China’s Exchange Rate Policy: Evolution, Latest Developments, and Future Directions

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China exchange rate regime – Historical Evolution

Period		Exchange Rate Policy Target	Foreign Trade Regime	Characteristics of the RMB Exchange Rate
Pre-reform Period (before 1978)	1949-1952	Encourage export and beneficial for overseas remittances	Private company predeminantly	- Linked to internal and external price index; - changed frequently.
	1953-1972	Long term stability and balance the foreign exchange receipts and expenses	State-owned specialised foreign-trade corporations	- Pegged to USD; - non-trade payment on agreement rate of exchange with former Soviet Union and others; - undervalued mostly; - used RMB for quoting prices and settleing accounts since 1968.
	1973-1978	Keep RMB strong and maintain balance of exchange income and expense	State-owned specialised foreign-trade corporations	- RMB pegging to a basket of currencies; - overvalued mostly; - changed frequently.
Reform Period (1978-1994)	1979-1984	Encourage exports and limit imports	Responsibility system of operation on contracting base in foreign trade sector	- RMB pegging to a basket of currencies; - dual Exchange rate regime (interal settlement rate); - mainly focused to the rate of earning exchange in terms of exports of products.
	1985-1993	Encourage exports and limit imports	Encourage FDI and domestic exporting firm competition	- Dual exchange rate regime (swap exchange rate); - mainly focused to the rate of earning exchange in terms of exports of products.
Reform Period (1995-2010)	1994-2004	Keep stability of exchange rate and serve to economic growth	Free competition	- Single conventional pegged exchange rate regime; - stable and appreciated steadily.
	2005-2010	Improve the mechanism of exchange rate base on market supply and demand	Free competition	- Managed float exchange rate regime; - appreciated substantively.
	Beyond 2010	Increase flexibility of exchange rate system and effectiveness of monetary policy	Free competition	- From managed float exchange rate regime to more flexibility of exchange rate regime

Source: Fengming Qin, "The Evolution of Renminbi Exchange Rate Regime and Its Policy Implications," School of Economics, Shandong University

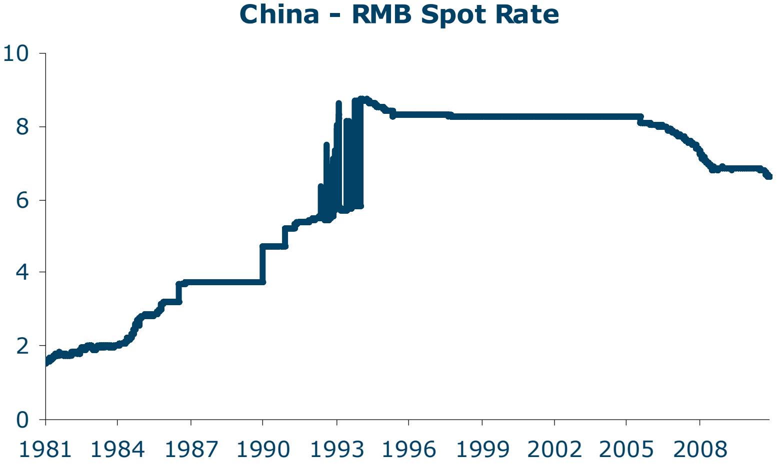
Evolution of the RMB exchange rate, spot, NEER, REER

- **The RMB exchange rate had been on a depreciation trend until 1994, moving from a value from around 1.8 per USD in 1981 to 8.3 per USD in 1994.**

- **The exchange rate then stabilized for the period between 1994 to 2005, before embarking upon a gradual appreciation path until now, except for a period of USD peg from Sep 2008 to Jun 2010.**

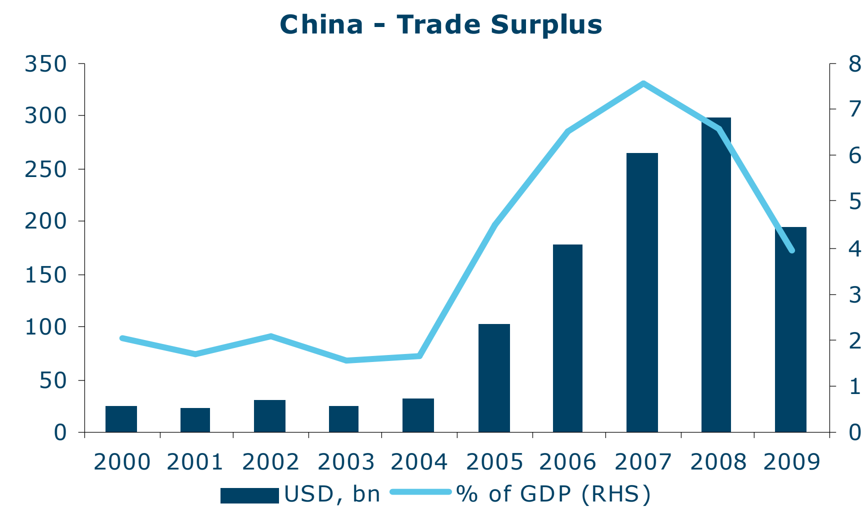
- **The unification of the dual exchange rate system on 1 Jan 1994 led to one step large depreciation (from 5.4 to 8.3). China was accused to have sown the seed for the 1997 Asian Financial Crisis.**

