, *The Deadlock of Democracy in Brazil*. Berkeley, CA: University of California Press, 2001; Bolívar Lamounier, "Brazil: The Hyperactive Paralysis Syndrome" in *Constructing Democratic Governance: Latin America and the Caribbean in the 1990's*, edited by Jorge J. Domínguez and Abraham F. Lowenthal. Baltimore: The Johns Hopkins University Press, 1996.
 2. The issue of Brazil's political institutions has provoked one of the richest and most productive debates in the politics of the developing world. Early works critiquing the country's institutions, many published by U.S.-based scholars, led to a response, largely by Brazilian scholars, arguing that the system was largely functional. This latter wave of scholarship has made considerable advances in identifying and elaborating a far more detailed and in-depth portrait of the functioning of Brazil's institutions. For a review of the rise of this alternative view,

Through most of the period since 1985, the year democracy returned to Brazil after twenty-one years of military rule, the country's performance matched the low expectations. Economic growth was erratic at best. Inflation remained at crippling levels and provoked repeated and often extreme measures to contain it. Poverty, inequality, and unemployment all remained high. Debt, both external and internal, and persistent government deficits complicated struggles to bring order to the macro-economy. Politically, the period from 1985 to 1994 witnessed a new constitution, derided and declared a failure almost immediately; at least two completely ineffective presidents, and a third impeached after nearly three years; marked by continuous fighting with the legislature; and a massive scandal that led to a rash of congressional resignations. As of the early 1990s, *The Economist's* labeling of Brazil as "drunk" or Scott Mainwaring's accusation of "feckless democracy" seemed perfectly apt.³

Eighteen years later, the picture has changed dramatically. Space considerations do not permit a full examination of how Brazil has altered its path. But the extent of the change does invite some effort to substantiate the enthusiasm with which much of the world sees Brazil today—a new "Brazilian miracle."⁴ There are at least three different indicators that can be used to demonstrate the degree of Brazil's success: international stature, economic data, and the quality of policy.

International Stature: One of the clearest, albeit subjective, indicators of Brazil's progress is the country's new status in the world. Winning the bids for the 2014 World Cup and the 2016 Summer Olympics, both to be held in Rio de Janeiro, point to the perception that Brazil is a leader in the global South. But Brazil's status also finds expression in its leadership position in the effort to expand the G-8 to the G-20, as well as its role in several new organizations challenging the architecture of the global political economy. As a "BRIC" country, Brazil has met with its counterparts to develop common positions on key issues of international political economy. It has also moved on a new organizational initiative with India and South Africa, IBSA, as well as a new South American organization, UNASUR. Moreover, Brazil's strengthened performance

often referred to as "coalitional presidentialism," see Timothy Power, "Optimism, Pessimism, and Coalitional Presidentialism: Debating the Institutional Design of Brazilian Democracy." *Bulletin of Latin American Research*, Vol. 29, No. 1, 2010: pp. 18-33.

3. *The Economist*, "Drunk Not Sick: Brazil, the Blessed and the Cursed (Survey of Brazil)," December 7 (1991), p. S1; Scott Mainwaring, "Brazil: Weak Parties, Feckless Democracy," in Scott Mainwaring and Timothy J. Scully, eds., *Building Democratic Institutions: Party Systems in Latin America*. Stanford, CA: Stanford University Press, 1995.

4. The 'Brazilian Miracle' typically refers to the period 1967-1974 when rapid growth and industrial deepening made Brazil one of the best performing economies in the world. Unfortunately, the real progress was overstated, the real obstacles understated, and ultimately the havoc that began with the 1973 oil shock led to the disappointments of the "lost decade" of the 1980s. For what turned out to be a prescient skepticism about the 'miracle' see Albert Fishlow, "Some Reflections on Post-1964 Brazilian Economic Policy" in Alfred Stepan, ed., *Authoritarian Brazil: Origins, Policies and Future*. New Haven, CT: Yale University Press, 1973.

has turned the country into the leading model of a democratic political economy, supplanting both Chile and Venezuela (too radical and destabilizing) among Latin American nations. Thus, recent leftist victories in both El Salvador and Peru featured presidents who explicitly evoked “Lulism”⁵ and the Brazilian model in their plans for governing. Finally, Brazil has assumed a greater visibility in the global political economy in a variety of ways, including the prospect of developing into a leading producer of oil and through its *multilatinas*’ (Latin American multinational corporations) operations around the world.

