

**FOR
AGENDA**

SM/10/192

July 13, 2010

To: Members of the Executive Board

From: The Secretary

Subject: **People's Republic of China—Selected Issues**

This paper provides background information to the staff report on the 2010 Article IV consultation discussions with the People's Republic of China (SM/10/191, 7/12/10), which is tentatively scheduled for discussion on **Monday, July 26, 2010**. At the time of circulation of this paper to the Board, the authorities of the People's Republic of China have indicated that they need more time to consider whether they will consent to the Fund's publication of this paper. Publication will only proceed upon the receipt by the Fund of the member's explicit consent. Any requests for modifications for publication are expected to be received two days before the Board concludes its consideration.

Questions may be referred to Mr. Ahuja (ext. 35464), Ms. Duttagupta (ext. 38583), Mr. N'Diaye (ext. 39751), and Mr. Porter (ext. 37316) in APD.

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the WTO Secretariat on Wednesday, July 21, 2010; and to the Asian Development Bank, the European Commission, the European Investment Bank, the Food and Agriculture Organization, the Organisation for Economic Cooperation and Development, the United Nations Development Programme, and the World Food Programme, following its consideration by the Executive Board.

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INTERNATIONAL MONETARY FUND

PEOPLE'S REPUBLIC OF CHINA

Selected Issues

Prepared by Ashvin Ahuja, Rupa Dutttagupta, Papa N'Diaye, and Nathan Porter

Approved by the Asia Pacific Department

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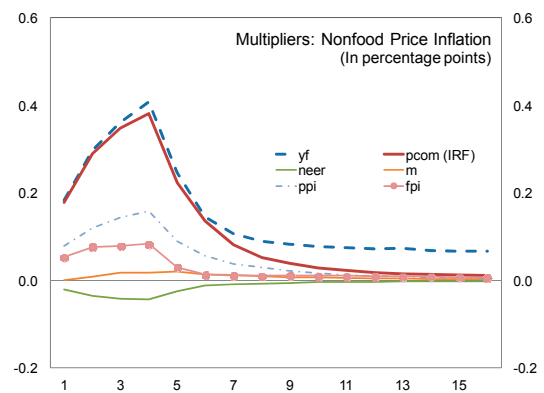
I. INFLATION DYNAMICS IN CHINA¹

1. **Core inflationary pressures have generally remained subdued in China.** Despite rapid economic and monetary growth, China has not seen significant nonfood inflation since the late 1990s. Nonetheless, the record credit growth seen in 2009 has raised the specter of renewed inflation, even in core prices. Despite the concern over this possibility, this paper finds that a near-term renewal of rapid nonfood inflation is unlikely given the outlook for domestic and global output gaps, and international commodity prices.

2. **The paper estimates both a Phillips curve, as well as a Bayesian VAR to analyze the roles that inflation expectations, foreign inflation, and imbalances in foreign and domestic goods markets play in determining core (nonfood) inflation.** In principal, inflation, particularly core measures of inflation like nonfood inflation, should reflect the expected changes in marginal production costs. Empirically, in an open economy context, this means that current inflation should reflect inflation expectations, changes in the relative cost of imported input relative to domestic costs, and the domestic output gap to capture fluctuations in the demand.

3. **External and domestic factors both influence Chinese inflation.** Both the empirical techniques highlight the importance of past inflation, and inflation in foreign inputs, but find that domestic demand pressures—as proxied by alternative measures of the output gap—play a relatively smaller role. In particular:

- The estimated Phillips curve suggests that inflation expectations play a significant, albeit quantitatively small, role in driving core inflation.
- The Bayesian VAR results separately suggest that price pressures move downstream—from imported, producer and food inflation—to nonfood inflation in China. Foreign demand directly impacts domestic nonfood inflation but domestic demand factors appear to play a smaller role. Given the importance of foreign demand to China's growth over the past decade, the direct impact of foreign demand pressures is unsurprising.



¹ Summary of IMF Working Paper (forthcoming), by Nathan Porter.

Our interpretation of the small effects of domestic demand factors is that, over the sample period the models are estimated upon, China has been largely operating on the relatively flat part of the inflation-output trade-off. Also, it appears that the large investment over the recent years has ensured that China currently also is operating with significant excess capacity and will do so for some time to come.