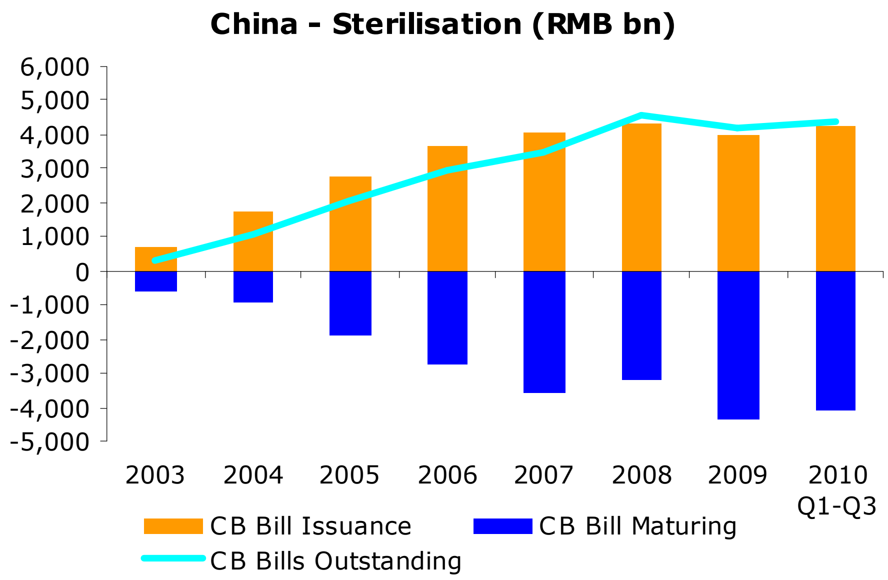
- **However, empirical evidence suggests that 1) China's foreign trade, occupying 80% of the dual exchange rate system, was already trading at the swap rate of around RMB8.3/USD before 1994. 2) China's NEER and REER had subsequently appreciated sharply largely owing to relatively higher CPI inflation in comparison with foreign ones.**

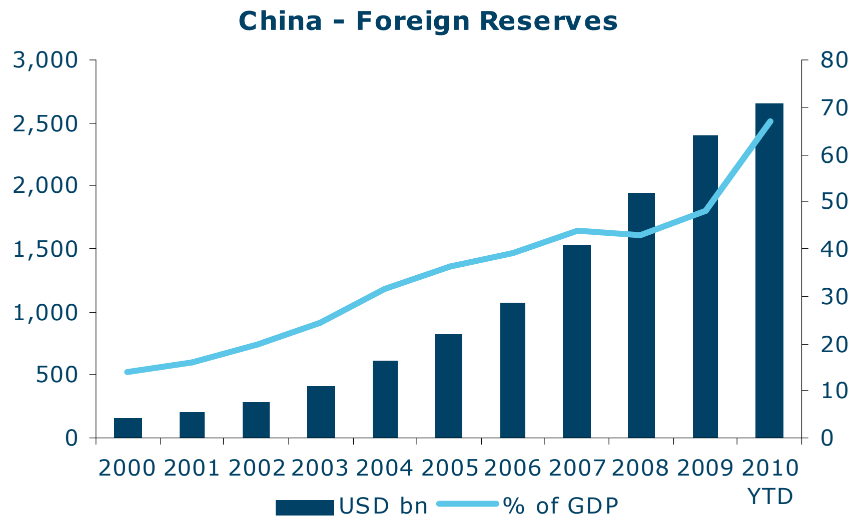


Source: BIS, Bloomberg

Controversies surrounding the RMB exchange rate started in 2003







Source: CEIC, ANZ Economics

China's productivity growth was faster than its trading partners, but REER did not seem to match the productivity gains

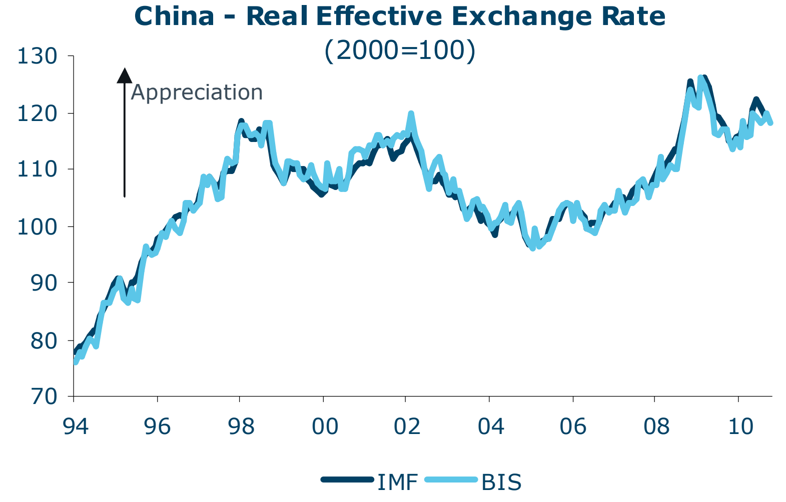
- **Both Chinese TFP growth and labour productivity rose at a fast pace for the period between 2000 and 2008. TFP growth was more than twice of the its trading partners and labour productivity in both trade and non-tradable sectors was about 4 times as fast as its trading partners.**

- **However, such a sharp productivity gain did not seem to have led to sharp appreciation in China real effective exchange rate, possibly led by domestic distortions (mostly factor price distortions and the weak wage bargaining power of labour).**

- **This provides evidence that the RMB is possibly under valued. Since 2003, the RMB exchange rate has become the most hotly-debated international economic issue.**

Productivity Differentials (2000-2008)

	Average productivity		**Cummulative Difference**
	China	Trading partners	
TFP growth	2.8	1.2	14.9
Labor productivity			
Tradable sectors	9.3	2.3	62.7
Nontradable sectors	4.7	0.6	36.4
Real Effective Exchange Rate			2.8



