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Exchange Rate Perspectives
FX and the Financial Transaction Tax
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[redacted]

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Spot
3M 6M 12M
70 71 74 76
- --1.33
1.26 1.20 1.18
- 1.33 1.33 1.33
98 102 110 112
- 98 98 98
GBP/USD 1.53 1.47 1.41 1.40
(Fwd. Rates)
- 1.53 1.53 1.53
Canada USD/CAD 1.03 1.00 1.02 1.04
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- 1.03 1.03 1.04
Australia AUD/USD 0.92 0.98 0.98 0.95
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- 0.91 0.91 0.90
N.Z.
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(Fwd. Rates)

0.80 0.80 0.80 0.77
- 0.80 0.79 0.78
0.93 0.99 1.04 1.06
- 0.93 0.93 0.93
130 129 132 132
- 130 130 130
0.86 0.86 0.85 0.84
- 0.86 0.86 0.87
1.23 1.25 1.25 1.24
- 1.23 1.23 1.23
7.86 7.35 7.25 7.15
- 7.88 7.91 7.97
8.58 8.25 8.05 8.00
- 8.60 8.62 8.66
Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts
Emerging Europe
Currency
Czech Rep. EUR/CZK
(Fwd. Rates)
USD/CZK
(Fwd. Rates)
Hungary EUR/HUF
Latin America
Currency
Argentina USD/ARS
(Fwd. Rates)
Brazil USD/BRL
(Fwd. Rates)
Chile USD/CLP
(Fwd. Rates)
Colombia USD/COP
(Fwd. Rates)
Spot
3M
6M 12M
5.49 5.60 5.98 6.62
- 4.63 4.87 5.33
2.26 2.12 2.15 2.17
- 2.31 2.35 2.44
509 505 502 500
- 516 521 531
1887 1910 1930 1950
- 1907 1924 1960
Mexico USD/MXN 12.7 12.6 12.1 11.9
(Fwd. Rates)
- 12.812.913.1
Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts
Poland
(Fwd. Rates)
USD/HUF
(Fwd. Rates)

Spot
3M
6M
12M
25.9 25.8 25.6 25.3
- 25.9 25.8 25.8
19.5 20.5 21.3 21.5
- 19.5 19.5 19.4
299 285 279 275
- 301 304 308
224 226 233 234
- 227 229 232
EUR/PLN 4.214.134.004.00
(Fwd. Rates)
- 4.24 4.26 4.31
USD/PLN 3.183.283.333.40
(Fwd. Rates)
- 3.20 3.21 3.25
Russia USD/RUB 32.8 31.8 31.8 32.0
(Fwd. Rates)
Turkey USD/TRY
(Fwd. Rates)
South Africa USD/ZAR 9.789.909.709.50
(Fwd. Rates)
Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts
- 30.3 30.9 31.5
1.921.941.951.98
- 1.96 1.99 2.07
- 9.90 10.04 10.32
Currency
Spot
3M
6M
12M
China USD/CNY 6.13 6.13 6.15 6.07
(Fwd. Rates)
- 6.17 6.20 6.25
Hong Kong USD/HKD 7.76 7.77 7.80 7.80
(Fwd. Rates)
USD/INR
India
(Fwd. Rates)
- 7.75 7.75 7.75
59.3 57.0 55.0 55.0
- 60.6 61.8 63.9
Indonesia USD/IDR 10278 10500 10500 10000
(Fwd. Rates)
Philippines USD/PHP 43.3 42.6 42.3 41.7
(Fwd. Rates)
- 10723 11000 11412
Malaysia USD/MYR 3.243.173.153.13

(Fwd. Rates)
- 3.26 3.27 3.30
- 43.3 43.4 43.6
Singapore USD/SGD 1.27 1.27 1.28 1.30
(Fwd. Rates)
- 1.27 1.27 1.27
South Korea USD/KRW 1112 1130 1120 1130
(Fwd. Rates)
- 1118 1122 1127
Taiwan USD/TWD 29.9 30.0 29.6 29.7
(Fwd. Rates)
- 29.9 29.8 29.7
Thailand USD/THB 31.1 30.5 30.0 30.0
(Fwd. Rates)
- 31.3 31.4 31.7
Source: Datastream, Reuters, Bloomberg Finance LP, DB forecasts

G10 FX Forecasts: End of Quarter
Spot 2013
2014
2015
Q3 Q4 Q1 Q2 Q3 Q4 Q4
USD-crosses
EUR/USD 1.331.261.201.191.181.171.151.10
USD/JPY
GBP/USD 1.531.471.411.391.401.401.391.38
USD/CAD 1.031.001.021.031.041.041.051.10
AUD/USD 0.920.980.980.970.950.930.900.85
NZD/USD 0.800.800.800.790.770.750.720.68
USD/CHF
0.930.991.041.051.051.061.071.12
USD/SEK 6.486.716.886.836.786.796.877.05
USD/NOK 5.935.836.046.056.066.076.136.23
EUR-crosses
EUR/JPY
EUR/GBP
EUR/CHF
EUR/SEK
Source: Deutsche Bank
98 102 110 111 113 114 115 120
130 129 132 132 133 133 132 132
0.860.860.850.860.840.840.830.80
1.231.251.251.251.241.241.231.23
8.588.458.258.138.007.957.907.75
EUR/NOK 7.867.357.257.207.157.107.056.85

30 July 2013
Exchange Rate Perspectives: FX and the Financial Transaction Tax
FX and the Financial Transaction Tax
聖 In February 2013, the European Commission published a detailed proposal of a Financial Transaction Tax (FTT) to be implemented based on an 'enhanced cooperation' agreement between 11 participating EU member states.
聖 The proposal will tax transactions in securities at 0.1% of notional value and derivatives at 0.01%. The FTT will be levied on all transactions involving financial institutions where one of the counterparties is established in a participating member state and/or where the financial instrument is issued in a participating member state.
聖 The FTT would have wide ranging implications for the FX industry. While FX spot transactions will not be taxed, forwards, swaps, NDFs and options may be taxed. Transactions in these products would be taxed at the rate for derivatives.
聖
In its current form, the FTT would dramatically increase transaction costs for FX market participants. This could result in the effective closure of the non-spot FX market in participating member states.
聖 The FTT would translate into substantial costs for the real economy. It would be passed on to end users of FX derivatives, reducing corporate competitiveness and acting as a tax on extra-EMU exports. The FTT would also drain liquidity from markets, impair market efficiency and widen bidoffer
spreads.
聖 The design of the FTT may be incompatible with existing global efforts in financial reform. By discouraging forms of financial intermediation, the FTT appears to run counter to the goals of US and European legislation, which are designed to encourage greater clearing and margining of transactions in order to reduce credit risk.
The Bottom Line
On 22nd January 2013 the European Council gave the go ahead to 11 EU member states to negotiate a Financial Transaction Tax (FTT).1
The European Commission
originally proposed an EU-wide FTT in September 2011. The three stated objectives of the FTT were to avoid the fragmentation of the internal market for
financial services, enhance the contribution of the financial services sector to the
tax base and discourage financial transactions inconsistent with efficient market
functioning. 2
After EU finance ministers failed to reach unanimous agreement on the original
proposal, it was decided that progress would be made through a limited group of
1 Austria, Belgium, Estonia, France, Germany, Greece, Italy, Portugal, Slovakia, Slovenia, Spain
2 A number of Eurozone states, including France and Italy, have already introduced financial transaction

taxes at a national level. The goal of the European Commission was to harmonize these efforts and
prevent an uncoordinated multi-approach system in Eurozone financial markets.

member states. In February 2013, the European Commission published its detailed proposal of the FTT under the aegis of an enhanced cooperation agreement.3 The proposal closely mirrors that of the September 2011 original. Transactions in securities will be taxed at 0.1% of their notional value, transactions in derivatives at 0.01% of their notional value. Financial institutions will be captured by the tax with a few exemptions. Non-financial institutions are not directly liable to pay the FTT.

However, financial entities will be liable to pay when undertaking transactions with non-financial entities. Any trade involving a counterparty established in, or a financial instrument issued in a participating member state will be captured.

The FTT would have wide ranging implications for the FX industry. While FX spot transactions will not be taxed, forwards, swaps, NDFs and options may be taxed. These products currently make up nearly two thirds of FX market turnover.4 Transactions in these products would be taxed at the rate for derivatives. While the FTT is only being introduced in 11 member states, the extra-territorial impact of the FTT under the current proposal is wide, and would have a significant effect on all major global trading centres of foreign exchange.

The European Commission’s proposal still has some way to go before it is agreed, let alone implemented. The eleven member states will continue to debate the proposal until it achieves unanimous agreement. In recent weeks there has been speculation over the future of the FTT after participating member states wrote to the European Commission for acknowledged that implementation by the target date was unlikely.5

In its current form, the FTT would dramatically increase transaction costs for FX markets with the likely result of effectively closing the non-spot FX market in Europe. Indirect impacts would include changes to market structure, shifts in the behaviour of investors and hedgers and the relocation of global liquidity hubs.

In research carried out for the Global FX Division of the Global Financial Markets Association, Oliver Wyman estimated that the FTT would result in price

increases
of up to 1790% at the short end of the FX swap market (1 week EUR/USD swap) and 270% at the long end (6 month EUR/USD swap). 6
transaction costs for FX swaps in recent years, the impact of the FTT would be
comparable to the rise in transaction costs around the Lehman liquidity crisis.
These costs would be magnified further by the FX market's high turnover and deal
velocity. Many market participants roll shorter-dated FX forwards and swaps for
liquidity management, asset-liability matching and short-term funding purposes.
Each transaction would be captured by the FTT, while the impact on short-dated
instruments is far higher than long-dated instruments.
The effective rate of the FTT would also be higher than the headline rate. This is
because the FTT would apply to every step and, where applicable, leg of a transaction. By definition, swaps and forwards trade with multiple legs and often
3 The Enhanced Cooperation procedure allows member states to proceed with integration within the
structures of the EU but without the participation of all member states.
4 BIS Triennial FX Survey, September 2010
5On 30th
May 2013 spokesperson for EC Tax and Customs Algirdas semeta acknowledged that
implementation by the 2014 target date was 'unlikely.'
6 Proposed EU Commission Financial Transaction Tax Impact Analysis on Foreign Exchange Markets,
Oliver Wyman January 2012

clarification on key details and EC officials
Looking at the average

involve very large notional amounts. The FX market is also intermediated, with
several potential stages between client and ultimate liquidity provider.
We are concerned that the FTT would result in higher costs for end users of FX
markets. Transactions between non-financial entities (e.g. corporate clients) and
their dealers are not exempt from the FTT and higher transaction costs incurred by
liquidity providers may have to be passed down. While non-financial entities are
not primarily liable for payment, where the FTT goes unpaid both counterparties
are jointly and severally liable, potentially introducing a new risk to corporate
hedging decisions where none previously existed. A less liquid FX market would
also mean non-financial
research suggests that financial transaction taxes lead to wider bid-offer spreads.7
Since the stated purpose of policymakers in introducing the FTT is to increase the
tax contribution of the financial sector in the interests of a level playing field with
the non-financial sector, we think it is surprising that the proposal contains no
exemption for transactions involving non-financial entities. As well as being counter
to the goal of the proposal, this risks reducing the competitiveness of European
companies. We calculate below that the FTT would impose a direct cost of
between EUR 1 to 2.4bn per year on German exporters and importers. The FTT
would, therefore, involve a significant direct cost for the real economy.
We believe the European Commission’s proposal poses significant risk to liquidity
and efficiency in the foreign exchange market. Historical examples of financial
transaction taxes show significant declines in deal volume shortly after their
introduction, while academic literature suggests that they impair market efficiency
and liquidity.
We are also concerned that the proposal may offer market participants economic
incentives that run counter to post-2008 international efforts at financial reform. By
discouraging financial intermediation, the FTT flies in the face of mandatory
clearing rules introduced in the wake of the 2008 financial crisis. Were the FTT to

apply to the exchange of margin, it would discourage some market participants from collateralizing trades, hindering efforts to reduce counterparty credit risk.