Estimated Phillips Curve: Summary of Coefficients

Output Gap Measure	Output Gap	Expected Inflation	Lagged Inflation	Foreign Price Gap
Growth Accounting	0.02	0.17 **	0.60 ***	0.24 ***
Christiano-Fitzgerald	0.17	0.28 ***	0.58 ***	0.29 ***
Hodrick-Prescott	0.37 ***	1.10 ***	0.21 ***	0.17 ***

** Significant at 5 percent.

*** Significant at 1 percent.

4. **Decomposition of the variance of nonfood inflation shocks suggests that foreign shocks are key factors explaining the variability of nonfood inflation.** Imported input prices and foreign demand account for around 40 percent of nonfood inflation volatility across most horizons.

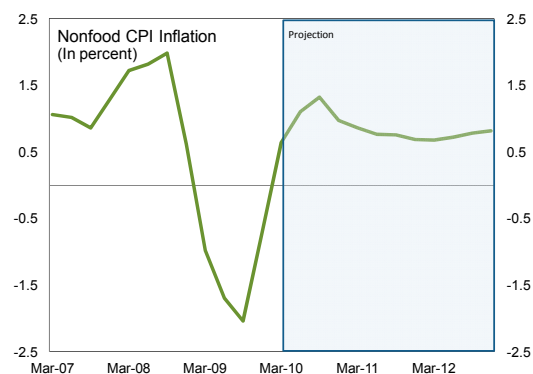
Upstream domestic prices (inflation in producer prices and food prices) add a further 8–10 percent. In contrast, policy variables appear to have had a minimal effect on the volatility of inflation.

Forecast Error Variance Decomposition
(In percent of Nonfood Inflation Variance)

Shock	Forecast Horizon (quarters)				
	0	4	8	12	16
Foreign Demand	10.0	12.6	12.6	12.6	12.6
Commodity Prices	25.2	28.1	28.1	28.1	28.1
Nominal Effective ER	0.3	1.2	1.2	1.2	1.2
Output gap	5.5	6.3	6.3	6.3	6.3
Upstream Prices	8.6	9.6	9.6	9.6	9.6
Policy Shocks	0.0	0.4	0.4	0.4	0.4
Nonfood Price	50.3	41.9	41.9	41.9	41.9

Conclusions

5. **Rapid nonfood inflation is unlikely in the near term.** The gradual path expected for the closing of domestic and foreign output gaps and the IMF's projected path of commodity price inflation suggest little renewed inflationary pressures. While the domestic output gap has a relatively modest impact on inflation, the slowdown in growth and subsequent rapid stimulus-related investment have re-opened the domestic output gap, further moderating pressures on prices in the near term.



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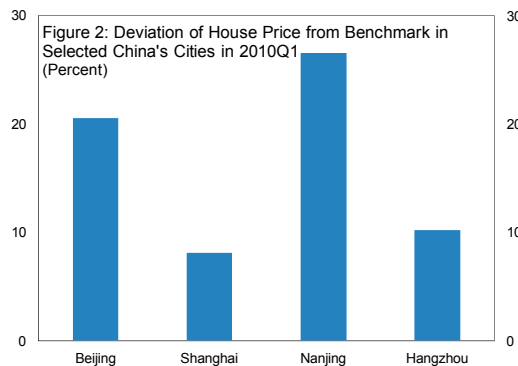
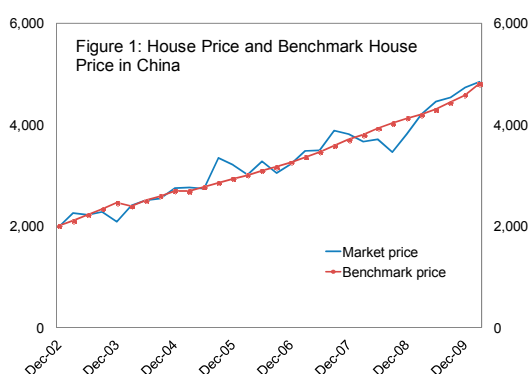
II. ARE HOUSE PRICES RISING TOO FAST IN CHINA?¹

1. **Recent sharp price increases coupled with unprecedented lending growth has led many to question whether property prices are rising too fast in China.** China's residential property market prices turned around and began to rise during 2009, especially in several large and medium-sized cities. The recent rise in price-to-income ratios in several big cities has made housing affordability a prominent social issue.

2. **This paper gauges how far residential property prices may have deviated from fundamentals.** The paper compares the estimated deviations in China's property markets between prices and a set of fundamentals and relates that to the experience in other countries.