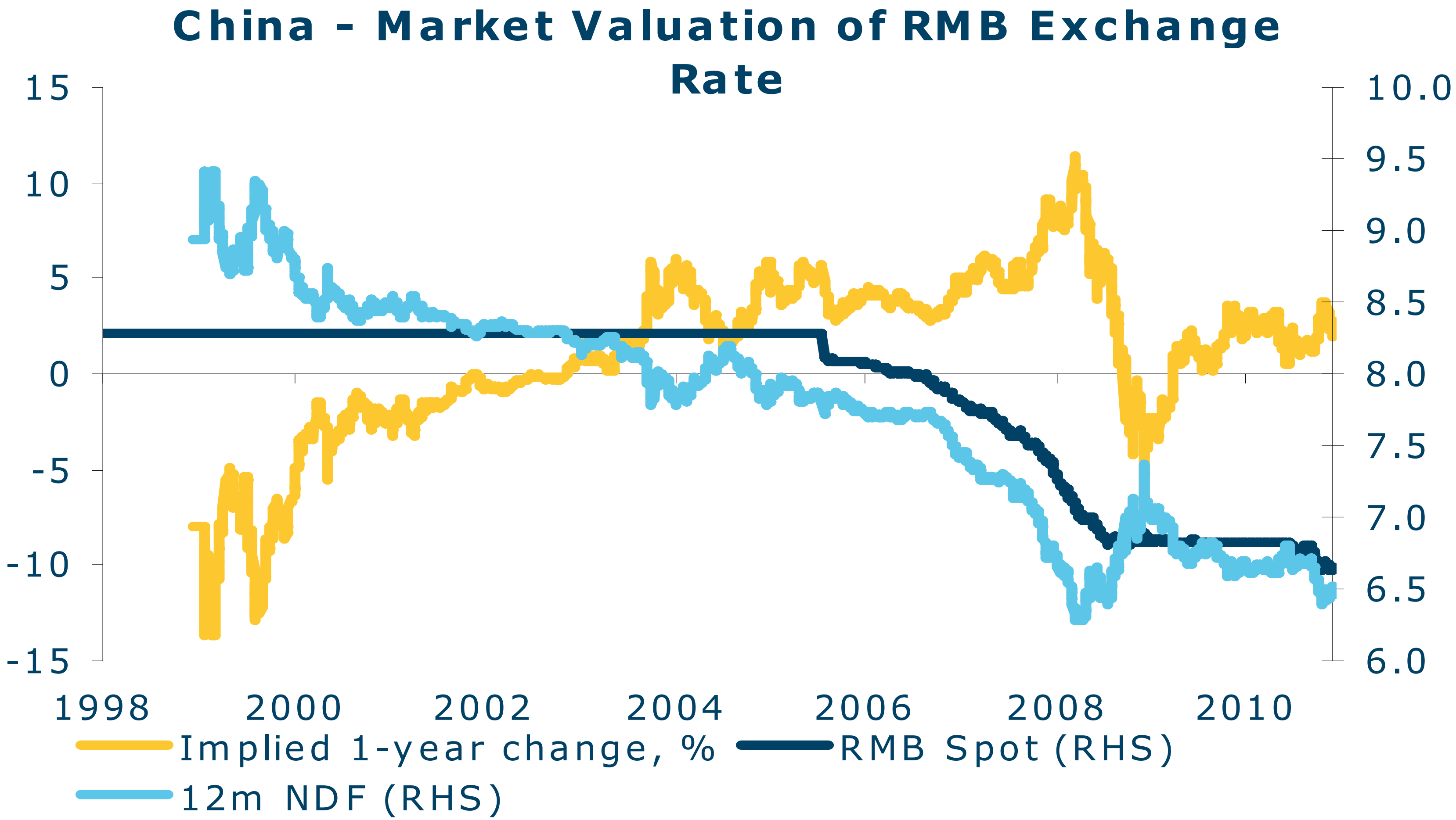
Source: IMF, CEIC, ANZ Economics

What does empirical evidence on the RMB undervaluation?

Summary of RMB Valuation Studies

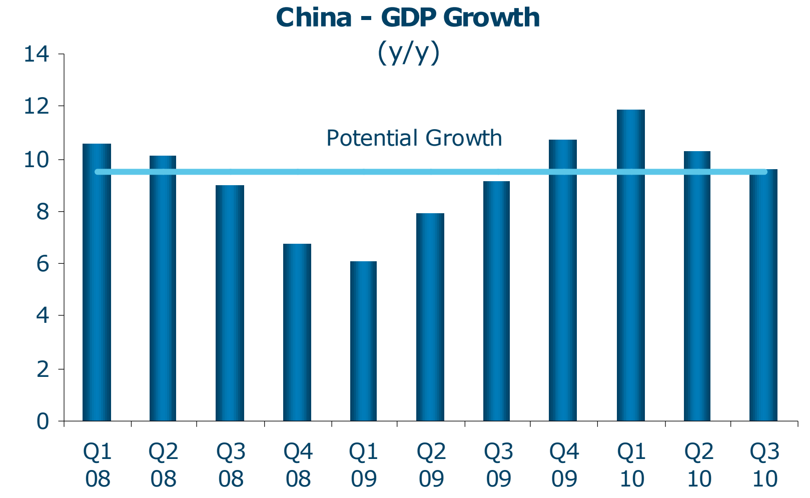
Author	Methodology	Findings and Conclusions
William R. Cline (2010) “Renminbi Undervaluation, China’s Surplus, and the US Trade Deficit” Peterson Institute for International Economics	Using lagged real effective exchange rates in a CGE framework to estimate the effects of the RMB exchange rate	- strength of the RMB does effect China’s external balance, as well as the bilateral trade balance with the US - 2010 scale, a 10ppt real effective appreciation would reduce China's current account surplus by about USD170bn to USD250bn
Yin-Wong Cheung, Menzie D. Chinn, Eiji Fujii (2007) "The Overvaluation of Renminbi Undervaluation" National Bureau of Economic Research	Exploiting the relationship between deviations from absolute purchasing power parity and real per capita income, this paper addresses the question of where China's real exchange rate stands relative to the "equilibrium" level.	- although various analytical results show that the RMB is undervalued, the deviation is mostly not statistically significant - estimating an "equilibrium real exchange rate" is often difficult - thereby, assessing the degree of RMB undervaluation is also difficult
ANZ China Economic Research (2010)	Using a long-term trade regression model to estimate the necessary RMB appreciation to achieve a balanced trade flow	- there is still a sizable upside for the RMB exchange rate going forward - a slow pace of RMB appreciation (<3% against a basket of currencies per year) will not be effective in reducing China's trade surplus - only a relatively aggressive appreciation (6-10% per year) could help balance China's trade account to within USD40bn by 2018.