An understanding of how the FTT will apply to FX transactions is the key to determining the impact on the FX market. We therefore begin our discussion with an outline of the current proposal.

How the Financial Transaction Tax Will Work

The FTT would be charged on all security transactions at a rate of 10bp and all derivative transactions at a rate of 1bp. FX products which are eligible for taxation are FX forwards and swaps, NDFs and FX options. FX spot is excluded. The European Commission had previously noted that a 'Tobin Tax,' on FX spot transactions could run counter to EU law by restricting the free movement of capital.8 The Commission appears not to have extended this consideration to FX swaps and forwards although there are questions as to whether they also represent 'capital flows.'

entities have access to poorer pricing, as academic

7 Pomeranets and Weaver, Security Transaction Taxes and Market Quality, Bank of Canada Working Paper, November 2011

8 European Commission, Staff Working Document, Innovative Financing at a Global Level, 1st April 2010

The FTT would apply to all financial institutions. Financial institutions are defined as
investment firms, trading platforms or exchanges, insurance companies, pension
funds, alternative investment funds, special purpose entities (SPEs) and special
purpose vehicles (SPVs) and any other entity for which the average annual value of
financial transactions constitute more than fifty percent of overall net turnover.9
There are limited exceptions. Non-financial entities are not required to pay, but
financial institutions transacting with non-financial entities are. Moreover, nonfinancial
entities would be held jointly and severally liable if a financial institution
fails to pay. Transactions with Central Counter Parties (CCPs), Central Security
Depositories (CSDs) and International Central Securities Depositories (ICSDs),
national debt management offices, member state central banks, the ECB and other
international organizations do not fall under the FTT. The FTT would also not be
charged on primary market transactions, or underwriting.
The proposal envisages a broad territorial reach of the FTT. It would apply to all
financial entities established in participating states. It would also apply to all
financial entities transacting with a counterparty based in the participating states.
Transactions involving securities issued within a participating member state will
also be caught, irrespective of where the counterparties to the deal are based. This
‘issuance principle’ is designed to strengthen anti-relocation provisions of the FTT,
by making less desirable for entities established in participating states to move
trading activities abroad. The issuance principle would apply to instruments like
bonds and stocks. It is uncertain as to whether it would apply to the euro currency.
Euros are issued by the ECB, an EU-established entity. It is not clear whether eurodenominated
derivative contracts traded on an organized platform will be subject.
The proposal anticipates that the broker or settlement agent would be liable for the
calculation for the FTT. For electronic transactions, collection and payment

is
assumed to be immediate. For other types of transactions, the proposal suggests
that a period of three working days is an appropriate time period within which the
FTT should be paid. The proposal does not state which counterparty should be held responsible for paying the FTT, but that in the event the tax is not paid, both
counterparties would be held jointly and severally liable.

Headline versus Effective Costs

The headline rates established by the European Commission are 10bp for securities transactions and 1bp for derivatives. However, the effective rates for
financial transactions are higher. This is because the FTT is levied on a gross basis,
at every stage of the transaction. This approach would cause a 'cascade effect,'
whereby the effective tax rate increases in a linear fashion with the amount of
intermediation in the deal.

The draft proposal distinguishes between financial institutions that are a 'party' to a
financial transaction and those that act on an 'agency' basis. 'Parties' are required
to pay the FTT, while those acting on an 'agency' basis will not be caught. There is
still a lack of clarity over which entities would fall under each definition (for
example, whether the tax would capture a prime broker executing a 'give up,'
since the prime broker bears credit risk for the transaction). The FTT would, however, appear to capture entities acting independently that facilitate a single

9 European Commission, Proposal for a Council Directive, Implementing Enhanced Cooperation in the Area
of Financial Transaction Tax, 14th
February 2013

transaction. For example, where a dealer provides liquidity to a financial entity and simultaneously hedges the same transaction with a third counterparty, all three entities are likely to be caught.

The FX industry would be impacted by this cascade effect. FX is an intermediated market, with several potential stages between the client and ultimate liquidity provider. These stages have evolved in response to demand for tighter pricing and a more efficient market. For example, in the case of an NDF transaction, a dealer is able to provide a better price for a client by being able to hedge that transaction through an offsetting one with a third counterparty. By discouraging this kind of intermediation, the FTT may result in dealers providing wider prices for clients.

By definition many FX transactions also contain multiple legs, each of may be subject to the FTT. For example, an FX swap is composed of two forward transactions, meaning that the FTT could be charged twice. FX transactions can also involve very large notionals, which would increase gross costs.

As illustrated by the diagram below, a headline rate of 1bp translates into a much higher effective rate once the multiple steps of a typical FX transaction is taken into account. In this case, the final cost for a USD/INR NDF potentially increases up to 8bp, meaning the absolute cost for a USD 10,000,000 notional becomes USD 8,000.

Figure 1: The FTT ‘Cascade Effect’

Source: Deutsche Bank

There are questions as to whether the FTT will be levied on the exchange of collateral but at the moment there is no clear exemption. Given that many FX transactions are regularly collateralized, in some cases with the exchange of variation margin on a more than a daily basis, this could involve a substantial
increase in transaction costs. If the FTT was levied on initial margin, this would also
increase costs.

The FTT would dramatically increase current transaction costs for FX markets. In
research carried out for the Global FX Division of the Global Financial Markets
Association, Oliver Wyman estimated that the FTT would result in price increases
of up to 1790% at the short end of the FX swap market (1 week EUR/USD swap) and 270% at the long end (6 month EUR/USD swap).

These extremely large increases in transaction costs are the result of the very
small bid-offer spreads quoted by liquidity providers. In the most liquid FX swaps,
such as a 1 week EUR/USD swap, spreads are often lower than one tenth of a basis point. The FTT would therefore introduce a permanent cost to transactions
magnitudes higher than is typical for these markets. Indeed, looking over average
transaction costs for FX swaps over recent years, the impact of the FTT can be
compared to the Lehman liquidity crisis in terms of its impact on transaction costs.

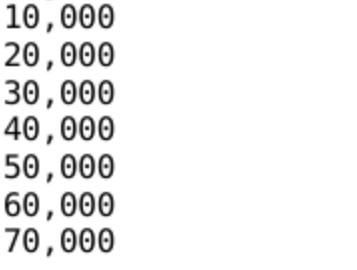
These costs would be magnified by the FX market’s high turnover and deal velocity. The BIS estimates the total daily turnover in the swaps and forwards
market alone to be USD 2.24 trillion, more than seven times that of all global equity
markets.

Much of this liquidity is concentrated in shorter tenors. According to the BIS, more
than 40% of global market turnover is concentrated in tenors of 1 week or less for
FX forwards. For FX swaps, this figure is 70%. FX swaps and forwards are rolled
over on a daily or weekly basis by a wide range of market participants in order to
meet a broad range of objectives. These include liquidity management, assetliability
matching and short term funding. These transactions would be hit each time by the tax. Additionally, the impact of the FTT on short-dated instruments is
much greater than on long-dated instruments.

Figure 2: The FTT Impact Similar to Global Financial Crisis on Transaction Costs
Source: Deutsche Bank, * existing transaction costs are calculated as the bid-offer spread for FX forward points expressed as a percentage of the FX market rate. Data from Bloomberg Finance LP.

Figure 3: FX Forwards Percentage Global Turnover
Figure 4: FX Swaps Percentage Global Turnover
10
20
30
40
50
60
0
Up to 7 days
7 days -1 year
Source: Deutsche Bank, BIS Triennial Survey, September 2010
Over 1 year
Participating member states
Global
10
20
30
40
50
60
70
80
0
Up to 7 days
7 days -1 year
Source: Deutsche Bank, BIS Triennial Survey, September 2010
Over 1 year
Participating member
states
Global
A Tax on the Real Economy
Many have noted that the proposed FTT would have wide-ranging negative implications for financial markets, reducing trading volumes, disrupting short
term funding markets and curtailing the profits of financial firms.10
The FTT would also have a significant impact on the real economy. The fact that the proposal does not exempt transactions involving non-financial corporations would result in costs being passed down to end users of derivatives. This would make hedging financial risks more expensive and less attractive, potentially increasing the volatility of firms' cash flow and share
prices.
Non-financial corporations use FX derivatives to hedge cash flow and balance sheet risks arising from currency fluctuations. As the largest economy among the participating member states and one of the foremost proponents of the FTT, a useful case study is the impact the tax would have on German importers and exporters.
Surveys suggest that an overwhelming majority of German corporates use

derivatives to hedge FX risks.11
Using a simple approach based on German
trade and BIS data, assumptions about hedging ratios, hedge rollovers and basis point cost per transaction, we calculate that the FTT would impose an annual cost of anywhere between EUR 1 to 2.4bn on German importers and exporters. Using export elasticities from the IMF we calculate that German exports could be reduced by as much as EUR 3.3bn per year.
In recent years, German exports to outside the Eurozone have grown as the economy has responded to weak demand in the single currency area.
Germany's relatively strong growth compared the rest of the Eurozone is in no small part due to this flexibility, with exports to East Asia in particular playing
an important role. The FTT would hamper Germany's export flexibility by
10 See, for example, International Capital Market Association report, 'The Impact of the Financial
Transaction Tax on the European Repo Market, April 8th
2013
11Gordon Bodnar and Gunther Gebhardt, Derivatives Usage in Risk Management by US and German NonFinancial
Firms, A Comparative Study, 1999

Figure 5: Ex-Euro Area German exports have gained share


Source: Deutsche Bank, Bloomberg Finance LP
Figure 6: Two ways of measuring the FTTs impact on German trade
Source: Deutsche Bank, Bloomberg Finance LP, BIS Triennial FX Survey

imposing an effective tax on non-Euro area exports. Moreover, given our economists' view that Eurozone growth is expected to significantly underperform the rest of the world for some years to come, the opportunity cost to German exporters is likely to be significant.12

As well as impacting non-financial corporations, the FTT would diminish pensions, increase insurance premiums and may raise costs for retail investors.

Despite extensive discussions with the European Commission, the pension industry will not be excluded from the FTT. The European Commission estimates that for actively managed pension funds the FTT could reduce final pensions by as much as 8%.13

Market Impact

There have been numerous academic studies on the impact of financial transaction taxes on financial markets.

There is a broad consensus that financial transaction taxes reduce trading volumes.

Schmidt (2007) estimated trading volume elasticities in foreign exchange markets. Based on a multilateral implementation of the tax which reduced the prospect of relocation of trading activities, he estimated an elasticity of -0.4 for the world's four most traded currencies (USD, EUR, JPY, GBP).

Empirical studies have largely focused on securities rather than derivatives markets. Froot and Campbell (1994) found that the impact of the Swedish equities transaction tax on trading volumes was relatively modest. However, the impact of a tax introduced on bonds and bills of between 0.2 and 3bp in 1989 was significantly larger, with bond trading volumes falling 85% in the first week.