Economic Performance: If Brazil’s international stature is somewhat subjective, its economic performance paints a striking picture of change. From 1985 to 2000, Brazil suffered from volatile growth, chronic debt and deficits, high poverty, inequality and unemployment, and high inflation through 1994. Yet, by 2003, growth stabilized at modest, but positive levels; debt and deficits were replaced by surpluses; poverty, inequality, and unemployment all declined dramatically; and inflation disappeared as a serious threat. The data presented below tells a stark story. Brazil is not among the fastest growing economies in the world, but the contrast between the pre- and post-2003 period is so striking that it is impossible to deny that something significant happened.

For example, GDP growth between 1988 (the year the young democracy’s constitution was promulgated) and 2003 averaged only 1.8 percent per year. Real wage growth was better, averaging 4.2 percent per year, although both GDP and real wage performance were very volatile. The *Real Plan* of 1994 played a crucial role in reducing inflation from an average of over 1300 percent per year to an average of only 9.3 percent through 2003. By contrast, average GDP growth since the early 2000s has roughly doubled to 3.6 percent with average GDP/capita growth close to 3 percent. Inflation, even with pressure from rising capital inflows and currency appreciation, has remained below 6 percent per year. The GINI coefficient fell from highs around .60 in the 1990s to roughly .54 by the late 2000s.

The Quality of Policy: The country’s performance since 2002 has improved, but there is no question that growth in the global economy, particularly driven by Chinese expansion and commodity consumption, has played a critical role. One could argue, then, that Brazil’s success is to have had the good fortune to be a major exporter of commodities like soy. High commodity prices and unusually positive terms of trade for commodities are an important factor in Brazil’s success, but the country also stands out for the quality of policies passed, especially since 1994. That quality has shown in a number of different areas, such as health

5. “Lulism” is a term coined by The Economist. See, for example, “Stepping into Outsize Shoes.” The Economist, November 4, 2010.

care,⁶ privatization of telecommunications,⁷ and financial regulation. But probably no area has captured as much attention globally as the conditional cash transfer program, *Bolsa Família* (Family Stipend).

Bolsa Família is a monthly stipend targeted to the poorest Brazilians (about eleven million families). It has several important features that elevate it beyond a simple aid program and reveal the quality of both the design and the implementation.⁸ The program's goals are to alleviate poverty and hunger while developing human capital. In addition, the design empowers female heads of households and dramatically reduces the possibilities for clientelist or partisan manipulation. Each month, poor households identified locally and verified by census data, receive cash transfers with sliding values depending on income and the number of children. The money is transferred electronically and drawn through a debit card to prevent middlemen and/or local officials from withholding or manipulating payments. Mothers receive the debit cards, because fathers are frequently absent in poor households; and if they are present, they are much less likely to spend money on the household. Finally, households need to meet a series of requirements in order to receive payments, including regular medical check-ups for children and at least an 80 percent attendance rate in school.⁹

The program is not without flaws or critics,¹⁰ but there is little argument about several tangible benefits. First, it has contributed to an ongo-

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6. See James McGuire, *Wealth, Health and Democracy in East Asia and Latin America*, New York: Cambridge University Press, 2010 for a discussion of the enormous advances in health care achieved in Brazil over the 1990s and 2000s.
 7. Brazil's regulatory institutions are still a work in progress, but the privatization of Telebrás and the subsequent regulation of the sector remains one of the more successful cases in the region. See Peter Kingstone, "Privatizing Telebrás: Brazilian Political Institutions and Policy Performance." *Comparative Politics*. Vol. 36, No. 1, 2003: 21-40; and Aline Diniz Amaral, Peter Kingstone and Jonathan Kriekhaus "The Limits of Economic Reform in Brazil," in Peter Kingstone and Timothy Power, eds. *Democratic Brazil Revisited*. Pittsburgh: University of Pittsburgh Press, 2008.
 8. See Mônica Haddad, "A Spatial Analysis of *Bolsa Família*: Is Allocation Targeting the Needy?," in *Brazil under Lula: Economy, Politics and Society under the Worker-President*, Joseph L. Love and Werner Baer, eds. New York: Palgrave MacMillan, 2009.
 9. Details of the policy can be found in Natasha Borges Sugiyama, "Theories of Diffusion: Social Sector Reform in Brazil," *Comparative Political Studies* 41, no. 2, 2008. The process of political diffusion and ultimately expansion into a national policy is discussed in Natasha Borges Sugiyama, "Diffusion of Good Government: Social Sector Reforms in Brazil." Notre Dame, IN: University of Notre Dame Press, Forthcoming, as well as Marcus André Melo, "Unexpected Successes, Unanticipated Failures: Social Policy from Cardoso to Lula" in Peter Kingstone and Timothy Power, eds. *Democratic Brazil Revisited*. Pittsburgh, University of Pittsburgh Press, 2008.
 10. Among the more interesting critiques is Anthony Hall, "Brazil's *Bolsa Família*: A Doubled Edged Sword?" *Development and Change*, 2008, vol. 35, no.5, 2008: 799-822, as well as Edmund Amman and Werner Baer, "The Macroeconomic Record of the Lula Administration, the Roots of Brazil's Inequality, and Attempts to Overcome Them," in *Brazil under Lula: Economy, Politics and Society under the Worker-President*, Joseph L. Love and Werner Baer, eds. New York: Palgrave MacMillan, 2009.

