

CNY: Market Structure & Valuations

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Stewart Newnham, CFA

Asian Currency Strategist

Morgan Stanley Asia Limited

(852) 2848-5320

stewart.newnham@morganstanley.com

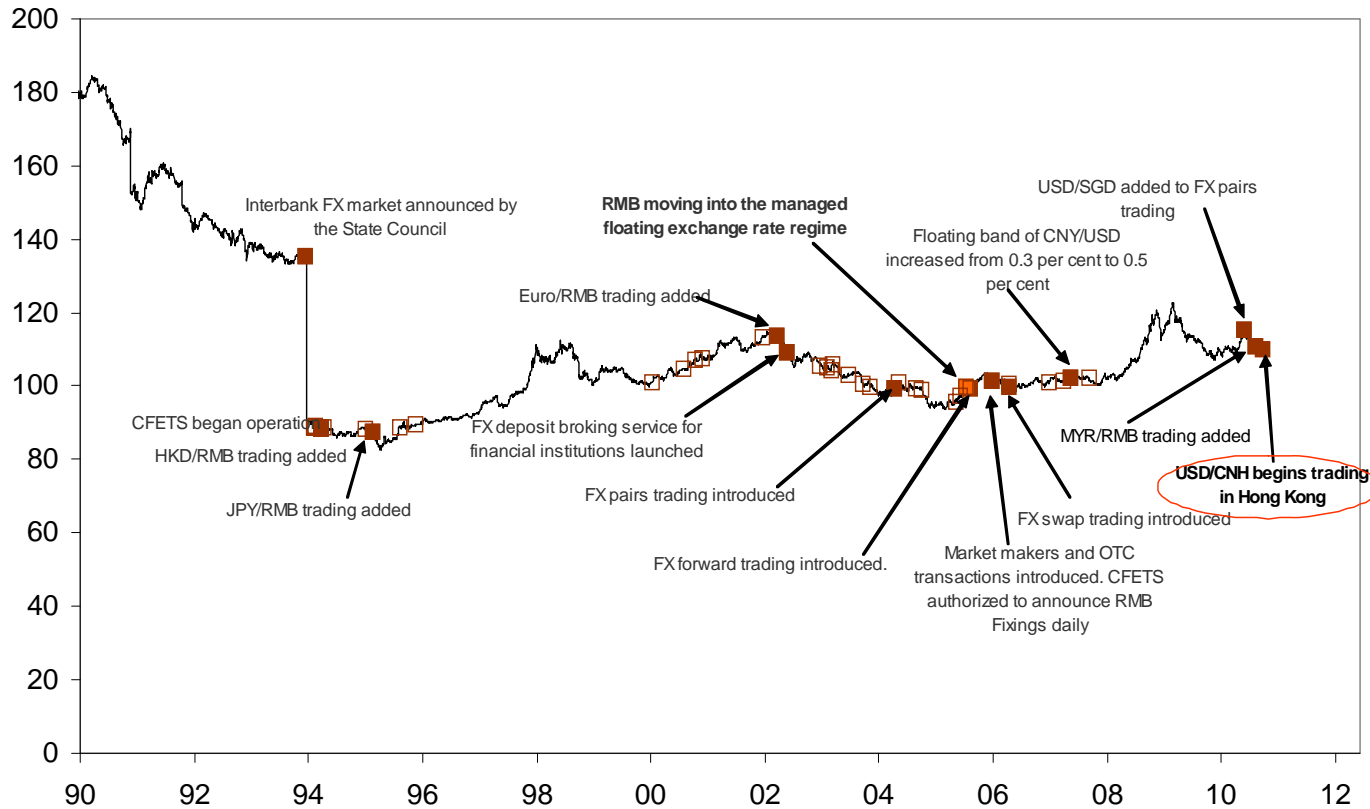
Presentation Outline

- 1. Market Structure – Growth, Regulation & CNH**
- 2. CNY Valuations – Is the RMB Cheap?**

1. Market Structure – Growth, Regulation & CNH

Time Line of Regulatory Changes in the CNY Market

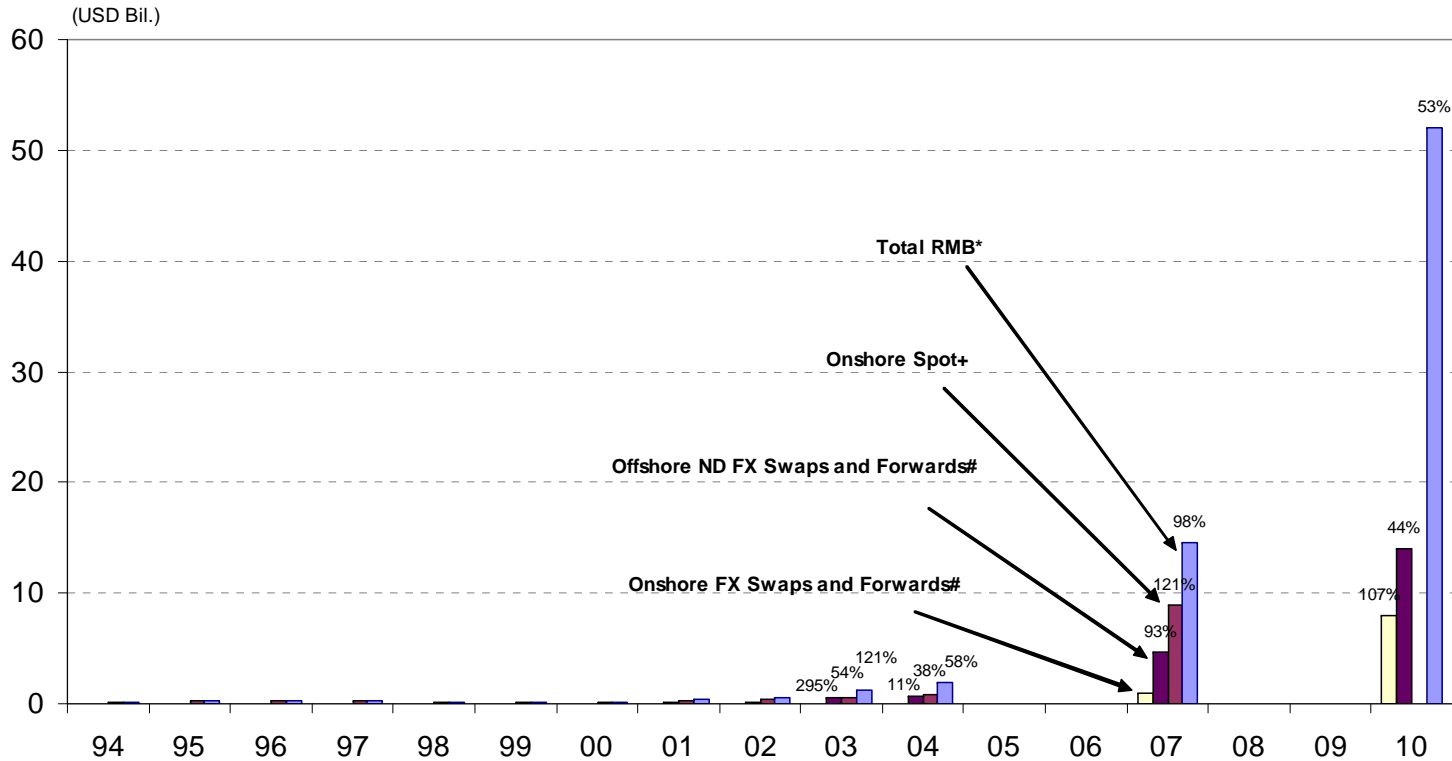
Regulatory Changes versus CNY TWI



Source: CFETS, Morgan Stanley

The Rise of the CNY FX Markets

Daily Volume in CNY FX Markets



Notes:

