

Global

28 February 2013

Special Report

Exchange Rate

Perspectives

The Dollar is Back

How China Rebalancing, the Great Rotation to the US and

Abenomics Will Change the World

Research Team

Bilal Hafeez

Strategist

Deutsche Bank AG/London

DISCLOSURES AND ANALYST CERTIFICATIONS ARE LOCATED IN APPENDIX 1. MICA(P)
072/04/2012.

Foreign Exchange

Global Markets Research

Macro

28 February 2013 Exchange Rate Perspectives

Table of Contents

Currency

Forecasts -

..... -

..... 3

The Big Picture:

The Dollar Is

Back -

.....

5

Monitors:

G10 FX Valuation Monitor: Lines in the

sand -

..... 12

Capital Flows and Basic

Balances -

..... 18

Commodity Prices and

Currencies -

..... 28

U.S. Trade

Balance -

.....

33

Central Bank Reserves Currency Composition

Monitor -

..... 41

Page 2

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Currency Forecasts

Industrialized Countries

Spot

Currency Rate

US \$ Exchange Rates

U.S.

Euro

Japan

U.K.

US\$/Euro

(Fwd. Rates)

Yen/US\$

(Fwd. Rates)

US\$/£

(Fwd. Rates)

Canada C\$/US\$

(Fwd. Rates)

Australia US\$/A\$

N.Z.

(Fwd. Rates)

US\$/NZ\$

(Fwd. Rates)

Switzerland Sfr/US\$

(Fwd. Rates)

Euro Cross Rates

Japan

U.K.

Yen/Euro

(Fwd. Rates)

£/Euro

(Fwd. Rates)

Switzerland Sfr/Euro

(Fwd. Rates)

Norway Nkr/Euro

(Fwd. Rates)

Sweden Skr/Euro

(Fwd. Rates)

China

DB US\$ Index 69 69 71 73

--

-

1.31

1.30 1.25 1.20

- 1.31 1.31 1.31

92 96 98 100

92 92 92

-

1.51 1.49 1.45 1.41

- 1.51 1.51 1.51

1.03 0.98 0.98 1.00

- 1.03 1.03 1.03
1.02 1.04 1.02 1.00
- 1.01 1.01 0.99
0.82 0.83 0.82 0.80
- 0.82 0.81 0.80
0.93 0.96 1.00 1.04
- 0.93 0.93 0.93
120 125 123 120
- 120 120 120
0.87 0.87 0.86 0.85
- 0.87 0.87 0.87
1.22 1.25 1.25 1.25
- 1.22 1.22 1.22
7.48 7.30 7.20 7.10
- 7.51 7.54 7.61
8.45 8.20 8.10 8.00
- 8.47 8.49 8.54

Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts
Hungary

Indonesia IDR/USD 9,686 9,950 9,900 9,850
(Fwd. Rates)

Malaysia MYR/USD 3.10 3.07 3.05 3.02
(Fwd. Rates)

-
-
-
3.12 3.13 3.16

Philippines PHP/USD 40.7 40.4 39.9 39.3
(Fwd. Rates)

40.7 40.7 40.8

Singapore SGD/USD 1.24 1.21 1.21 1.20
(Fwd. Rates)

1.24 1.24 1.24

South Korea KRW/USD 1,085 1,075 1,050 1,040
(Fwd. Rates)

- 1,091 1,096 1,103

Taiwan TWD/USD 29.7 29.2 28.5 28.3
(Fwd. Rates)

-
-
29.6 29.5 29.3

Thailand THB/USD 29.8 30.0 30.0 30.0
(Fwd. Rates)

30.0 30.1 30.3

Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts
Emerging Europe

Spot

Currency Rate

Czech Rep. Koruna/Euro 25.6 25.0 24.5 23.8
(Fwd. Rates)

-

Koruna/US\$
 (Fwd. Rates)
 Forint/US\$
 (Fwd. Rates)
 Latin America
 Spot
 Currency Rate
 Argentina ARS/USD 5.04 5.18 5.50 6.10
 (Fwd. Rates)
 -
 Brazil
 Chile
 -
 -
 4.63 4.87 5.33
 BRL/USD 1.98 1.95 2.00 2.05
 (Fwd. Rates)
 CLP/USD 473 476 490 505
 (Fwd. Rates)
 480 485 495
 Colombia COP/USD 1,814 1,770 1,750 1,745
 (Fwd. Rates)
 - 1,828 1,840 1,867
 Mexico MXN/USD 12.8 12.7 12.6 12.2
 (Fwd. Rates)
 -

Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts

12.9 13.0 13.2
 2.00 2.03 2.08
 Russia
 Turkey
 3M 6M
 12M
 Poland
 Zloty/US\$
 (Fwd. Rates)
 Ruble/US\$
 (Fwd. Rates)
 Lira/US\$
 (Fwd. Rates)
 South Africa Rand/US\$
 (Fwd. Rates)
 -
 -
 -
 -
 -
 -
 -
 -
 Forint/Euro 296 280 280 280

(Fwd. Rates)

25.6 25.6 25.6
19.6 19.2 19.6 19.8
19.6 19.6 19.5
299 302 306
226 215 224 233
228 230 233

Zloty/Euro 4.16 4.06 3.96 3.80

(Fwd. Rates)

4.20 4.24 4.30
3.18 3.12 3.17 3.17
3.21 3.23 3.27
30.6 30.5 30.5 30.6
30.3 30.9 31.5
1.80 1.80 1.80 1.85
1.82 1.84 1.88
8.86 8.70 8.50 8.40
8.98 9.08 9.30

Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts

3M 6M

12M

- 9,753 9,863 10,101

Hong Kong HKD/USD 7.76 7.77 7.80 7.80

(Fwd. Rates)

-

India

-

7.75 7.75 7.75

INR/USD 53.7 53.5 53.2 51.5

(Fwd. Rates)

54.6 55.4 57.0

3M 6M

12M

Asia

Spot

Currency Rate

CNY/USD 6.23 6.25 6.20 6.12

(Fwd. Rates)

-

6.24 6.25 6.27

3M 6M

12M

Deutsche Bank AG/London

Page 3

28 February 2013 Exchange Rate Perspectives
G10 FX Forecasts: End of Quarter
Source: Deutsche Bank
Page 4
Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

The Dollar Is Back: How China
Rebalancing, The Great Rotation To US
and Abenomics Will Change The World

Bottom Line

Almost all currencies appeared to have peaked against the dollar, and the more recent rise in

USD/JPY suggest the broad dollar is embarking on a multi-year uptrend.

Superior US growth

should support the rotation from bonds to equities that will help the dollar. Abenomics shows

the scope central banks outside of the US have to weaken their currencies against the dollar.

China rebalancing away from investment provides a downside risk to the China-linked

currencies that have done so well since 2008. All these trends are intertwined and together

point to sustained dollar strength. In terms of forecasts, by 2015, we expect EUR/USD to

reach 1.10, USD/JPY 115 and AUD/USD 0.85. Most EM FX will weaken against the dollar. If

anything, we risk underestimating the extent of dollar strength in coming years.

Dating The Dollar

The dollar tends to follow long-term cycles lasting between 6 to 10 years. A combination of

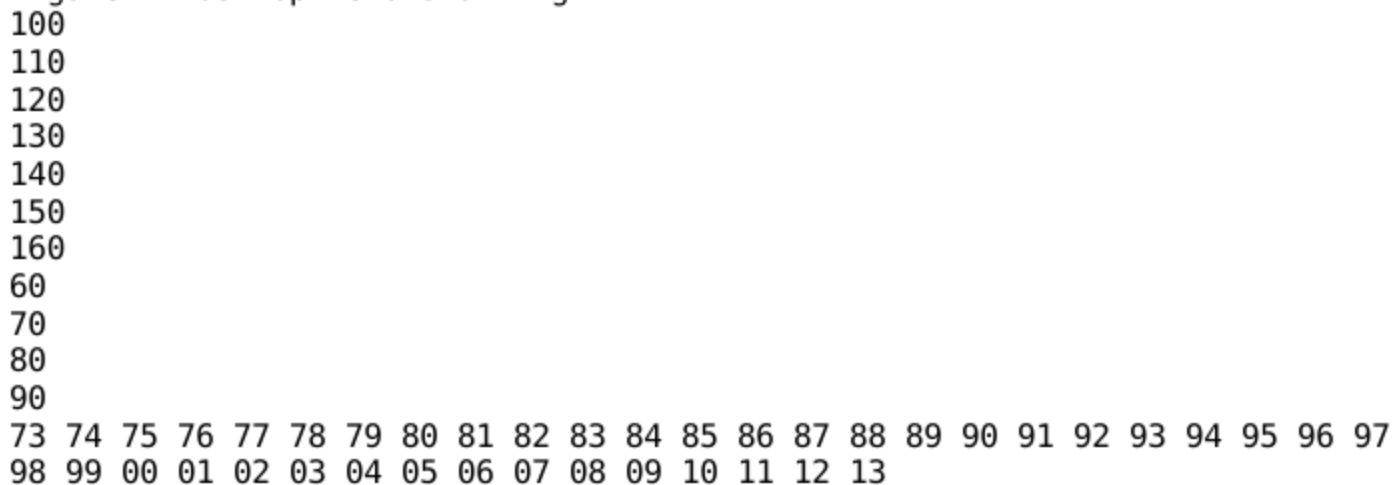
valuations extremes, current account imbalances, and turns in rate cycles and capital flows

tend to presage the switch from one multi-year trend to another. The latest clearly identifiable

trend for the dollar has been a downtrend that began in 2002 and likely ended in 2011 thus

lasting 9 years (see Figure 1). This is one year short of the longest trend in the post-Bretton

Figure 1: USD Uptrend Starting?



Source: Deutsche Bank, EcoWin, BIS.

Turning points

Real Broad Dollar

Nominal Dollar vs Majors

6yrs,

up 67%

6yrs,

down 18%

10yrs,

down 46%

7yrs,

up 43%

9yrs,

down 40%

(vs majors)

?

Deutsche Bank AG/London

Page 5

28 February 2013 Exchange Rate Perspectives

Figure 2: Currencies Have Trend Turn Against Dollar At Different Times

1978 USD TWI trough 1985 USD peak

First group

to turn

Second

group

Final group

AUD, NZD (Mar '75)

JPY, CHF, NOK, EUR

(45 months after 1st group)

GBP, SEK

(65m after 1st)

JPY (Nov '82)

EUR, CHF, GBP, SEK, NOK,

NZD (28m after 1st)

AUD, CAD

(40m after 1st)

1995 USD trough 2002 USD peak 2011 USD trough?

NZD* (Jun '88), AUD*

CAD, GBP, SEK, NOK

(45m after 1st)

EUR, JPY, CHF

(80m after 1st)

NZD, EUR, CHF, NOK

(Oct 2000)

AUD, GBP, SEK

(6m after 1st)

JPY, CAD

(15m after 1st)

* The trend turn in the AUD and NZD against the dollar around the 1995 turn could be dated at different points, I pick the earlier date

Source: Deutsche Bank, Bloomberg

Wood era, which had lasted 10 years (1985-1995). Looking at the dollar

against individual

currencies, we find that that dollar does not turn against all currencies at the same time. For

example, during the 1995 trend turn up in the dollar trade-weighted index, the dollar had

earlier turned up against the AUD and NZD, and then some years later turned up against

CAD, GBP, SEK, NOK and finally the dollar troughed last against the EUR, JPY and CHF in

1995 (see Figure 2). Interestingly since that period, the JPY has always been last currency to

peak or trough against the dollar.

If we broaden the universe of currencies to include emerging markets and we look at the

past few years, all currencies appear to have peaked against the dollar from a purely

mechanical perspective. That is, they are not currently traded at their

peaks. It would appear the first wave of currencies peaked against the dollar in 2008, which included the euro, while a second wave appear to have peaked in 2011 (see Figure 3). However, if we tighten our definition of currencies that have peaked to only count those that have not traded within 5% of their post-2002 highs over the past 3 months; we find that 70% of currencies have firmly peaked against the dollar. It would appear Asia-Pac FX is the group of currencies that has yet to clearly peak against the dollar. This group includes, the AUD, JPY, SGD and CNY (see Figure 4).

It is this group that will likely provide the most definitive sign that the broad dollar uptrend has started.

USD/JPY Rise Captures It All

While three months ago, the JPY was within 5% of its highs against the dollar, it has clearly and firmly moved much weaker since then. Now it is trading 15% away from its highs, and

most are confident that the USD/JPY trend has turned up.