ing decline in the level of poverty and inequality in the roughly ten years since its inception. While *Bolsa Família* arguably accounts for at most only a small part of this change—much of it is driven by economic growth;¹¹ reports suggest that it has helped alter household consumption patterns toward food and clothing for children. Furthermore, school enrollment rates have risen to roughly 100 percent through the eighth grade. Finally, the program appears to have succeeded at delivering a popular and effective social good without falling prey to either clientelistic or partisan manipulation. In sum, the example of *Bolsa Família* demonstrates that Brazil's international standing and solid economic performance rest on more than good fortune.

III. UNDERSTANDING BRAZILIAN SUCCESS

The Brazilian success story stands on the emergence of broad political acceptance of a “pragmatic neoliberal” orientation to the economic policy. Brazil's pragmatic neoliberal model rests on three pillars: a commitment to macroeconomic stability; a stronger commitment to market-oriented policies, but with a continued, pragmatic role for the state; and social policies to address the legacy of poverty and inequality in the country, of which the *Bolsa Família*, discussed above, is the most widely discussed example. This path began to take form under President Collor (1990-1992) and has deepened and broadened in its support since then to the point that, as of 2012, there is no real alternative in the electoral arena. The discussion below elaborates on the first two elements of this model.¹²

A. MACROECONOMIC STABILITY

Macroeconomic stability presents perhaps the greatest surprise from the country's performance in the 1980s and into the 1990s. Brazilian inflation appeared unsolvable, rooted both in inertial expectations and structural sources of financial imbalance. Brazil wrestled with high external debt, large budget deficits, and a weak financial system. High external debts were a legacy of the “lost decade.” Over the 1980s, Brazilian export performance improved, but debt-servicing costs remained high while low growth limited the country's capacity to find domestic savings. The 1988 Constitution contributed to the weakness of public finances

11. Nancy Birdsall, Nora Lustig, and Darryl MacLeod, “Declining Inequality in Latin America: Some Economics, Some Politics” in Peter Kingstone and Deborah Yashar, eds. *The Handbook of Latin American Politics*. New York: Routledge Press, 2012.

12. For an in-depth discussion of Brazil's “pragmatic neoliberal” model and its origins, see Peter Kingstone and Aldo Ponce, “From Cardoso to Lula: the Triumph of Pragmatism in Brazil,” in Wendy Hunter, Raul Madrid, & Kurt Weyland, eds. *Leftist Governments in Latin America*. Cambridge University Press, New York, 2010. The label “pragmatic neoliberalism” comes from Eduardo Silva in reference to the Pinochet regime in Chile in the 1980s. See Eduardo Silva, *State and Capital in Chile Business Elites, Technocrats, and Market Economics* Boulder: Westview Press, 1996.

through mandated transfers to the state and local level without accompanying spending obligations. As a result, this perverse fiscal federalism consistently undermined federal efforts to reduce budget deficits while facilitating patronage and clientelist spending behavior at the state and local level. Legislators in the national level Congress tended to work together to protect transfers to their own states specifically as well as resist efforts to restore revenues at the federal level.¹³

Persistent budget deficits and their related consequences for national debt (external and internal) also made it difficult to solve inflation. Inflation had been the scourge of Brazil's economy almost continuously since the 1940s. The military dictatorship had developed and implemented a system for managing inflation through indexation of virtually all contracts and prices ("monetary correction"), but the inflationary spiral that took off under restored democratic rule after 1985 overwhelmed it. High inflation contributed to weak control over public finances as well as the private banking system. In large measure, that was because high inflation made it difficult to precisely measure assets and liabilities. Thus, high debt, persistent budget deficits, chronic high inflation, and disordered finances in both public and private institutions imposed seemingly impassable barriers to development.