(#) Onshore and offshore FX Swaps and Forwards data from He and McCauley (2010), BIS Working Papers No. 320

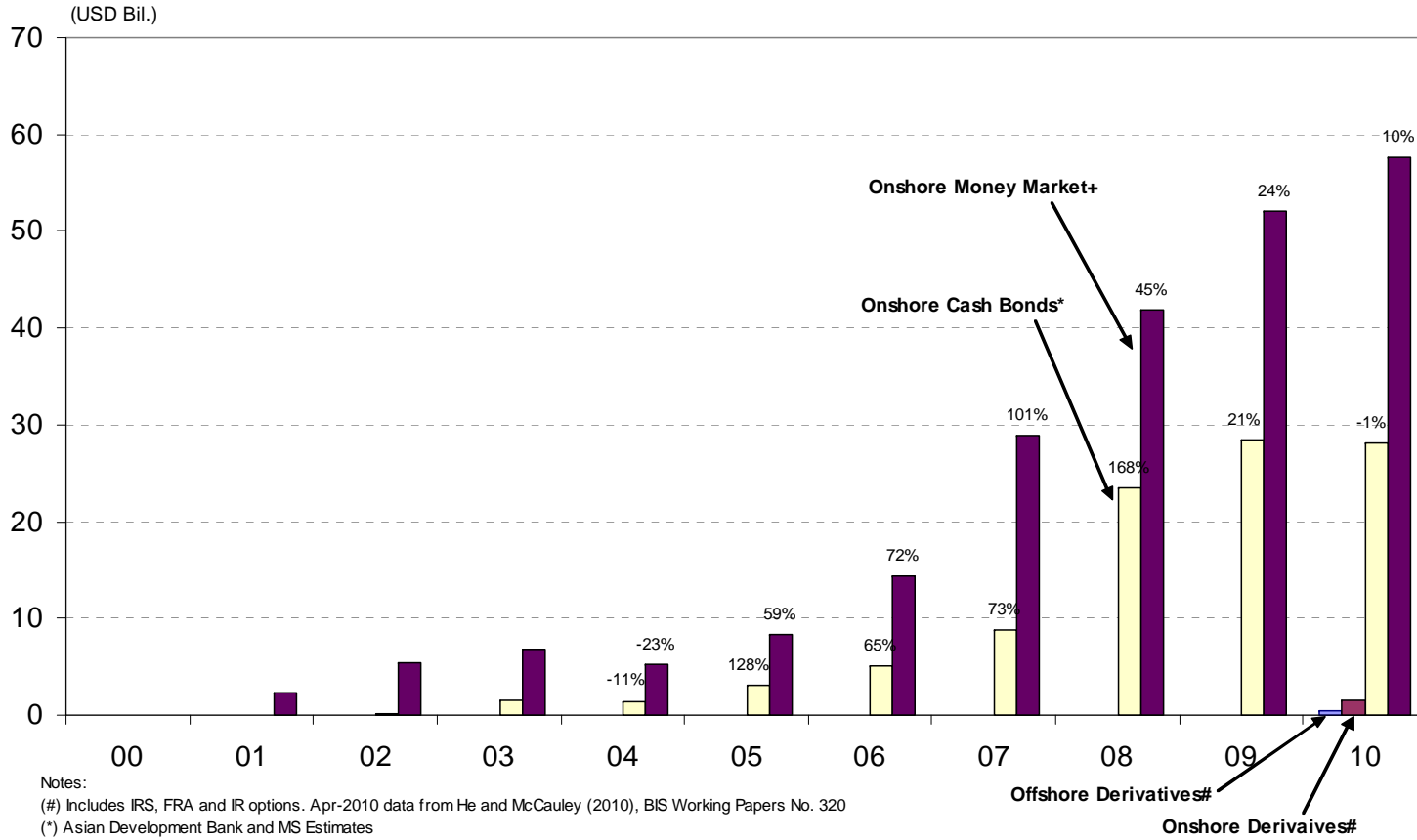
(+) Pre-2007 onshore Spot data from CFETS. 2007 data from BIS

(*) Pre-2007 total RMB data from CFETS, BIS and MS Estimates. Apr-2007 data from BIS. Apr-2010 data are MS Estimates.

Source: CFETS, BIS, Morgan Stanley

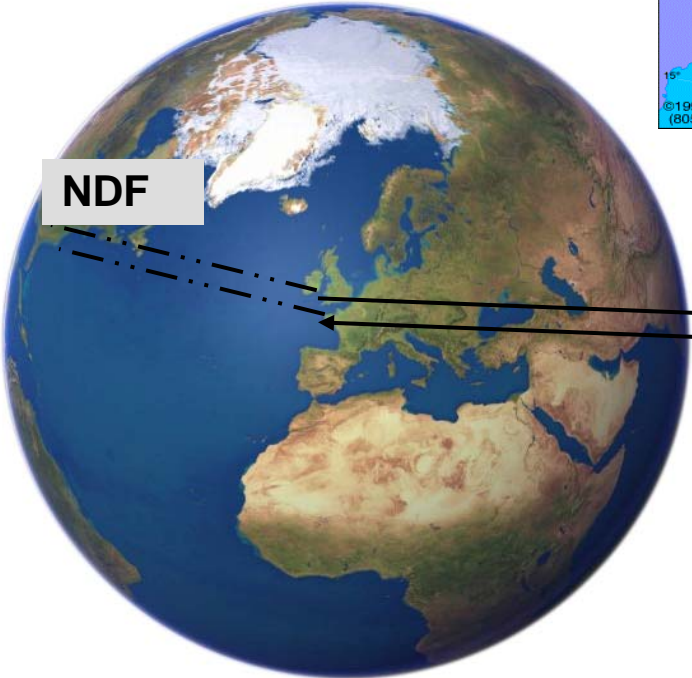
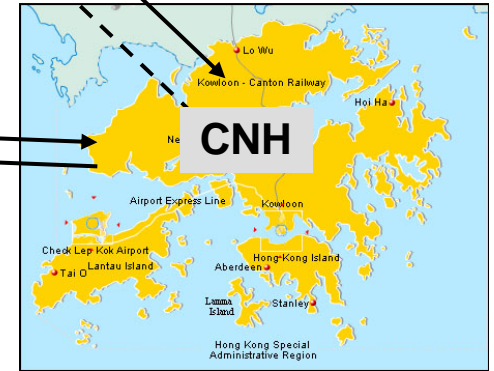
The Rise of the CNY Fixed Income Markets