The Froot and Campbell study illustrates an important characteristic of financial transaction taxes. Where the opportunity to migrate trading activities to jurisdictions outside of the tax regime exists, or an effective substitute to a taxable product is available, trading volumes of the taxable products within the tax jurisdiction experience significant falls. In the case of Sweden, Froot and Cambell found that offshore investors were able to access liquidity, tax-free, from offshore markets in the same equity securities. This resulted in a greater fraction of the trade in these securities taking place abroad. In the case of bonds and bills, market participants were able to substitute these products for non-taxable products

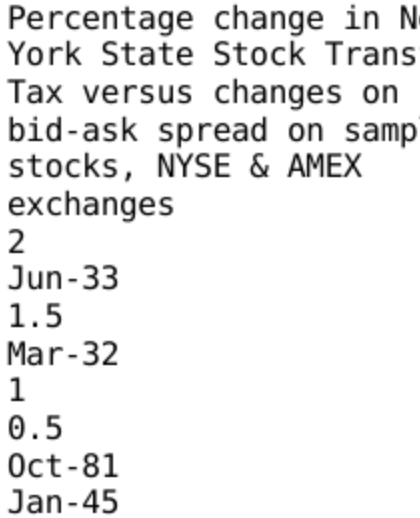
such
as forward rate agreements (FRAs) and variable-rate notes (VRNs).
This has important implications for FX markets. FX is a highly globalized industry
with multiple global
liquidity hubs. The portability of those FX transactions
impacted by the tax is, therefore, likely to be high. This would involve liquidity
seekers from non-participating states currently transacting with dealers based in
participating member states relocating business,
and liquidity seekers of
participating member states relocating their trading activities to foreign liquidity
hubs. This may have the impact of effectively shutting down the non-spot FX market in participating states.
12 DB Focus Europe, Europe Outlook 2013, A false sense of security, 14th December 2012
13 European Commission Technical fiche, Pension funds in the context of the FTT proposal Case study of
Dutch pension fund market, assuming pension fund follows ‘active’ strategy, turning over 90% of assets
twice a year, and hedging 90% of its assets four times a year.

A stated goal of the FTT is to reduce transactions that do not contribute to market efficiency. One aspect of efficient market functioning is the rapid incorporation of news into asset prices, or price discovery. Liu (2007) examined how market efficiency evolved in line with financial transaction taxes in Japan. He measured price discovery using the autocorrelation of returns in the Japanese securities market. In a more efficient market, new information should be incorporated immediately into asset prices. This should, in turn, reduce the autocorrelation of returns. Lui found that reductions in the financial transaction tax in the securities market reduced the autocorrelation of Japanese stock price changes, suggesting that financial transaction taxes diminish price discovery.

A key feature of an efficient financial market is liquidity. This can be briefly summarized as the ability to transact when needed at a reasonable price. The best measure of liquidity is the bid-offer spread. We have already noted how bid-offer spreads would widen by the amount of tax that ‘cascades’ down the transaction.

The FTT may widen bid-offer spreads still further through secondary effects. Academic evidence suggests that financial transaction taxes result in wider bid offer spreads. Pomeranets and Weaver (2011) study New York State Security Transaction Taxes on the NYSE and AMEX stock markets throughout the 20th century. They found that correlation to bid-offer spreads.

Figure 7: Historically, financial transaction taxes have led to wider bid-offer spreads



-0.6% -0.4% -0.2%
Aug-78
Oct-79
0
Oct-80
-0.5
0.0% 0.2% 0.4% 0.6% 0.8%
Changein tax
Source: Pomeranets and Weaver, Security Transaction Taxes and Market Quality, Bank of Canada Working Paper, November 2011
Wider bid-offer spreads would result in higher transaction costs for all market participants. In their research, Oliver Wyman estimated that based on a 70% fall in volumes, the most liquid G10 derivative products could see spreads widen by 110%, while in less liquid G10 products spreads could widen by as much as 200%. It is worth noting that under the European Commission's initial assessment a fall in derivative trading of 90% in participating countries was anticipated, suggesting that the Oliver Wyman estimates were conservative.

Jul-66
Aug-75
financial transaction taxes had a strong positive impact
Change in bid-ask spread

Global regulation and the FTT

A concern surrounding the FTT currently proposed by the European Commission is that it offers economic incentives that conflict with existing international efforts at financial market reform.

Because the FTT is imposed at every stage of a financial transaction it discourages financial intermediation. Mandatory clearing rules introduced by the Dodd Frank Act in the US and EMIR in Europe aim to reduce counterparty credit risk by migrating OTC bilateral transactions to clearing houses. This has the effect of increasing transaction intermediation in cases where trades were bilaterally executed.

Central clearing is designed to reduce systemic risks in the financial system.

The central counterparty (CCP) acts as buyer to every seller and seller to every buyer. In so doing, it is designed to centralize financial risks that were previously dispersed between multiple counterparties. Central clearing reduces counterparty credit risk by requiring firms to post collateral against potential future losses on trades (initial margin) and the mark to market value of the same trades (variation margin). Basel III rules are similarly designed to encourage greater collateralization of OTC trades by imposing higher capital requirements on banks for trades which are not collateralized.14

Many financial firms will be required to clear derivative transactions using CCPs. Most non-financial corporations, however, will not. The FTT, therefore, may discourage non-financial entities from centrally clearing derivative transactions as doing so would incur higher transaction costs.

Under the current European Commission proposal, it is unclear whether the FTT is to be applied to the exchange of collateral. If it were applied, this would clash with efforts to reduce counterparty credit risk. Again, financial corporations are likely to be subject to prudential margin standards which will require them to collateralize trades even when they are not cleared. Nonfinancial corporations will likely not be subject to the same standards.

In the case of non-financial institutions that are not subject to prudential margin requirements, a number of factors will determine whether they choose to bilaterally margin uncleared derivative transactions, or trade via a credit value adjustment (CVA) approach where credit charges are incurred. These include the cost of credit charges, the availability of high quality collateral that can be used as margin and the sensitivity to cash flow risk arising from margining. If it were to tax the exchange of collateral, the FTT would provide an incentive for non-financial institutions to choose the CVA approach.

Other market efforts at reducing risk may be impacted by the FTT. For example,
portfolio compression trades, where offsetting positions
are netted by
counterparties in order to minimize counterparty risk, may be subject to the tax.
The FTT would have broad implications for all major trading centers of foreign
exchange. Many international dealers provide liquidity to clients based in participating member states. For example, London, which provides the world's largest trading hub of foreign exchange, would be particularly adversely impacted.
14 We examine the impact of OTC derivative regulation on FX markets in more detail in our report:
Exchange Rate Perspectives How Regulation will Reshape FX Markets, Part 2, 31st
July 2012

It is
also unclear as to whether the ‘issuance principle’ outlined in the European Commission’s proposal would apply to the euro currency and eurodenominated
products. The ECB, which issues euro currency, is established in Frankfurt, one of the participating member states. If it were, the FTT would have far reaching effects across global financial markets given the euro’s status as the world’s second most traded currency and the importance of participating member states to the global economy.

Final thoughts

As of the time of writing, there is uncertainty surrounding the future of the FTT.

In April, participating member states wrote to the European Commission to ask for clarification on a number of key issues including how collection of revenues
would work and how key terms such as ‘purchase and sale’ and ‘netting and settlement,’ were defined.

The decision by the European Council to permit participating member states to enact the FTT using ‘enhanced cooperation’ is now subject to a legal challenge
by the UK government. In addition, a number of European policymakers have expressed concerns over the tax, particularly concerning its impact on bank funding and credit.15

Most recently, the media have reported that the FTT is
unlikely to be enacted in its current form. Last month, European Commission officials have acknowledged that implementation of the tax by January 2014 now looks ‘less likely.’16

In its current form, the FTT would have major adverse consequences for the FX markets. It would dramatically increase transaction costs for market participants. This could result in the effective closure of the non-spot FX market in participating member states.

The FTT would result in substantial costs to the real economy. The tax would be passed on to end users of FX derivatives, reducing corporate competitiveness and acting as a tax on extra-EMU exports. The FTT would also result in less liquid markets, impair market efficiency and widen bid-offer spreads.

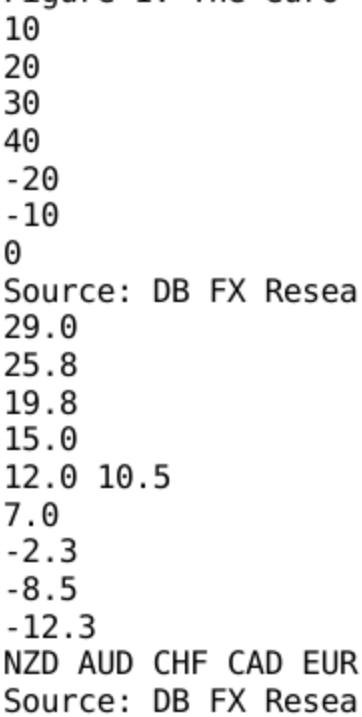
The design of the FTT may make it incompatible with existing global efforts at
financial reform. By discouraging forms of financial intermediation, the FTT potentially runs counter to the goals of US and European legislation, which are
to encourage greater clearing and margining of transactions in order to reduce
credit risk. Ultimately, we hope that policy makers will take note of these considerations, and in particular take in the interests of non-financial corporations, pension funds and the real economy in their decision making process.

Oliver Harvey, London
[redacted]

[redacted]
15 For example, Bundesbank President Jens Weidmann in a speech in Dresden, 24th
Banque de France Governor Christian Noyer, in remarks made to journalists 28th
16 Reuters Article, ‘Europe Plans Major Scaling Back of Financial Trading Tax,’ 30th

April 2013 and
May 2013

Legal Disclaimer: This article is intended to provide background information only. Readers should consult with their legal and compliance advisers as to the potential impact of any regulatory provisions noted in this article upon their respective businesses.
The author would like to thank Bilal Hafeez and Matt Holmes for their help in writing this report.

Figure 1: The euro looks expensive and the dollar cheap


Source: DB FX Research
Figure 2: The dollar is 9% cheap to fair value

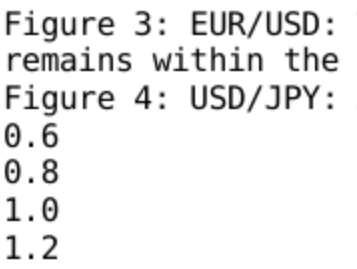
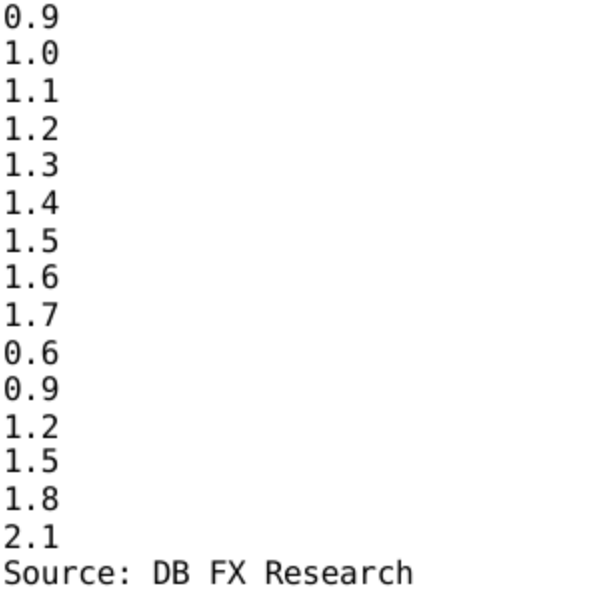

Figure 3: EUR/USD: The euro is expensive though remains within the 20% threshold …


Figure 4: USD/JPY: …The yen is very cheap to fair value


1.6
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
Source: DB FX Research
100
150
200
250
300
350
50
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
Source: DB FX Research
Figure 5: USD/GBP: GBP is expensive …
Figure 6: USD/CHF: as well as CHF
0.25
0.35
0.45
0.55
0.65
0.75
0.85
0.95
20% Band
USD/GBP
PPP USD/GBP
73 77 81 85 89 93 97 01 05 09 13
Source: DB FX Research
0.25
0.35
0.45
0.55
0.65

0.75
0.85
0.95
0.8
1.3
1.8
2.3
2.8
3.3
3.8
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
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.