Yet, by the late 1990s, Brazil was well on its way to cleaning up the mess inherent in this cluster of interrelated problems. The starting point was Fernando Henrique Cardoso's (PSDB) *Real Plan* negotiated over 1993 and gradually implemented over 1994. The plan's combination of transparency, negotiation, and gradualism were vital ingredients in the effort to convert Brazil's currency into a new one, the *real*. The *real* was loosely linked to the dollar and premised on a negotiated fiscal adjustment that temporarily shifted sufficient revenues back to the federal government to lend credibility to the administration's anti-inflation commitments. The effects appeared rapidly. The full conversion to the *real* took place in July of 1994, with inflation running at roughly 25 percent per month. By October of 1994, inflation had fallen to 2 percent per month. Inflation has remained at manageable levels, averaging below 10 percent since then and below 8 percent almost continuously through the 2000s.

The negotiation resulting in the temporary drawback of revenues—the "Emergency Social Fund"—turned out to be the opening salvo in an ongoing round of efforts to restore federal control over revenues. As Kurt Weyland has argued, President Cardoso effectively traded short-term patronage benefits for administrative reforms that restored the federal government's fiscal balance.¹⁴ In addition, passage of a new tax on

13. Fernando Luiz Abrucio, "Os barões do poder: O poder dos governadores no Brasil, pos-autoritário." Master's Thesis, Department of Sociology, Universidade de São Paulo, 1994.

14. Kurt Weyland, "The Brazilian State in the New Democracy." *Journal of International Studies and World Affairs* 39:4, 63-94, 1997.

financial transactions led to a surge in federal tax revenues. From 1994 to 2011, tax revenues rose from roughly 25 percent of GDP to over 35 percent of GDP, sharply improving the government's fiscal position and enhancing the credible commitment to keep inflation low.

Ultimately, the *Real Plan* collapsed as a run on the currency in January 1999 forced the government to give up on the dollar as a loose anchor. But a much stronger fiscal position allowed the Cardoso administration and its successors to rely on inflation targeting as a mechanism for keeping inflation low, even without the exchange rate anchor. Both President Cardoso (PSDB) and his Workers' Party (PT) successors, Lula da Silva and Dilma Rousseff, have consistently announced annual primary surplus targets as high as 4 percent of GDP in their bid to maintain low inflation. The challenge has grown since the 2008 global crisis as Brazil's economic performance has lured in vast amounts of foreign currency, driving up the *real* and generating inflationary pressure. Yet, inflation has remained below 6 percent per year due to the government's diligence in meeting their targets.

Reduced inflation also contributed to Brazil's new economic strength by allowing the Cardoso administration to begin cleaning up the banking system. Weak banks, private and public, had survived by profiting from the inflation tax as well as by the confusion over the exact state of their assets and liabilities. Reducing inflation forced banks to operate more efficiently and competitively and exposed fragile institutions—particularly state level banks that had relied on access to the federal government to continue to function. The Cardoso administration initiated a series of programs to strengthen the financial sector, including privatization of some state-owned institutions, as well as closing down or supporting the sale of weak institutions. The reform process did increase federal debt considerably, but the end result was a much stronger financial system supported by much better prudential regulation.¹⁵

The results of the country's improved finances probably showed most clearly in the response to the 2008 global crisis. The initial effects of the crisis were transmitted to Brazil as a trade shock, with export volumes and prices falling sharply in early 2009. But while falling exports pushed the country into recession, the typical historic pattern of financial crisis did not emerge. Instead, the Lula administration responded with a series of stimulus measures, including an expansion of consumer credit and reduction of taxes on a range of consumer durables as well as a large-scale infrastructure investment program (the Program for the Acceleration of Growth—PAC). By late 2009, growth had resumed and capital was flowing into Brazil again with rising bond issuances and falling yields.¹⁶

15. The details of public sector and financial system reforms are detailed in Albert Fishlow's *Starting Over: Brazil since 1985*. Washington, DC: Brookings Institute, 2011.