Daily Volume in CNY Fixed Income Markets



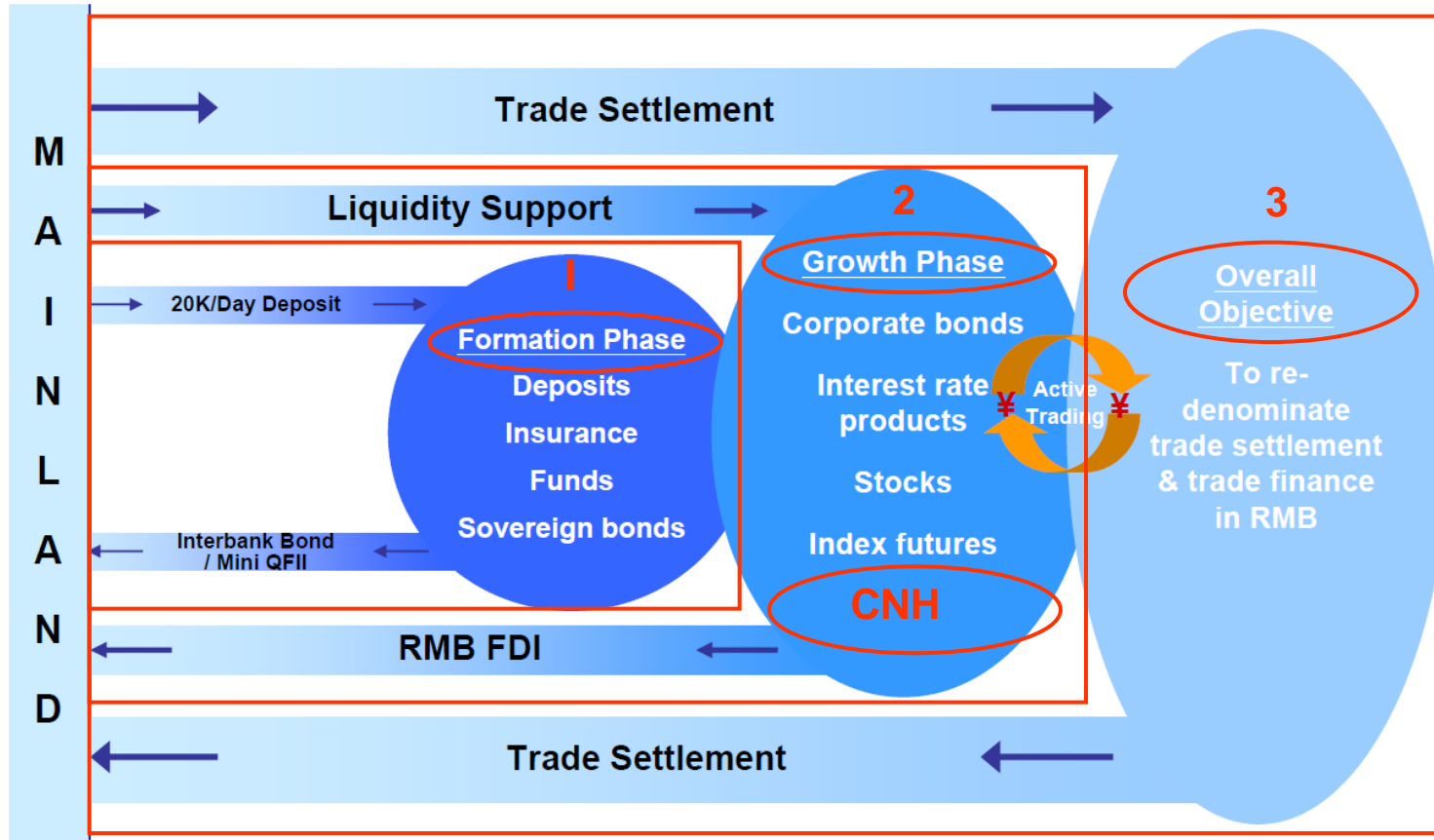
Source: CFETS, BIS, Morgan Stanley

CNH – An Offshore (HK), Deliverable RMB



CNH – A Step Towards Internalization of the CNY

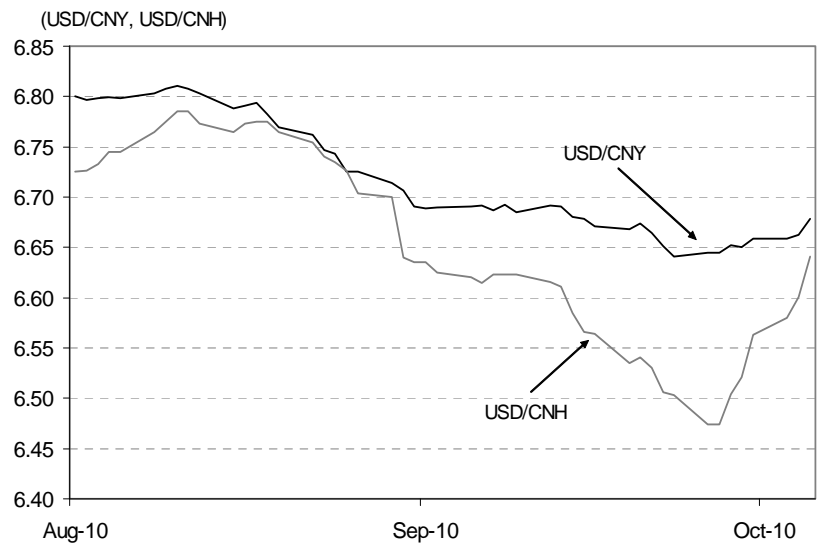
CNH in the Road Map for the Internalization of the CNY