Figure 7: USD/CAD: CAD overvaluation is being unwound
Figure 8: USD/AUD: AUD is very expensive, beyond 20% threshold

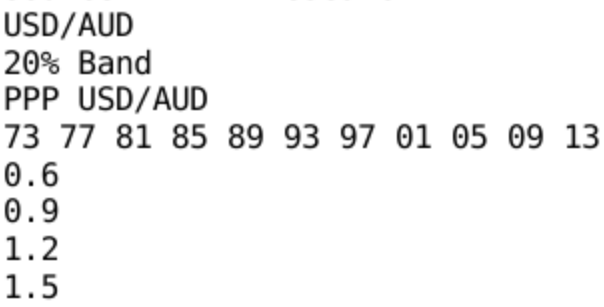
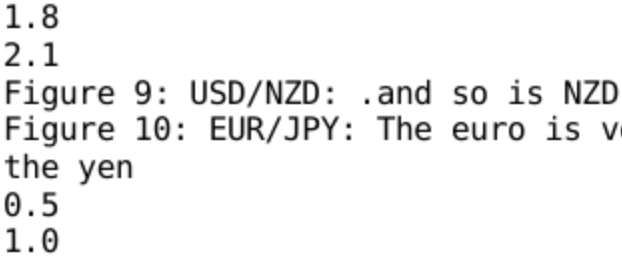


Figure 9: USD/NZD: .and so is NZD
Figure 10: EUR/JPY: The euro is very expensive against the yen


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
10
11
12
EUR/SEK
20% Band
PPP EUR/SEK
73 77 81 85 89 93 97 01 05 09 13
Source: DB FX Research
4
5
6
7
8
9

Figure 13: EUR/CHF: CHF is expensive against the euro


Source: DB FX Research
Figure 14: EUR/CAD: CAD is close to fair value against euro

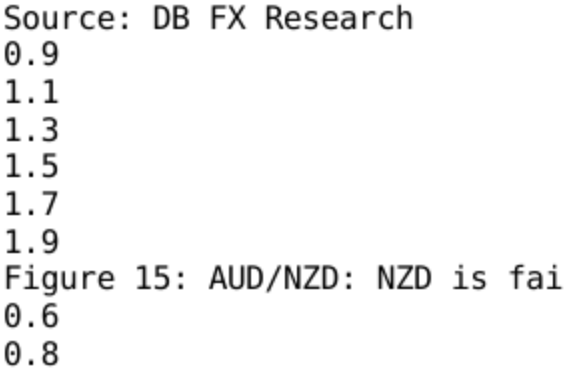
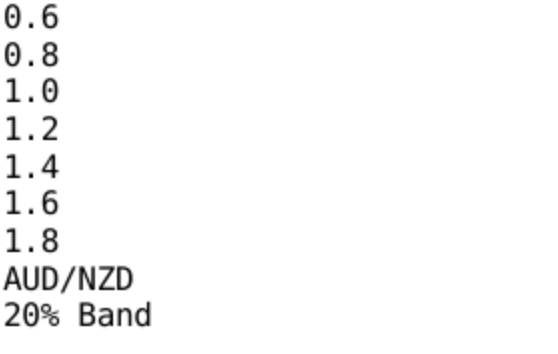

Source: DB FX Research


Figure 15: AUD/NZD: NZD is fair value against AUD….


PPP AUD/NZD
73 77 81 85 89 93 97 01 05 09 13
Source: DB FX Research
0.6
0.8
1.0
1.2
1.4
1.6
1.8
Figure 16: CAD/NZD: ….and is expensive against CAD
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
Source: DB FX Research
CAD/NZD
20% band
PPP CAD/NZD
73 77 81 85 89 93 97 01 05 09 13
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
Figure 17: JPY/NZD: NZD is expensive against the yen
0.000
0.005
0.010
0.015
0.020
0.025
Source: DB FX Research
JPY/NZD
20% Band
PPPJPY/NZD
0.000
0.005
0.010
0.015
0.020
0.025
73 77 81 85 89 93 97 01 05 09 13
Figure 18: GBP/JPY: JPY is very cheap against GBP

100
200
300
400
500
600
700
800
0
73 77 81 85 89 93 97 01 05 09 13
Source: DB FX Research
GBP/JPY
20% Band
PPP GBP/JPY
100
200
300
400
500
600
700
800
0

30 July 2013
Exchange Rate Perspectives: FX and the Financial Transaction Tax
FX Behavioral and Fundamental Equilibrium Exchange Rates (BEER and FEER)*
Figure 1: USD-cross BEER and FEER valuations
10
20
30
40
-40
-30
-20
-10
0
29
24
20
15
10 10 8 8 7
-1
-5
-10
-15
-21
-26
-5
-6
11
8
4 2 2 1
2
-2 -2 -3 -4 -4 -4 -4
-1
-7 -9
-2
-6
-11 -11 -11 -12 -12 -13 -13 -14
-12
-21
-28 -28
-1
8 7
19
14
11
7
3
20
23
BEER
FEER
17

24
21
22
Source: DB FX Research
Figure 2: EUR/USD is a bit expensive vs. BEER FV
Figure 3: USD/JPY is now above fair value vs. BEER FV
0.6
0.8
1.0
1.2
1.4
1.6
1.8
EUR
BEER Fair Value
Spot
100.0
150.0
200.0
250.0
300.0
50.0
80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12
Source: DB FX Research
80828486889092949698000204060810 12
Source: DB FX Research
JPY
BEER Fair Value
Spot
Figure 4: GBP/USD is very undervalued vs BEER FV
2.5
GBP
2.0
BEER Fair Value
Spot
Figure 5: USD BIS TWI is fair value vs. BEER FV
1.5
100.0
110.0
120.0
130.0
140.0
80.0
90.0
1.0
80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12
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.

(structural) surpluses/deficits. Over/undervaluation calculated off TWIs and converted to USD-crosses using matrix algebra. EM graphs available upon request.

808284 868890929496980002040608l0 12
BEER Fair Value
Spot
Relative FEER model is based on current account surpluses/deficits relative to long-term
NZD
CHF
SGD
AUD
ILS
PHP
CAD
EUR
THB
CZK
BRL
MYR
IDR
HUF
COP
HKD
MXN
TRY
RUB
TWD
CNY
NOK
CLP
PLN
SEK
GBP
KRW
JPY
INR
ZAR
ARS

Figure 6: USD/CAD is cheap vs. BEER FV
Figure 7: AUD/USD is quite expensive vs. BEER FV

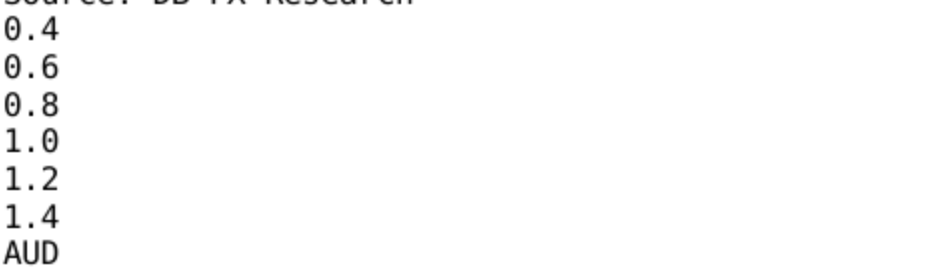



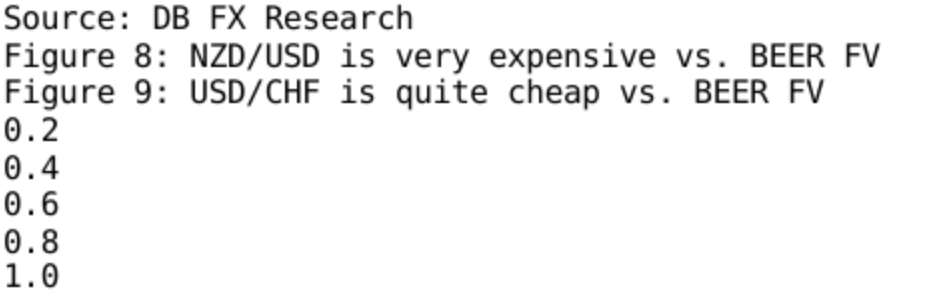
Figure 8: NZD/USD is very expensive vs. BEER FV
Figure 9: USD/CHF is quite cheap vs. BEER FV