16. See José Antonio Ocampo, "Latin American Development after the Global Crisis" in *New Ideas on Development after the Financial Crisis*, Nancy Birdsall and Francis Fukuyama, eds. Baltimore: The Johns Hopkins University Press, 2011 for a discus-

The country's macroeconomic position was greatly improved, as Brazil paid off its dollar denominated external debt by the late 2000s and in fact, as of 2012, is an international creditor nation. Indeed, the IMF has turned to Brazil among other leading emerging markets for contributions to the European Financial Stability Facility (EFSF)—something that Brazil has indicated willingness to do, but in exchange for reforms of the IMF power structure.¹⁷ The sharp decline in external debt, in turn, reflects the country's tremendous increase in export revenues over the 2000s. Export revenues have roughly quintupled since 2000 and while imports have increased as well, the current account generated large surpluses through much of the 2000s. Current account surpluses, capital inflows, and an appreciating currency all drove external debt down while high tax revenues helped drive down even domestic debt from a recent high of roughly 80 percent of GDP in 2003 to roughly 65 percent in 2011, despite the Lula administration's turn to fiscal stimulus in the wake of the 2008 crisis.¹⁸

B. STATE SUPPORT AND MARKET REFORM

Brazil's financial stability has been in turn both a cause of improved economic competitiveness as well as benefiting from improved micro-level performance. The improved performance has rested on two elements: greatly increased competitiveness in the agricultural sector and the emergence of a segment of leading firms in industry and services—the so-called *multilatinas* (the set of Latin American multinational enterprises among which Brazilian firms figure prominently). Agriculture, agribusiness, and agroenergy form the basis of Brazil's position as an “agricultural superpower.”¹⁹ In fact, by 2005, Brazil was either the leading or second largest exporter in the world of a range of agricultural and agroenergy products, including soy, sugar/ethanol, coffee, orange juice, and meat. By 2011, Brazilian exports reached record volumes and values on the back of a nearly fourfold increase in commodity exports since 2005. The rise of agriculture actually dates back to the 1980s and ironically stems in no small measure from the withdrawal of government support and protection and the resulting need for the sector to improve its competitiveness.²⁰ In the 1990s and into the 2000s, the government's role

sion of the effects of the crisis and the response both in terms of stimulus spending and reactions in financial markets.

17. Annie Lowry, “I.M.F. Adds \$430 Billion in Emergency Lending Ability,” *New York Times*, April 20, 2012. Accessed online June 30, 2012 at <http://www.nytimes.com/2012/04/21/business/global/imf-adds-430-billion-in-emergency-lending-ability.html>.
18. Data from *Instituto Brasileiro da Geografia e Estatística* (IBGE), accessed online June 30, 2012 at <http://www.ibge.gov.br>.
19. André Meloni Nassar, “Brazil as Agriculture and Agroenergy Superpower,” in *Brazil as an Economic Superpower? Understanding Brazil's Changing Role in the Global Economy*, Lael Brainard and Leonardo Martinez-Diaz, eds. Washington, D.C.: Brookings Institute, 2009.
20. Steven Helfand and Gervásio Castro de Rezende, “The Impact of Sector-Specific and Economy-Wide Policy Reforms on the Agricultural Sector in Brazil: 1980-1998.” *Contemporary Economic Policy*, 22:2, pp. 194-212.

has been essentially complementary to private sector improvements, mainly through infrastructure investment, support for research, and negotiating commercial relations.²¹

The government's role outside of agriculture has also worked to complement the market, particularly through support from the National Bank for Social and Economic Development (BNDES) for Brazil's emergent sectors and firms. This represents a significant change from the "developmentalist" period of the 1950s through the 1970s, when Brazilian government intervention largely operated against markets—either through displacement of private firms, or by subsidizing private production and sheltering it from competitive pressures. By contrast, contemporary policy is aimed at strengthening private firms' and sectors' participation in global markets. The BNDES has actively supported key *multilatinas* such as Odebrecht (construction), Andrade Gutierrez (telecoms), Embraer (aviation), and CVRD (mining). BNDES financing has supported increasing sales, exports, and research and development (R&D) domestically and even expanding operations and acquisition of assets in new markets.²²

