

## Economics Group

### Special Commentary

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# U.S. and Chinese Labor Markets: Interdependencies at Work

**“He who asks a question is a fool for five minutes; he who does not ask a question is a fool forever.” –Chinese proverb**

For centuries before Michael Faraday, scientists had speculated that rather than being a unique phenomenon, electricity was linked to magnetism and gravitational forces. But how? For Faraday the answer lay in “having a model to teach me what to avoid.”<sup>1</sup> The preponderance of discussions today about jobs is not done in the context of a model of the economy nor does such discussion take into account the influences of growth, interest rates or exchange rates. This paper seeks to remedy that situation.

Moreover, most policy discussions focus primarily on domestic factors as the drivers of employment and incomes (labor market usage and returns). However, both the amount and compensation of labor are determined in a global setting, and reflect developments in goods, credit and exchange markets. Therefore, the global forces driving labor market performance are far beyond the control of local politicians who claim the credit for creating jobs, but never take blame for losing them.

Finally, anyone discussing jobs in America or China needs to recognize the unstable linkage identified by Niall Ferguson as “Chimerica.”<sup>2</sup> This linkage reflects the unbalanced current and fiscal accounts, as well as the underlying excess demand for goods in the United States (a lack of saving) and the excess dependence on exports in China. Political rhetoric walks a tightrope that is unstable given the strong winds of economic imbalances.

### **Framework: Once We Frame the Question Properly, the Solution Reveals Itself**

Three elements are essential to properly frame the workings of our modern labor markets. First, labor market employment and returns are determined in a global (rather than a domestic) marketplace. Second, labor market returns and the quantity of labor employed reflect the interdependence of global economies and their respective labor markets. Finally, interdependence is also characterized by the numerous factors across many markets beyond just the labor markets. Labor market outcomes do not reflect the partial equilibrium results of a standalone labor market but rather the impact of several markets each affecting the myriad of macro factors that determine labor market outcomes.<sup>3</sup>

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<sup>1</sup> *Five Equations that Changed the World*, Michael Guillen, Hyperion publishers, pages 133-159.

<sup>2</sup> *The decade the world tilted east*, *Financial Times*, Dec. 27, 2009.

<sup>3</sup> This partial equilibrium critique of policy proposals should be familiar to many from the frequent critiques of Congressional Budget Office and Joint Tax Committee staff estimates on the budgetary and economic impact of proposed legislation. Such estimates are hampered by the limitations placed on them since feedback effects and changes in other areas of the economy are not allowed to influence the



For much of the post-WWII period, the U.S. economy and its labor market operated very much as a closed economy—with very limited trade impacts and no serious global competitor. Over time both Germany and Japan emerged as competitors, yet the scale of each economy left the United States as the still-dominant force, setting the pace of global demand, inflation and interest rates. Meanwhile, the U.S. economy was not dramatically affected by global trading forces. In fact, during the 1960-1980 era global competition took place primarily in the arena of political thought between capitalism and communism. Today the competition is in the economic arena and this shift has been dramatic. As stated by Prasad and Gu, “China and the U.S. are slowly adjusting to two major realities—their increasingly mutual economic dependence and the rising heft of China on the global economic stage.”<sup>4</sup>

In this report, we focus on the interdependence created by multiple markets for goods, credit, foreign exchange and labor within the context of a global trading environment. We offer a very stylized view of each market with the emphasis on the continued disequilibrium in some markets that are driving the failure of markets to clear and putting continued pressure on other markets to adjust. The outcome is that the labor market also does not clear.

### **Goods Market**

Our model of the goods market is very traditional with aggregate demand reflecting the traditional drivers of household income, business investment and government spending. We can split goods into two categories: tradable goods, which are fairly easily traded between countries, and typically non-tradable goods. Tradable goods are typified by consumer non-durable goods, especially goods produced with low/semi-skilled workers such as textiles, apparel and house wares. Such goods were much less open to trade in the four decades after WWII with the limited flow of private capital between nations, capital account closures for many nations and strict foreign exchange controls in others. Non-tradable goods, in contrast, include such items as housing, health care and professional and personal services.