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

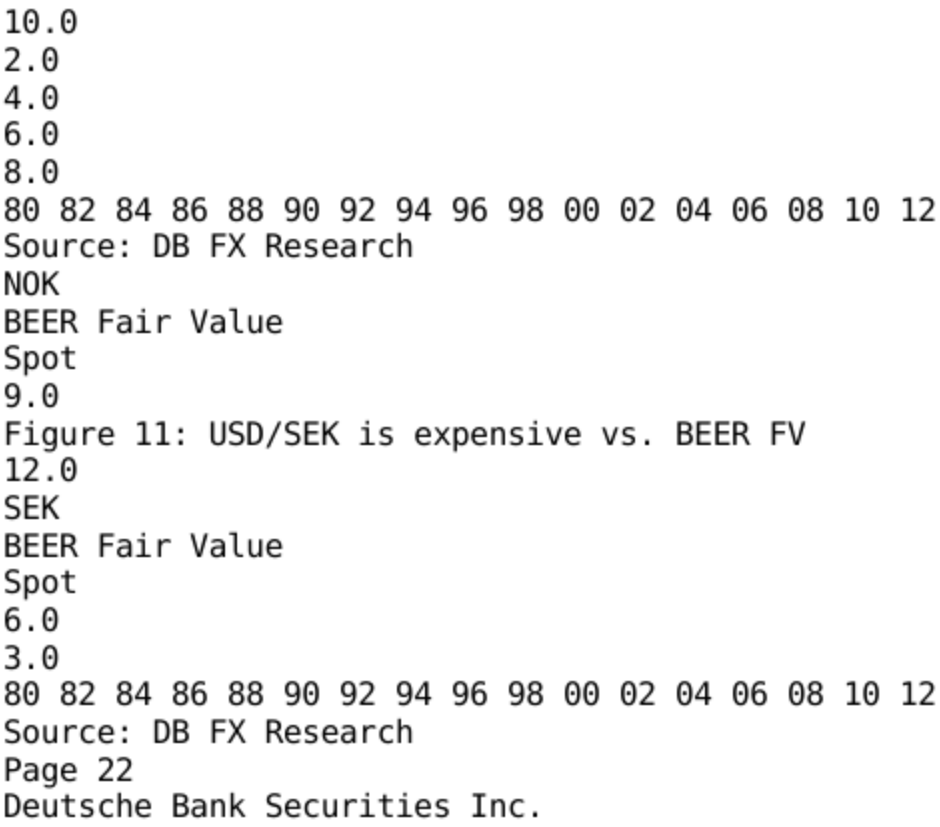


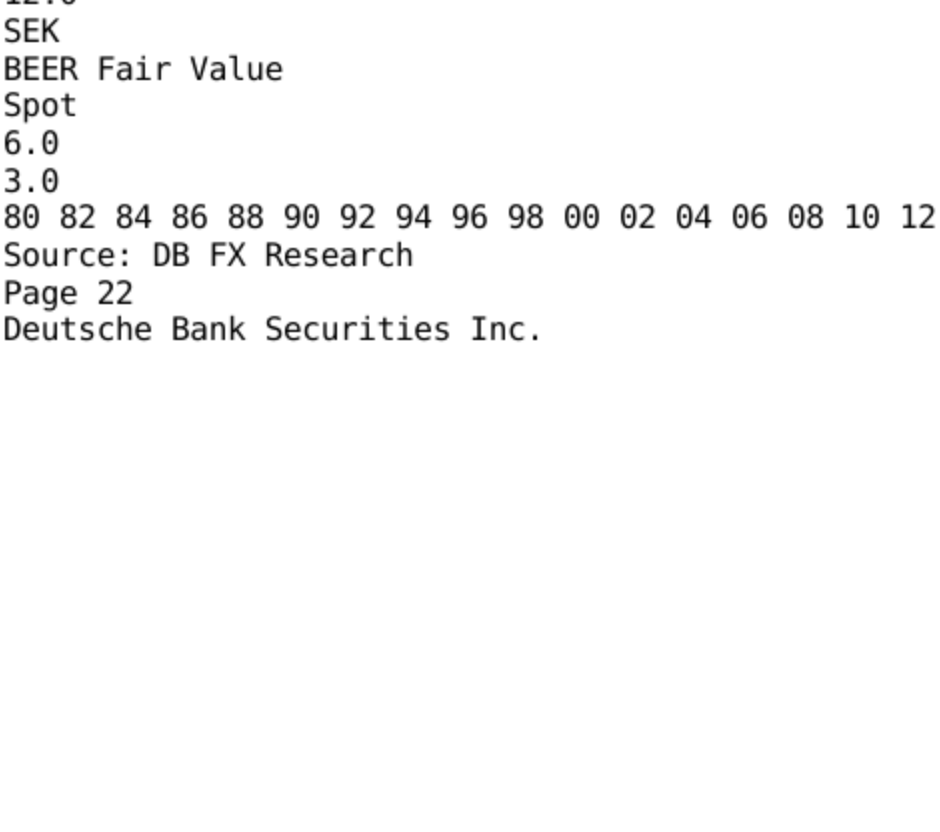
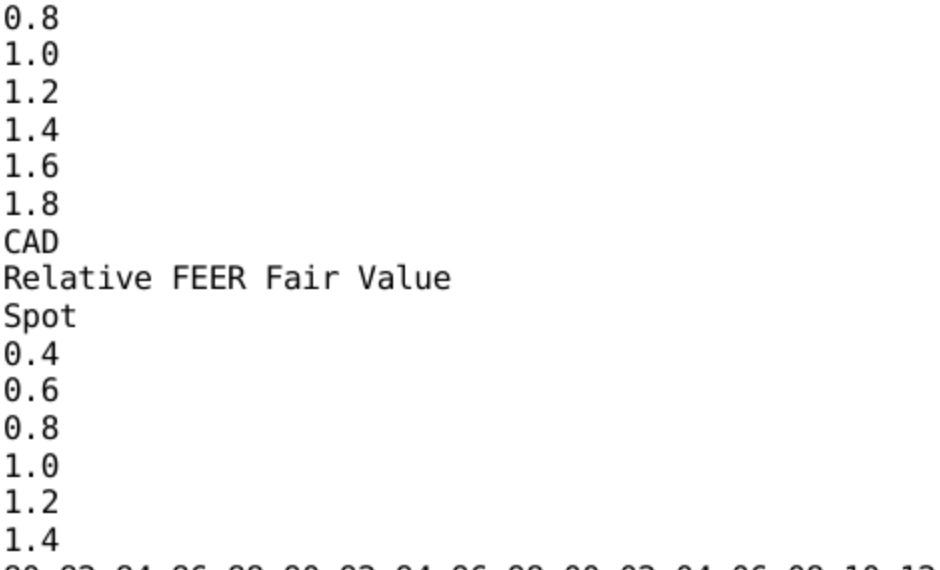
Figure 11: USD/SEK is expensive vs. BEER FV


Figure 12: EUR/USD is cheap vs. FEER FV
Figure 13: USD/JPY is very cheap vs. FEER FV
0.6
0.8
1.0
1.2
1.4
1.6
1.8
EUR
Relative FEER Fair Value
Spot
100.0
150.0
200.0
250.0
300.0
350.0
50.0
80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12
Source: DB FX Research
8082848688909294969800 0204060810 12
Source: DB FX Research
JPY
Relative FEER Fair Value
Spot
Figure 14: GBP/USD is expensive vs. FEER FV
Figure 15: USD BIS TWI is a bit cheap vs. FEER FV
1.0
1.5
2.0
2.5
3.0
GBP
Relative FEER Fair Value
Spot
100.0
110.0
120.0
130.0
140.0
80.0
90.0
808284 8688909294969800 0204060810 12
80 82 84 86 88 90 92 94 96 98 00 02 04 06 08 10 12
Source: DB FX Research
Source: DB FX Research
Relative FEER Fair Value
Spot

Figure 16: USD/CAD is quite cheap vs. FEER FV
Figure 17: AUD/USD is cheap vs. FEER FV


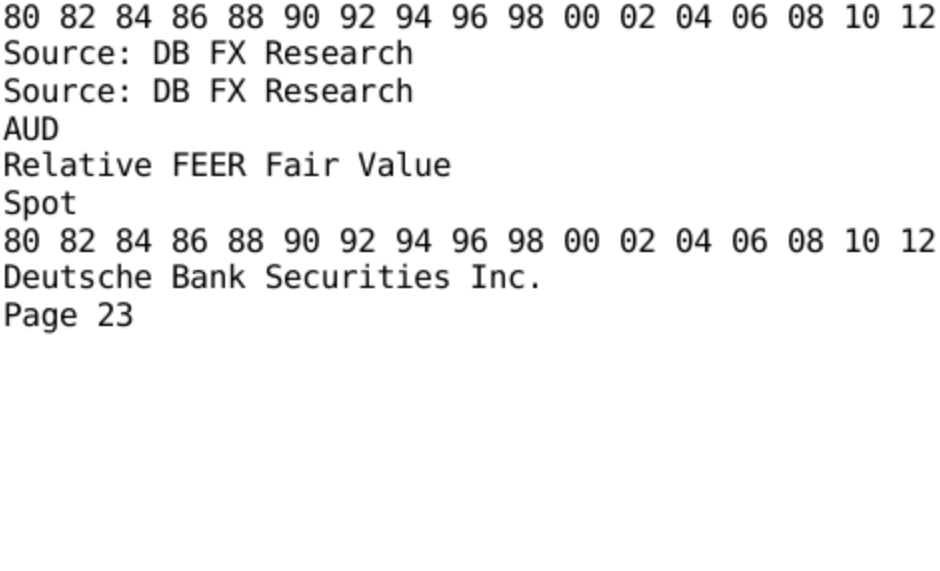
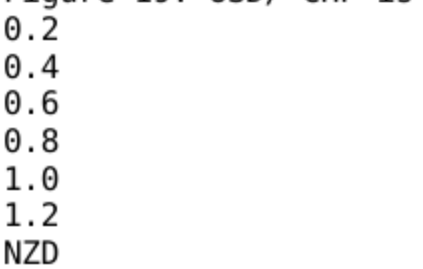


Figure 18: NZD/USD is fair value vs. FEER FV
Figure 19: USD/ CHF is bit expensive vs. FEER FV


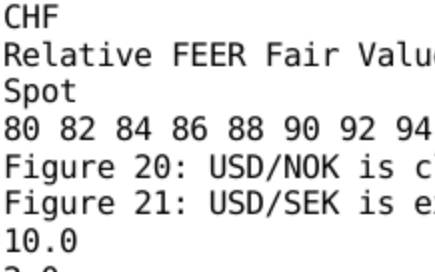
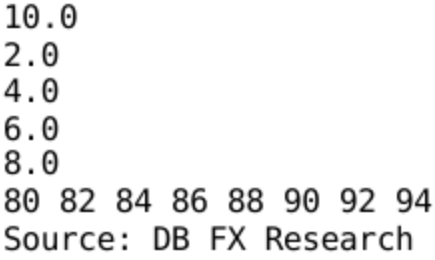
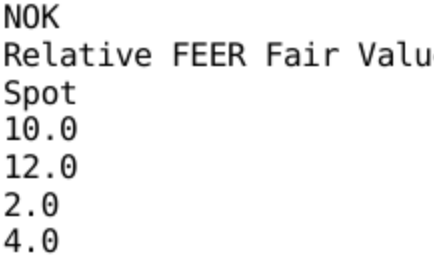
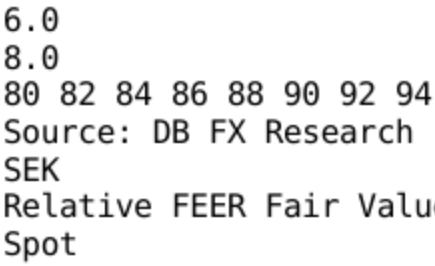
Source: DB FX Research
Source: DB FX Research


Figure 20: USD/NOK is close to. FEER FV
Figure 21: USD/SEK is expensive vs. FEER FV


Source: DB FX Research


Source: DB FX Research


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 turned 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 Analytics
Source: DB FX Research and US Treasury

Source: Deutsche Bank, US Treasury and Bloomberg Finance LP
Source: Deutsche Bank, US Treasury and Bloomberg Finance LP

Source: DB FX Research and US Treasury
Source: Deutsche Bank, US Treasury and Bloomberg Finance LP
Canada (CAD bn)

Source: DB FX Research and Haver
Source: DB FX Research and Haver

Figure 19: Portfolio inflows seem to have peaked after an upsurge since 2008
Figure 20: as foreign interest in Canadian securities has fallen from record highs
Source: DB FX Research and Haver
Source: DB FX Research and Haver
Figure 21: Net equity outflows continue unabated
Figure 22: while net debt inflows have started moderating from record highs.
Source: DB FX Research and Haver
Source: DB FX Research and Haver
Japan (JPY trillion)
Figure 23: The negative basic balance has been accelerating recently…
Figure 24: …as net FDI outflows remain large
Source: DB FX Research, MOF, and Haver
Source: DB FX Research and MOF

Figure 25: Net capital inflows have turned positive
Figure 26: Net bond outflows have decelerated
Source: DB FX Research and MOF
Source: DB FX Research and MOF
Figure 27: Net equity flows have turned positive
Figure 28: Net money-market inflows have fallen
Source: DB FX Research and MOF
Source: DB FX Research and MOF
United Kingdom (GBP bn)
Figure 29: : The basic balance remains negative
Figure 30: Net FDI inflows have turned course
Source: DB FX Research and Haver
Source: DB FX Research and Haver