Figure 3: Majority of G10+EM Currencies Appear To Have Peaked Against Dollar

proportion of currencies that have peaked against dollar

100%

10%

20%

30%

40%

50%

60%

70%

80%

90%

0%

02 03 04 05 06 07 08 09 10 11 12 13

Source: Deutsche Bank, EcoWin

Peak defined as high

between 2002 and

2013

Peak defined as high

of last 3m being at

least 5% lower than

previous high*

* Yet to peak with 5% rule:

CNY, THB, PHP, SGD, TWD,

MYR, NZD, AUD, JPY

Figure 4: Dollar Yet To Firmly Turn Up Against Asia-Pac

FX

100
110
40
50
60
70
80
90

Source: Deutsche Bank, Bloomberg

USD/CNY (rhs)

USD/JPY

(rebased, lhs)

USD/SGD

(rebased, lhs)

USD/AUD (rebased, lhs)

02 03 04 05 06 07 08 09 10 11 12 13

6.00

6.50

7.00

7.50

8.00

8.50

CAD, GBP (Nov '07)

EUR, SEK, NOK

(6m after 1st)

JPY, CHF, AUD, NZD

(45m after 1st)

Page 6

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 5: USD/JPY Broken Away From Rate Differentials

100
105
110
115
75
80
85
90
95
08
09

Source: Deutsche Bank, EcoWin

10
11
12
13
USD/JPY (lhs)
2y spread (bps,rhs)
200
100%
150
100
50
0
20%
40%
60%
80%
-100%
-80%
-60%
-40%
-20%
0%
75 78 81 84 87 90 93 96 99 02 05 08 11

Source: Deutsche Bank, Bloomberg

The significance of the USD/JPY turn higher should not be understated. It is perhaps the only currency pair that has captured all the major macro themes since the 2008: an aversion to crisis-prone regions, ultra-easy Fed policy, the Euro-area crisis, and the investment boom in China. All these have until recently been positive for the yen against the dollar, and indeed contributed to the all-time high seen in the yen. The fact that the yen has now so decisively turned lower suggests markets are entering a new regime. The notable shifts in market behaviour include the complete breakdown of the relationship

between relative interest rates and USD/JPY (see Figure 5) and the declining correlation between the dollar and equities, such that the dollar is no longer weakening in "risk-on" periods (see Figure 6).

On the macro side, 2011 marked the period when US growth more clearly established a lead over Euro-area growth (see Figure 7). Since then, US investors have reduced their buying of foreign equities (see Figure 8). This capital flow is perhaps the most important one to track the beginning of dollar uptrends (see Exchange Rate Perspectives, December 2012). The end of 2012 has likely seen the low in real US yields, which has trended down since 2008 (see Figures 9,10). This suggests the Fed is unlikely to do further easing measures. And even if it

Figure 7: US Growth Firmly Above Euro-Area's

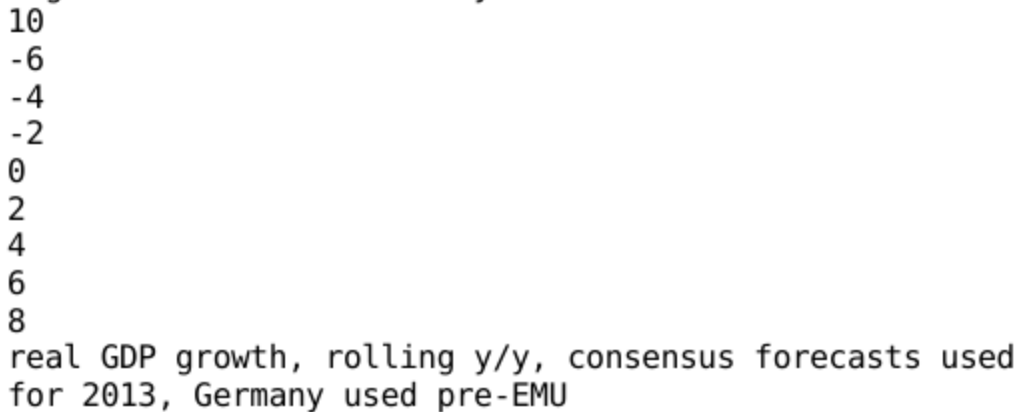
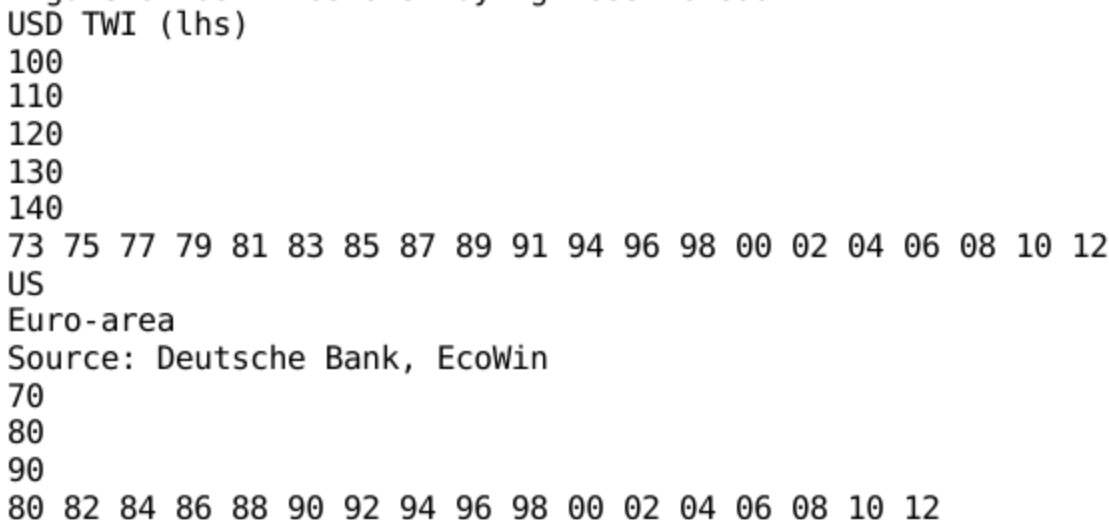


Figure 8: US Investors Buying Less Abroad



Source: Deutsche Bank, Bloomberg

US purchases of foreign equities (inverted, 24mms, % of GDP, rhs)

-0.5%
0.0%
0.5%
1.0%

1.5%

2.0%

Figure 6: Record Negative Correlation Between Dollar
and Stocks Reversing Suggests Regime Change

2y correlation between USD TWI and S&P500

using 1y rolling returns

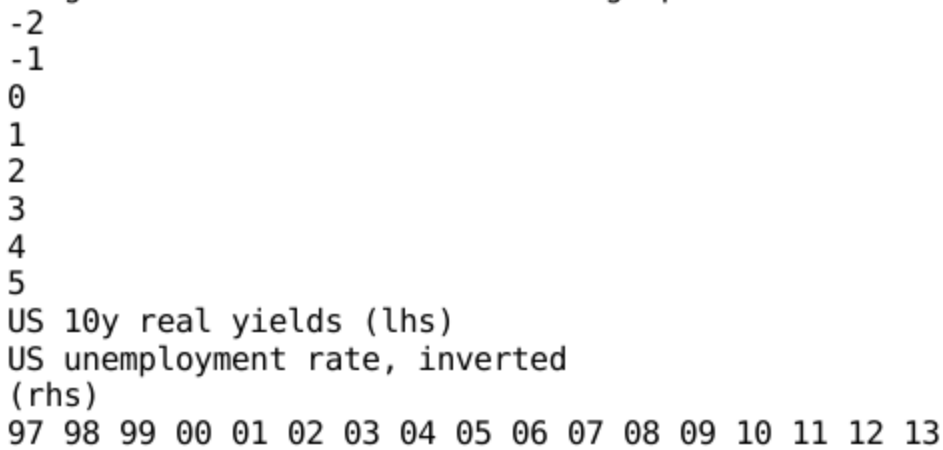
using levels

Deutsche Bank AG/London

Page 7

28 February 2013 Exchange Rate Perspectives

.Figure 9: US Real Yields Turning Up



Source: Deutsche Bank, EcoWin

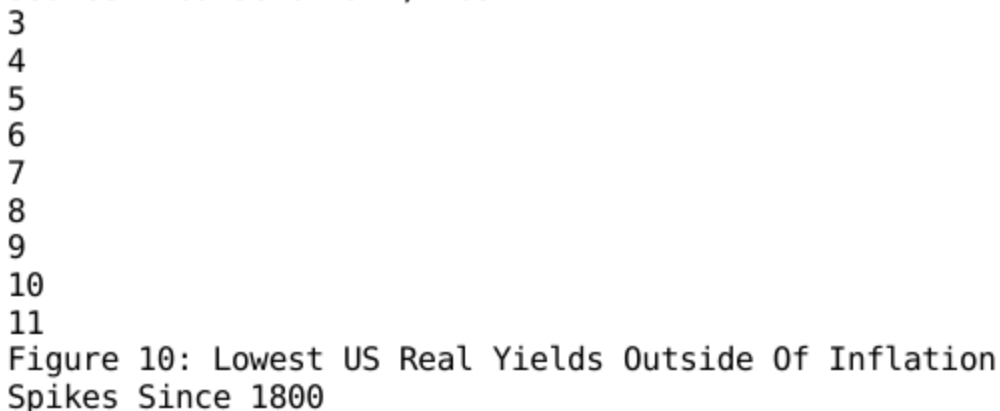


Figure 10: Lowest US Real Yields Outside Of Inflation Spikes Since 1800

Source: deutsche Bank, EcoWin

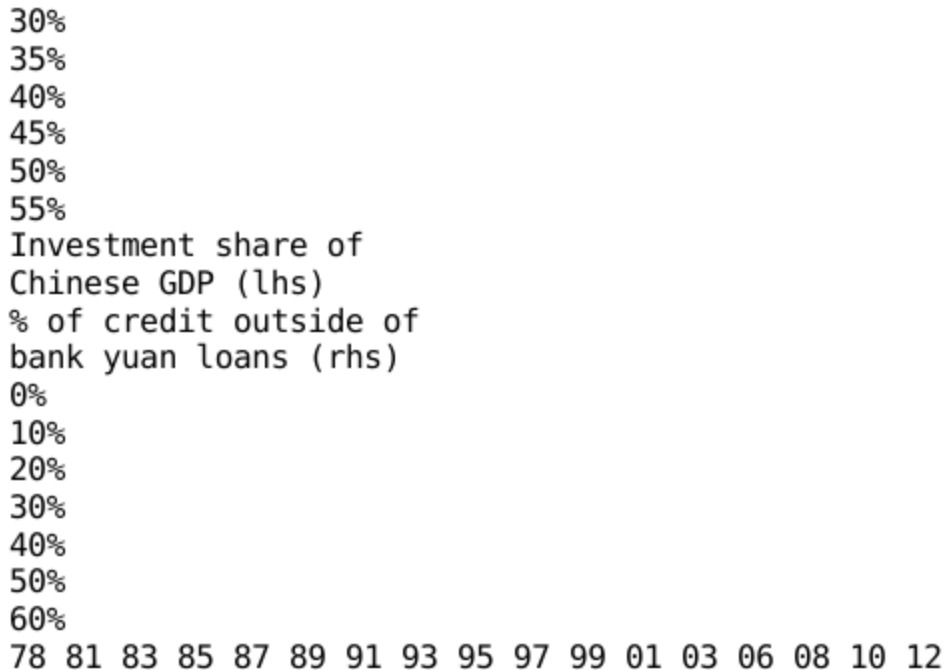
did, currency markets are no longer reacting as strongly to such measures. Instead, other central banks are catching up to Fed easing, such as the BoJ since Abe's election (or even earlier the SNB in 2011), are having a distinctly bigger a more negative impact on their currencies over the dollar. Finally, the introduction of the OMT by the ECB in the summer of 2012 has seen the tail risk for the Euro-area significantly reduced.

What Goes Up Must Come Down; The Link To China

A new market regime would imply that many of the trends since 2008 will likely reverse. Identifying those trends would also help answer the question of what would happen if the

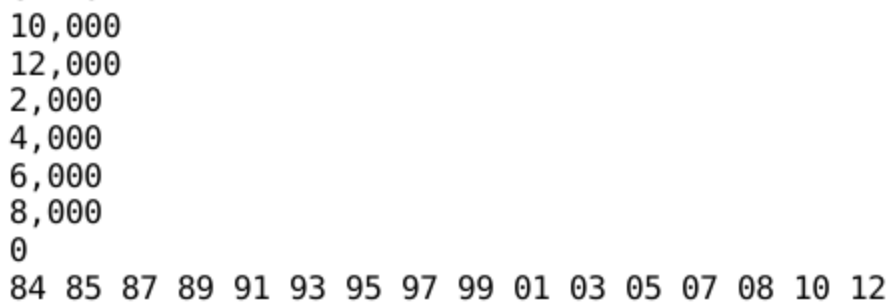
Fed exits QE, which has occupied market participants in recent months. At the core, two clear trends have been in play since 2008. First, ultra-easy monetary policy by the central banks of the crisis-hit economies in the developed world, notably the Fed and ECB. Second, emerging market growth outperformance, particularly China. Moreover, both trends are connected. Indeed, Fed easing has seen US real yields, and global liquidity increase, while Chinese growth outperformance has provided a destination for this

Figure 11: Surge in China Investment And NonConventional Credit



Source: Deutsche Bank, EcoWin

Figure 12: Cross-Border Banking Lending Going To China



Source: Deutsche Bank, BIS

foreign claims on borrowers from (\$bn):

Developing ex-China (lhs)

China (rhs)

100
200
300
400
500
600

700

800

0

Page 8

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives
Figure 13: Top Ten Change In Cross-Border Bank Lending