Finally, the Brazilian government has promoted public-private partnerships in infrastructure investment, primarily through the Plano de Ação de Crescimento (PAC). The PAC, introduced in the wake of the global crisis of 2008-2009, injected roughly half a billion dollars to support private infrastructure investment. The PAC has not been as successful as hoped, and subsequent plans, such as the PAC2 or "Bigger Brazil," have not been fully implemented. Furthermore, investments in infrastructure for the 2014 World Cup and the 2016 Summer Olympics, both in Rio de Janeiro, have fallen short of what is needed. Nevertheless, the new emphasis on supporting the private sector represents a shift in orientation. While there are still important elements of nationalism and protectionism, the attitude towards the private sector and the international economy leans toward competitive integration and participation.

IV. THE LIMITS TO SUCCESS

While Brazil's performance has generated enthusiasm both inside and outside the country, it is important not to overstate the case. Brazilian growth rates have looked good in the 2000s, but mostly in comparison to the country's recent past or to the woeful performance of the developed economies. GDP growth has averaged only around 3.6 percent since 2000 and GDP per capita has averaged only 2.4 percent. Brazil weath-

21. Geraldo Barros, "Brazil: The Challenges in Becoming an Agricultural Superpower," in *Brazil as an Economic Superpower? Understanding Brazil's Changing Role in the Global Economy*, Lael Brainard and Leonardo Martinez-Diaz, eds. Washington, D.C.: Brookings Institute, 2009.

22. Edmund Amman, "Technology, Public Policy and the Emergence of Brazilian Multinationals," in *Brazil as an Economic Superpower? Understanding Brazil's Changing Role in the Global Economy*, Lael Brainard and Leonardo Martinez-Diaz, eds. Washington, D.C.: Brookings Institute, 2009.

ered the 2008-2009 crisis well as GDP growth fell in the first half of 2009 before rebounding dramatically into 2010. But the rate of growth fell to 2.7 percent in 2011, led by very anemic results for industry, and projections going forward are for continued modest performance, particularly if Chinese growth rates continue to slow along with declining consumption of commodity imports.²³

This last issue points to one of the central concerns about Brazil's performance over the last decade. Arguably, the main engine of the "miracle" is the dramatic increase in commodity exports, especially to China. Brazil exported roughly 6 percent of GDP in the 1990s in the wake of the trade liberalization process. As Brazil liberalized trade in the 1990s, exports rose considerably with manufactured goods leading the way. By 2000, exports of manufactured goods were over 50 percent of the value of total exports, exceeding the value of semi-manufactured and primary products combined. Exports to China were not vital and were almost entirely composed of commodities. But by 2011, the picture had changed considerably. Total exports had more than doubled in value to a total of 256 billion U.S. dollars, but more than 50 percent of that came from primary products, especially soy, iron ore, sugar, meat, and orange juice. Commodity exports increased by roughly four times between 2005 and 2010 alone. In addition, the dramatic increase in commodity exports was matched by the dramatic increase in dependence on China as a market. Soy and iron, two of Brazil's most important exports, were heavily concentrated on sales to China, with over 40 percent of exports of soy and roughly one-third of iron going to China specifically.²⁴

At the same time, currency appreciation has hurt manufacturing. The *real* has been appreciating (over 40 percent since 2010 alone and over 70 percent between 2003 and 2010)²⁵ both because of Brazil's export success and because it looks to be a safer haven than the debt-ridden developed economies. But the result is a weakening of Brazilian industry, with a sharp fall in the percentage of manufactured goods in total exports, especially since 2009, and a doubling of the coefficient of import penetration to 20 percent between 2003 and 2010. While roughly 75 percent of Brazil's exports to China are commodities, China exports primarily manufactured goods to Brazil.

Perhaps the biggest indicator, however, of Brazil's manufacturing challenge appears in estimates of export competition with other rising economic players, especially China. China's export performance in both manufactured goods generally and in high-tech sectors specifically has

23. Data from the *Instituto Brasileiro da Geografia e Estatística* (IBGE), accessed online June 30, 2012 at <http://seriesestatisticas.ibge.gov.br>.

24. Kevin Gallagher and Roberto Porzecanski, *The Dragon in the Room: China and the Future of Latin American Industrialization*. Stanford, CA: Stanford University Press, 2010.