3. **The main findings of the paper are:**

- **At the national level, as of 2010Q1, house prices do not appear to be significantly out of line with fundamentals** (Figure 1). During the past decade, differences between house prices and those implied by fundamentals have been relatively small and not persistent with frequent corrections that bring house prices back toward the benchmark level that would be predicted by fundamentals. A similar pattern is seen in Singapore and Hong Kong SAR. In contrast, in the United States, New Zealand, and France before 2008 prices appeared to be significantly at odds with fundamentals (Table 1).
- **There are signs that house prices in some large cities, such as Beijing, Nanjing and Hangzhou, are getting above the level, which would be predicted by fundamentals** (Figure 2). The picture is quite varied and, in many cases, depends critically on the extent to which rental markets are moving in tandem with underlying house price developments.



¹ Summary of IMF Working Paper (forthcoming), by Ashvin Ahuja and Nathan Porter.

Table 1: Deviation Between Actual and Benchmark Prices At Peak, Selected Countries

	Annual avg. price growth (%)	Annual avg. equilibrium price growth (%)	Difference (%)	Quarter at Peak
US	5.9	3.2	2.6	2006Q4
UK	6.6	6.0	0.6	2008Q1
France	9.6	4.5	5.1	2008Q1
Australia	5.3	4.0	1.3	2008Q2
New Zealand	11.3	6.4	4.9	2007Q4

- **In China, tighter underwriting standards and prudential regulations have been successful in curbing run ups in property prices.** The government decision to reduce loan-to-value ratios in 2007 and the tightening of monetary conditions precedes house prices moving back toward fundamentals. Similarly, the government decision to loosen regulatory restrictions on property lending in response to the global financial crisis also appears to have helped boost house prices.

Conclusion

4. **The historical experience in China shows a strong underlying propensity for rapid property price growth.** This appears in part a product of limited alternative stores of values and the high historical rate of return on property (especially relative to bank deposits). Macroprudential measures appear effective at dampening such price cycles but they are insufficient, given the structurally low cost of capital in China, and may lead to overshooting of prices on both the upside and downside.

5. **Although property prices for China as a whole seem in line with estimated benchmark prices, this does not necessarily mean that the property market is in equilibrium.** For example, there is a potential mismeasurement in the factors used in benchmark price calculation. However, deviations between prices and fundamentals has been an indicator of disequilibrium in residential real estate markets in other countries. As such, it may offer a useful, if incomplete, summary statistic to capture potential property price bubbles.

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III. LESSONS FOR CHINA FROM JAPAN'S EXPERIENCE IN THE 1980s¹

1. **China's economy faces today the difficult task of shifting its sources of growth away from exports and investment and toward private consumption.** This is a similar challenge that confronted Japan in the 1980s. During that period, Japan's growing share of the global export market inflamed protectionist sentiments, eventually resulting in the Plaza and Louvre accords. As part of these accords, Japan began to appreciate the yen, implement fiscal policies to support domestic demand, promote private sector development, and conduct monetary policy in a flexible manner with due attention to the exchange rate. Analysis of this history provides important lessons for present-day China although it is important to note there are key differences between the two countries.

2. **There are limits to an export-led growth strategy.** At its peak, Japan occupied around 10 percent of global exports and, by the mid-1980s, was beginning to find it increasingly difficult to push its share in global markets higher. Other factors also contributed to the plateau of Japan's market share including Japanese corporations' more outward-looking investment strategy; corporations' increasing on-site production in foreign markets in order to avoid trade frictions; protectionist actions against Japanese manufactured exports in certain countries; increased lending from Japanese parent companies to their foreign subsidiaries (largely related to the interest differential between Japan and foreign markets); and incentives offered by the governments of host countries to increase the profitability of Japanese investments in overseas production facilities.

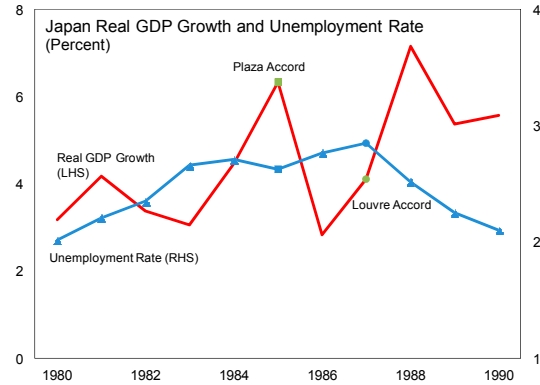


3. **Achieving a sustained rebalancing of demand requires a package of measures.** Shifting toward a greater reliance on the service sector requires several components. These include a real appreciation of the exchange rate, supportive macroeconomic policies, and structural reforms to develop nontradable sectors. Japan's experience shows that if all the components are not fully in place and working in concert the risk of incomplete rebalancing and economic stagnation is high.²