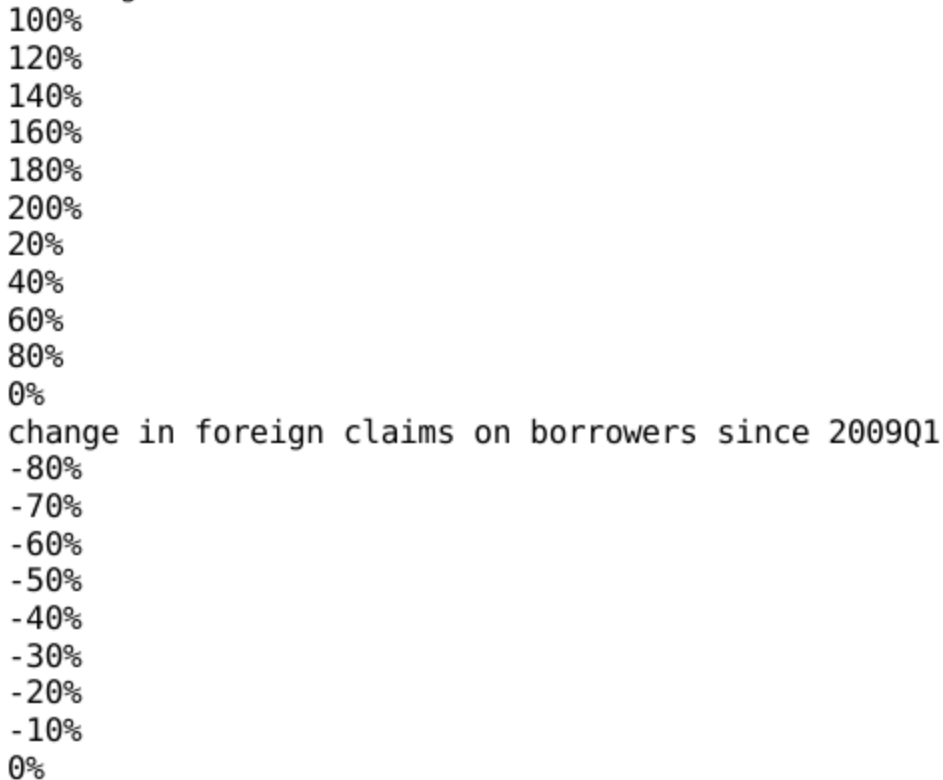


Figure 14: Bottom Ten Change In Cross-Border Lending
change in foreign claims on borrowers since 2009Q1

Source: Deutsche Bank, BIS, I exclude countries that do not have liquid currencies

Source: Deutsche Bank, BIS

excess liquidity. The investment rate in China has grown annually since 2008, and is currently the second highest in the world, after the tiny African island nation of Sao Tome and Principe.

This investment has been funded by non-traditional credit expansion (see Figure 11).

Moreover, when looking at cross-border bank lending since 2008, the most rapid growth in the world has been to Chinese borrowers (see Figure 12). After that, other Asian countries and Brazil have seen the biggest increase in borrowing (see Figure 13). The biggest drops

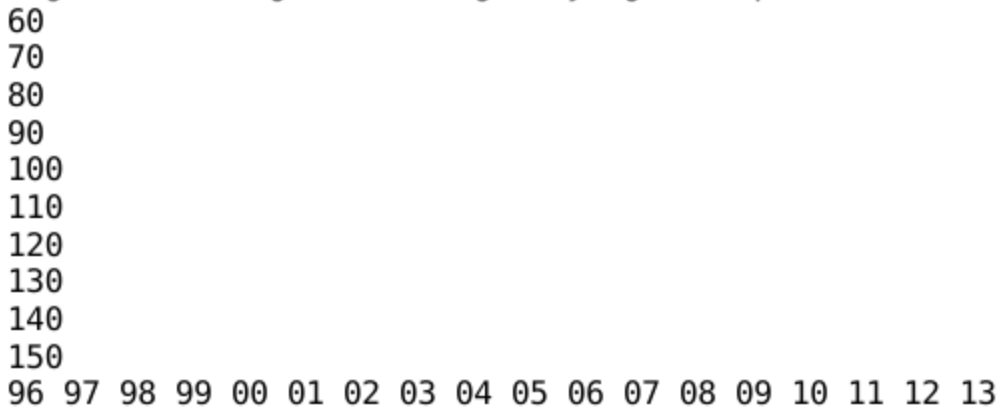
have been seen to European borrowers (see Figure 14). Other markets that have benefited from easy G3 liquidity and Chinese growth has been EM local bonds, "safe-haven" markets

such as Japan (see Figure 15) and property in prime locations around the world, like central London (see Figure 16).

A new market regime would therefore likely see a reversal of many of these trends or at the very least a moderation in their pace. From a currency perspective, it adds

to the case that Asia-Pac currencies, such as SGD and AUD, have likely seen their peak against the dollar, with risks skewed to the downside.

Figure 15: Surge In Foreign Buying Of Japanese Funds



Source: Deutsche Bank, EcoWin

USD/JPY (inverted, lhs)

Money market fund inflows (JPY

tril, cumulative, rhs)

10
20
30
40
50
60
-20
-10
0

Figure 16: Prime London Has Benefited From Post-2008

Regime

£1,000,000
£1,500,000
£2,000,000
£2,500,000
£3,000,000
£3,500,000
£4,000,000
£4,500,000
£500,000
£0

95 96 97 98 99 00 01 02 03 04 05 06 08 09 10 11 12

Source: Deutsche Bank, UK Land Registry

average price of detached house in prime London (Kensington and Chelsea)

Deutsche Bank AG/London

Page 9

Norway

Netherlands

France

Austria

Hungary
Portugal
Italy
Ireland
Spain
Greece
China
Indonesia
Thailand
Brazil
Taiwan
Malaysia
Philippines
Hong Kong
India
Singapore

28 February 2013 Exchange Rate Perspectives

Figure 17: BoJ Balance Sheet Yet To Grow As Fast As Fed Or ECB

10%
15%
20%
25%
30%
35%
0%
5%

00 02 04 06 08 10 12

Source: Deutsche Bank, EcoWin

Source: Deutsche Bank, EcoWin

CNY, EUR, JPY and the rest: Where Next?

The case for yen weakness is straightforward. We expect central bank balance sheet as share of GDP

Figure 18: Japan's Narrow Basic Balance of Payments

Very Negative

BoJ
ECB
Fed

"Abenomics" to see a more

aggressive BoJ, perhaps using the 1930s as a template for recovery, when currency

weakness was a clear support (see FX Strategy Weekly, 15 February, 2013). It should be noted

that the BoJ has yet to expand its balance sheet as much as the Fed or the ECB since 2008

(see Figure 17). The Bank of England also appears to be itching to ease policy in part to

weaken the pound, perhaps in response to Abenomics. Outside of BoJ policy, the narrow

basic balance of payments (current account + FDI) points to clear yen weakness (see Figure

18). The surge in money market funds inflows should also reverse (see chart). We expect

USD/JPY to eventually rise to 115 by 2015 (and 100 by year-end and 110 by end-2014). These

are higher than our previous forecasts.

The negative growth gap with the US, similar interest rates (see Figure 19) and US investors

buying less equities abroad should weigh on the euro. The ECB is unlikely to hike with Euroarea

growth close to 0% and with BoJ and BoE actions leading to currency weakness. And of

course, there are ongoing and well-known issues around the Euro-area crisis. We look for the

euro to eventually head to 1.10 by 2015 (and 1.20 by year-end and 1.15 by end-2014).

Figure 19: US/Euro Rate Spreads Sideways

-1.05
-0.55
-0.05
0.45
0.95
1.45

Source: Deutsche Bank, EcoWin
Detrended USD vs EUR(pre-99 DEM, lhs)
2y rate diff (rhs)

-6
-4
-2
0
2
4
6
8
73 76 79 82 85 88 91 94 97 00 03 06 09 12

Figure 20: CNY Under- and Over-Valued

10
20
30
-40
-30
-20
-10
0

CNY overvaluation based on FEER (black) and BEER (grey)
CNY overvalued

96 97 98 98 99 00 01 02 03 04 05 06 07 08 09 09 10 11 12
to return to 10y ave of current account (FEER)

PPP adjusted for productivity and terms of trade (BEER)
Source: Deutsche Bank

Page 10

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 21: Almost All FX Weaken When Dollar Strengthens.

levels correlation of currency against narrow dollar trade-weighted index

100%
25%
50%
75%
-75%
-50%
-25%
0%

Source: Deutsche Bank, EcoWin,

We only expect modest CNY appreciation against the dollar. One measure of valuation points

to only modest undervaluation (see Figure 20). Moreover, the decline in China's current

account has been quite sharp. If China wishes to see a return of the current account balance

back to its recent average, then the CNY would have to weaken (see Figure 20).

Importantly, we expect the China-linked currencies such as AUD to weaken to 0.85 by 2015

(and 1.00 by year-end, 0.90 by end-2014). The risks around switching from an investment-led

growth model to a consumption-base model, that is, China rebalancing, suggests the risks for

these currencies are to the downside.

Other currencies should broadly follow the dollar. Indeed, past correlations suggest that most

EM currencies follow the narrow dollar trend (see Figure 21). The main exception is the

Mexican peso which has tended to strengthen with dollar strength. Some of the high-yielding


currencies such as TRY, INR, IDR and RUB have tended not to see their spot move with the

dollar trend.

Through all of these individual currency forecasts, the most important point is that the 9-10

years of dollar weakness is now behind us, and the beginning of a multi-year uptrend is

unfolding.

Bilal Hafeez, London, 

1995-2011

2002-2011

G10

Asia

EMEA

Latam

EUR JPY GBP CHF SEK NOK AUD NZD CAD PLN CZK HUF RUB TRY ZAR ILS MXN BRL CLP
COP PEN KRW TWD SGD HKD CNY INR IDR PHP THB MYR

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives
FX Valuation Monitor: Lines in the Sand (PPP)*
Figure 1: The euro is expensive and the dollar
cheap

10
20
30
40
-20
-10
0
34.8533.29
21.65
15.7815.69
11.9
6.60
1.50
AUD NZD CHF CAD NOK EUR GBP SEK JPY USD
-3.24
-10.10

Source: DB FX Research

Figure 3: EUR/USD: The euro is expensive though
remains within the 20% threshold ...

0.6
0.8
1.0
1.2
1.4
1.6
Source: DB FX Research
EUR/USD
PPP EUR/USD
20% Band
0.6
0.8
1.0
1.2
1.4
1.6
73 77 81 85 89 93 97 01 05 09 13

60
70
80
90

Source: DB FX Research

Figure 4: USD/JPY: ...The yen is expensive

100
150
200
250
300

350
50
73 77 81 85 89 93 97 01 05 09 13
Source: DB FX Research
Figure 5: USD/GBP: as well as sterling ...

0.25
0.35
0.45
0.55
0.65
0.75
0.85
0.95

Source: DB FX Research

20% Band

USD/GBP

PPP USD/GBP

73 77 81 85 89 93 97 01 05 09 13

0.25
0.35
0.45
0.55
0.65
0.75
0.85
0.95

Figure 6: USD/CHF: CHF is expensive

0.8
1.3
1.8
2.3
2.8
3.3
3.8

Source: DB FX Research

*Our measure of relative PPP is calculated using long-term averages from Jan-80 to Dec-04 and deflating by monthly CPI differentials. We refer to current spot rates as "cheap" or "expensive" with explicit reference to this measure of fair valuation; these statements are not intended in any way to be "buy" or "sell" recommendations.

20% Band

USD/CHF

PPP USD/CHF

0.7
1.2
1.7
2.2
2.7
3.2
3.7

73 77 81 85 89 93 97 01 05 09 13

20% Band

USD/JPY

PPP USD/JPY

50

100

150

200

250

300

350

Figure 2: The dollar is 12% cheap to fair value

100

110

120

130

USDTWI

PPP USDTWI

20% Band

60

70

80

90

100

110

120

130

Page 12

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives
Figure 7: USD/CAD: CAD overvaluation is being unwound

0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7
Source: DB FX Research
20% Band
USD/CAD
PPP USD/CAD
73 77 81 85 89 93 97 01 05 09 13

0.9
1.0
1.1
1.2
1.3
1.4
1.5
1.6
1.7

Figure 8: USD/AUD: AUD is very expensive, beyond 20% threshold...

0.6
0.9
1.2
1.5
1.8
2.1
Source: DB FX Research
USD/AUD
20% Band
PPP USD/AUD
73 77 81 85 89 93 97 01 05 09 13

0.6
0.9
1.2
1.5
1.8
2.1

Figure 9: USD/NZD: ...and so is NZD

Figure 10: EUR/JPY: The euro is close to fair value against the yen

0.5
1.0
1.5

2.0
2.5
3.0
Source: DB FX Research
USD/NZD
20% Band
PPP USD/NZD
73 77 81 85 89 93 97 01 05 09 13

0.5
1.0
1.5
2.0
2.5
3.0
100
150
200
250
300
350
400
450
50
73 77 81 85 89 93 97 01 05 09 13

Source: DB FX Research
EUR/JPY
20% Band
PPP EUR/JPY
50
100
150
200
250
300
350
400
450

Figure 11: EUR/GBP: Sterling is cheap against the euro

0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
Source: DB FX Research
EUR/GBP
20% Band
PPP EUR/GBP

73 77 81 85 89 93 97 01 05 09 13

0.3

0.4

0.5

0.6

0.7

0.8

0.9

1.0

Figure 12: EUR/SEK: SEK is very cheap versus the euro

10

11

12

4

5

6

7

8

9

Source: DB FX Research

10

11

12

EUR/SEK

20% Band

PPP EUR/SEK

73 77 81 85 89 93 97 01 05 09 13

4

5

6

7

8

9

Deutsche Bank AG/London

Page 13

28 February 2013 Exchange Rate Perspectives

FX Behavioral and Fundamental Equilibrium Exchange Rates (BEER and FEER)*

Figure 1: USD-cross BEER and FEER valuations

Source: DB FX Research

Figure 2: EUR/USD is a bit expensive vs. BEER FV

Figure 3: USD/JPY is now fair value vs. BEER FV

Source: DB FX Research

Source: DB FX Research

Figure 5: USD BIS TWI is a bit cheap vs. BEER FV

Figure 4: GBP/USD is very undervalued vs. BEER FV

Source: DB FX Research

Source: DB FX Research

*Sources: BIS, Bloomberg, Deutsche Bank. Notes: For details on model, see Exchange Rate Perspectives, Jan-13.