25. Annabelle Mourougane, "Examining the Appreciation of the Brazilian real." OECD Economics Department, Working Paper No. 901. October 21, 2011. Accessed online June 30, 2012 at <http://www.oecd.org/eco/workingpapers>.

grown dramatically over the past decade, more than doubling its share of global exports between 2000 and 2006. This has put Brazil and China in direct competition in a large number of export markets, with China posing increasing threats to Brazilian goods. Kevin Gallagher and Roberto Porzecanski have charted this rising threat, differentiating between markets where Chinese exports are rising while Brazilian exports are falling (direct threat) and markets where both are rising, but China's exports have been rising faster (partial threat).²⁶ All told, they found that by 2006, 91 percent of all Brazilian manufactured exports and almost 94 percent of Brazilian high-tech exports were under threat from Chinese competition.

Brazil's performance in the production and export of high-tech goods points to an additional source of concern about the country's developmental progress. Sustainable and equitable development needs high quality jobs that in turn rest on the ability of the country to educate its citizens, produce high-skill labor, and develop and diffuse technology. These various elements of the "knowledge economy" are all areas where Brazil has made very limited progress even as other emerging market competitors have made considerable progress, again China in particular. The World Bank's Knowledge Economy Index is an effort to capture the ability of a country to develop and diffuse technology and put it to productive use. Brazil ranks ahead of some of its competitors among middle income rising markets, including China, India, Mexico, and Turkey, but below others such as Russia, Chile, South Korea, and most of Eastern Europe. But perhaps more importantly, there has been only modest improvement between 1995 and 2012, with most of the improvement occurring between 1995 and 2000. In effect, commodity export profits have concealed the lack of success in promoting progress on deeper development goals.²⁷

The lack of progress is not surprising when reviewing key policy areas related to developing a knowledge economy. For example, R&D spending, both public and private, fell over the 2000s, with significant decreases in state and federal spending offsetting at best modest increases in private expenditures.²⁸ Brazil spends roughly 1 percent of GDP on R&D, well behind key competitors like China or South Korea.²⁹ While China's global share of high-tech exports has grown to over 13 percent by 2005 from .7 percent in 1990, Brazil's has moved up and down from a low of .2 percent in 1995 to a high of .5 percent in 2000 and then falling to .4 percent by 2005. In short, the limited change in high-tech export perform-

26. Gallagher and Porzecanski, *The Dragon in the Room*.

27. Data from World Bank Knowledge Economy Index, accessed online June 30, 2012 at <http://www.worldbank.org>.

28. Ben Ross Schneider, "Big Business in Brazil: Leveraging Natural Endowments and State Support for International Expansion," in *Brazil as an Economic Superpower? Understanding Brazil's Changing Role in the Global Economy*, Lael Brainard and Leonardo Martinez-Diaz, eds. Washington, D.C.: Brookings Institute, 2009.

29. *Ibid.*

ance is consistent with the limited changes in the Knowledge Economy Index.

Another key element limiting Brazil's development is the weakness of its educational system.³⁰ *Bolsa Família*, the highly touted and very successful conditional cash transfer program introduced by Fernando Henrique Cardoso and then expanded by Lula, greatly increased secondary school enrollments.³¹ But the success of *Bolsa Família* has not been matched by a sustained commitment to improving schooling. That is unfortunate as Brazil's public schools suffer from a cluster of deep structural problems stemming from both inadequate funding (such as lack of facilities, poor physical infrastructure, and low teacher pay) as well as institutional weaknesses (including poor teacher training and supervision and patronage hiring of unqualified principals and teachers).³² Moreover, public funding of education at all levels has actually declined over the 2000s even as enrollments have increased. One measure of the lack of progress in education is Brazil's poor performance and lack of improvement on Programme for International Student Assessment (PISA) scores over the 2000s. Brazil's results, especially in science and math, rank well below China, Russia, and Latin American leaders such as Chile, Costa Rica, and Uruguay. Similarly, Brazil ranks among the weakest countries on the percentage of students at or below the lowest level of proficiency in science and among the highest student to teacher ratios.³³