Changes in global demand/supply influence the prices of tradable goods and, thereby, the returns to the inputs such as labor that go into those tradable goods. On the aggregate demand side, free trade agreements tend to increase trade over time. Expansionary monetary and fiscal policy also stimulates demand and, thereby, increases the demand for imported goods. Exchange rate management policies also influence the relative price of exports versus imports and, thereby, trade flows.

Aggregate supply reflects a Cobb-Douglas production function with a constant level of capital stock. Our model assumes diminishing returns such that increases in demand are met by rising inflationary pressures especially if increases in domestic demand are met solely by increased domestic production. The trade advantage here is that foreign suppliers can meet increased domestic demand and reduce inflationary pressures relative to a closed economy model. A second condition of a competitive economy is that profit maximization of firms entails a real wage equal to the value of the marginal product of labor.

### **Credit Markets: Shift to Global Markets Very Clear**

Credit demand in the United States reflects the financing demands for the household, business and government sectors. Until recently, credit demand for each had been very strong as these sectors enjoyed increasing and steady, positive economic growth, with very little risk of a downturn. Meanwhile, credit supply has reflected a “glut of savings” to repeat Chairman Bernanke’s phrase. Yet, this glut of savings has been concentrated in just a few parts of the world such as China, Japan and the Middle East.

Interest rates determined by credit demand and supply are determined in global capital markets, not domestic markets. Unfortunately, regulation and political rhetoric are primarily domestic in focus and, therefore, most domestic efforts at regulation and political control create more

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estimates. See for example, *Overview of Work of the Staff of the Joint Committee on Taxation to Model the Macroeconomic Effects of Proposed Legislation*. December 22, 2003.

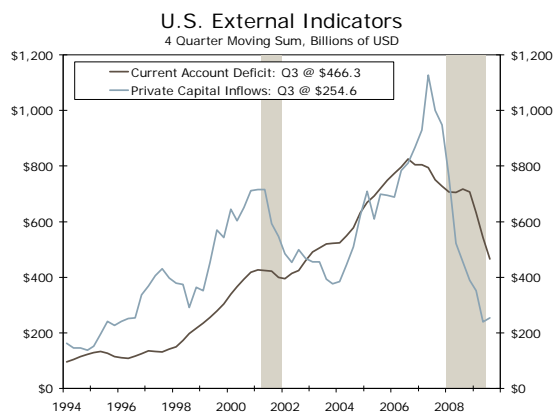
<sup>4</sup> *An Awkward Dance: China and the United States*, Eswar Prasad and Grace Gu, Paper presented at the Brookings Institution, November 11, 2009.

distortions than proper incentives in the credit markets. In the current credit market, short-term interest rates trade off the federal funds rate. Long rates, meanwhile, reflect the relative preferences among investors on the demand side between different instruments.

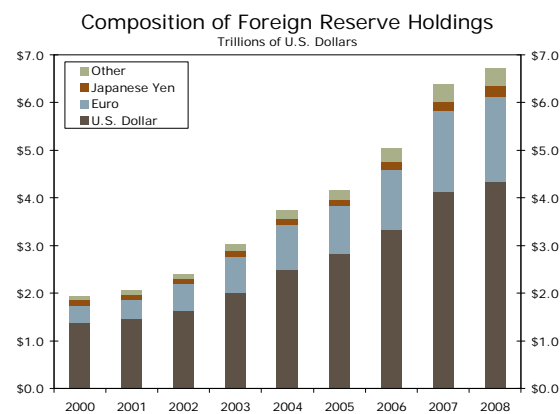
Over the business cycle, periods of economic weakness are associated with increased demand for U.S. Treasury debt; the so called “flight to quality.” As the economy improves, investors are willing to resume taking on risk and increase their preferences for instruments like corporate bonds and agency debt. The challenge in the credit markets will be how investors react as U.S. inflation rises and the dollar depreciates. Unfortunately U.S. Treasury debt is often cited as being risk-free. It is not. Effectively U.S. Treasury debt is default free, at least for now, but for anyone who invested over time, Treasury debt faces the risks of rising interest rates, rising inflation and a depreciating dollar.