BEER model is relative PPP adjusted for terms-of-trade and productivity effects. Relative FEER model is based on

current account surpluses/deficits relative to long-term (structural) surpluses/deficits. Over/undervaluation

calculated off TWIs and converted to USD-crosses using matrix algebra. EM graphs available upon request.

Page 14

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 6: USD/CAD is cheap vs. BEER FV

Figure 7: AUD/USD is quite expensive vs. BEER FV

Source: DB FX Research

Source: DB FX Research

Figure 8: NZD/USD is very expensive vs. BEER FV

Figure 9: USD/CHF is quite cheap vs. BEER FV

Source: DB FX Research

Source: DB FX Research

Figure 10: USD/NOK is a bit expensive vs. BEER FV

Figure 11: USD/SEK is expensive vs. BEER FV

Source: DB FX Research

Source: DB FX Research

Deutsche Bank AG/London

Page 15

28 February 2013 Exchange Rate Perspectives

Figure 12: EUR/USD is cheap vs. FEER FV

Figure 13: USD/JPY is very cheap vs. FEER FV

Source: DB FX Research

Source: DB FX Research

Figure 14: GBP/USD is expensive vs. FEER FV

Figure 15: USD BIS TWI is a bit cheap vs. FEER FV

Source: DB FX Research

Source: DB FX Research

Figure 16: USD/CAD is quite cheap vs. FEER FV

Figure 17: AUD/USD is fair value vs. FEER FV

Source: DB FX Research

Source: DB FX Research

Page 16

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 18: NZD/USD is a bit expensive vs. FEER FV

Figure 19: USD/CHF is fair value vs. FEER FV

Source: DB FX Research

Source: DB FX Research

Figure 20: USD/NOK is expensive vs. FEER FV

Figure 21: USD/SEK is fair value vs. FEER FV

Source: DB FX Research

Source: DB FX Research

Deutsche Bank AG/London

Page 17

28 February 2013 Exchange Rate Perspectives

G10 Capital Flows and Basic Balance Monitor

United States (USD bn)

Figure 1: The basic balance is on a recovery path over the last one year

Figure 2: as non treasury portfolio outflows have remain positive

Source: DB FX Research and US Treasury

Source: DB FX Research and US Treasury

Figure 3: The private basis balance has been diverging from the overall balance

Figure 4: as official inflows become significant

Source: DB FX Research and US Treasury

Source: DB FX Research and US Treasury

Figure 5: Official inflows inversely correlated with private inflows since the late 1990s

Figure 6: Relative to the private basic balance, the dollar is expensive

Source: DB FX Research and Haver

Source: DB FX Research and US Treasury

Page 18

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 7: Net FDI outflows accelerate

Figure 8: Portfolio flows were driven mostly by net bond flows, while net equity flows remain modest

Source: DB FX Research and US Treasury

Source: DB FX Research and US Treasury

Figure 9: Official sector buying of US bonds are now almost equal to private buying

Figure 10: Treasury purchase by private sector has fallen substantially

Source: DB FX Research and US Treasury

Source: DB FX Research and US Treasury

Figure 11: No clear relationship between USD TWI and UST purchases

Figure 12: Net equity flows remain positive

Source: DB FX Research and US Treasury

Source: DB FX Research and US Treasury

Deutsche Bank AG/London

Page 19

28 February 2013 Exchange Rate Perspectives

Figure 13: Equity flows tend to respond with a lag to market performance

Figure 14: The dollar is increasingly following net equity flows

Source: Deutsche Bank, US Treasury and Bloomberg Finance LP

Source: Deutsche Bank, US Treasury and Bloomberg Finance LP

Figure 15: Generally inverse link between foreign interest in USTs versus US equities

Figure 16: The dollar and agency & corp bond inflows

Source: Deutsche Bank and US Treasury

Source: Deutsche Bank, US Treasury and Bloomberg Finance LP

Page 20

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Canada (CAD bn)

Figure 1: The basic balance has generally been in a
downtrend since 2007

Figure 2: as net FDI outflows continue

Source: DB FX Research and Haver

Source: DB FX Research and Haver

Figure 3: Portfolio inflows seem to have peaked after
an upsurge since 2008

Figure 4: as foreign interest in Canadian securities has
fallen from record highs

Source: DB FX Research and Haver

Source: DB FX Research and Haver

Figure 5: Net equity outflows continue unabated

Figure 6: .while net debt inflows have started
moderating from record highs.

Source: DB FX Research and Haver

Source: DB FX Research and Haver

Deutsche Bank AG/London

Page 21

28 February 2013 Exchange Rate Perspectives

Japan (JPY trillion)

Figure 1: The negative basic balance has been accelerating recently...

Figure 2: ...as net FDI outflows gather momentum

Source: DB FX Research, MOF, and Haver

Source: DB FX Research and MOF

Figure 3: Net capital inflows have turned negative

Figure 4: Net bond outflows have accelerated

Source: DB FX Research and MOF

Source: DB FX Research and MOF

Figure 5: Net equity flows have turned positive

Figure 6: While Net money-market inflows have fallen substantially

Source: DB FX Research and MOF

Source: DB FX Research and MOF

Page 22

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

United Kingdom (GBP bn)

Figure 1: The basic balance remains negative

Figure 2: Net FDI inflows have turned course

Source: DB FX Research and Haver

Source: DB FX Research and Haver

Figure 3: Portfolio flows remain negative

Figure 4: Net equity and net debt positions

Source: DB FX Research and BoE

Source: DB FX Research and Haver

Figure 5: Net holdings of equities

Figure 6: Net debt holdings

Source: DB FX Research and BoE

Source: DB FX Research and BoE

Deutsche Bank AG/London

Page 23

28 February 2013 Exchange Rate Perspectives

Euro area (EUR bn)

Figure 1: The basic balance has turned positive...

Figure 2: ...as current account surplus outweigh the net FDI outflows

Source: DB FX Research and Eurostat

Source: DB FX Research and Eurostat

Figure 3: EUR/USD strongly correlated (0.88) with bilateral basic balance with the US

Figure 4: Bilateral basic balance explains 84% of EUR/USD movements since inception of the euro

Source: DB FX Research and Eurostat

Source: DB FX Research and Eurostat

Figure 5: The bilateral basic balance with the US has moved in favor of the US recently...

Figure 6: ...as US purchases of euro area bonds have continued to be replaced by sales

Source: Deutsche Bank and US Treasury

Source: DB FX Research and Eurostat

Page 24

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 7: Net portfolio inflows have turned marginally positive...

Figure 8: ...as equity market inflows outpace the money market outflows

Source: Deutsche Bank and European Central Bank

Source: Deutsche Bank and European Central Bank

Figure 9: Equity inflows have tracked the STOXX

Figure 10: Foreign interest on the bond side boomed in late 2006 and has slowed now

Source: Deutsche Bank, Bloomberg and European Central Bank

Source: Deutsche Bank and European Central Bank

Deutsche Bank AG/London

Page 25

28 February 2013 Exchange Rate Perspectives

Australia (AUD bn)

Figure 1: The basic balance remains positive...

Figure 2: ...as net FDI inflows continue to climb

Source: DB FX Research and RBA

Source: DB FX Research and RBA

Figure 3: Net Portfolio flows have been falling since 2010

Figure 4: Foreign investors have favored Australian debt (negative IIP a liability for AU)...

Source: DB FX Research and RBA

Source: DB FX Research and RBA

Figure 5: ...and to a lesser extent equities...

Figure 6: ...with relatively modest purchases by Australians of foreign debt

Source: DB FX Research and RBA

Source: DB FX Research and RBA

Page 26

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

New Zealand (NZD bn)

Figure 1: The basic balance

Figure 2: FDI flows

Source: DB FX Research and Haver

Source: DB FX Research and Haver

Figure 3: Net Portfolio inflows have switched to negative territory

Figure 4: Foreign appetite for government bonds

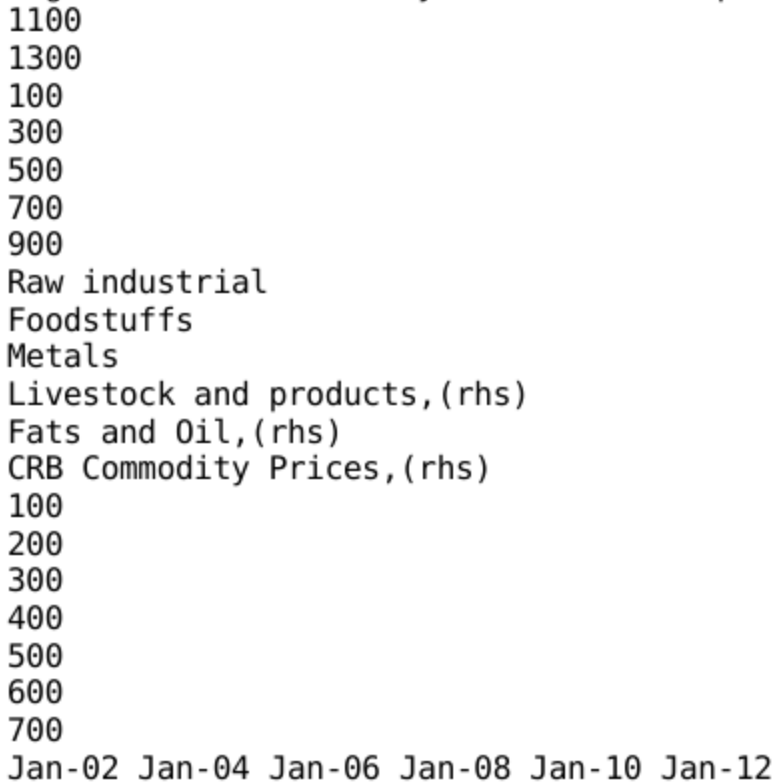
Source: DB FX Research and Haver

Source: DB FX Research and NZ FinMin

Deutsche Bank AG/London

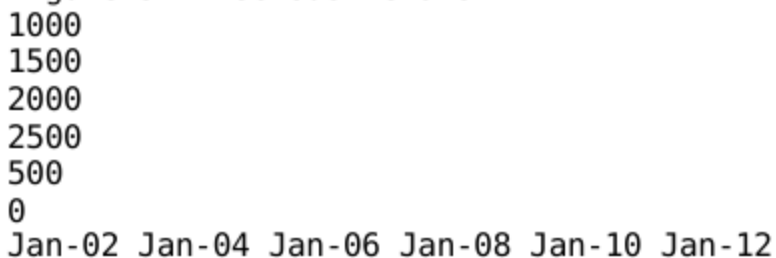
Page 27

28 February 2013 Exchange Rate Perspectives
Commodity Price and Currency Monitor
Figure 6: CRB Commodity Prices and components

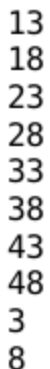


Source: DB FX Research, Haver

Figure 3: Precious metals

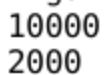


Gold Price (US\$/Troy oz)
Platinum Price (\$/Troy oz)
Palladium Price (\$/Troy oz)
Silver Price (\$/Troy oz) , (rhs)



Source: Deutsche Bank, Haver

Figure 4: Industrial metals



4000
6000
8000
0
Jan-02 Jan-04 Jan-06 Jan-08 Jan-10 Jan-12

Source: Deutsche Bank, Haver

Source: Deutsche Bank, Haver

Figure 5: Commodity Currencies and Prices

0.35
0.50
0.65
0.80
0.95
1.10
AUD/USD
CAD/USD
NZD/USD
CRB (Rs)

200
250
300
350
400
450
500
550
600
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

Source: Deutsche Bank, Haver

Figure 6: The dollar cycle and global growth cycle

-0.15
-0.10
-0.05
0.00
0.05
0.10
0.15
yoy, %

Correlation over entire sample = -0.07

Correlation from May 2000 = -0.01

Ln

World IP

USTW\$, inverted, (rhs)

4.2
4.3
4.4
4.5
4.6
4.7
4.8

4.9

5
Jan-81 Jan-85 Jan-89 Jan-93 Jan-97 Jan-01 Jan-05 Jan-09 Jan-13
Aluminium Price (\$/Metric Tonne)
Copper Price (\$/Metric Tonne)
Lead Price (\$/Metric Tonne)
Zinc Price (\$/Metric Tonne)
Nickel Price (\$/Metric Tonne),(rhs)
Tin Price (\$/Metric Tonne),(rhs)