The economy reflects this in a number of ways that limit Brazil's performance in manufacturing generally and high-tech production particularly. Perhaps the most important way is in the scarcity of skilled labor and the low productivity of labor. Both factors have contributed to rising unit labor costs (although currency appreciation has played a significant role) over the past ten years. Unit labor costs have risen over 120 percent since 2003, hurting the competitiveness of Brazilian manufacturing.³⁴ The scarcity of skilled labor has meant that firms rely heavily on unskilled labor even among more capital-intensive sectors of the economy.³⁵

30. For an excellent review of the challenges facing Brazil's education system, see Mary Arends-Kuenning, "A Report Card for Lula: Progress in Education," in *Brazil under Lula: Economy, Politics and Society under the Worker-President*, Joseph L. Love and Werner Baer, eds. New York: Palgrave MacMillan, 2009.

31. In fact, the improvements in secondary school enrollments account for much of Brazil's improvement in the Knowledge Economy Index from 1995 to the present.

32. See Bernd Reiter for a detailed discussion of the inequities and deficiencies of public education, particularly in poorer communities. Bernd Reiter, *Negotiating Democracy in Brazil: The Politics of Exclusion*. Boulder, CO: Lynne Rienner Press, 2009.

33. Programme for International Student Assessments data accessed online June 30, 2012, available at <http://www.oecd.org>.

34. *The Brazilian Economy*, March 2012, pp. 25-26.

35. Ben Ross Schneider, "Big Business in Brazil: Leveraging Natural Endowments and State Support for International Expansion," in *Brazil as an Economic Superpower? Understanding Brazil's Changing Role in the Global Economy*, Lael Brainard and Leonardo Martinez-Diaz, eds. Washington, D.C.: Brookings Institute, 2009.

Investment in education is not the only challenge facing the country as it moves forward. The last problem for the development of the economy is that Brazil's infrastructure is a crucial impediment to improving competitiveness. Unfortunately, investment in infrastructure—everything from energy to transportation—lags well behind the country's needs. Even with increased government efforts in anticipation of the Rio-based Olympics and World Cup, infrastructure investment levels are far short of what is needed and well below investment rates of competitors like India, China, Chile, or Colombia. Between 2001 and 2010, both public and private infrastructure investment averaged less than 2.5 percent of GDP, while estimates are that at least 3 percent of GDP is necessary just to prevent deterioration.³⁶ The lack of investment, in turn, is rooted in a series of factors. Among the most important are the low levels of savings—less than 20 percent of GDP—and the burden of social spending, most critically Brazil's regressive pension system that accounts alone for 18 percent of GDP.³⁷ Furthermore, the commodity boom discussed above helped generate record exports, but the associated currency appreciation also helped fuel comparable increases in imported goods, particularly of manufactured goods, minimizing available revenues for investment. In short, ongoing structural obstacles coupled with the limitations of the commodity boom stand in the way of the kind of productive investments necessary to secure prosperity in the medium to long term.

In sum, Brazil's economic successes of the 2000s rest heavily on the commodity boom driven by Chinese consumption. But the boom has both weakened the manufacturing sector and concealed the urgency of the need to solve the deeper problems hindering development. Most critically, Brazil's workforce is largely unskilled and, combined with a poor education system, prevents the economy from moving up the knowledge economy ladder. Unfortunately, some of Brazil's most important competitors in the global economy, particularly China, have made much greater strides on this front. Equitable development sustained over the long term will depend on more than commodity exports. Brazilian policy makers understand that, but the measures necessary for addressing the challenges have not advanced in any notable way.

V. CONCLUSION

For those who have watched Brazil through the 1980s and 1990s, it is hard not to feel optimistic about the country's prospects. The voyage from chaos to "BRIC" has been impressive and credit is due to a sizable group of politicians, policy makers, and businesses. The economy stabilized and grew on the back of momentous improvements in macroeconomic management. The political environment has grown more orderly and provides a greater degree of certainty than ever before in the

36. *The Brazilian Economy*, August 2011, pp. 38-40.

37. *The Brazilian Economy*, February 2012, p. 10.

history of the New Republic. Brazilian firms have emerged as global leaders, while certain sectors, especially in agriculture and agroenergy, have emerged as genuine success stories. Nevertheless, the limits to growth and sustainable development remain significant. There is no guarantee that Brazilian policy makers will solve this in time to keep up with global competitors. Education, innovation, and infrastructure are critical pieces of the knowledge economy. Without investment today, there are no guarantees about the future.