Meanwhile, credit supply tends to be procyclical for private issuers and municipal debt, yet countercyclical for federal government debt—at least until the current cycle. The challenge of financing the long-term U.S. budget is particularly relevant today, given the risks to credit market rates, goods inflation and foreign exchange rates. For a challenging view of the budget finance issue, one prominent source is the long-term budget outlook published by the Congressional Budget Office.<sup>5</sup>

**Figure 1**



**Figure 2**



**Source: U.S. Department of Commerce, International Monetary Fund and Wells Fargo Securities, LLC**

**Foreign Exchange Market**

Supply in the foreign exchange market has been largely sourced through the rising U.S. current account deficit where dollars are sent abroad in exchange for goods and then many of these dollars are used as reserves in central banks or a currency in the marketplace where local currency values are considered unreliable. The use of dollars as a reserve currency allowed the United States in the early post-war period to enjoy a current account deficit, while sending needed dollars abroad to provide liquidity to global trading (Figure 1).

Meanwhile, the demand for dollars as a reserve currency (Figure 2) has risen since the Asian currency crisis of 1997/1998, when many Asian countries found their currency under attack, and subsequently, depreciated significantly because, in part, such currency values could not be defended because of the lack of reserves—particularly globally accepted dollar reserves.<sup>6</sup> Increased demand for large foreign reserves—held in dollars—reflects a desire for dollars as a reservoir of liquidity to support emerging market currencies in the event of another crisis. Effectively, this is an increase in the precautionary demand for dollars to defend a currency peg

<sup>5</sup> *The Long-Term Budget Outlook, Congressional Budget Office, June 2009.*

<sup>6</sup> *The 1997-98 Asian Financial Crisis, CRS Report for Congress, Dick K. Nanto, February 6, 1998.*

and is exemplified by currencies such as the Hong Kong dollar and Chinese renminbi, which are both effectively pegged to the U.S. dollar.<sup>7</sup>

### **Labor Market: A Global Labor Market**

Emergence of global trading markets with China is not new. The development of the Silk Road in the middle ages opened up the exchange and transfers of material goods, technical knowledge and scientific understanding between the East and Europe.<sup>8</sup> Modeling our labor market presents an immediate contrast between the view of policymakers who think in national terms and the reality of a global labor market.

### **I. Closed Economy: United States and China Prior to 1980s, Mao's Death in 1976**

National policymakers tend to think of their labor market in closed economy terms. Minimum wage laws and regulations on hours worked and overtime often produce results counter to policy intentions simply because production and, therefore, the use of labor is global. However, we tend to think in terms of national unemployment rates and local job counts.

Labor demand is derived from the need to produce a given good or service and is driven by the balance between the real wage rate and the value of worker output. The supply of labor is positively related to the real wage rate as households balance potential wages against the value of their leisure time.

Real wage rates and employment reflect the balance between labor supply and demand. Increases in worker productivity are associated with an increase in the demand for labor and a decrease in labor supply, which results in a higher real wage, while an exogenous increase in the labor supply would be associated with a decline in wages but a rise in employment. Yet this model reflects a closed economy—which is not where the United States or China is today. Both economies, along with most of their trading partners have moved on. Increases in aggregate demand for goods lead to direct increases in labor demand in a closed economy without any imports and no labor migration between nations. This is the model to which the political class in Washington clings, but such a model is defunct. In the words of John Maynard Keynes, “Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist.”<sup>9</sup>

### **II. Open Economy: United States (Post-NAFTA) and Evolution of European Community**

Labor migration has significant impacts on labor demand and supply and alters the anticipated outcomes of the closed economy model.<sup>10</sup> Without migration, increases in aggregate demand for goods would lead to an increase in real wages and employment for the domestic labor force. Returns to labor between countries would differ persistently, despite the tendency for international trade to bring about equalization of factor prices.

Complete specialization of production in a commodity is prevented by decreasing returns as less productive labor and capital are drawn into production and, thereby, unit costs rise. As recognized by Ohlin, diverse goods require different factor endowments and each countries have unique factor endowments.<sup>11</sup>

In our labor migration model, labor now migrates to equalize factor prices as we have witnessed with Mexican immigration into the United States since NAFTA, the immigration into Northern Europe from Southern Europe in the 1960s, and from Eastern Europe after the fall of the Berlin Wall in 1989.

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<sup>7</sup> *The Asian Financial Crisis Ten Years Later*, Janet Yellen, presentation to the Asia Society of Southern California, February 6, 2007.