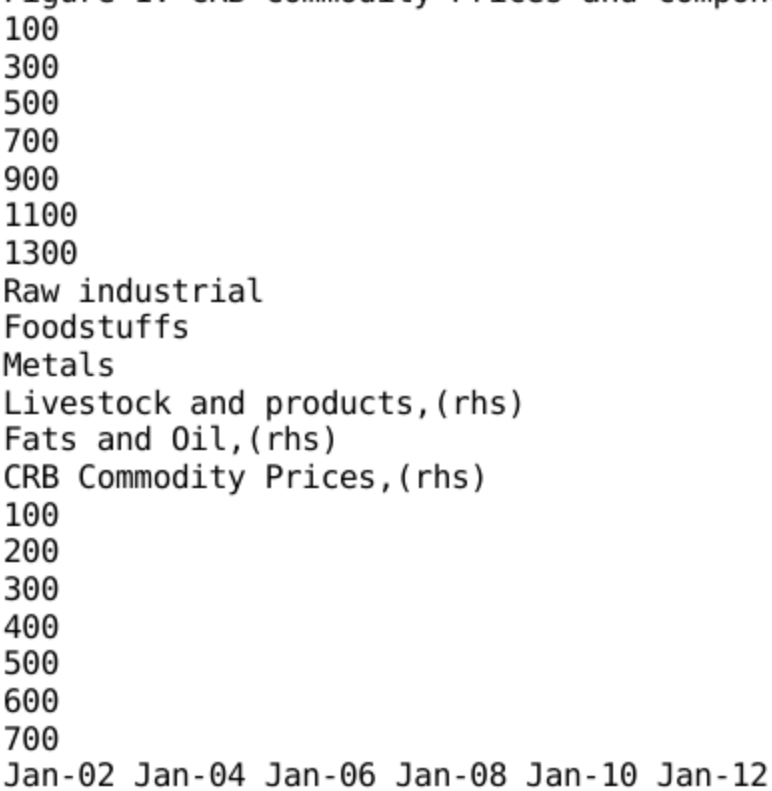
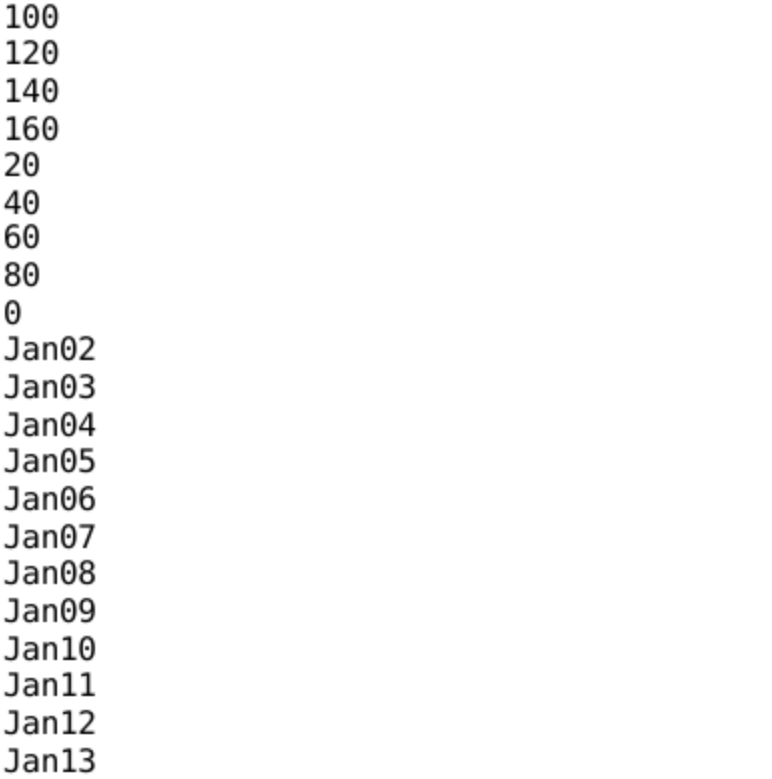
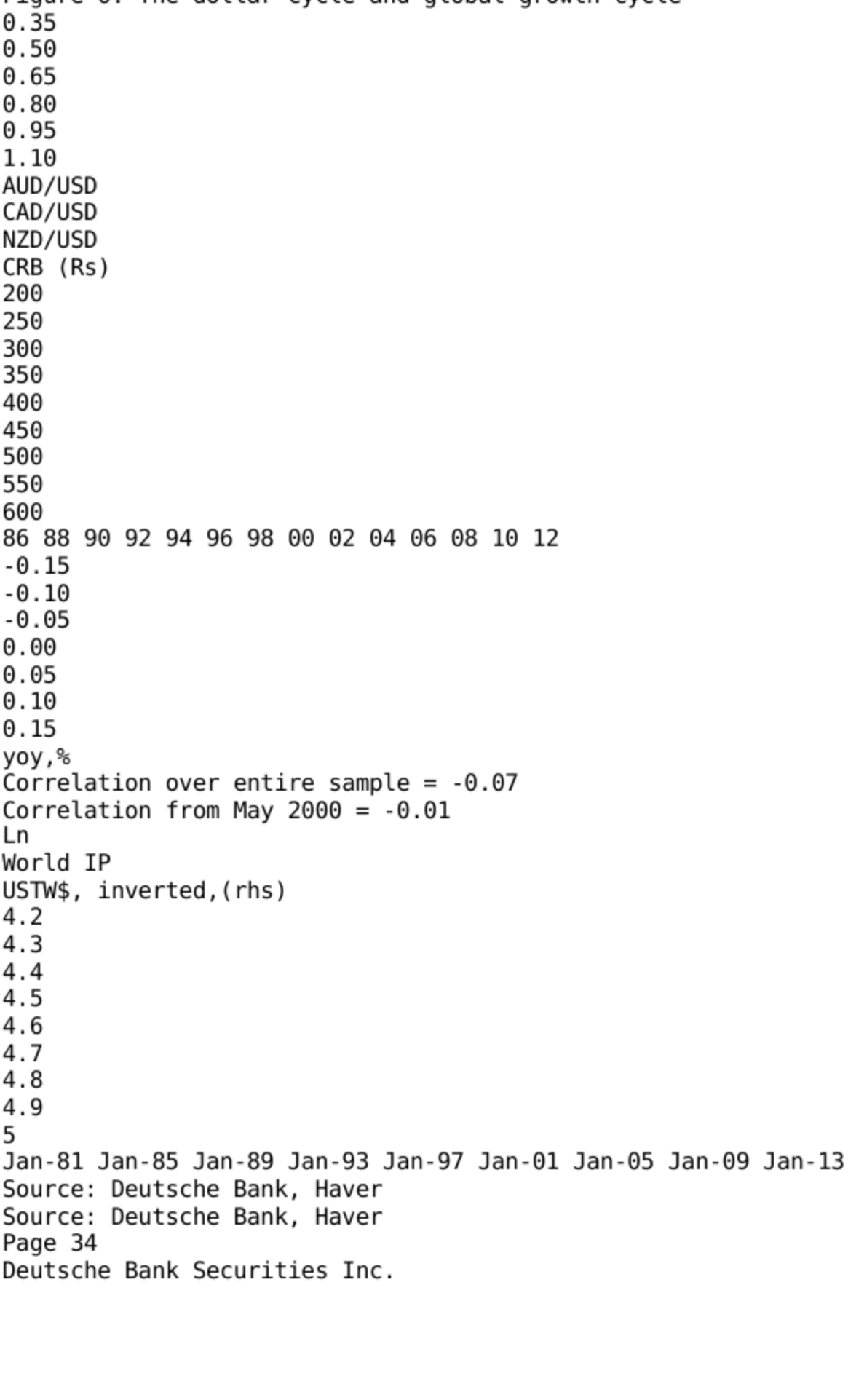
Figure 1: CRB Commodity Prices and components


Figure 2: Energy prices


12
8
4
0
Source: DB FX Research, Haver
Source: Deutsche Bank, Haver
Figure 3: Precious metals
Figure 4: Industrial metals
1000
1500
2000
2500
500
0
Jan-02 Jan-04 Jan-06 Jan-08 Jan-10 Jan-12
Gold Price (US$/Troy oz)
Platinum Price ($/Troy oz)
Palladium Price ($/Troy oz)
Silver Price ($/Troy oz) ,(rhs)
13
18
23
28
33
38
43
48
3
8
10000
2000
4000
6000
8000
0
Jan-02 Jan-04 Jan-06 Jan-08 Jan-10 Jan-12
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
Source: Deutsche Bank, Haver
Source: Deutsche Bank, Haver

Figure 5: Commodity Currencies and Prices
Figure 6: The dollar cycle and global growth cycle


Source: Deutsche Bank, Haver
Source: Deutsche Bank, Haver

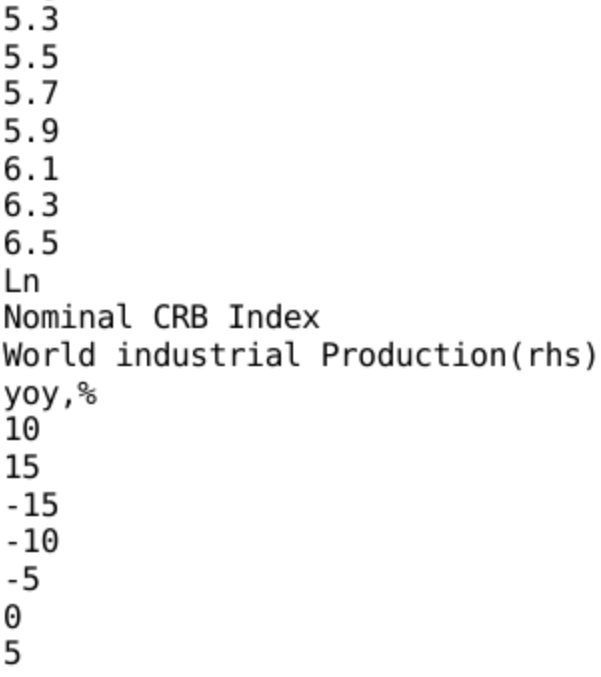
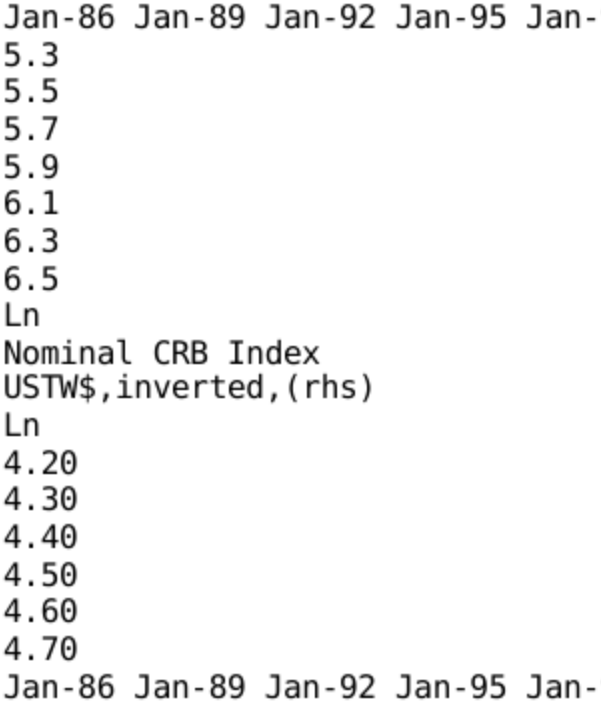
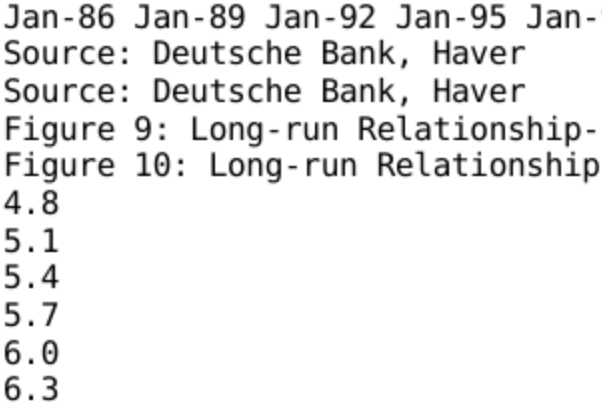
Figure 7: Nominal CRB and World IP Growth


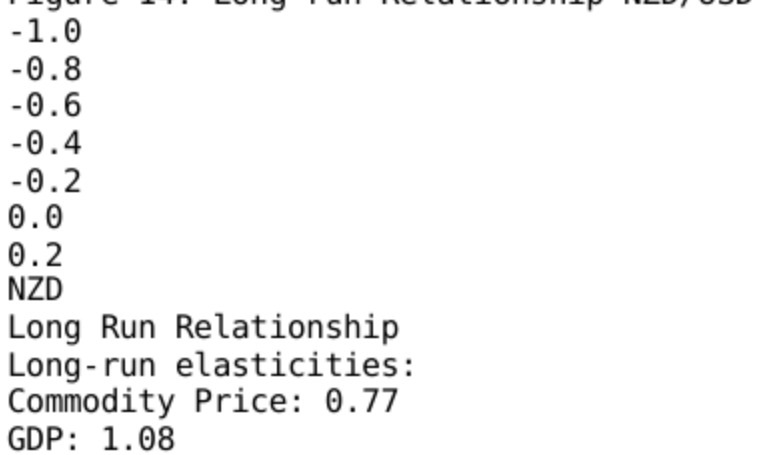
Figure 8: Nominal CRB and the Dollar


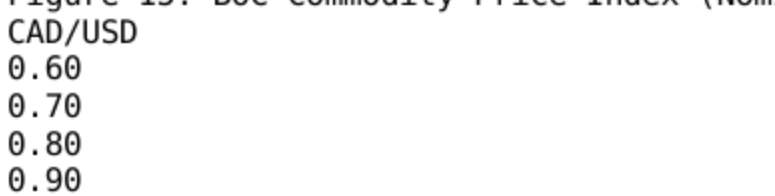
Source: Deutsche Bank, Haver
Source: Deutsche Bank, Haver
Figure 9: Long-run Relationship- Nominal CRB
Figure 10: Long-run Relationship- Oil