10000
20000
30000
40000
50000
60000
0

Figure 2: Energy prices

100
120
140
160
20
40
60
80
0

Jan02
Jan03
Jan04
Jan05
Jan06
Jan07
Jan08
Jan09
Jan10
Jan11
Jan12
Jan13

Oil
Price(WTI, \$/barrel)
Natural Gas (\$/mmbtu),(rhs)

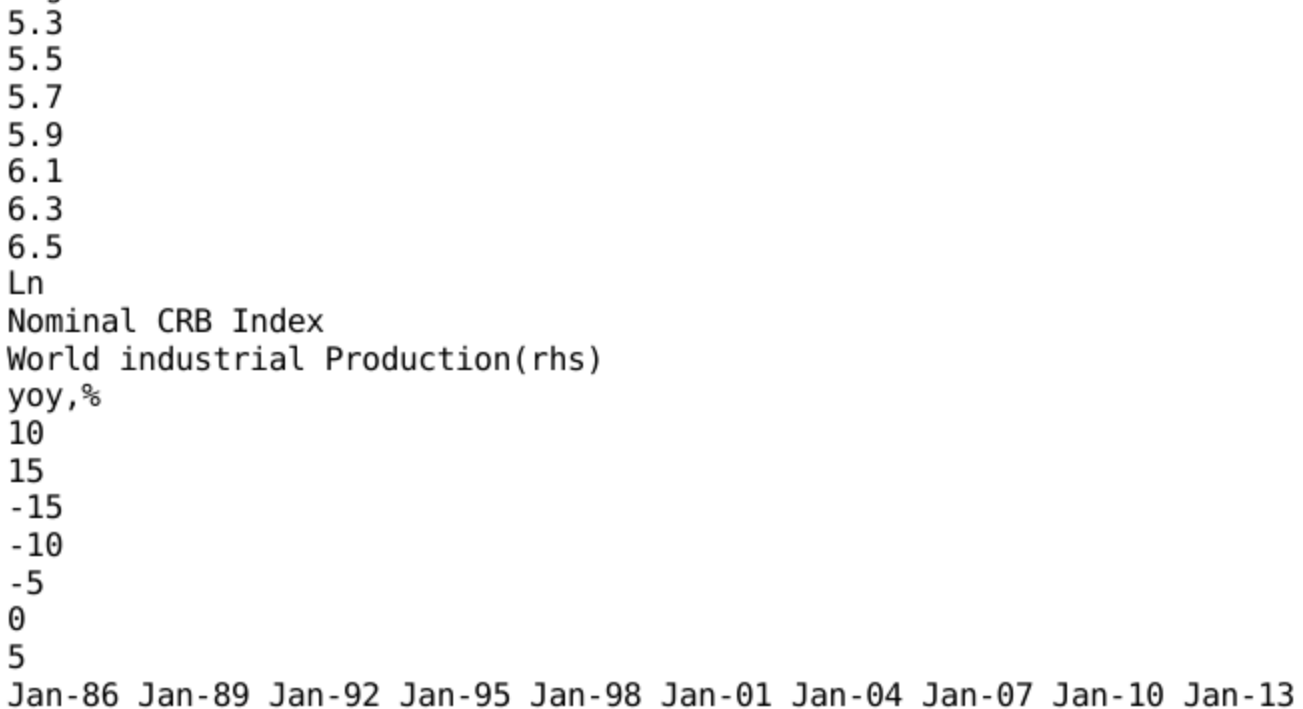
12
16
0
4
8

Page 28

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 7: Nominal CRB and World IP Growth



Source: Deutsche Bank, Haver

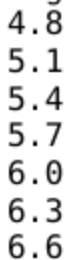
Figure 8: Nominal CRB and the Dollar



Source: Deutsche Bank, Haver

Figure 9: Long-run Relationship- Nominal CRB

Figure 10: Long-run Relationship- Oil



Long-run elasticities:

TWI: -1.88,

World IP: 5.81

Real Interest Rate: -0.03

Ln

Jan-86 Jan-89 Jan-92 Jan-95 Jan-98 Jan-01 Jan-04 Jan-07 Jan-10 Jan-13

Nominal CRB Index

Fitted Nominal CRB Index

Source: Deutsche Bank, Haver

4.8

5.1

5.4

5.7

6.0

6.3

6.6

5.2

Ln

4.6

Elasticities:

Major TWI: -2.56

World IP: 0.03

R-square: 0.80

4

3.4

Oil Price

Fitted Oil Price

2.8

May-00 May-03 May-06 May-09 May-12

Source: Deutsche Bank, Haver

5.2

4.6

4

3.4

2.8

Figure 11: RBA Commodity Price Index (Nominal) and

AUD/USD

1.1

0.5

0.6

0.7

0.8

0.9

1

Source: Deutsche Bank, Haver

AUD (lhs)

RBA Commodity Price Index (rhs)

100

125

150

175

25
50
75
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

Figure 12: Long-run Relationship-AUD/USD

-0.7

-0.5

-0.3

-0.1

0.1

0.3

AUD

Long Run Relationship

Long-run elasticities:

Commodity Price: 0.41

US GDP: -0.48

88 90 92 94 96 98 00 02 04 06 08 10 12

-0.7

-0.5

-0.3

-0.1

0.1

0.3

Deutsche Bank AG/London

Page 29

28 February 2013 Exchange Rate Perspectives

Figure 13: ANZ Commodity Price Index (Nominal) and NZD/USD

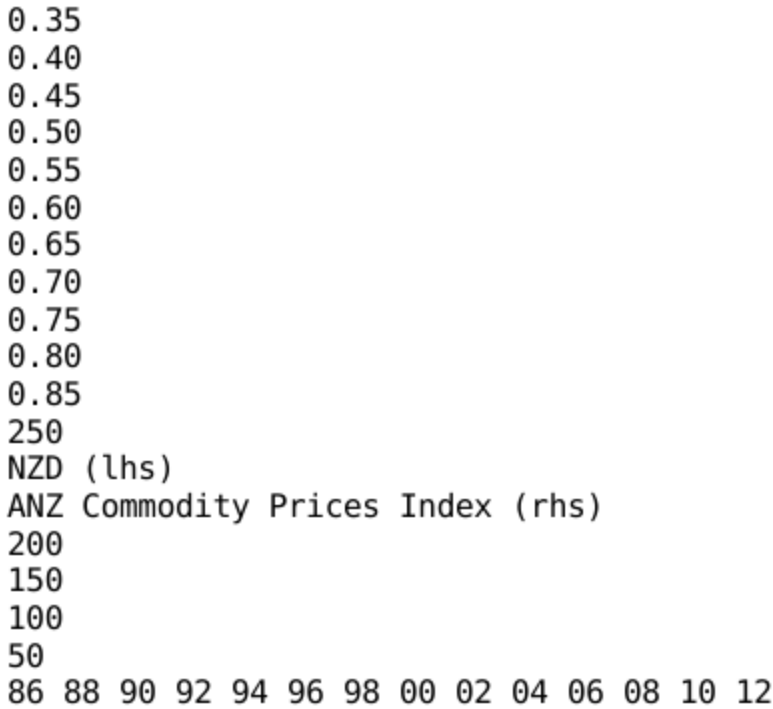
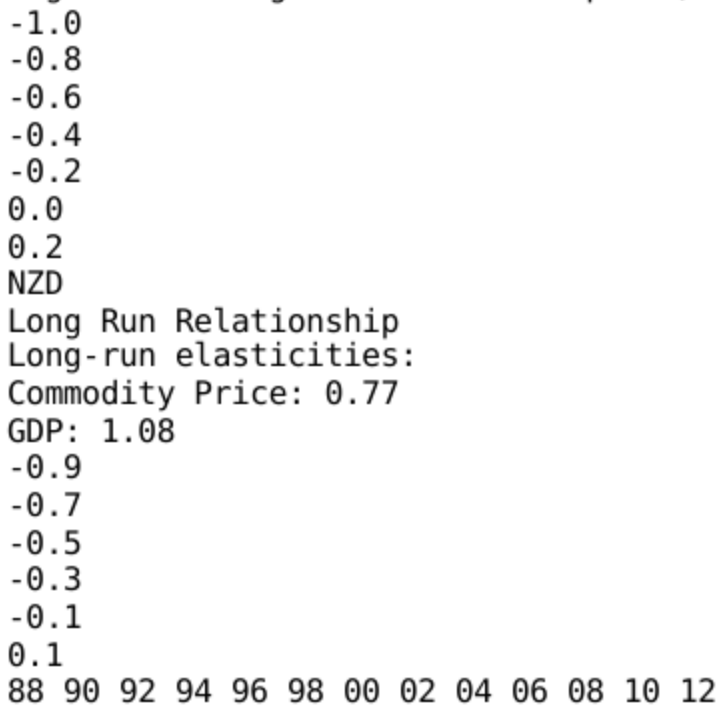


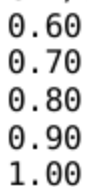
Figure 14: Long-run Relationship-NZD/USD



Source: Deutsche Bank, Haver

Source: Deutsche Bank, Haver

Figure 15: BoC Commodity Price Index (Nominal) and CAD/USD



1.10
CAD (lhs)
BoC Commodity
Price Index
200
300
400
500
600
700
800
900
1000
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Figure 16: Long-run Relationship-CAD/USD

0.10
CAD
Long Run Relationship
0.20
-0.10
0.10
-0.30
0.00
-0.50
Long-run elasticities:
Commodity Price: 0.13
GDP: 1.32

88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

Figure 17: BoC Non-Energy Commodity Price Index
(Nominal) and CAD/USD

0.60
0.65
0.70
0.75
0.80
0.85
0.90
0.95
1.00
1.05
CAD (lhs)
BoC Non-Energy Commodity Price Index (rhs)
100
200
300
400
500
600
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

Source: Deutsche Bank, Haver
Figure 18: BoC Energy Commodity Price Index
(Nominal) and CAD/USD

0.60
0.65
0.70
0.75
0.80
0.85
0.90
0.95
1.00
1.05

Source: Deutsche Bank, Haver

CAD (lhs)

BoC Energy Commodity Price Index (rhs)

100
600
1100
1600
2100
2600
86 88 90 92 94 96 98 00 02 04 06 08 10 12

-0.10

Page 30

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 19: RBA Commodity Price (Nominal)

100
125
150
175
25
50
75
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

RBA Commodity Price Index (Nominal)

Average

25
50
75
100
125
150
175
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Figure 20: RBA Commodity Price (Real)

4.25
4.5
3.75
4
3.25
3.5
2.75
3
2.5
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

RBA Commodity
Price Index (Real)

Average

Linear Trendline

$$y = 3E-05x + 2.4145$$

$$R^2 = 0.0709$$

4.25
4.5
3.25
3.5
3.75
4
2.5
2.75
3
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Figure 21: ANZ Commodity Price (Nominal)

110
130
150

170
190
210
230
250
90
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver
Source: Deutsche Bank, Haver
ANZ Commodity Price Index (Nominal)
Average

110
130
150
170
190
210
230
250
90
4
86 88 90 92 94 96 98 00 02 04 06 08 10 12

4
Figure 22: ANZ Commodity Price (Real)

4.8
4.6
 $y = -8E-06x + 4.5974$
 $R^2 = 0.0225$
4.4

ANZ Commodity Price Index (Real)
Average
Linear Trendline

4.8
4.6
4.4
4.2
4.2
Figure 23: BoC Commodity Price (Nominal)

200
400
600
800
1000
0
86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver
BoC Commodity

Price Index
(Nominal)
Average
200

400
600
800
1000
0

Figure 24: BoC Commodity Price (Real)

6.2
5.2
5.4
5.6
5.8
6
4.8
5

Source: Deutsche Bank, Haver

Linear Trendline

BoC Commodity Price Index
(Real)

Average

6.2

$$y = -3E-05x + 6.3235$$

$$R^2 = 0.1719$$

86 88 90 92 94 96 98 00 02 04 06 08 10 12

5.2
5.4
5.6
5.8
6
4.8
5

Deutsche Bank AG/London

Page 31

28 February 2013 Exchange Rate Perspectives

Figure 25: BoC Non-Energy Commodity Price

(Nominal)

100

150

200

250

300

350

400

450

500

Source: Deutsche Bank, Haver

BoC Non-Energy Commodity Price Index

Average

100

150

200

250

300

350

400

450

500

72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12

Figure 26: BoC Non- Energy Commodity Prices (Real)

4.5

4.8

5.1

5.4

5.7

6

BoC Non- Energy Commodity

Price Index (Real)

Average

Linear Trendline

$y = -5E-05x + 6.9082$

$R^2 = 0.6033$

72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

4.5

4.8

5.1

5.4

5.7

6

Figure 27: BoC Energy Commodity Price (Nominal)

500

1000

1500

2000

2500
0
72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12
Source: Deutsche Bank, Haver
BoC Energy Commodity Price Index
Average

500
1000
1500
2000
2500
0
Figure 28: BoC Energy Commodity Price (Real)

7.5
6.5
7
5.5
6
5
72 74 76 78 80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver
BoC Energy Commodity
Price Index (Real)

Average
Linear Trendline

7.2
7.4
6.2
6.4
6.6
6.8
7
 $y = 2E-05x + 5.5486$
 $R^2 = 0.0292$

5.2
5.4
5.6
5.8
6
5
Figure 29: Commodity Price Indices

130
180
230
280
330
380
430
480
530
80

86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

RBA Commodity Price Index (Nominal)

ANZ Commodity Price Index (Nominal)

BoC Commodity Price Index (Nominal)

Jan 1986 =100

130

180

230

280

330

380

430

480

530

80

Figure 30: Ratio of Commodity Price Indices

2.3

Ratio of Australia to

NZ Commodity Price

Indices (Nominal)

1.9

1.5

1.2

1.1

0.7

86 88 90 92 94 96 98 00 02 04 06 08 10 12

Source: Deutsche Bank, Haver

0.7

Ratio of Canada to NZ

Commodity Price

Indices (Nominal)

2.2

1.7

Page 32

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

U.S. Trade Balance Monitor

Fig 1: The US trade deficit has started a mild recovery

-900
-800
-700
-600
-500
-400
-300
-200
-100
0

Jan-92

USD Bn

Annualized Trade Balance

Annualized Trade Balance,3m

Sum

Annualized Trade

Balance,12m Sum

Jan-96

Source: DataStream, Deutsche Bank.