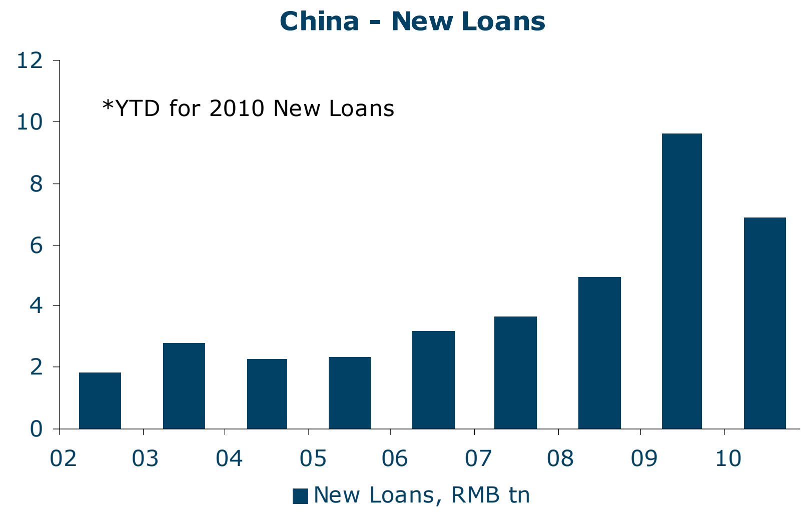
But how much undervaluation does the market think?

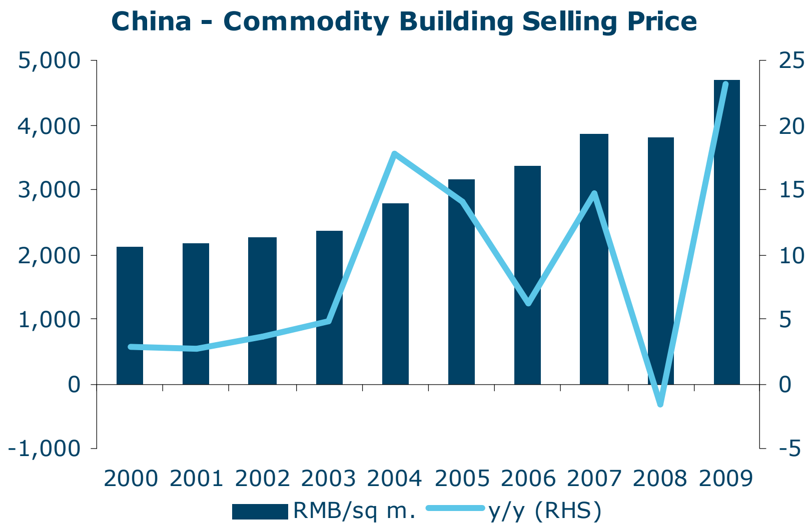


Source: Bloomberg, ANZ Economics

China's exchange rate regime during the GFC has also created tensions domestically



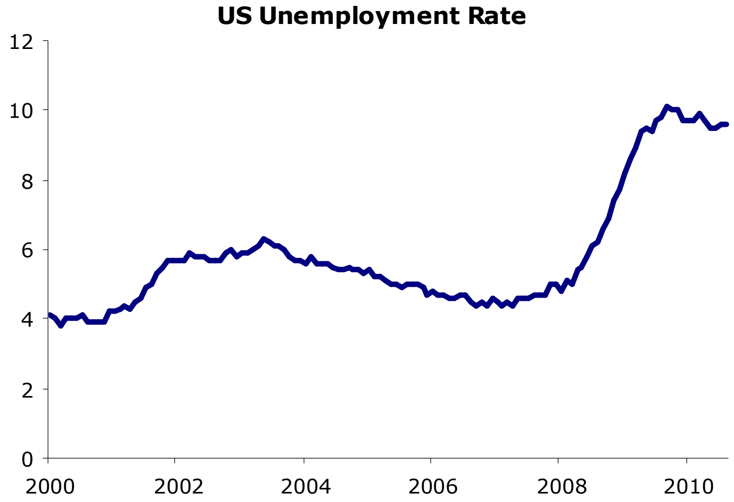


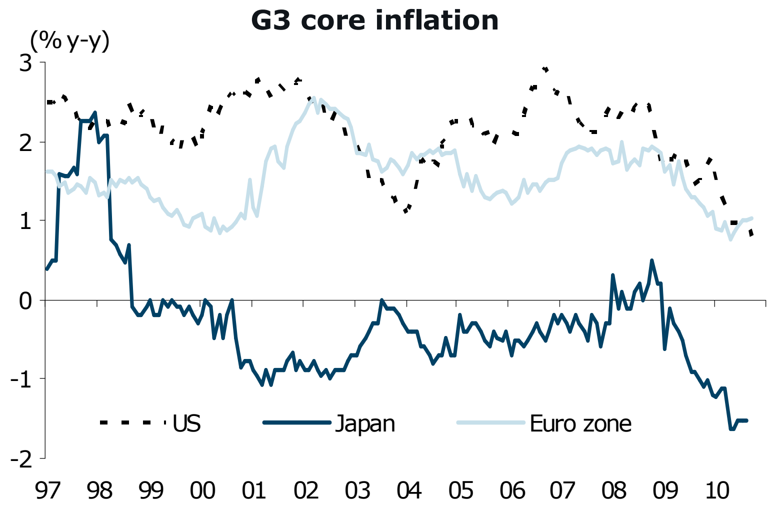


Source: CEIC, ANZ Economics

QE II will continue to add pressure on the RMB exchange rate in the near term

- **The Fed is not achieving neither of its policy goals set by the Congress: maximizing employment and maintaining price stability.**
- **The Fed fund rate is likely to stay at historical low for an extended period due to a high unemployment rate in the US and the risk of deflation. It is likely that the Fed will not raise the benchmark interest rate before Q2 2012.**
- **Because the Fed can not move interest rate to negative, it can only use quantitative easing to create more relaxed monetary conditions and generate inflation expectations.**
- **The QE II announced in early Nov also put more pressures on the USD exchange rate over the medium to long term. USD yields are expected to remain low. These factors will encourage USD carry trade in the foreseeable future .**
- **Weak US means high global commodity prices, which implies that China will have to import inflation.**