Source: HKEX, Morgan Stanley

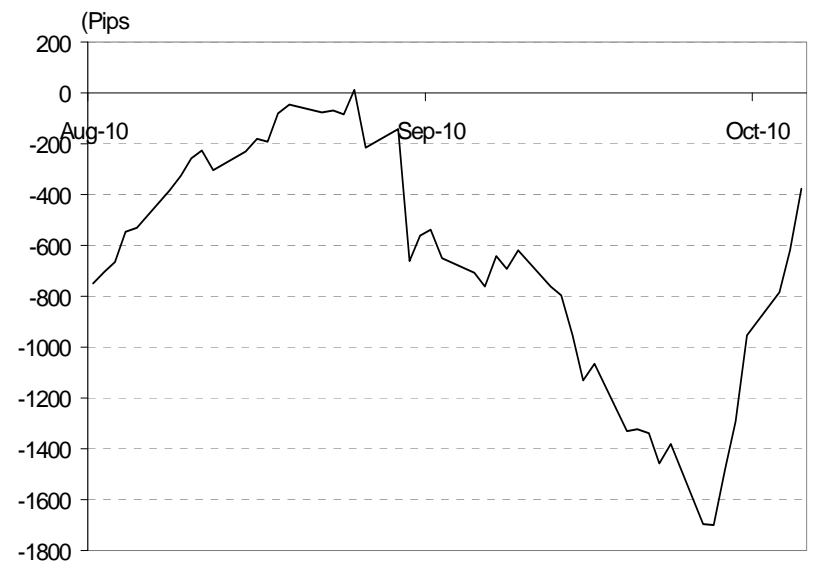
CNY versus CNH

USD/CNY versus USD/CNH



Source: Bloomberg, Morgan Stanley

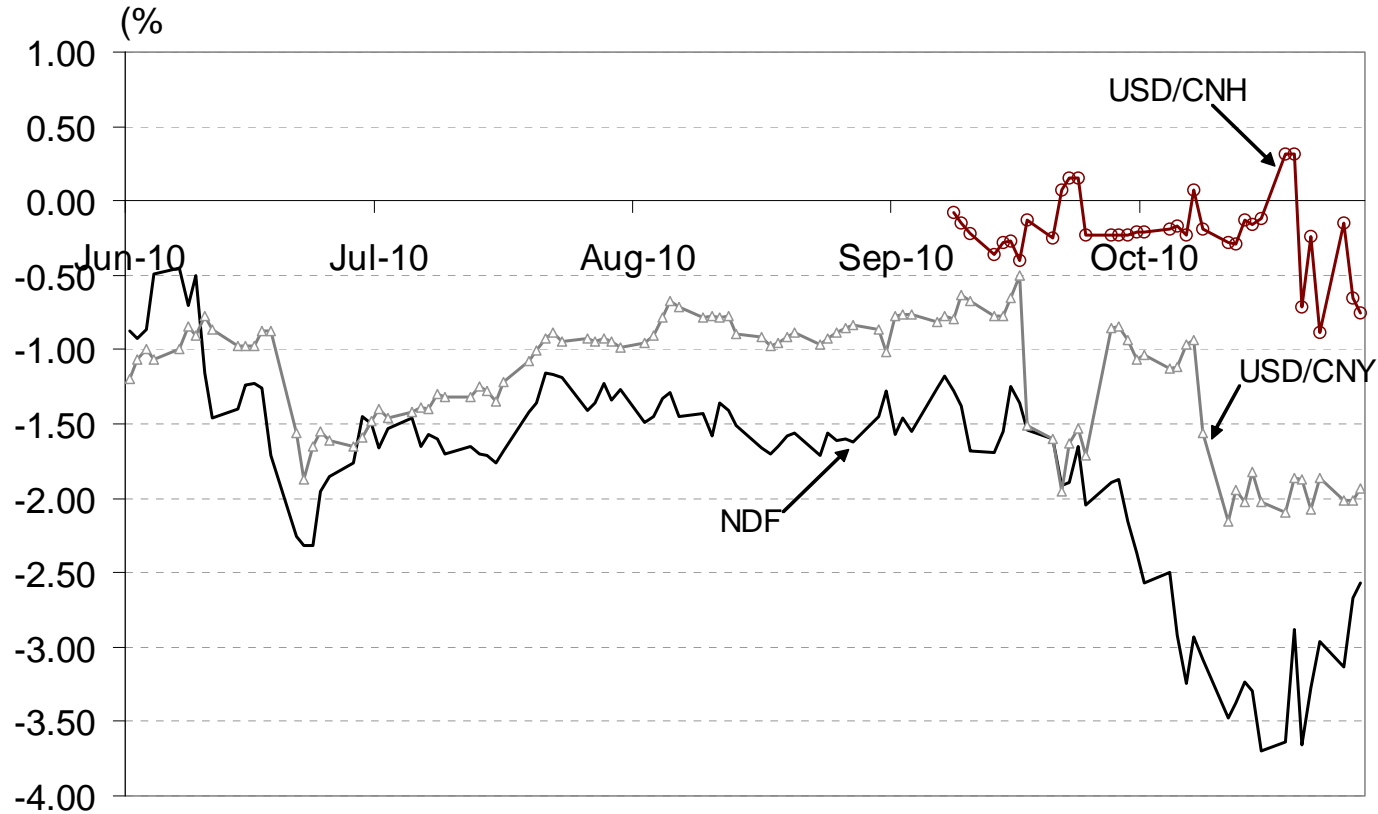
USD/CNY – USD/CNH Spread



Source: Morgan Stanley

Implied Yield on CNY, NDF and CNH

12M Implied Yield Of USD/CNY, USD/CNY (NDF), USD/CNH



Source: Bloomberg, Morgan Stanley

2. CNY Valuations – Is the RMB Cheap?

USD/CNY: Implied Distribution from FX Options

USD/CNY: Risk Neutral Probability

USD/CNY Probability Analyzer

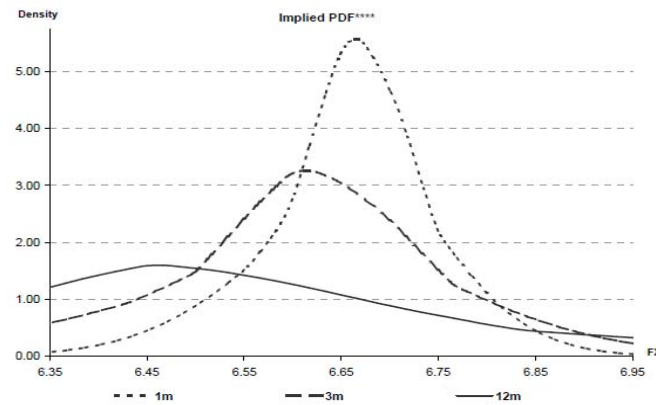
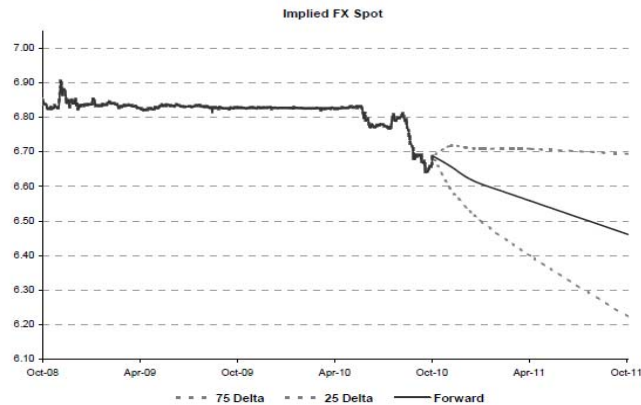
Currency As of Date	USDCNY 10/28/2010				
Spot	6.6874				
Quotes	01M	02M	03M	06M	01Y
ATM	4.55	4.55	4.55	4.70	5.10
25RR*	-0.50	-0.50	-0.50	-0.50	-0.50
25Bfy	0.20	0.20	0.20	0.25	0.30
r (domestic)**	-4.00%	-4.88%	-4.51%	-3.53%	-3.02%
r (FX)**	0.20%	0.20%	0.20%	0.32%	0.30%
Forward	6.66	6.63	6.61	6.56	6.48
25 Delta	6.72	6.71	6.71	6.71	6.69
75 Delta	6.50	6.54	6.50	6.40	6.22

Vol Overwrite	01M	02M	03M	06M	01Y
ATM					
25RR					
25Bfy					

Range Overwrite	
Lower Bound	Upper Bound

Morgan Stanley

Level	Breakthrough Probability***				
	1m	2m	3m	6m	12m
7.20	0.0%	0.0%	0.0%	0.0%	0.5%
7.15	0.0%	0.0%	0.1%	0.8%	3.1%
7.10	0.0%	0.0%	0.1%	1.3%	3.9%
7.05	0.0%	0.1%	0.3%	2.0%	5.0%
7.00	0.0%	0.3%	0.8%	3.1%	6.2%
6.95	0.1%	0.8%	1.6%	4.5%	7.7%
6.90	0.5%	1.9%	3.1%	6.5%	9.5%
6.85	1.9%	4.2%	5.7%	9.2%	11.5%
6.80	3.0%	8.3%	9.7%	12.8%	14.0%
6.75	13.7%	15.2%	15.7%	17.2%	17.2%
6.70	31.1%	27.3%	25.5%	23.6%	21.2%
6.65	42.3%	45.0%	39.2%	32.6%	26.1%
6.60	21.8%	35.9%	44.8%	43.1%	31.9%
6.55	11.7%	22.4%	30.6%	45.3%	38.7%
6.50	6.7%	14.4%	20.6%	34.6%	46.1%
6.45	2.5%	9.0%	14.5%	26.2%	40.0%
6.40	0.9%	5.3%	9.9%	20.2%	38.4%
6.35	0.3%	2.9%	6.5%	15.8%	31.8%
6.30	0.1%	1.5%	4.1%	12.3%	26.4%
6.25	0.0%	0.7%	2.4%	9.5%	22.0%
6.20	0.0%	0.3%	1.4%	7.2%	18.7%
6.15	0.0%	0.1%	0.7%	5.3%	15.0%
6.10	0.0%	0.0%	0.4%	3.8%	13.5%
6.05	0.0%	0.0%	0.2%	2.7%	11.4%
6.00	0.0%	0.0%	0.1%	1.8%	9.6%