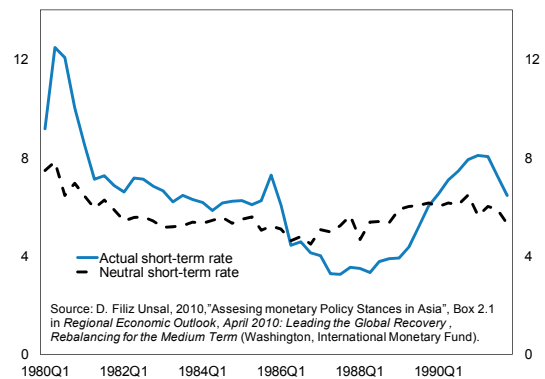
¹ Summary of IMF Working Paper (forthcoming), by Papa N'Diaye.

² For a broader perspective on the lessons from episodes of current account surplus reversals see World Economic Outlook, April 2010, "Getting the Balance Right: Transitioning out of Sustained Current Account Surpluses."

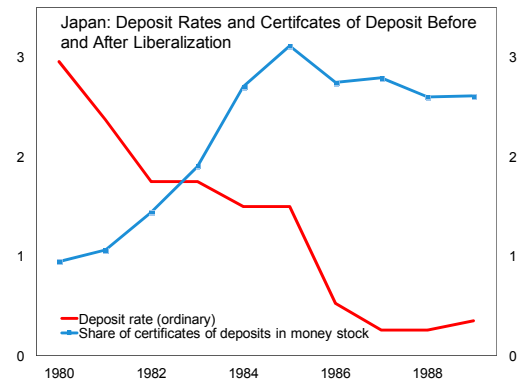
4. **The adverse impact of exchange rate appreciation on activity and employment in the tradable sector can be alleviated with supportive macroeconomic policies.** The rapid appreciation of the yen following the Plaza accord quickly fed through to slower growth and higher unemployment. However, these trends were subsequently reversed as the government increasingly supported the economy through monetary and fiscal policies. This also helped facilitate a shift of production capacity and new investments toward the service sector.



5. **However, expansionary macroeconomic policies, if maintained for too long can inflate bubbles in asset markets.** The loose monetary policy stance that followed the Louvre accord, together with financial deregulation and incentives to boost consumer and mortgage credit, fueled a rapid rise in Japanese equity and land prices. The rise in asset prices led to a build-up of imbalances in asset and goods markets as well as increased leverage in household, non-financial corporate, and bank balance sheets. The protracted adjustment in goods and asset markets and the deleveraging in balance sheets that followed the bursting of the asset bubble and the lack of structural reforms contributed to the “lost decade”.

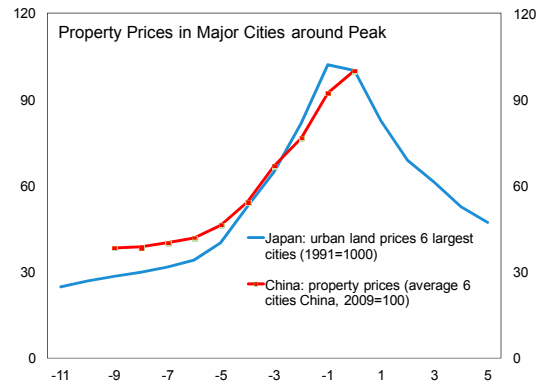


6. **Financial liberalization needs to be very carefully managed.** An early shift toward greater reliance on indirect monetary instruments helped the Bank of Japan maintain control over monetary aggregates following financial liberalization. At the same time, liberalizing interest rates in the context of a banking system with excess liquidity, if not properly managed with an appropriate setting of monetary policy, could cause deposit rates to fall. In Japan’s case, the combination of loose monetary policies and liberalization of interest rates fed through into a significant decline in deposit rates and a shift within monetary aggregates toward certificates of deposit.