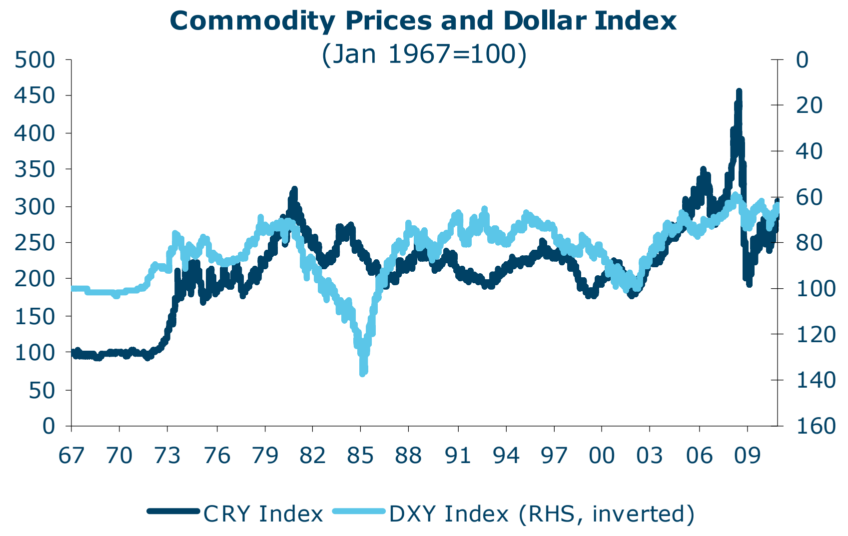


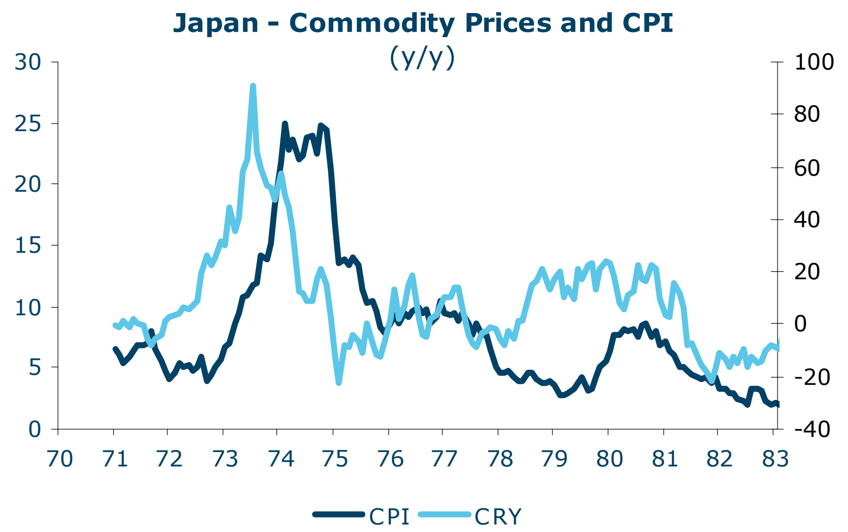


Source: Bloomberg, ANZ Economics

History suggests that a weak US dollar is always associated with high commodity prices

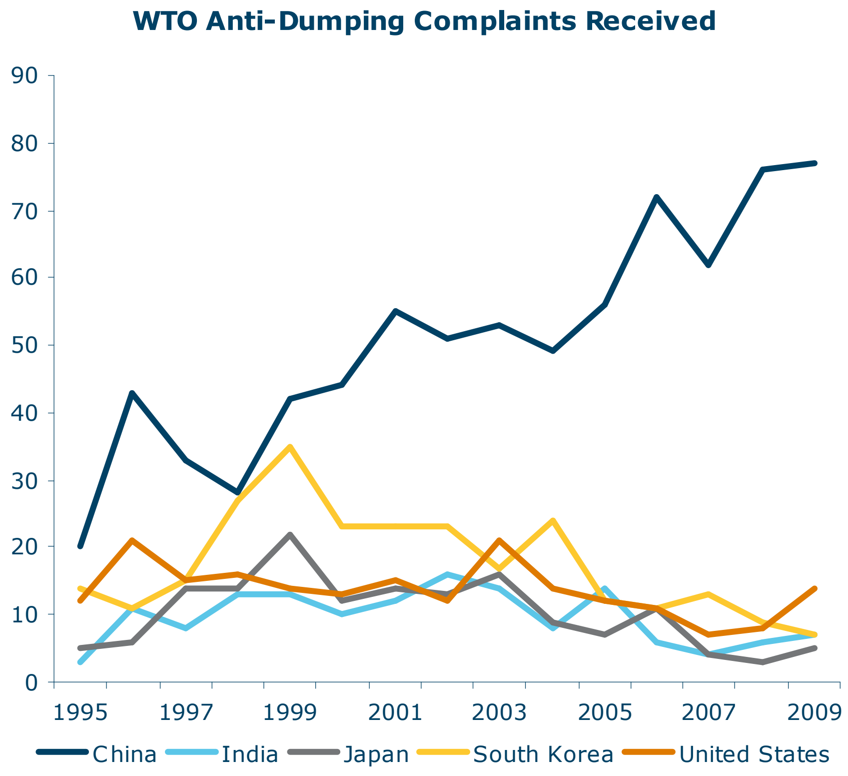
- **The US dollar has three periods of large depreciation (1973-1979,1985-1995 and 2002-present). Global commodity prices also climbed due to the weak dollar.**
- **Japan was the "world factory" in 1970s. Because of very high reliance on external resources, there was a close relationship between global commodity prices and Japan's CPI inflation.**
- **The oil crisis in 1973 had pushed Japan's inflation to as high as 25% in 1974 and 1975, despite the fact that JPY appreciated by 50% from 1972 to 1978.**