<sup>8</sup> *Silk Road*, Luce Boulnois

<sup>9</sup> Keynes, John Maynard. “The General Theory of Employment, Interest and Money.” Palgrave Macmillan, 1936.

<sup>10</sup> Kindleberger: *International Economics Fourth Edition*, 1968 Chap. 14, p. 235 migration.

<sup>11</sup> *Interregional and International Trade*, Harvard University Press, 1967, p.29.

### **III. United States and China post 1998, 21st Century Model**

With the opening up of the Chinese and Indian economies in particular and the emergence of trading agreements under the WTO, the dynamics of the labor market have increasingly reflected the importance of law of comparative costs—a country exports those products that are comparatively cheap in price at home and imports products, which are comparatively expensive. Effectively, trade becomes the exchange of goods—not workers and a return to the Silk Road days and the global spice trade. For a simple example, we see those countries with lots of land relative to labor tend to produce and export: wheat in Australia, Canada, and the United States. While countries with lots of labor but not much land tend to produce textiles as we see in Hong Kong, India and China. While trade is not universally as simple as our example, it illustrates David Ricardo’s point that countries will produce according to their comparative advantage.

In prior periods, labor would migrate as, for example, workers would move from Mexico to the United States and such movements would tend to equalize real wages. Post-WTO, the trade in goods offers an alternative to factor mobility: a country can export labor and import capital by exporting labor-intensive goods and importing capital-intensive goods—textiles for tractors in China for example. The trade in goods eliminates the incentive for trade in factors by equalizing factor prices across countries. Of course, such equalization of wages also tends to draw political fire without the physical presence of immigrants. “Cheap foreign labor” is the political rallying cry.

Why aren’t wages absolutely equal across countries? Countries produce different goods, but the value of the marginal product of labor is not equal. Different technologies in different nations and sectors affect the productivities of factor inputs and thus, wages/rents paid to factors of production. Each country does not have the same technological possibilities of producing a given good; that is, production functions are not the same. Therefore, it is unlikely that some countries will produce everything and take all our (manufacturing) jobs away as some critics claim. The United States remains a capital- and technology-rich country and will find its advantage in exporting capital intensive goods. China, for meanwhile, will export labor intensive products.

However, the tendency toward the equalization of factor prices—aside from transportation costs—does generate strong economic forces when relatively free trade is allowed. The export of products of the abundant factor increases the demand for that factor and makes it more expensive. For example, Chinese labor is not as cheap as it was years ago and China loses some of its comparative advantage to lesser-developed ASEAN countries.

Meanwhile, imports of products embodying large amounts of scarce factors (low- and semi-skilled labor) makes those factors less scarce in the domestic market—for example, labor becomes less scarce in the U.S. market. Initially this impacts low/semi-skilled workers but over time will impact skilled labor in some areas such as engineering and design work. For China, exports raise the price of the cheap factor—labor. For the United States, imports reduce labor. As a result, between continents, returns to labor (wages) differ persistently, although there is some tendency to bring about some equalization of factor prices—but not total equalization.

#### **Global Interdependence and the Problem of Persistent Disequilibrium** **“Once on a tiger’s back, it is hard to alight” —Chinese proverb**

Entrenched political interests favor the status quo and voters oppose uncertainty. The difficulty of honest conversation between political leaders is captured by Martin Wolf in his note on what President Obama should have told Hu.<sup>12</sup> Given our model, we can see that changes in certain markets in response to the globalization of production create changes to the status quo that entrenched interests seek to oppose. This opposition prevents the economic markets from clearing and gives us the current set of economic outcomes that characterize the persistent state of disequilibrium that creates further distortions to rational resource allocation and production across the globe.

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<sup>12</sup> *Grim truths Obama should have told Hu*, Martin Wolf, *Financial Times*, November 17, 2009.