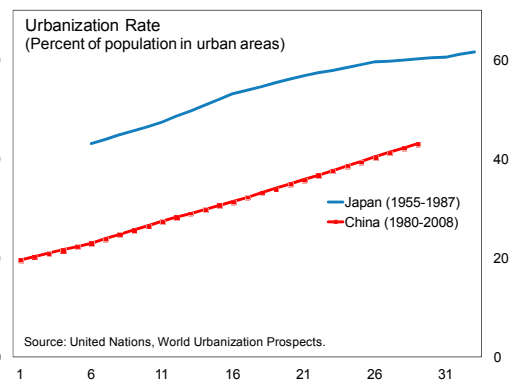
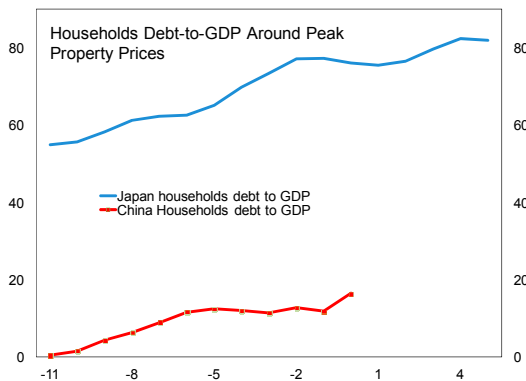


Conclusions and Policy Implications

7. **While there are many similarities between the Chinese economy today and the Japan in the 1980s, there are also many differences.** These include China's earlier stage of economic and financial development, the much lower levels of urbanization in China, and the strength of China's balance sheets (in both corporate, household, and the banks). Nevertheless, the likely demographic changes that will come to China in the next 10–20 years will mean the headwind against rebalancing will be strong, arguing for the necessary reform package to be quickly put in place.



8. **Learning from Japan's experience, China should be able to avoid the problems faced in Japan and sustainably rebalance its economy without facing large downsides to growth and employment.** However, in doing so, a range of reforms will be needed and supportive macroeconomic and prudential policies will also need to be skillfully implemented.



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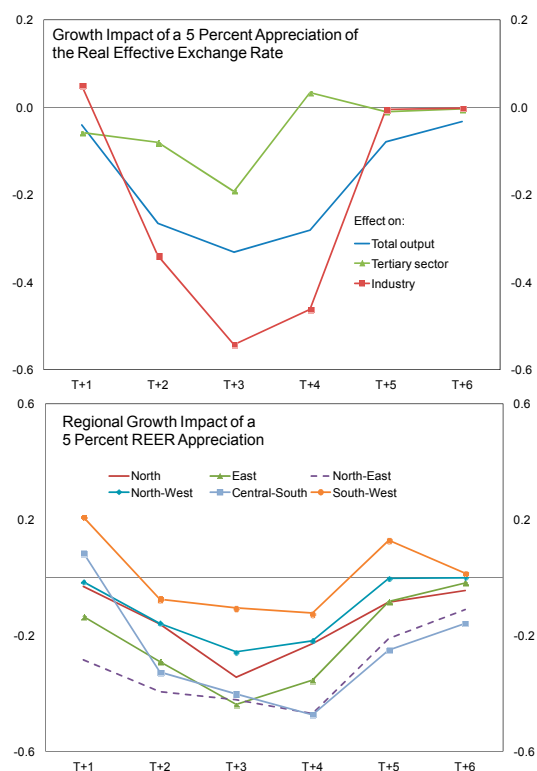
IV. ARE CHINA'S PROVINCES READY FOR A STRONGER CURRENCY?¹

1. **A stronger renminbi, while key to rebalancing the sources of China's economic growth, can pose transitional costs to growth and employment.** While a stronger currency would enhance Chinese households' purchasing power and induce growth driven by domestically oriented industries (Blanchard and Giavazzi, 2006), it may also lead to short-term effects on output and employment growth. As the economy transitions from a more productive tradable sector toward nontradables, growth may decline as factors are reallocated across sectors (Guo and N'Diaye, 2009). Against this background, it would be important to identify the factors that can help dampen the potentially adverse effects of currency appreciation. This paper aims to examine those factors using a cross-provincial database for China.

2. **In particular, the paper estimates the impact of a real effective exchange rate (REER) appreciation on output and employment growth in China.** To do this, it explores differences in cross-provincial economic and structural characteristics, and in movements in the real exchange rate (due to inflation differentials across the provinces) to determine the factors that may mitigate or offset the downside effects of appreciation. The sample, at annual frequency, covers 30 Chinese provinces for the period after the unification of the exchange rate regime (1995–2008).

3. **The results show that an appreciation of the REER has an immediate negative effect on growth that peaks in 2–3 years, but tapers off thereafter.** A 5 percent appreciation of the REER shaves (on average) a cumulative 1 percentage point off of headline growth. Across provinces, the bulk of the adjustment is borne by primary and manufacturing industries, while the overall impact on services is very small. The negative effect on employment growth is smaller, averaging $\frac{3}{4}$ percentage point (see Chen and Dao, 2010 for comparable estimates). Alternative empirical methods—e.g., panel fixed effects, Arellano Bond and system GMM—give broadly similar results.