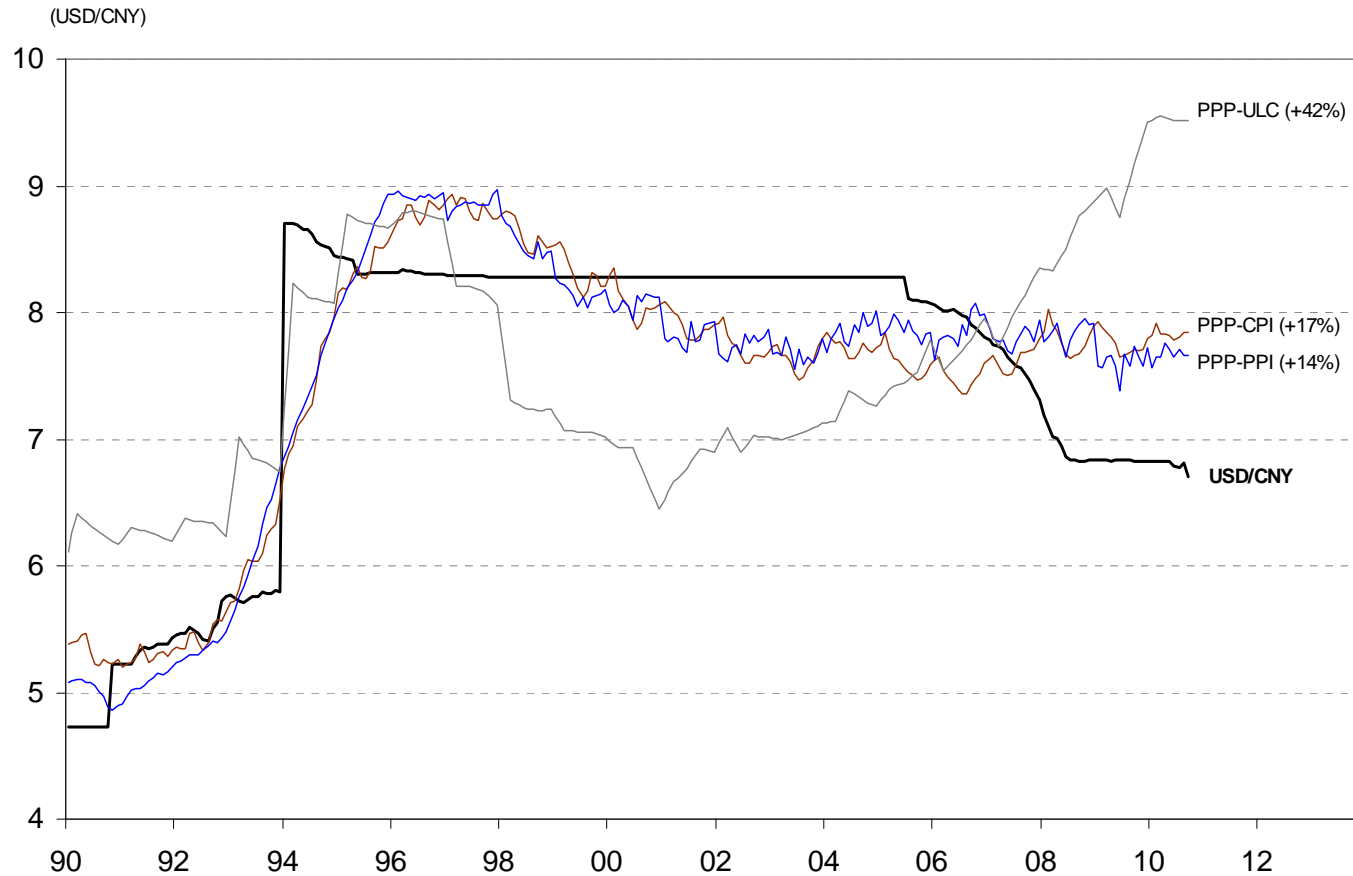


* A positive reading means favoring the foreign currency call over put.
 ** Represent the continuously compounded interest rate.
 *** Breakthrough probability is the (risk-neutral) probability of spot exceeding the specified level from the current ATM/F over a 1m, 2m, 3m, 6m and 12m time horizon.
 **** Probability Density Function