6.6
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
5.2
4.6
4
3.4
2.8
Source: Deutsche Bank, Haver
Figure 11: RBA Commodity Price Index (Nominal) and
AUD/USD
1.1
0.5
0.6
0.7
0.8
0.9
1
AUD (lhs)
RBA Commoditiy Price Index (rhs)
25
50
75
100

125
150
175
86 88 90 92 94 96 98 00 02 04 06 08 10 12
Source: Deutsche Bank, Haver
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

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


Source: Deutsche Bank, Haver
Figure 14: Long-run Relationship-NZD/USD


Source: Deutsche Bank, Haver
Figure 15: BoC Commodity Price Index (Nominal) and
CAD/USD


1.00
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
Source: Deutsche Bank, Haver
Figure 16: Long-run Relationship-CAD/USD
0.10
CAD
Long Run Relationship
0.20
-0.10
0.10
-0.30
0.00
Long-run elasticities:
Commodity Price: 0.13
GDP: 1.32
-0.50
88 90 92 94 96 98 00 02 04 06 08 10 12
Source: Deutsche Bank, Haver
-0.10
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

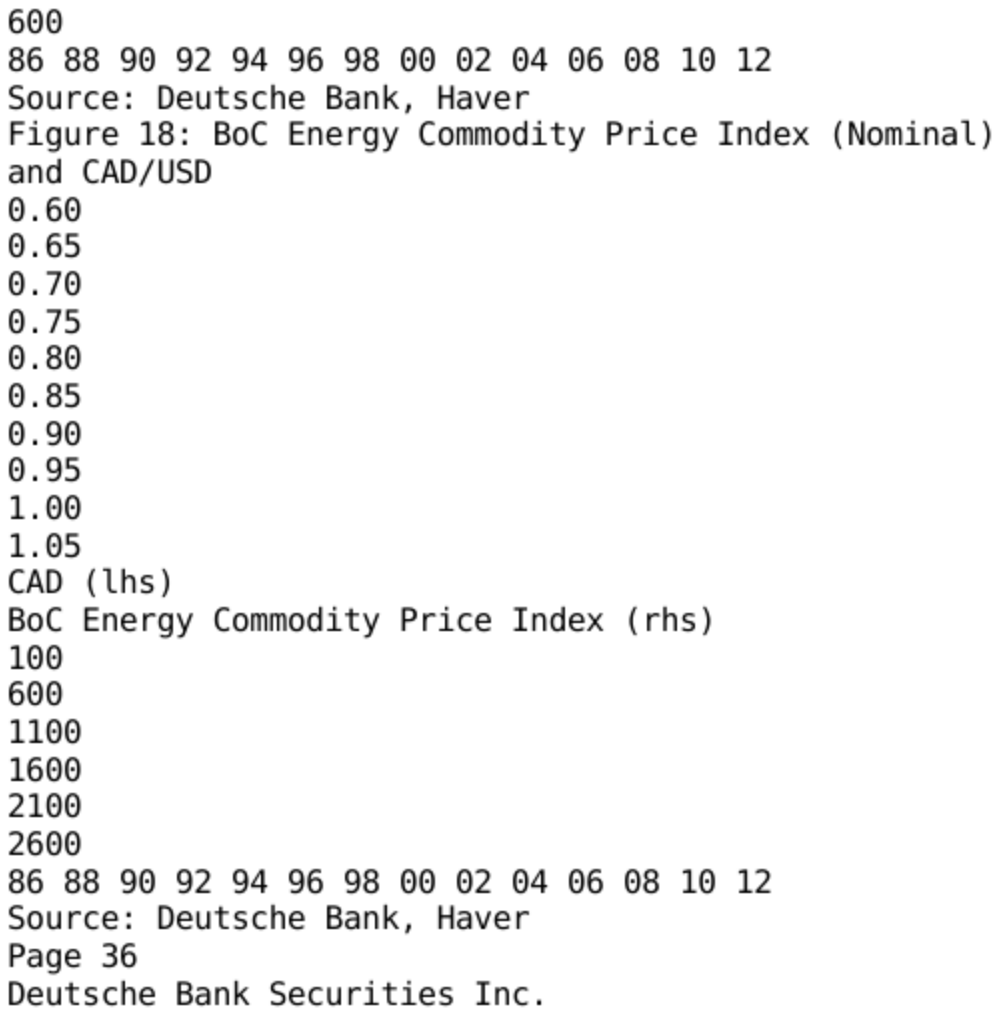


Figure 18: BoC Energy Commodity Price Index (Nominal) and CAD/USD

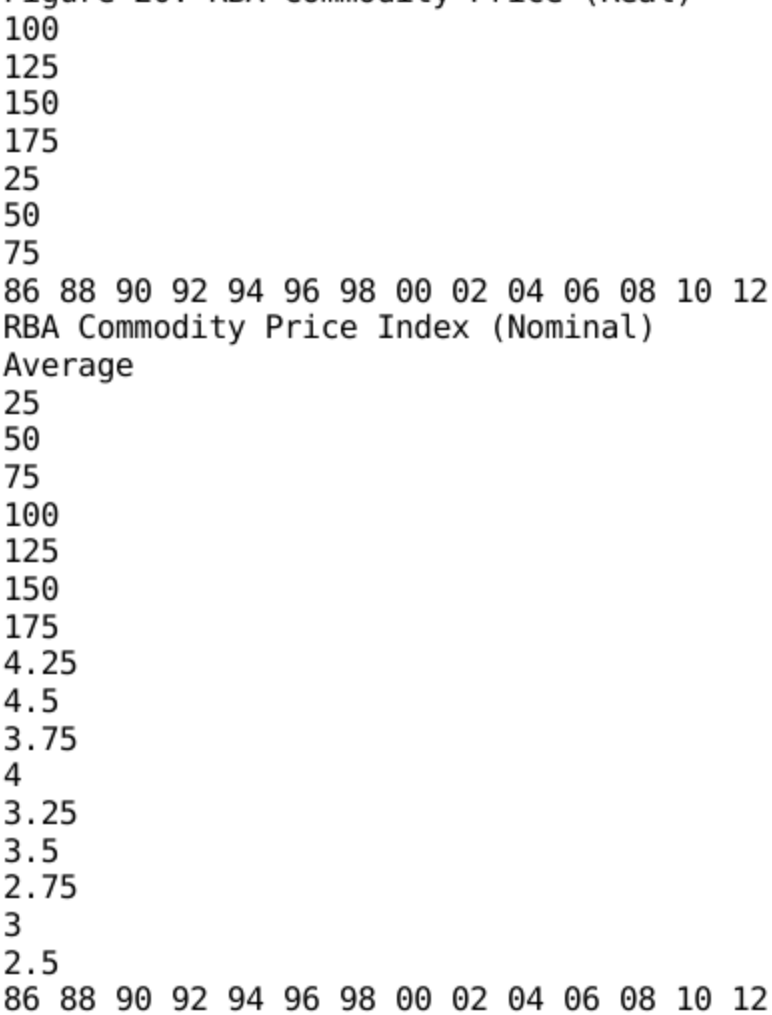
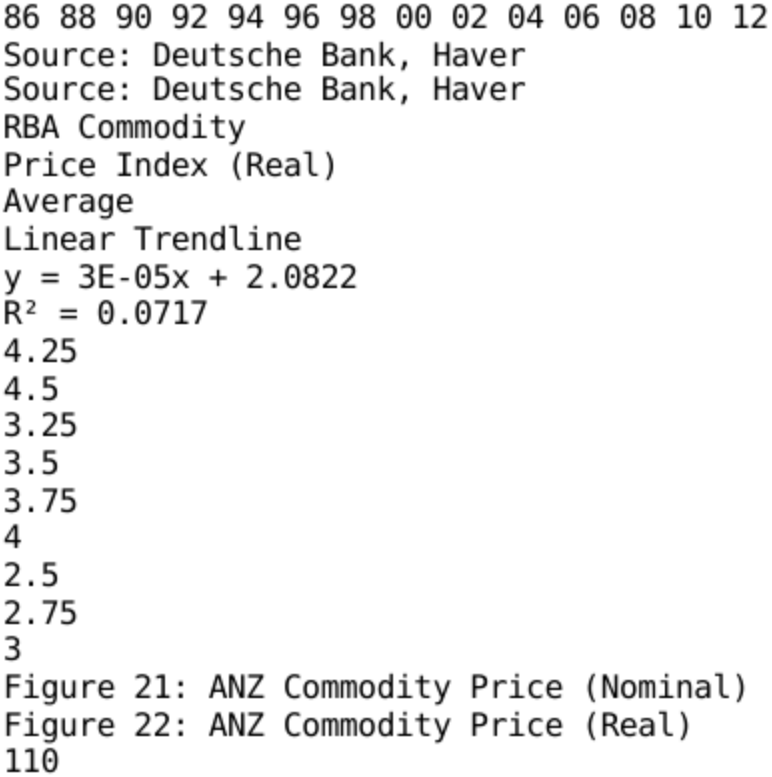
Figure 19: RBA Commodity Price (Nominal)
Figure 20: RBA Commodity Price (Real)


Figure 21: ANZ Commodity Price (Nominal)
Figure 22: ANZ Commodity Price (Real)


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
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
Source: Deutsche Bank, Haver
4
4.8
4.6
y = -8E-06x + 4.585
R² = 0.0207
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)
Figure 24: BoC Commodity Price (Real)
1000
200
400
600
800
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
6.2
5.2
5.4
5.6
5.8
6
4.8
5
Source: Deutsche Bank, Haver
BoC Commodity Price Index
(Real)
Average
Linear Trendline
6.2
y = -3E-05x + 6.3235
R² = 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