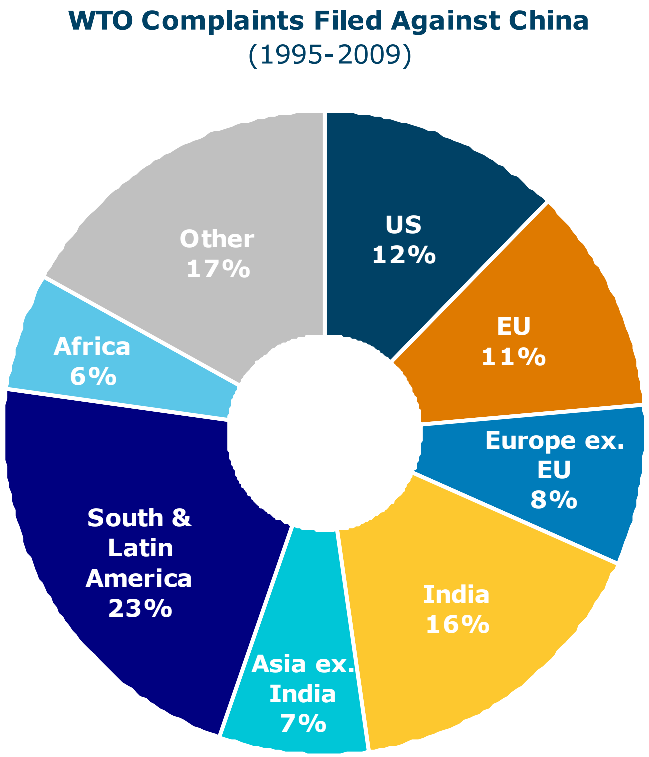




Source: Bloomberg, ANZ Economics

China's trade tensions with the rest of the world have also risen





Sources: WTO, ANZ Economics

A Sino-US trade war scenario can lead to a sharp drop of China's exports

Impact of a 25% Import Tariff on China's Exports

	Assumption	Effect
Model 1: Exports		
Scenario 1	60% pass-through	-12.1%
Scenario 2	50% pass-through	-8.5%
Average		-10.3%
Model 2: Ordinary Exports		
Scenario 1	60% pass-through	-14.3%
Scenario 2	50% pass-through	-10.4%
Average		-12.4%
Model 3: Processing Exports		
Scenario 1	60% pass-through	-4.9%
Scenario 2	50% pass-through	-3.1%
Average		-4.0%

If the US were to impose a 25% punitive tariff on Chinese exports, as suggested by Paul Krugman, how damaging would it be?

We find that a 25% punitive tariff will bring about a double-digit decline in China's overall exports. This assumes that the G3 growth rate will be 2.5% for the next three years and that the pass-through effects of tariffs are partial (60% in Scenario 1, and 50% in Scenario 2).

Specifically, a 25% import tariff would likely reduce China's total exports by 8.5% to 12.1%, with an average value of -10.3%. The impact on China's ordinary exports will be highest, falling by 12.4% on average. In contrast, the impact on China's processing exports is smaller, but still sizeable, at 4.0%.

Do external pressures affect the pace of RMB appreciation?

Jun Jul Aug Sep Oct Nov Dec

21 Jun

PBOC increased the exchange rate flexibility, allowing the RMB to appreciate

26-27 Jun

G20 Summit in Toronto

30 Jun

PBOC Q2 Monetary Policy Committee Meeting

8 Jul

US Treasury's Semi-Annual Report declined to name China as a currency manipulator

21 Jul

5th anniversary of the last RMB revaluation

5-8 Sep

U.S. National Economic Council Director Lawrence Summers' visit to China

15-16 Sep

Lawmakers in the US held a hearing on China's RMB policy

End of Q3

PBOC Q3 Monetary Policy Committee Meeting

15 Oct

The US Treasury postponed the semi-annual report again till after the G20 Summit.

2 Nov

U.S. Congress midterm elections

11 Nov

G20 Summit at Seoul, South Korea

13-14 Nov

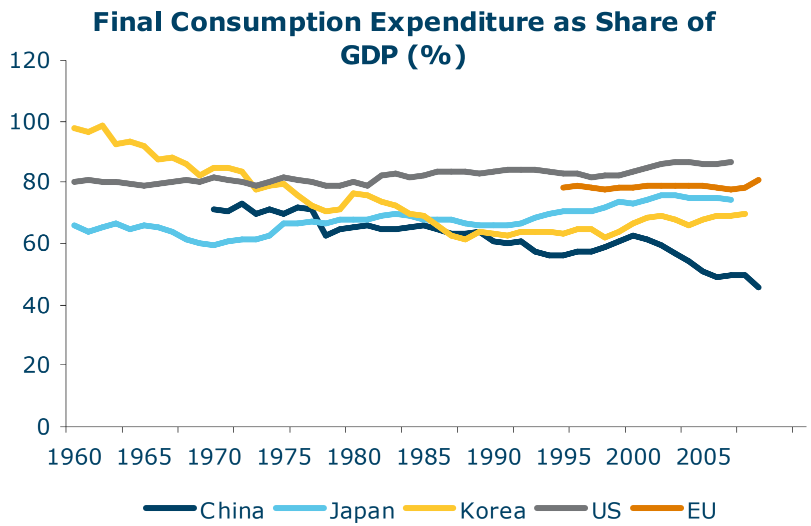
Asia-Pacific Economic Cooperation (APEC) Summit at Yokohama, Japan

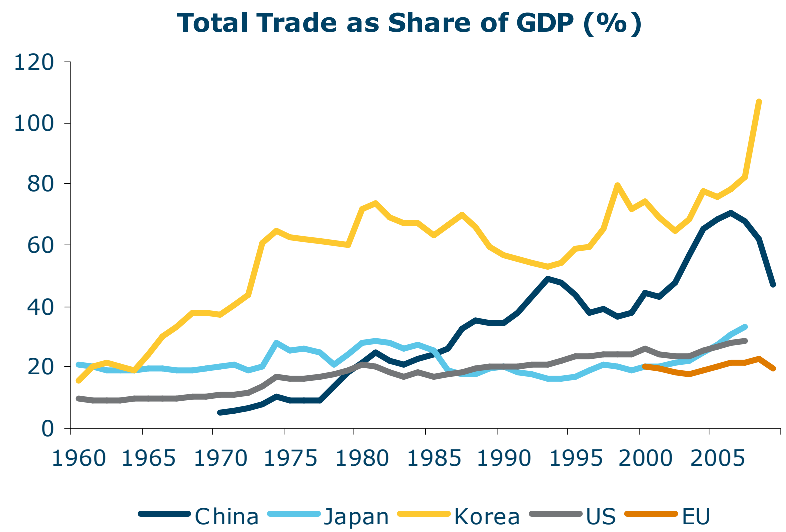
RMB spot rate and RMB NDF tend to appreciate more aggressively when external pressures on RMB intensify