Fig 3: The narrowing in the deficit reflected a
outpacing of import growth by export growth

15
25
-35
-25
-15
-5
5
10
20
30

Export Value Growth

Import Value Growth

Jan-92 Jan-96 Jan-00 Jan-04 Jan-08 Jan-12

Source: DataStream, Deutsche Bank

Fig 5: Export prices tend to follow the dollar

12
yoy,%
-12
-8
-4
0
4
8

Ln

u

Export Price

Jan-94 Nov-96 Sep-99 Jul-02 May-05 Mar-08 Jan-11

USTRBROA,inverted

(rhs)

Source: DataStream, Deutsche Bank

4.30

4.40

4.50

4.60

4.70

4.80

-40

-30

-20

-10

0

Jan-00

Jan-04

Jan-08

Jan-12

-900

-800

-700

-600

-500

-400

-300

-200

-100

0

Fig 2: US and world growth recovery has lost momentum

10

15

-15

-10

-5

0

5

yoy,%

10

15

World IP ex US IP

(YoY)

US IP (YoY)

Jan-92 Jan-96 Jan-00 Jan-04 Jan-08 Jan-12

Source: DataStream, Deutsche Bank

Fig 4: Recently export prices have receded sharply while export volumes remain at the same level

10

15

20

-20
-15
-10
-5
0
5
12
yoy,%
u
Jan-92 Jan-96 Jan-00 Jan-04 Jan-08 Jan-12
Export Volume
Export Price(rhs)

-12
-6
0
6
-15
-10
-5
0
5
Source: DataStream, Deutsche Bank
Fig 6: Export volume growth closely follows
external demand

10
15
20
-20
-15
-10
-5
0
5
Jan-94 Jan-98 Jan-02 Jan-06 Jan-10
Export Volume
World IP ex US IP(rhs)
Source: DataStream, Deutsche Bank

15
yoy,%
5
-5
-15
Deutsche Bank AG/London
Page 33

28 February 2013 Exchange Rate Perspectives

Fig 7: Export volumes have remained below trend since 2001

4.4
4.5
4.6
4.7
4.8
4.9
7.6
Ln
Real Broad TWI
Ln
7.1
6.6
6.1
5.6

Fig 8: Export volume deviations from trend strongly correlated with moving average of dollar valuation

-0.20
-0.15
-0.10
-0.05
0.00
0.05
0.10
0.15
0.20
USDTWI, Deviations from Trend (8 Quarter MA), inverted
Real Exports, Deviation from Trend (rhs)
Ln
Correlation = - 0.67

-0.25
-0.20
-0.15
-0.10
-0.05
0.00
0.05
0.10
0.15
0.20
0.25

Source: DataStream, Deutsche Bank

Source: DataStream, Deutsche Bank

Fig 9: A brief end to the dollar upsurge seems to have boosted export volume growth

10
20

-20
-10
0
Jan-94 Jan-98 Jan-02 Jan-06 Jan-10

Source: DataStream, Deutsche Bank

Fig 11: Import price inflation has followed the dollar

10
15
20
25
-20
-15
-10
-5
0
5
yoy,%
-12
-7
-2
3
8

Jan-94 Jan-98 Jan-02 Jan-06 Jan-10

Import Price

USTRBROA,inverted(rhs)

Source: DataStream, Deutsche Bank

Source: DataStream, Deutsche Bank

13
yoy,%

Export Volume

USTRBROA,inverted(rhs)

Ln
4.30
4.40
4.50
4.60
4.70
4.80

Fig 10: The recent sharp increase in import price inflation has tapered off during the past few months

10
15
20
-20
-15
-10
-5
0
5

Jan-92

yoy, %

12

17

22

Import Volume

Import Price (rhs)

Jan-96

Jan-00

Source: DataStream, Deutsche Bank

Fig-12: Import volume growth has generally been highly correlated with US domestic demand growth

10

15

20

-25

-20

-15

-10

-5

0

5

Jan-94

10

yoy, %

Import Volume

US IP(rhs)

Jan-98

Jan-02

Jan-06

Jan-10

-15

-10

-5

0

5

Jan-04

Jan-08

Jan-12

-18

-13

-8

-3

2

7

Page 34

Deutsche Bank AG/London

Mar-80

Mar-84

Mar-88

Mar-92
Mar-96
Mar-00
Mar-04
Mar-08
Mar-12
Dec-81
Dec-85
Dec-89
Dec-93
Dec-97
Dec-01
Dec-05
Dec-09

28 February 2013 Exchange Rate Perspectives

Fig 13: U.S. Exports and Imports of Goods and Services (Balance of Payments Basis) (last 13 months)

	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012
Units	2011	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012
Exports													
Imports													
(US\$ bn.)	177.8	178.6	180.2	184.7	182.5	183.1	185.5	183.3	181.5	187.1	180.6	182.5	186.4
(US\$ bn.)	229.5	230.9	224.7	236.4	232.2	230.1	226.5	225.0	224.2	227.5	222.8	231.1	224.9
Trade Balance (US\$ bn.)													
Export & Import Growth													
Exports													
Imports													
Growth Differential													
(y-o-y%)	7.4%	6.3%	8.2%	6.0%	3.9%	4.2%	7.5%	2.8%	1.7%	3.6%	1.0%	3.3%	4.9%
(y-o-y%)	11.3%	7.1%	6.3%	7.9%	5.9%	3.0%	1.6%	0.5%	0.5%	1.1%	-0.7%	2.5%	-2.0%
	-3.9%	-0.8%	1.8%	-1.9%	-2.0%	1.2%	5.9%	2.3%	1.3%	2.5%	1.8%	0.8%	6.8%

Fig 14: U.S. Export and Import Orders (ISM Survey) (last 13 months)

	Jan 2012	Feb 2012	Mar 2012	Apr 2012	May 2012	Jun 2012	Jul 2012	Aug 2012	Sep 2012	Oct 2012	Nov 2012	Dec 2012	Jan 2013
Units	2010	2011	2011	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012
Export Orders													
Import Orders													
Exp.-Imp. Orders													
(index)													
(index)													
	52.0	49.0	3.0	53.0	54.0	-1.0	55.0	52.5	2.5	59.5	54.0	5.5	54.0
	53.5	0.5	59.0	53.5	5.5	53.5	0.0	59.0	53.5	5.5	53.5	53.5	0.0

47.5
 53.5
 -6.0
 46.5
 50.5
 -4.0
 47.0
 49.0
 -2.0
 48.5
 49.5
 -1.0
 48.0
 47.5
 0.5
 47.0
 48.0
 -1.0

Fig 15: Regional Breakdown of U.S. Trade Balance (US\$ bn.) (1998-2010)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Canada	-51.9	-52.8	-52.8	-48.2	-51.7	-51.7	-66.5	-78.5	-71.8	-68.2	-78.3	-21.6	-28.5
Mexico	-34.5	-31.8											
Brazil	-24.6	-30.0	-37.1	-40.6	-45.2	-49.9	-64.5	-74.8	-64.7	-47.8	-66.4	-64.5	-61.3
U.K.	-3.4												
Japan	1.5												
China	-1.8												
Hong Kong													
South Korea													
Singapore													
Taiwan													
U.S. Total	1.4												
	-7.5												
	4.4												
	3.3												
	1.4												
	-6.7												
	-9.0												
	4.7												
	1.4												
	-7.3												
	-9.1												
	-10.4	-12.5											
	6.5												
	-1.4												
	4.0												
	7.5												

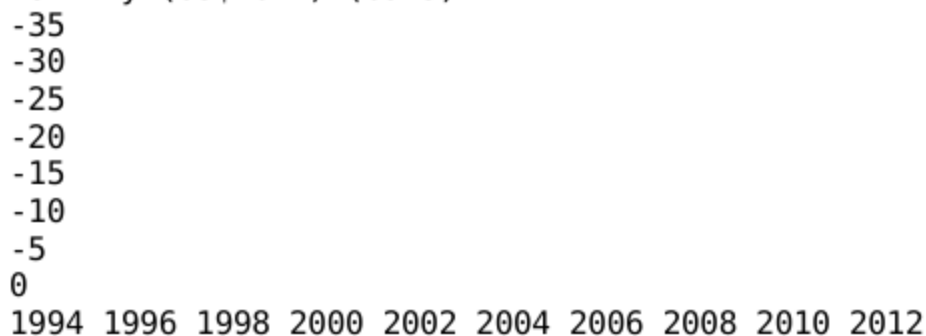
5.4
 -7.5
 -8.1
 9.8
 6.1
 -1.5
 -6.9
 1.8
 -5.0
 6.0
 -1.8
 11.5
 -1.4
 11.2
 4.6
 11.6
 Western Europe -59.4 -64.8 -88.4 -98.9 -112.8 -125.6 -118.5 -109.0 -93.9
 -61.1 -60.8 -63.2 -66.4
 Germany
 -29.1 -29.1 -35.9 -39.3 -45.8 -50.6 -47.9 -44.7 -43.0 -28.2 -34.3 -49.5 -59.7
 -0.7
 -0.1
 -81.6 -69.0 -70.0 -66.0 -76.2 -83.3 -89.7 -84.3 -74.1 -44.7 -60.1 -63.2 -76.3
 -83.8 -83.1 -103.1 -124.1 -162.3 -202.3 -234.1 -258.5 -268.0 -226.9 -273.1
 -295.4 -315.1
 3.1
 12.9
 7.2
 15.0
 12.0
 -16.1 -15.3 -13.8 -14.2 -13.0 -13.2 -15.5 -12.4 -11.4
 Source: DataStream, Deutsche Bank
 17.5
 6.5
 -9.9
 22.3
 11.6
 -9.8
 32.0
 12.1
 32.0
 -12.5 -13.0 -13.0 -13.2 -20.0 -16.2 -13.6 -13.2 -13.4 -10.6 -10.0 -13.2 -16.6
 2.7
 10.3
 -15.5 -14.5
 -4773.8 -4500.8 -5071.2 -5782.8 -7067.4 -8290.8 -8814.4 -8579.2 -8820.5
 -5469.5 -6909.2 -7854.6 -7881.2
 Deutsche Bank AG/London
 Page 35

28 February 2013 Exchange Rate Perspectives

U.S Exports-Imports by Commodity

Fig 16: U.S. Trade Balance Excluding China & Petroleum (Monthly & Annual Balance)

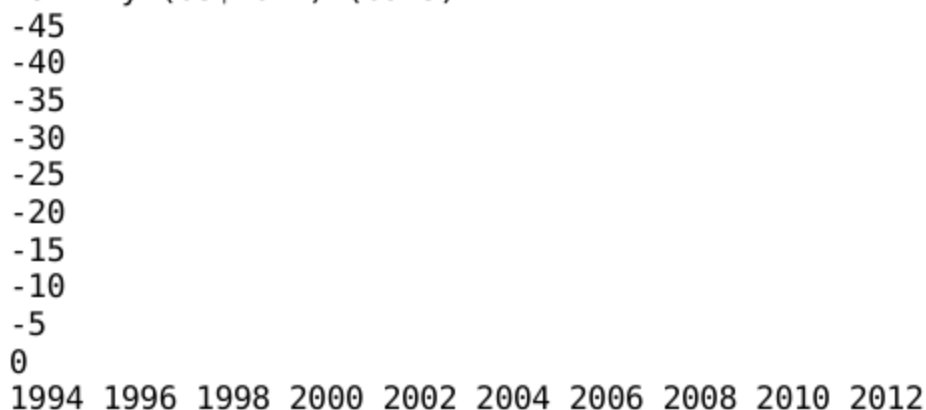
Monthly (US\$ bn.) (bars)



Source: DataStream

Fig 18: U.S. Trade Balance – Petroleum Products

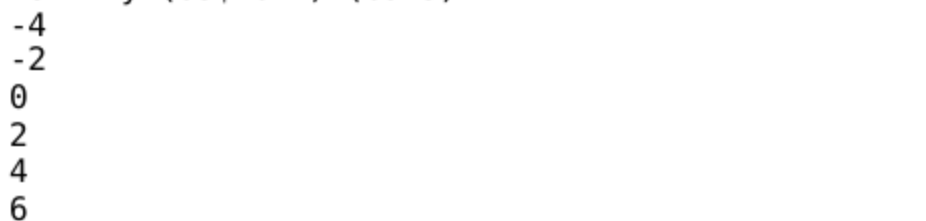
Monthly (US\$ bn.) (bars)



Source: DataStream

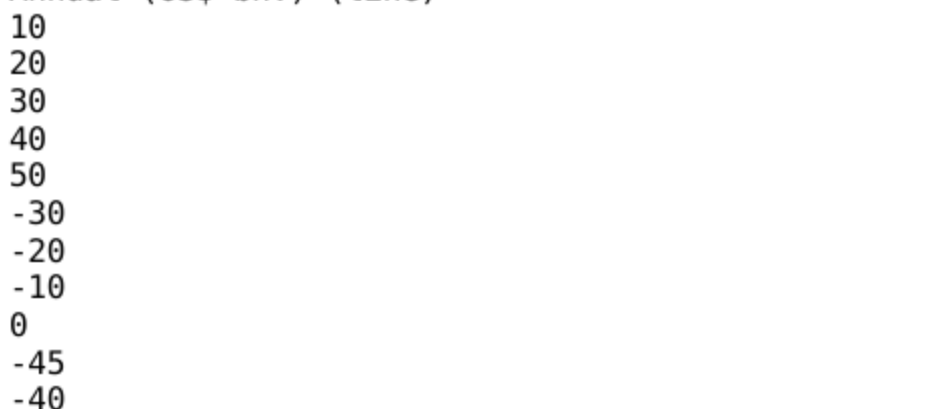
Fig 20: U.S. Trade Balance – Capital Goods

Monthly (US\$ bn.) (bars)



Source: DataStream

Annual (US\$ bn.) (line)



-35
-30
-25
-20
-15
-10
-5
0

Source: DataStream

Monthly (US\$ bn.)