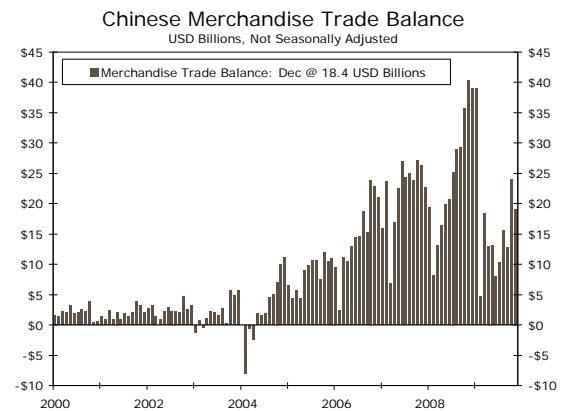
Our problem begins with policymaker interventions that prevent interest rates and exchange rates to clear at equilibrium prices. The United States is characterized by a persistent excess supply of credit at current interest rates from both global supply through the purchase of Treasury debt and easy domestic monetary policy that keeps interest rates too low, relative to the risk, to clear the credit markets. With interest rates too low, there is an excess demand for goods (houses, cars) to be purchased on credit. This propped-up demand for housing in the United States has led to overinvestment in housing not just in the current cycle, but for decades. The downside of this subsidy became more obvious during the current housing bust.<sup>13</sup> Historically, politicians since the 19th century in the United States have consistently favored low interest rates as a way of stimulating demand despite the inherent inflation bias in such policies. The latest example is the 1970s in America. Moreover, credit supply is also generated from the Treasury itself as seen by the recent injection of capital by the U.S. taxpayers through the Treasury Department to Government Sponsored Enterprises (GSEs). This injection has occurred despite the GSEs' role in the overly liberal financing of housing in the past ten years.

Meanwhile, in the foreign exchange markets we have seen a persistent excess demand for renminbi and an excess supply of dollars. Exchange markets are unable to clear as several countries use intervention to sustain current exchange rates, which again serve the political interests of Chinese exporters, American consumers and their political leadership. Production and employment are maintained in China, while U.S. consumers sustain their excess demand for goods. Over the past ten years the persistent intervention to maintain exchange rates at a disequilibrium rate has generated a steady rise in the dollar holdings as Chinese foreign exchange reserves (Figure 3) and a large positive trade balance (Figure 4). However, the strength of the U.S. dollar relative to the renminbi, puts persistent downward pressures on the dollar against the euro, yen and other currencies, which are freely traded.<sup>14</sup>

**Figure 3**



**Figure 4**



**Source: Bloomberg, China Statistics Monthly and Wells Fargo Securities, LLC**

Persistent excess demand for goods by the U.S. consumer is not an economic outcome driven by market forces. On the contrary, the political process supports excess demand for goods as a way to please voters who want their cheap imports. Dollar strength supports the purchase of Chinese goods by American consumers. Such economic imbalances serve the political interests of the current political leadership on both sides of the Pacific Ocean.

Unfortunately, the political process fosters disequilibrium. Interest rates are kept too low to ration credit appropriately and, thereby, consumers and real estate developers have access to too much credit at below-market rates. In the housing sector, many individuals occupy homes without making monthly payments. By fiat, politicians force the provision of goods and services

<sup>13</sup> *Chinese FX Interventions Caused International Imbalances, Contributed to the U.S. Housing Bubble, Joint Economic Committee Report, March 2008, Robert P. O'Quinn.*

<sup>14</sup> *Why the renminbi has to rise to address imbalances, Martin Feldstein, Financial Times, October 29, 2009.*

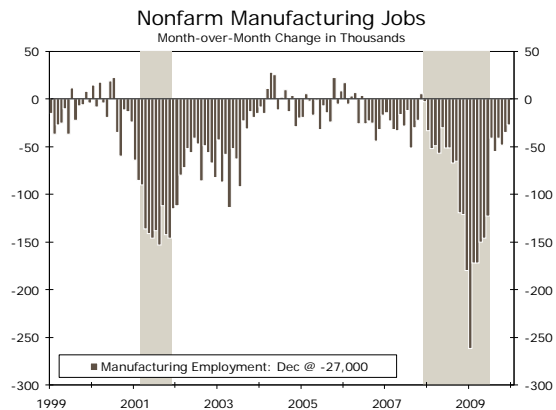
without payment by individuals and thereby, promote a systematic excess demand for goods. Such policies create further distortions in resource allocation and can only be supported by further government intervention, which further distorts economic allocation.