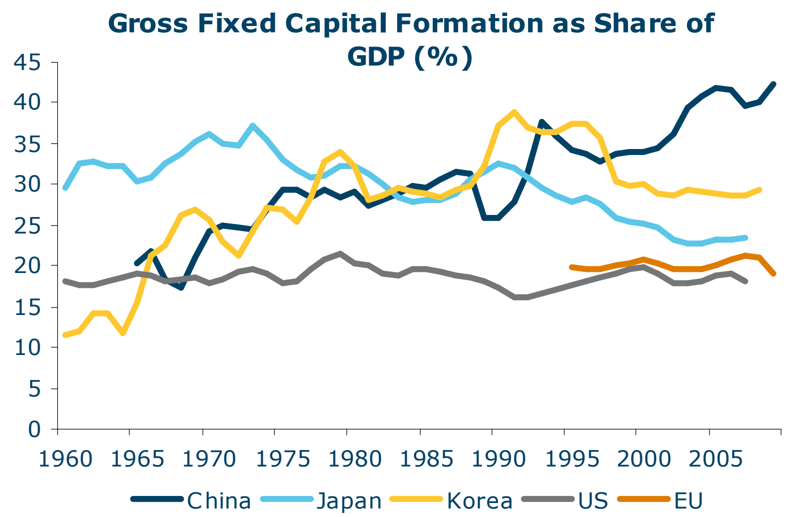
	G20 Summit in Toronto	Lawrence Summers visits China	US House of Representatives' Ways and Means Committee Currency-reform Bill	G20 Summit in Seoul and APEC Summit in Yokohama	Average
RMB Spot Rate, Daily Change					
Start date of event	26 Jun	05 Sep	24 Sep	11 Nov	
End date of event	27 Jun	08 Sep	29 Sep	14 Nov	
Preceding week					
Mean	-	-0.0006	-0.0088	-0.0060	-0.0051
Standard Deviation	-	0.0076	0.0036	0.0066	0.0059
Week of event					
Mean	-0.0076	-0.0070	-0.0029	-0.0074	-0.0062
Standard Deviation	0.0169	0.0114	0.0096	0.0114	0.0123
Following week					
Mean	-0.0035	-0.0091	-	0.0034	-0.0031
Standard Deviation	0.0063	0.0052	-	0.0076	0.0064
Memorendum					
Sample Mean					-0.0017
Sample Standard Deviation					0.0086
NDF, Daily Change					
Start date of event	26 Jun	05 Sep	24 Sep	11 Nov	
End date of event	27 Jun	08 Sep	29 Sep	14 Nov	
Preceding week					
Mean	-0.0043	0.0009	-0.0131	-0.0018	-0.0037
Standard Deviation	0.0121	0.0092	0.0097	0.0103	0.0083
Week of event					
Mean	-0.0014	-0.0103	-0.0028	0.0051	-0.0019
Standard Deviation	0.0106	0.0158	0.0145	0.0197	0.0121
Following week					
Mean	-0.0011	-0.0052	-0.0070	0.0003	-0.0026
Standard Deviation	0.0052	0.0079	0.0140	0.0152	0.0085
Memorendum					
Sample Mean					-0.0016
Sample Standard Deviation					0.0128

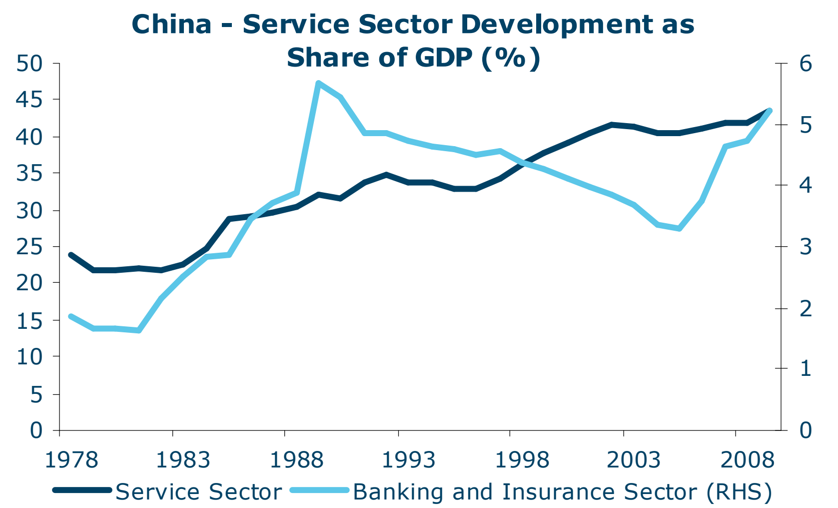
Source: Bloomberg, ANZ Economics

A stronger RMB is also conducive to China's structural change in the medium term





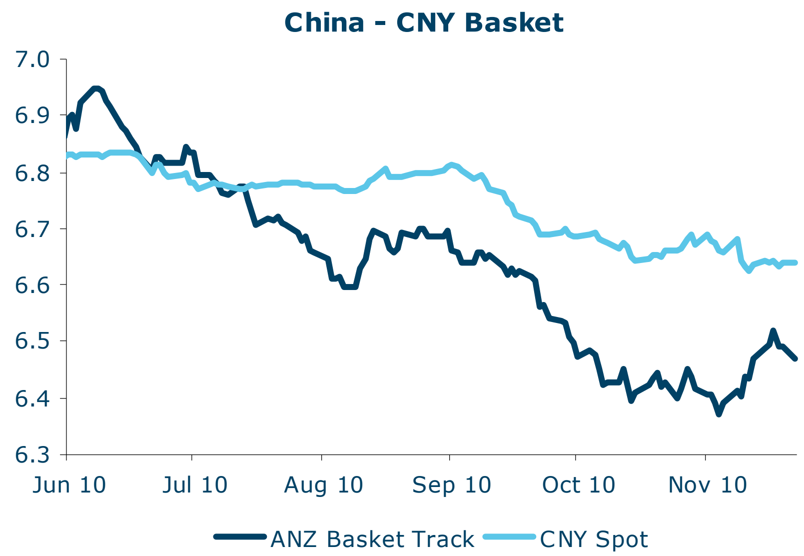




Source: CEIC, World Bank, Eurostat

Recent RMB reform: Referencing to a basket of currencies?