Source: Morgan Stanley

CNY Is Not Cheap on PPP Valuations

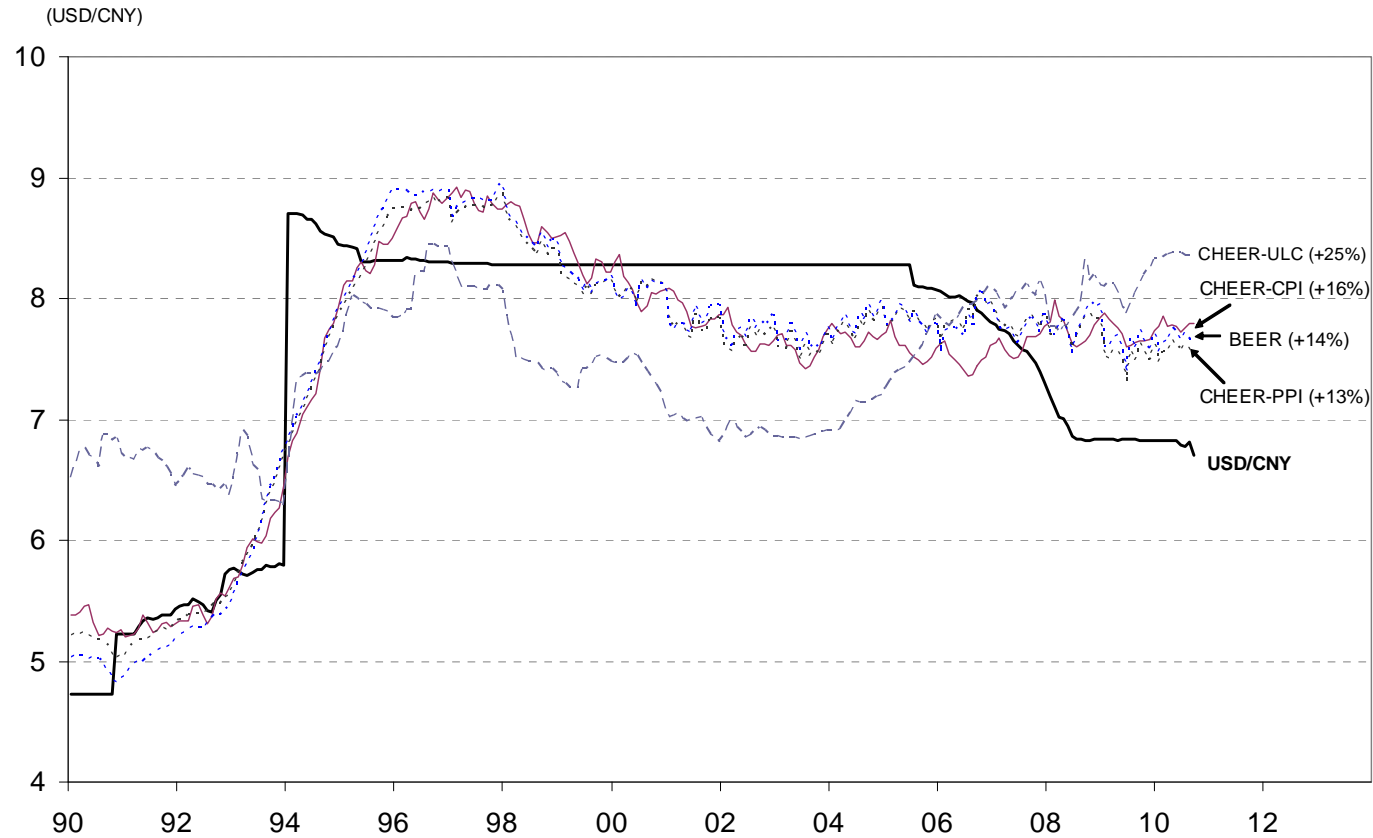
USD/CNY PPP Valuations



Source: Haver Analytics, Morgan Stanley

CNY Is Not Cheap on More Advanced Valuation Measures (CHEER, BEER)