4. **The results also indicate considerable geographical disparities in the growth impact of an appreciation.** For example, Western provinces



¹ Summary of IMF Working Paper (forthcoming), by Rupa Duttagupta.

are overall much less affected by movements in the exchange rate, reflecting in part a relatively lower dependence on tradables than other regions. Conversely, provinces in the North-East and Central-South are much more affected than average, reflecting their greater reliance on industry and export-led growth.

5. **Within the various provinces, a number of factors can be identified that help offset the effects of an exchange rate appreciation on growth and employment.** First, as expected, a favorable external environment serves to partially offset the growth impact of movements in the currency (supporting findings of Abiad and others, 2010). Second, supportive macroeconomic policies—e.g., greater access to credit and to a lesser extent, an increase in the share of government consumption expenditure also support growth. Third, a proxy for labor market flexibility—given by the persistence of differences in the ratio of provincial wages to per-capita GDP compared to the national average—shows that flexible labor markets boost growth. Fourth, smaller effect on growth is associated with a larger share of the economy in non-tradable sectors.

Table 1. Impact of Appreciation on Real GDP Growth

Dependent variable →	Real GDP growth 1/							
	Fixed Effects				Panel GMM			
	(I)	(II)	(III)	(IV)	(I)	(II)	(III)	(IV)
<i>Lagged real GDP growth</i>	0.556 (0.00)***	0.523 (0.00)***	0.522 (0.00)***	0.546 (0.00)***	0.716 (0.00)***	0.604 (0.00)***	0.597 (0.00)***	0.679 (0.00)***
<i>Real exchange rate appreciation</i>								
First lag	-0.005 (0.62)				0.004 (0.076)			
Second lag		-0.054 (0.00)***				-0.053 (0.00)***		
Third lag			-0.039 (0.00)***				-0.045 (0.00)***	
Fourth lag				-0.011 (0.23)				-0.013 (0.14)
<i>Controls</i>								
Growth in trading partners	0.330 (0.03)**	0.653 (0.00)***	0.241 (0.09)*	0.243 (0.20)	0.374 (0.02)**	0.628 (0.00)***	0.239 (0.10)*	0.257 (0.22)
Change in terms-of-trade	0.181 (0.03)**	0.427 (0.00)***	0.116 (0.17)	0.129 (0.23)	0.183 (0.07)*	0.406 (0.00)***	0.106 (0.25)	0.125 (0.31)
Access to credit (credit to GDP)	0.001 (0.00)***	0.001 (0.00)***	0.001 (0.00)***	0.001 (0.00)***	0.001 (0.00)***	0.001 (0.00)***	0.001 (0.00)***	0.001 (0.00)***
Fiscal support (gov. cons. spending to GDP)	0.057 (0.09)*	0.038 (0.24)	0.018 (0.59)	0.054 (0.12)	0.113 (0.12)	0.098 (0.13)	-0.001 (0.99)	0.094 (0.21)
Labor market rigidity	-0.033 (0.05)**	-0.016 (0.27)	-0.044 (0.01)***	-0.031 (0.07)*	-0.044 (0.03)**	-0.017 (0.28)	-0.063 (0.02)**	-0.042 (0.04)**
Share of non-tradables in GDP	0.050 (0.06)*	0.048 (0.05)**	0.041 (0.12)	0.051 (0.05)**	0.100 (0.05)**	0.075 (0.11)	0.071 (0.14)	0.102 (0.05)**
Observations	417	417	417	417	417	417	417	417
R-squared	0.53	0.59	0.56	0.54				

Source: Author calculations.

1/ Robust p-values in the parentheses. Significance at the 1, 5, and 10 percent level is denoted by ***, **, and * respectively.

Conclusions

6. **The analysis gives an encouraging signal for China's effort to rebalance growth through a package of measures that includes an appreciation of the renminbi in real effective terms.** First, the negative impact of a stronger currency is relatively small and

wanes out over a few years. Second, a strong external environment and supportive domestic policies can bolster growth and offset the adverse effects of appreciation. And third, there are policy steps that can be taken—notable to increase labor market flexibility, increase access to financing particularly for smaller corporations and households, and development of the service sector—that can help lessen the short-term growth and employment impacts from a stronger currency.

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