- **Notably, the correlation between RMB spot rate and a basket of currencies has been rising significantly. Our analysis shows that the correlation coefficient between RMB and the currency basket was only 0.193 during 21 Jun and 3 Sep, suggesting that the RMB spot rate is not much correlated with the currency basket.**
- **However, the correlation coefficient between CNY spot rate and currency basket has been rising since Sep, above 0.8, indicating that the PBoC has started to allow the RMB to be traded based on market conditions.**
- **This will also provide a good reference for forecasting RMB's exchange rate going forward.**



Correlation Coefficient between CNY spot rate and a basket of currencies

	Correlation Coefficient
Jun 21 - Sep 3	0.193
Sep 3 - Current	0.823

Recent RMB Reform: Referencing to a basket of currencies?

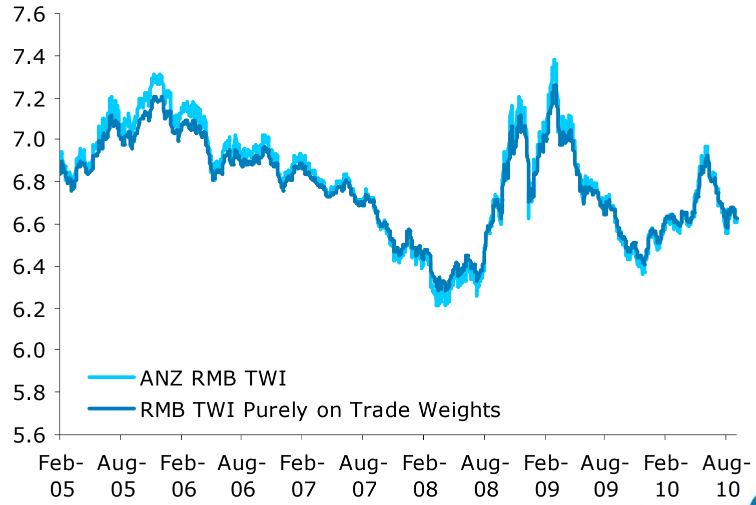
- **The Chinese authorities preferred to reference the RMB to a basket of currencies, in other words, RMB is to partly de-peg to the USD.**
- **A trade-weighted index (TWI) is the most commonly used methodology to monitor the movements of one currency.**
- **Considering that demand for one currency is not only decided by the trade flows among economies, but also the financial flows, such as FDI and foreign debt, we sum up the trade flows, FDI figures and foreign debt between Mainland China and its major trading partners, in an attempt to better reflect the total demand.**

ANZ CNY TWI

11 Major currencies and weights

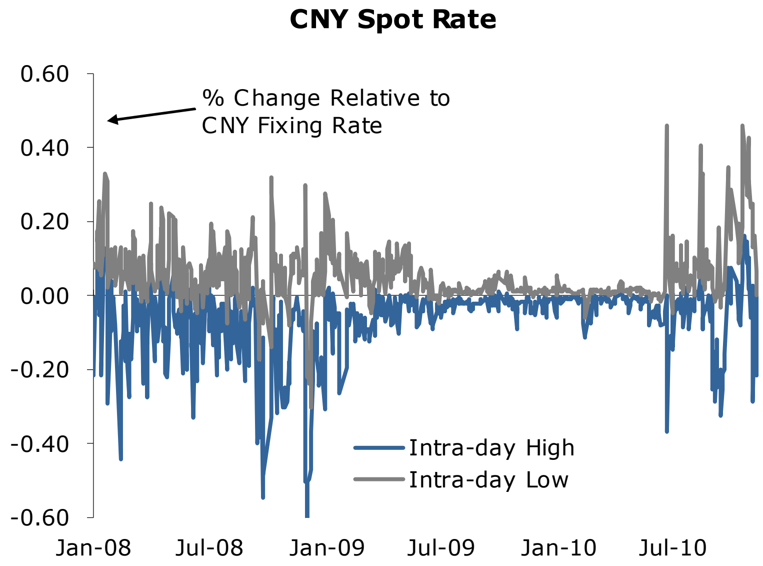
WEIGHTS	
USD	0.3419
EUR	0.2246
JPY	0.1487
KRW	0.1015
SGD	0.0312
GBP	0.0250
MYR	0.0290
AUD	0.0274
THB	0.0216
CAD	0.0191
RUB	0.0299

ANZ RMB TWI (18 Jun 2010=100)



What is the preferable exchange rate regime for China at this stage?

- **Given that financial sophistication, capital account liberalisation and exchange rate flexibility are not there, China is likely to adopt a managed floated exchange rate regime, with the rate more determined by the market demand and supply and the two-side volatilities rising significantly.**
- **In this case, pegging to a currency basket is still the second best choice as it provides a reliable reference for both market and the monetary authorities. This mechanism also brings transparency and removes the suspicion of currency manipulation.**
- **RMB trading band will need to be progressively enlarged as well in order to break one way bet on RMB's exchange rate.**



Market Volatilities of major currencies

Unit: %	EUR	GBP	JPY	AUD	THB	SGD	MYR	CAD	RUB	KRW
Max Daily Flucuation	6.20	6.70	7.56	12.80	7.91	3.13	2.58	6.00	5.17	17.16
2010 average	1.08	1.06	1.03	1.34	0.51	0.53	0.62	1.07	0.76	0.84
5 year average	0.93	0.98	1.02	1.34	0.53	0.50	0.47	1.02	0.62	0.96
Average since 2000	0.90	0.84	0.91	1.17	0.52	0.45	0.23	0.79	0.37	0.77

Concluding remarks

- **Given China's capital controls and unsophisticated financial system, an exchange rate regime that references to a basket of currencies with a wide trading band appears to be a second best strategy.**
- **Despite China's capital controls remain, China has started the internationalization of the RMB. Hong Kong is a place that can use RMB to make loans, interbank lending, and financial derivatives products.**
- **However, China's capital controls do not intend to stay forever, as China has already decided to make Shanghai an international financial centre in 2020. This then entails capital account liberalization and the convertibility of the RMB exchange rate. China's remaining capital account controls could be relaxed much fast then expected, probably within 5 years.**
- **The key for the RMB to become a floating exchange rate will also require some careful policy sequencing:**
- **This starts with interest rate liberalization and building sophisticated financial system and deep domestic bond market; followed by gradual liberalization of capital account by removing restrictions on portfolio, equity, and short-term capital flows; and the PBoC will also need upgrade its monetary policy instruments from relying on both money aggregates and interest rate to relying mainly on the interest rate tool.**

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