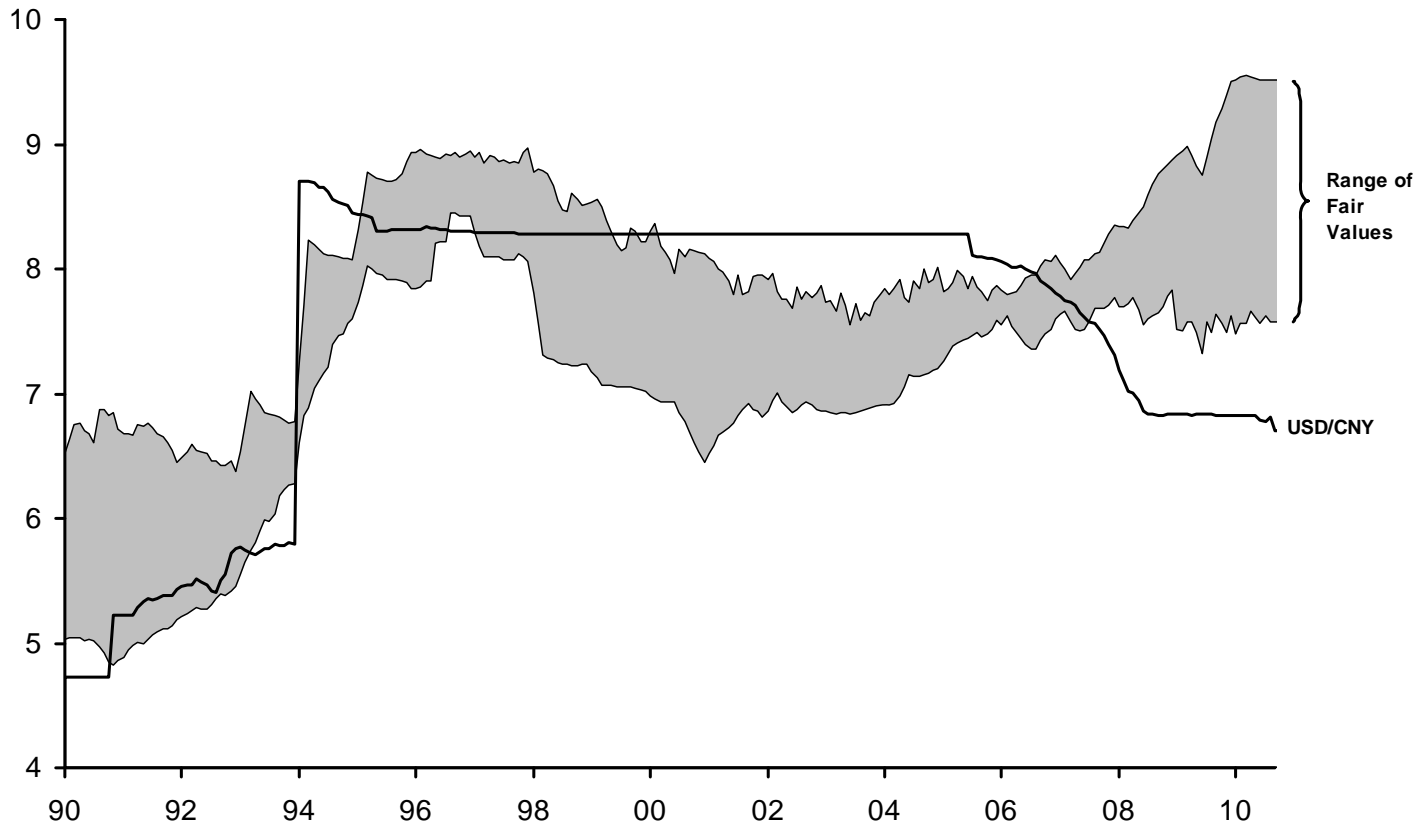
USD/CNY CHEER/BEER Valuations



Source: Haver Analytics, Morgan Stanley

CNY Is Out of the Fair Value Range

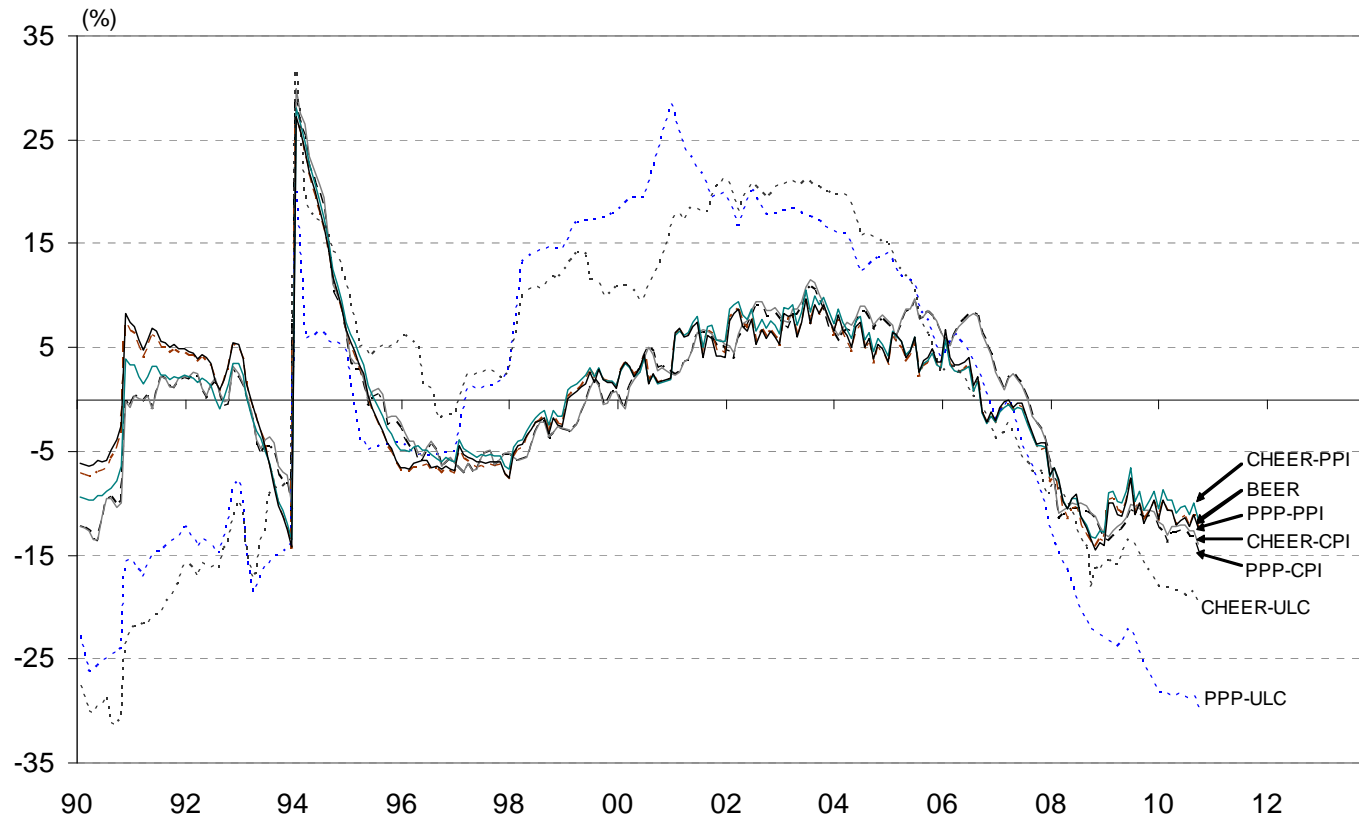
Range of USD/CNY Valuation Models vs. Spot