(bars)

Annual (US\$ bn.) (line)

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

-450
-400
-350
-300
-250
-200
-150
-100
-50
0

Annual (US\$ bn.) (line)

-500
-450
-400
-350
-300
-250
-200
-150
-100
-50
0

-35
-30
-25
-20
-15
-10
-5
0

Source: DataStream

Fig 21: U.S. Trade Balance – Industrial Supplies

Monthly (US\$ bn.)

(bars)

Annual (US\$ bn.) (line)

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

-400
-350

-300
-250
-200
-150
-100
-50
0

Annual (US\$ bn.) (line)

-400
-350
-300
-250
-200
-150
-100
-50

0
-12
-10
-8
-6
-4
-2

0
2
4
6
8

Source: DataStream

Fig 19: U.S. Trade Balance – Consumer Goods

Fig 17: U.S. Trade Balance – Advanced Technology

Monthly (US\$ bn.)

(bars)

Annual (US\$ bn.)

(line)

20
40
60
-120
-100
-80
-60
-40
-20
0

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Fig 22: U.S. Trade Balance – Automotive

Monthly (US\$ bn.) (bars)



Source: DataStream

Annual (US\$ bn.) (line)

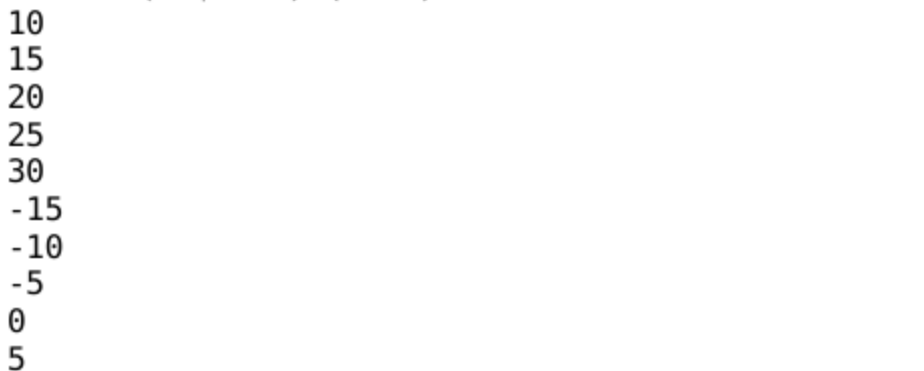


Source: DataStream

Fig 23: U.S. Trade Balance – Food & Beverages

Monthly (US\$ bn.) (bars)

Annual (US\$ bn.) (line)



Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives
U.S. Bilateral Trade Balances by Country & Region

Fig 24: U.S. Trade Balance with China

-30
-25
-20
-15
-10
-5
0

Source: DataStream

Fig 26: U.S. Trade Balance with the Pacific Rim
(Asia excluding China and Japan)

Monthly (US\$ bn.) (bars)

-9
-8
-7
-6
-5
-4
-3
-2
-1
0

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Source: DataStream

Fig 28: U.S. Trade Balance with Western Europe

Monthly (US\$ bn.) (bars)

-14
-12
-10
-8
-6
-4
-2
0

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Source: DataStream

Annual (US\$ bn.) (line)

-140
-120
-100
-80
-60
-40
-20
0
-12
-10
-8
-6

-4
-2
0
Source: DataStream
Monthly (US\$ bn.)
(bars)
Annual (US\$ bn.)
(line)
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
-90
-80
-70
-60
-50
-40
-30
-20
-10
0

Annual (US\$ bn.) (line)
-85
-75
-65
-55
-45
-35
-25
-15
-5
-30
-25
-20
-15
-10
-5
0
5

Source: DataStream
Fig 29: U.S. Trade Balance with Canada
Monthly (US\$ bn.)
(bars)
Annual (US\$ bn.) (line)
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
-200
-160
-120
-80
-40
0
Monthly (US\$ bn.)
(bars)

Annual (US\$ bn.)

(line)

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

-300

-250

-200

-150

-100

-50

0

Fig 25: U.S. Trade Balance with Japan

-10

-9

-8

-7

-6

-5

-4

-3

-2

-1

0

Source: DataStream

Fig 27: U.S. Trade Balance with OPEC

Monthly (US\$ bn.)

(bars)

Annual (US\$ bn.) (line)

-95

-85

-75

-65

-55

-45

-35

-25

-15

-5

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Page 38

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Fig 30: U.S. Trade Balance with Mexico

Monthly (US\$ bn.) (bars)

-8
-7
-6
-5
-4
-3
-2
-1
0

1
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Annual (US\$ bn.) (line)

10
-90
-80
-70
-60
-50
-40
-30
-20
-10
0
-6
-5
-4
-3
-2
-1
0
1
2

Fig 31: U.S. Trade Balance with Latin America

Monthly (US\$ bn.)

(bars)

Annual (US\$ bn.) (line)

10
20
-50
-40
-30
-20
-10
0

1994 1996 1998 2000 2002 2004 2006 2008 2010 2012

Source: DataStream

U.S Current-Account Balance Monitor

Fig 1: U.S. Current-Account Balance

(1980-2010)

Annualized Current Account as % of GDP

-7.0
-5.0
-3.0
-1.0
1.0

Source: DataStream

-7.0
-5.0
-3.0
-1.0
1.0

Mar-81 Mar-85 Mar-89 Mar-93 Mar-97 Mar-01 Mar-05 Mar-09 Mar-13

Fig 2: U.S. Savings and Investment

(Private & Government Sector Savings-Investment)

Private Sector Balance

1200
600
-1800
-1200
-600
0

Source: DataStream

Fig 3: U.S. Current-Account Balance (last 13 quarters) (US\$ Billions)

Q3 2009Q4 2009Q1 2010Q2 2010Q3 2010Q4 2010Q1 2011Q2 2011Q3 2011Q4 2011Q1
2012Q2 2012Q3 2012

Balance on Goods

Balance on Services

Bal on Goods & Services

Investment Income

Unilateral Transfers

Bal on Current Account

(annualized, as % of GDP)

Source: DataStream

-128.9 -143.3 -152.5 -164.6 -166.9 -161.1 -181.4 -187.2 -180.6 -189.3 -194.3
-185.7 -173.9

31.4 34.8 34.6 37.0 37.7 41.1 44.1 45.6 45.8 43.0 45.9 48.3 49.4

-97.4 -108.5 -118.0 -127.7 -129.1 -120.0 -137.2 -141.5 -134.8

-31.7 -33.2

-31.5 -35.2

-33.8 -31.8

-146.3 -148.4 -137.4 -124.5

34.7 38.1 41.6 47.7 47.8 46.8 52.5 56.2 58.5 59.9 47.4 52.1 50.8

-32.9 -30.3 -34.7

-32.2 -32.7

-95.7 -100.7 -111.0 -111.7 -114.6 -104.7 -120.0 -119.1 -108.2

-32.7 -33.8

-118.7 -133.6 -118.1 -107.5

-2.7% -2.9% -3.1% -3.1% -3.1% -2.8% -3.2% -3.2% -2.9% -3.1% -3.5% -3.0% -2.7%

Gov't Sector Balance

600
1200
-1800
-1200
-600

0
Mar-81 Mar-85 Mar-89 Mar-93 Mar-97 Mar-01 Mar-05 Mar-09 Mar-13

Source: DataStream

Deutsche Bank AG/London

Page 39

28 February 2013 Exchange Rate Perspectives

Fig 4: U.S. Current-Account Balance (1998-2010) (US\$ Billions)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Balance on Goods	-336.2	-445.8	-421.3	-474.5	-540.4	-663.5	-780.7	-835.7	-818.9	-830.1	-505.9		
Balance on Services	-645.9	-738.3											
Bal on Goods & Services	73.0	69.0	59.5	57.1	49.4	58.2	72.1	82.4	122.2	131.8	124.6	145.8	178.3
Investment Income	-263.2	-376.8	-361.8	-417.4	-491.0	-605.4	-708.6	-753.3	-696.7	-698.3	-381.3		
Unilateral Transfers	-500.0	-560.0											
Bal on Current Account	11.9	19.2	29.7	25.2	43.7	65.1	68.6	44.2	101.5	147.1	128.0	165.2	221.1
	-50.4	-58.8	-64.6	-65.0	-71.8	-88.2	-105.7	-91.5	-115.1	-125.9	-123.3	-136.1	-134.6
	-301.7	-416.3	-396.6	-457.2	-519.1	-628.5	-745.8	-800.6	-710.3	-677.1	-376.6		
	-470.9	-473.4											
(annualized, as % of GDP)	-3.2%	-4.2%	-3.9%	-4.3%	-4.7%	-5.3%	-5.9%	-6.0%	-5.1%	-4.7%	-2.7%	-3.2%	-3.1%

Fig 5: U.S. Savings-Investment & Net Foreign Investment (1998-2010) (US\$ Billions)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Private Savings	1380.2	1376.2	1466.5	1656.8	1749.7	1894.6	1925.4	2079.5	1989.3	2282.7	2569.6		
Private Investment	2785.4	2860.6											
Private-Sector Balance	1641.5	1772.2	1661.9	1646.9	1729.7	1968.5	2172.3	2327.1	2295.2	2087.6	1546.8		
	1795.1	1916.3											
Gov't Savings	-261.3	-396.0	-195.4	9.9	20.0	-73.9	-246.9	-247.6					
Gov't Investment	-305.9	195.1	1022.8	990.3	944.3								
Gov't-Sector Balance													
Gross Savings													
Gross Investment													
Savings-Investment	327.8	423.9	229.2	-95.9	-197.1	-155.9	-6.5	116.5	58.3	-374.5	-972.2	-964.9	
	-896.3												
	287.4	304.3	322.0	343.5	355.8	372.3	392.0	425.1	456.4	497.2	505.4	505.3	483.2
	40.4	119.6	-92.8	-439.4	-552.9	-528.2	-398.5	-308.6	-398.1	-871.7	-1477.6		
	-1470.2	-1379.5											
	1708.0	1800.2	1695.7	1560.9	1552.6	1738.7	1918.9	2196.0	2047.7	1908.2	1597.3		
	1820.4	1964.3											
	1928.8	2076.5	1984.0	1990.4	2085.4	2340.9	2564.3	2752.2	2751.7	2584.7	2052.2		
	2300.4	2399.5											
	-220.8	-276.3	-288.3	-429.5	-532.8	-602.2	-645.4	-556.2	-704.0	-676.5	-454.9		
	-480.0	-435.2											
Statistical Discrepancy	-71.1	-134.0	-103.3	-22.1	16.6	-22.3	-95.1	-242.3					
	-12.0												

-2.4 77.4

0.8 -47.9

Net Foreign Investment -291.9 -410.4 -391.6 -451.6 -516.1 -624.6 -740.5
-798.4 -716.0 -679.0 -377.4 -479.2 -483.1

Source: DataStream

Page 40

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Central Bank Reserves Currency Composition Monitor

Figure 1: Official FX reserves have quadrupled reflecting primarily the growth of EM holdings

Figure 2: Mature market (MM) reserves have grown only modestly reflecting valuation & interest

Source: FRB, Census, BEA, DB Global Markets Research

Source: FRB, Census, BEA, DB Global Markets Research

Figure 3: Many countries report the currency composition of reserves to the IMF, which publishes them in aggregate form

Figure 4: The advanced countries (MM) all report the composition of reserves to the IMF...