**Persistent Pressure on Labor Market to Adjust: The Economic System Responds**

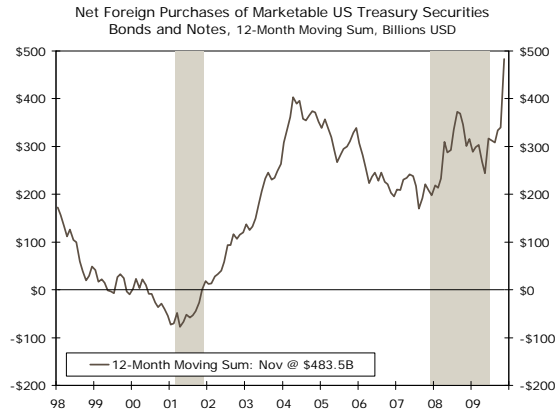
Since interest rates and exchange rates cannot adjust, the economic system must adjust somehow. This is the dirty little secret of policy today. Below-equilibrium interest rates and an above-equilibrium dollar exchange rate favors the American consumer and thereby, results in persistent excess demand for goods. There is no political tolerance for high unemployment and empty houses in the United States. Meanwhile, the Chinese are engaged in significant stimulus through infrastructure spending and monetary ease, which may generate positive growth in the short-run but may further unbalance their economy toward investment and raise long-term inflation risks.<sup>15</sup>

While the renminbi remains undervalued, the demand for Chinese exports continues and therefore, so does the demand for Chinese labor thereby increasing their real wages. Meanwhile, the demand for United States low- and semi-skilled labor, continues to diminish and thereby, lowers both employment and real wages below what they would be if exchange rates were to adjust. The impact of persistent dollar overvaluation is clear in the decline in manufacturing job growth over the past twenty years (Figure 5). Meanwhile U.S. dependence on global credit supplies to soak up our federal debt remains a major issue in the face of persistent, large federal deficits in the future (Figure 6).

**Figure 5**



**Figure 6**



**Source: U.S. Department of Labor, U.S. Department of the Treasury, Wells Fargo Securities, LLC**

**Conclusion**

Interdependence among markets and countries create forces for rational economic resource allocation. When governments intervene for particular political goals, whatever their intended social benefits, their intervention generates further economic adjustments often in directions further from market equilibrium, creating further misallocation of resources. Although never acknowledged, the explicit effect of the subsidization of the American consumer through credit policies and Chinese exports via an exchange rate target have effectively driven the excess demand for goods, which has contributed to the overvaluation of the dollar and the continued migration of high labor content and the associated jobs away from the United States and toward China. Meanwhile, the Chinese saver continues to save as the undervalued renminbi limits their ability to purchase imported goods. At some point China would probably like to tear itself away from the U.S. Treasury market but faces a big capital loss on its accumulated stock of holdings, as interest rates would rise and the dollar depreciate. Meanwhile, the United States also walks the

**15 Is China the Next Bubble? Jay Bryson, Special Commentary, Wells Fargo Economics Group, July 16, 2009.**

tightrope as diminished foreign credit supplies would drive up interest rates and damage an already sensitive credit-dependent U.S. consumer.<sup>16</sup>

To paraphrase Premier Wen Jai Bao, the United States and China and their trading partners are living in an unbalanced economic trading system. In the short-run, such an unbalanced system reflects the political priorities of both the U.S. and Chinese policymakers. However, over time, such priorities create distortions and reallocate economic success between sectors and, unfortunately, require continued interventions by policymakers and thereby, lead to further distortions. The difficulty in a transition to a more balanced model reflects the heavy lifting of structural rebalancing as well as the easy way out, the status quo.<sup>17</sup>

In particular, it must be asked, how long can U.S. policy continue to support below-market interest rates to stimulate consumer spending? In turn, how long can Chinese public policy continue to accumulate foreign exchange reserves in the form of U.S. Treasuries without recognizing the rising risk that inflation and dollar depreciation would mean to such holdings? Finally, what risks does such an unbalanced system suggest for America's other trading partners in Asia?<sup>18</sup>

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**16 *An Awkward Dance: China and the United States*, Eswar Prasad and Grace Gu, Paper presented at the Brookings Institution, November 11, 2009.**

**17 *The Next China*, Stephen S. Roach, Morgan Stanley, December 8, 2009.**

**18 For a pessimistic view on these issues see *The Yin and Yang of U.S.-China Relations*, Ian Bremmer and Nouriel Roubini, Wall Street Journal, September 1, 2009.**



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