Source: Haver Analytics, Morgan Stanley

USD/CNY Deviations from Fair Value Range

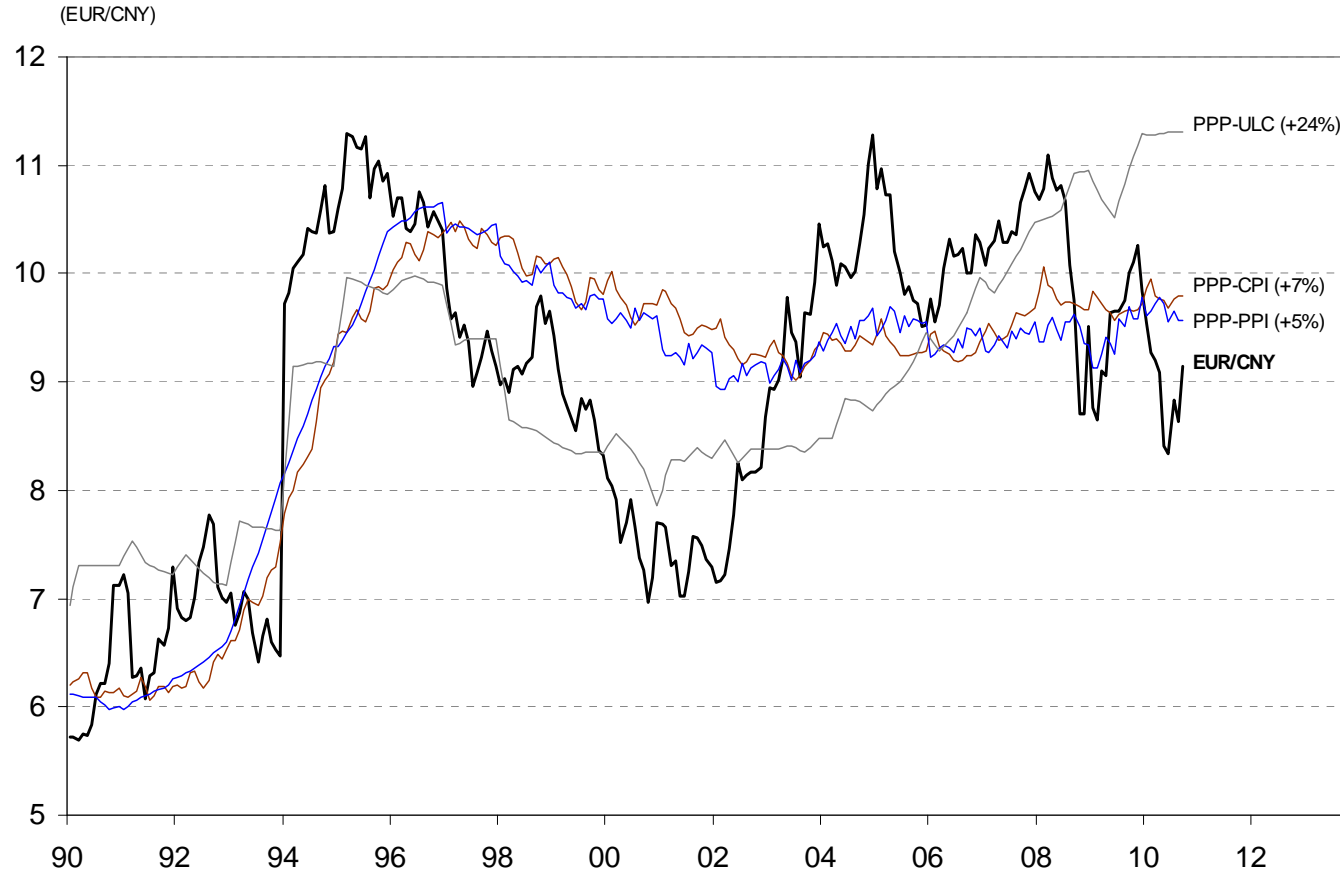
USD/CNY Deviation from Valuation Models



Source: Haver Analytics, Morgan Stanley

CNY Is Not Cheap Relative to EUR

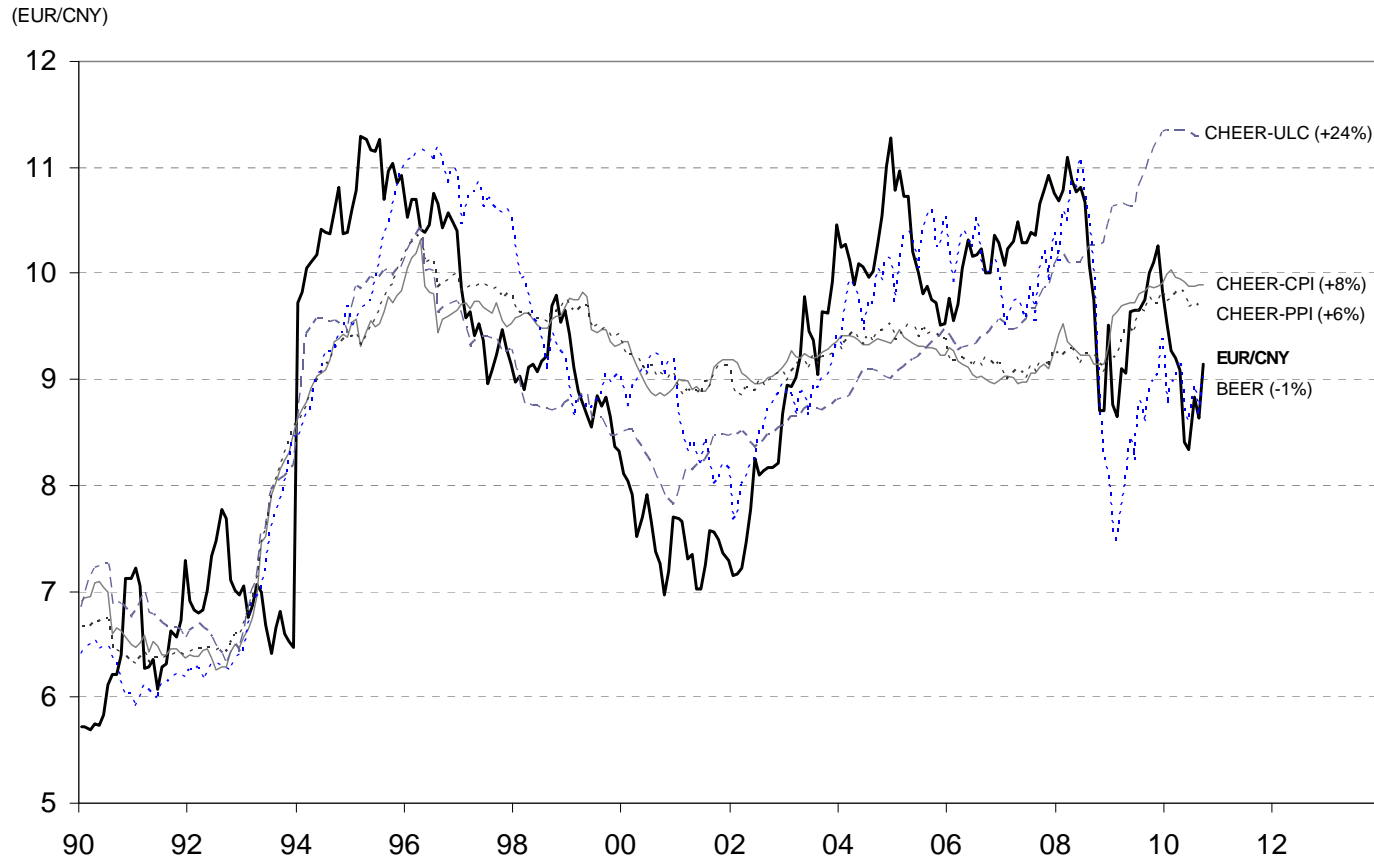
EUR/CNY PPP Valuations



Source: Haver Analytics, Morgan Stanley

EUR/CNY Relative to More Advanced Valuation Measures

EUR/CNY CHEER/BEER Valuations



Source: Haver Analytics, Morgan Stanley

EUR/CNY on Border of Fair Value Range

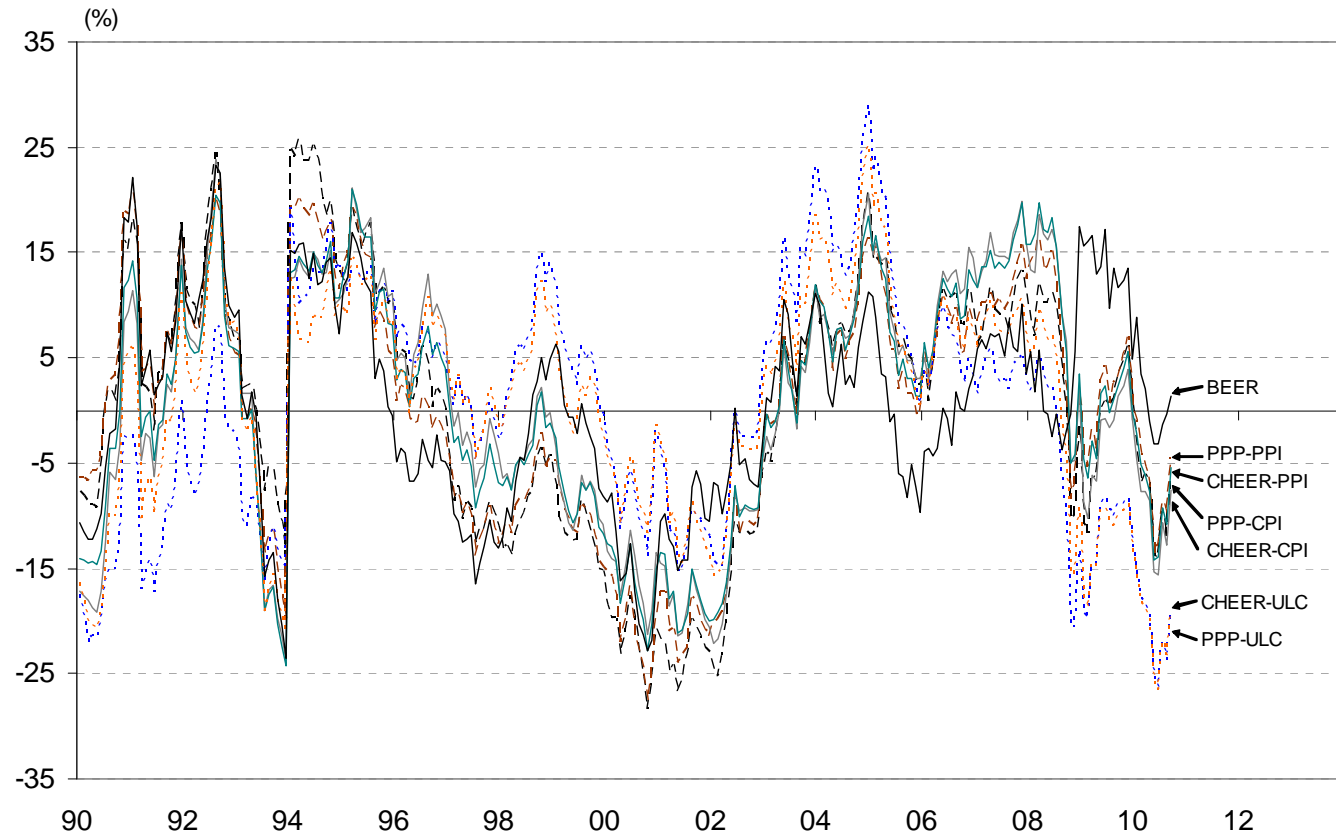
Range of EUR/CNY Valuation Models vs. Spot



Source: Haver Analytics, Morgan Stanley

EUR/CNY Deviations from Fair Value Range

EUR/CNY Deviation from Valuation Models



Source: Haver Analytics, Morgan Stanley

CNY at Fair Value on TWI Basis

CNY BEER-REER vs. REER



Source: Haver Analytics, Morgan Stanley

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wn102910

The Americas

1585 Broadway
New York, NY 10036-8293

United States

Tel: +1 (1)212 761 4000

Europe

20 Bank Street, Canary Wharf
London E14 4AD

United Kingdom

Tel: +44 (0)20 7425 8000

Japan

20-3, Ebisu 4-chome
Shibuya-ku,
Tokyo 150-6008, Japan

Tel: +81 (0)3 5424 5000

Asia/Pacific

1 Austin Road West
Kowloon

Hong Kong

Tel: +852 2848 5200