Source: COFER, IMF, DB FX Research

Source: COFER, IMF, DB FX Research

Figure 5: ...while about half of emerging markets report the currency composition of their reserves

Figure 6: The currency composition of (114 reporting countries) total FX reserves: levels

Source: COFER, IMF, DB FX Research

Source: COFER, IMF, DB FX Research

Deutsche Bank AG/London

Page 41

28 February 2013 Exchange Rate Perspectives

Figure 7: The USD share in world reserves fell during 2002-04; then stabilized and has now started falling again

Figure 8: Advanced country FX reserve holdings...

Source COFER, IMF, DB FX Research

Source:, COFER, IMF, DB FX Research

Figure 9: ...the dollar share in industrial country reserves has been relatively stable

Figure 10: Ex-Japan (our estimate) industrial country dollar and euro holdings have both risen

Source: COFER, IMF, DB FX Research

Source:, COFER, IMF, DB FX Research

Figure 11: The share of euros and dollars is not very different

Figure 12: EM holdings of dollars had climbed steadily

Source: COFER, IMF, DB FX Research

Source: COFER, IMF, DB FX Research

Page 42

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Figure 13: In EM, the main driver of reserve growth has been intervention (in USD bn)

Figure 14: In EM, the dollar share fell steadily during 2002-04 then stabilized

Source: DB FX Research

Source: COFER, IMF, DB FX Research

Figure 15: First active diversification, then leaning against the wind

Figure 16: China has steadily diversified away from USD since 2004 (our estimates)

Source: COFER, IMF, DB FX Research

Source: US TIC data DB FX Research

Deutsche Bank AG/London

Page 43

Appendix 1

Important Disclosures

Additional information available upon request

For disclosures pertaining to recommendations or estimates made on a security mentioned in this report, please see the most recently published company report or visit our global disclosure look-up page on our website at

<http://gm.db.com/ger/disclosure/DisclosureDirectory.eqsr>.

Analyst Certification

The views expressed in this report accurately reflect the personal views of the undersigned lead analyst(s). In addition, the undersigned lead analyst(s) has not and will not receive any compensation for providing a specific recommendation or view in this report. Bilal Hafeez

Deutsche Bank debt rating key

CreditBuy ("C-B"): The total return of the Reference Credit Instrument (bond or CDS) is expected to outperform the credit spread of bonds / CDS of other issuers operating in similar sectors or rating categories over the next six months.

CreditHold ("C-H"): The credit spread of the Reference Credit Instrument (bond or CDS) is expected to perform in line with the credit spread of bonds / CDS of other issuers operating in similar sectors or rating categories over the next six months.

CreditSell ("C-S"): The credit spread of the Reference Credit Instrument (bond or CDS) is expected to underperform the credit spread of bonds / CDS of other issuers operating in similar sectors or rating categories over the next six months.

CreditNoRec ("C-NR"): We have not assigned a recommendation to this issuer. Any references to valuation are based on an issuer's credit rating.

Reference Credit Instrument ("RCI"): The Reference Credit Instrument for each issuer is selected by the analyst as the most appropriate valuation benchmark (whether bonds or Credit Default Swaps) and is detailed in this report. Recommendations on other credit instruments of an issuer may differ from the recommendation on the Reference Credit Instrument based on an assessment of value relative to the Reference Credit Instrument which might take into account other factors such as differing covenant language, coupon steps, liquidity and maturity. The Reference Credit Instrument is subject to change, at the discretion of the analyst.

Page 44

Deutsche Bank AG/London

28 February 2013 Exchange Rate Perspectives

Regulatory Disclosures

1. Important Additional Conflict Disclosures

Aside from within this report, important conflict disclosures can also be found at <https://gm.db.com/equities> under the "Disclosures Lookup" and "Legal" tabs. Investors are strongly encouraged to review this information before investing.

2. Short-Term Trade Ideas

Deutsche Bank equity research analysts sometimes have shorter-term trade ideas (known as SOLAR ideas) that are consistent or inconsistent with Deutsche Bank's existing longer term ratings. These trade ideas can be found at the SOLAR link at <http://gm.db.com>.

3. Country-Specific Disclosures

Australia and New Zealand: This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act and New Zealand Financial Advisors Act respectively.

Brazil: The views expressed above accurately reflect personal views of the authors about the subject company(ies) and its(their) securities, including in relation to Deutsche Bank. The compensation of the equity research analyst(s) is indirectly affected by revenues deriving from the business and financial transactions of Deutsche Bank. In cases where at least one Brazil based analyst (identified by a phone number starting with +55 country code) has taken part in the preparation of this research report, the Brazil based analyst whose name appears first assumes primary responsibility for its content from a Brazilian regulatory perspective and for its compliance with CVM Instruction # 483.

EU countries: Disclosures relating to our obligations under MiFiD can be found at

<http://www.globalmarkets.db.com/riskdisclosures>.

Japan: Disclosures under the Financial Instruments and Exchange Law: Company name - Deutsche Securities Inc.

Registration number - Registered as a financial instruments dealer by the Head of the Kanto Local Finance Bureau (Kinsho)

No. 117. Member of associations: JSDA, Type II Financial Instruments Firms Association, The Financial Futures Association of

Japan, Japan Investment Advisers Association. This report is not meant to solicit the purchase of specific financial

instruments or related services. We may charge commissions and fees for certain categories of investment advice, products

and services. Recommended investment strategies, products and services carry the risk of losses to principal and other

losses as a result of changes in market and/or economic trends, and/or fluctuations in market value. Before deciding on the

purchase of financial products and/or services, customers should carefully read the relevant disclosures, prospectuses and

other documentation. "Moody's", "Standard & Poor's", and "Fitch" mentioned in this report are not registered credit rating

agencies in Japan unless "Japan" or "Nippon" is specifically designated in the name of the entity.

Malaysia: Deutsche Bank AG and/or its affiliate(s) may maintain positions in the securities referred to herein and may from time to time offer those securities for purchase or may have an interest to purchase such securities. Deutsche Bank may engage in transactions in a manner inconsistent with the views discussed herein.

Russia: This information, interpretation and opinions submitted herein are not in the context of, and do not constitute, any appraisal or evaluation activity requiring a license in the Russian Federation.

Risks to Fixed Income Positions

Macroeconomic fluctuations often account for most of the risks associated with exposures to instruments that promise to pay fixed or variable interest rates. For an investor that is long fixed rate instruments (thus receiving these cash flows), increases in interest rates naturally lift the discount factors applied to the expected cash flows and thus cause a loss. The longer the maturity of a certain cash flow and the higher the move in the discount factor, the higher will be the loss. Upside surprises in inflation, fiscal funding needs, and FX depreciation rates are among the most common adverse macroeconomic shocks to receivers. But counterparty exposure, issuer creditworthiness, client segmentation, regulation (including changes in assets holding limits for different types of investors), changes in tax policies, currency convertibility (which may constrain currency conversion, repatriation of profits and/or the liquidation of positions), and settlement issues related to local clearing houses are also important risk factors to be considered. The sensitivity of fixed income instruments to macroeconomic shocks may be mitigated by indexing the contracted cash flows to inflation, to FX depreciation, or to specified interest rates – these are common in emerging markets. It is important to note that the index fixings may -- by construction -- lag or mismeasure the actual move in the underlying variables they are intended to track. The choice of the proper fixing (or metric) is particularly important in swaps markets, where floating coupon rates (i.e., coupons indexed to a typically short-dated interest rate reference index) are exchanged for fixed coupons. It is also important to acknowledge that funding in a currency that differs from the currency in which the coupons to be received are denominated carries FX risk. Naturally, options on swaps (swaptions) also bear the risks typical to options in addition to the risks related to rates movements.

Deutsche Bank AG/London

Page 45

David Folkerts-Landau
Managing Director
Global Head of Research
Marcel Cassard
Global Head
CB&S Research
Asia-Pacific
Fergus Lynch
Regional Head
Principal Locations
Deutsche Bank AG
London

[REDACTED]
London EC2N 2EQ
Tel: [REDACTED]
Deutsche Bank AG
Frankfurt

[REDACTED]
60272 Frankfurt am Main
Germany

[REDACTED]
Deutsche Bank Dubai
Dubai International Financial Centre

[REDACTED]
P.O. Box 504 902
Dubai City
Tel: [REDACTED]
Publication Address:
Deutsche Bank AG
London

[REDACTED]
London EC2N 2EQ
Tel: [REDACTED]

Internet:
<http://gmr.db.com>
Ask your usual contact for a
username and password.

Global Disclaimer

The information and opinions in this report were prepared by Deutsche Bank AG or one of its affiliates (collectively "Deutsche Bank"). The information herein is believed to be reliable and has been obtained from public sources believed to be reliable. Deutsche Bank makes no representation as to the accuracy or completeness of such information.

Deutsche Bank may engage in securities transactions, on a proprietary basis or otherwise, in a manner inconsistent with the view taken in this research report. In addition, others within Deutsche Bank, including strategists and sales staff, may take a view that is inconsistent with that taken in this research report.

Opinions, estimates and projections in this report constitute the current judgement of the author as of the date of this report. They do not necessarily

reflect the opinions of Deutsche Bank and are subject to change without notice. Deutsche Bank has no obligation to update, modify or amend this report or to otherwise notify a recipient thereof in the event that any opinion, forecast or estimate set forth herein, changes or subsequently becomes inaccurate. Prices and availability of financial instruments are subject to change without notice. This report is provided for informational purposes only. It is not an offer or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Target prices are inherently imprecise and a product of the analyst judgement. Foreign exchange transactions carry risk and may not be appropriate for all clients. Participants in foreign exchange transactions may incur risks arising from several factors, including the following: 1) foreign exchange rates can be volatile and are subject to large fluctuations, 2) the value of currencies may be affected by numerous market factors, including world and national economic, political and regulatory events, events in equity and bond markets and changes in interest rates and 3) currencies may be subject to devaluation or government imposed exchange controls which could negatively affect the value of the currency. Clients are encouraged to make their own informed investment and/or trading decisions. Past performance is not necessarily indicative of future results. Deutsche Bank may with respect to securities covered by this report, sell to or buy from customers on a principal basis, and consider this report in deciding to trade on a proprietary basis. Unless governing law provides otherwise, all transactions should be executed through the Deutsche Bank entity in the investor's home jurisdiction. In the U.S. this report is approved and/or distributed by Deutsche Bank Securities Inc., a member of the NYSE, the NASD, NFA and SIPC. In Germany this report is approved and/or communicated by Deutsche Bank AG Frankfurt authorized by the BaFin. In the United Kingdom this report is approved and/or communicated by Deutsche Bank AG London, a member of the London Stock Exchange and regulated by the Financial Services Authority for the conduct of investment business in the UK and authorized by the BaFin. This report is distributed in Hong Kong by Deutsche Bank AG, Hong Kong Branch, in Korea by Deutsche Securities Korea Co. This report is distributed in Singapore by Deutsche Bank AG, Singapore Branch or Deutsche Securities Asia Limited, Singapore Branch, and recipients in Singapore of this report are to contact Deutsche Bank AG, Singapore Branch or Deutsche Securities Asia Limited, Singapore Branch in respect of any matters arising from, or in connection with, this report. Where this report is issued or promulgated in Singapore to a person who is not an accredited investor, expert investor or institutional investor (as defined in the applicable Singapore laws and regulations), Deutsche Bank AG, Singapore Branch or Deutsche Securities Asia Limited, Singapore Branch accepts legal responsibility to such

person for the contents of this report. In Japan this report is approved and/or distributed by Deutsche Securities Inc. The information contained in this report does not constitute the provision of investment advice. In Australia, retail clients should obtain a copy of a Product Disclosure Statement (PDS) relating to any financial product referred to in this report and consider the PDS before making any decision about whether to acquire the product. Deutsche Bank AG Johannesburg is incorporated in the Federal Republic of Germany (Branch Register Number in South Africa: 1998/003298/10). Additional information relative to securities, other financial products or issuers discussed in this report is available upon request. This report may not be

reproduced, distributed or published by any person for any purpose without Deutsche Bank's prior written consent. Please cite source when quoting.

Copyright © 2013 Deutsche Bank AG

Deutsche Bank AG

New York

[REDACTED]
New York, NY 10005

United States of America

Tel: [REDACTED]

Deutsche Bank Ltd.

Aurora business park

[REDACTED]
Moscow, 115035

Russia

Tel: [REDACTED]

Deutsche Bank AG

Hong Kong

Filiale Hongkong

Intl. Commerce Centre

[REDACTED]
Hong Kong

tel: [REDACTED]

Deutsche Bank AG

Singapore

[REDACTED]
South Tower

Singapore 048583

Tel: [REDACTED]

Deutsche Securities Inc.

Japan

2-11-1 Nagatacho

[REDACTED]
Chiyoda-ku, Tokyo 100-6171

Tel: [REDACTED]

Deutsche Bank AG

Australia

[REDACTED]
Corner of Hunter & Phillip Streets

Sydney NSW 2000

Tel: [REDACTED]

Ralf Hoffmann & Bernhard Speyer

Co-Heads

DB Research

Germany

Andreas Neubauer

Regional Head

Guy Ashton

Chief Operating Officer

Research

Richard Smith

Associate Director

Equity Research

Americas

Steve Pollard

Regional Head

GRCM2013PROD028390