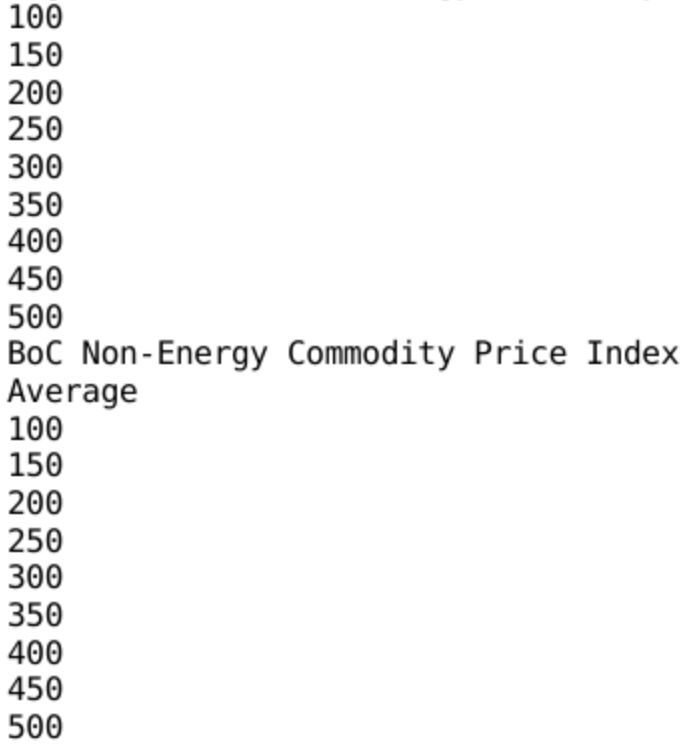
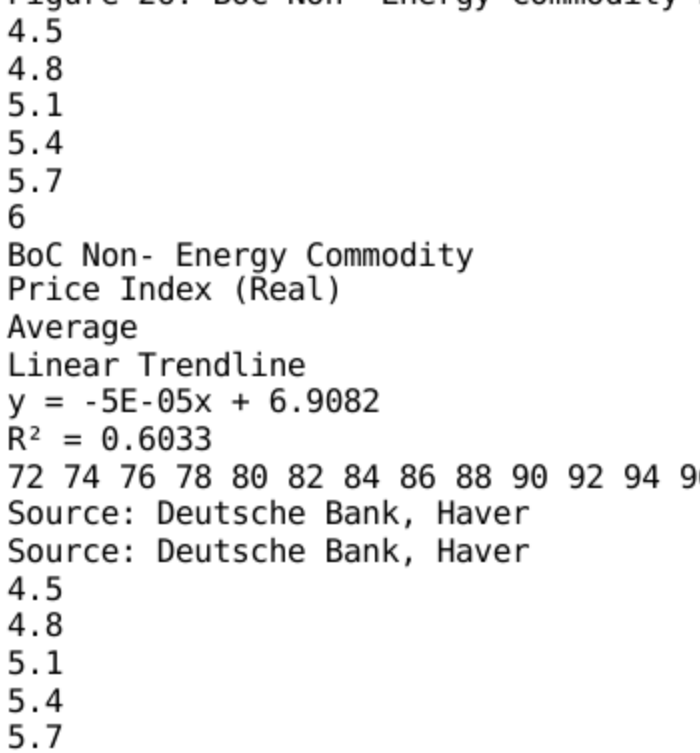
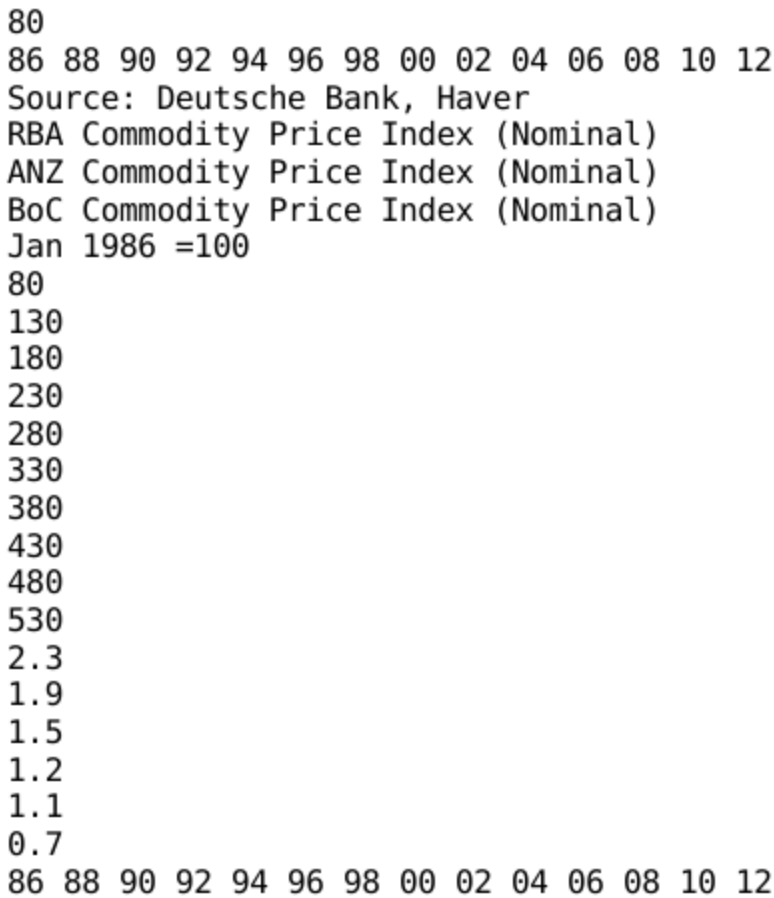
Figure 25: BoC Non-Energy Commodity Price (Nominal)


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


Source: Deutsche Bank, Haver
Source: Deutsche Bank, Haver
4.5
4.8
5.1
5.4
5.7
6
Figure 27: BoC Energy Commodity Price (Nominal)
Figure 28: BoC Energy Commodity Price (Real)
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
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
R² = 0.0292
5.2
5.4
5.6
5.8
6
5
Figure 29: Commodity Price Indices
Figure 30: Ratio of 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
80
130
180
230
280
330
380
430
480
530

2.3
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 Australia to
NZ Commodity Price
Indicies (Nominal)
Ratio of Canada to NZ
Commodity Price
Indicies (Nominal)
2.2
1.7

U.S. Trade Balance Monitor
Figure 1: The US trade deficit continues to recover
-900
-800
-700
-600
-500
-400
-300
-200
-100
0
USD Bn
Jan-92 Jan-96 Jan-00 Jan-04 Jan-08 Jan-12
Annualized Trade Balance
Annualized Trade Balance,3m
Sum
Annualized Trade
Balance,12m Sum
Source: DataStream, Deutsche Bank.
-900
-800
-700
-600
-500
-400
-300
-200
-100
0
Figure 2: US and world industrial growth remains sedate
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
-15
-10
-5
0

5
Source: DataStream, Deutsche Bank
Figure 3: The narrowing in the deficit reflected a outpacing of import growth by export growth
Figure 4: Recently export prices have receded sharply while export volumes have increased slightly
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
Figure 5: Export prices tend to follow the dollar
12
yoy,%
-12
-8
-4
0
4
8
USTRBROA,inverted
(rhs)
Export Price
Ln
u
4.30
4.40
4.50
4.60
4.70
4.80
Jan-94 Dec-96 Nov-99 Oct-02 Sep-05 Aug-08 Jul-11
-40
-30
-20
-10
0
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
Source: DataStream, Deutsche Bank
Figure 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
yoy,%
Export Volume
World IP ex US IP(rhs)
15
5
-5
-15
Source: DataStream, Deutsche Bank
Source: DataStream, Deutsche Bank

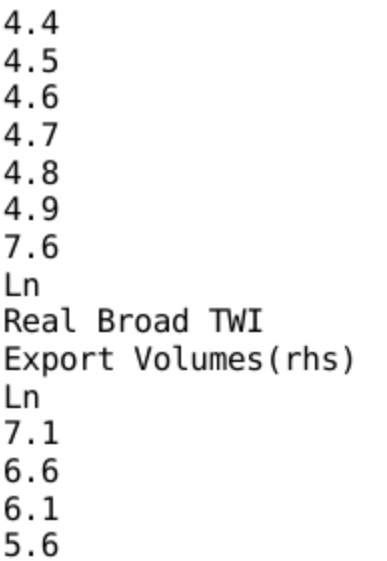
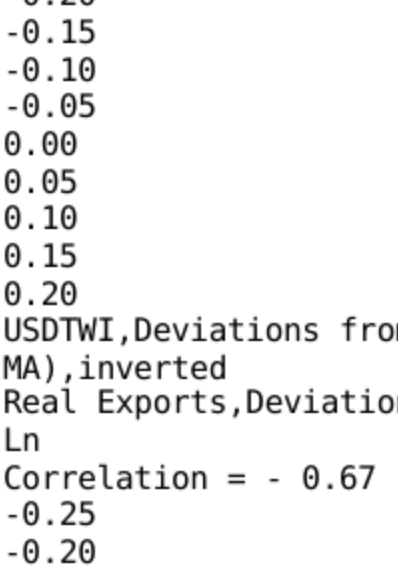
Figure 7: Export volumes have remained below trend since 2001


Figure 8: Export volume deviations from trend is no longer correlated with moving average of dollar valuation


Source: DataStream, Deutsche Bank
Source: DataStream, Deutsche Bank
Figure 9: A brief end to the dollar upsurge doesn’t seem to bolster export volume growth

20
-20
-10
0
Jan-94 Jan-98 Jan-02 Jan-06 Jan-10
yoy,%
Export Volume
USTRBROA,inverted(rhs)
Ln
4.30
4.40
4.50
4.60
4.70
4.80
Figure 10: Recovery in import price is boosting the volume during the past few months
10
15
20
-20
-15
-10
-5
0
5
yoy,%
12
17
22
Import Volume
Import Price (rhs)
Jan-92 Jan-96 Jan-00 Jan-04 Jan-08 Jan-12
-18
-13
-8
-3
2
7
Source: DataStream, Deutsche Bank
Source: DataStream, Deutsche Bank
Figure 11: Import price inflation has followed the dollar
Figure 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 Jan-98 Jan-02 Jan-06 Jan-10
Import Price
USTRBROA,inverted(rhs)
yoy,%
-12
-7
-2
3
8
13
10
15
20
-25
-20
-15
-10
-5
0
5
10
yoy,%
Jan-94 Jan-98 Jan-02 Jan-06 Jan-10
Import Volume
US IP(rhs)
-15
-10
-5
0
5
Source: DataStream, Deutsche Bank
Source: DataStream, Deutsche Bank

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
Dec-13

Figure 13: U.S. Exports and Imports of Goods and Services (Balance of Payments Basis) (last 13 months)
May Jun Jul Aug Sep Oc t Nov Dec Jan Feb Ma r Apr May
Unit s 2012 2012 2012 2012 2012 2012 2012 2012 2012 2012 2012 2013 2013
Exports
Imports
(US$ bn.) 184.2 185.2 183.4 182.1 186.8 182.7 185.2 188.7 186.7 187.1 185.2 187.6 187.1
(US$ bn.) 230.5 227.6 226.8 226.1 228.4 225.3 231.6 227.0 229.4 231.0 222.3 227.7 232.1
Trade Balance (US$ bn.)
Export & Import Growth
Exports
Imports
Growth Differential
-46.2 -42.4 -43.5 -44.0 -41.6 -42.7 -46.4 -38.3 -42.7 -43.8 -37.1 -40.1 -45.0
(y-o-y%) 4.6% 7.0% 2.2% 1.2% 3.1% 1.2% 3.9% 5.3% 4.0% 2.8% -0.7% 1.8% 1.5%
(y-o-y%) 3.1% 1.6% 0.8% 0.7% 1.2% -0.6% 2.5% -1.5% -0.7% 2.3% -5.1% -1.4% 0.7%
1.5% 5.4% 1.3% 0.5% 1.9% 1.8% 1.4% 6.8% 4.7% 0.5% 4.4% 3.2% 0.8%
Figure 14: U.S. Export and Import Orders (ISM Survey) (last 13 months)
May Jun Jul Aug Sep Oc t Nov Dec Jan Feb Ma r Apr May
Unit s 2012 2012 2012 2012 2012 2012 2012 2012 2012 2012 2012 2013 2013
Exports
Imports
(US$ bn.) 184.2 185.2 183.4 182.1 186.8 182.7 185.2 188.7 186.7 187.1 185.2 187.6 187.1
(US$ bn.) 230.5 227.6 226.8 226.1 228.4 225.3 231.6 227.0 229.4 231.0 222.3 227.7 232.1
Trade Balance (US$ bn.)
Export & Import Growth
Exports
Imports
Growth Differential
-46.2 -42.4 -43.5 -44.0 -41.6 -42.7 -46.4 -38.3 -42.7 -43.8 -37.1 -40.1 -45.0
(y-o-y%) 4.6% 7.0% 2.2% 1.2% 3.1% 1.2% 3.9% 5.3% 4.0% 2.8% -0.7% 1.8% 1.5%
(y-o-y%) 3.1% 1.6% 0.8% 0.7% 1.2% -0.6% 2.5% -1.5% -0.7% 2.3% -5.1% -1.4% 0.7%
1.5% 5.4% 1.3% 0.5% 1.9% 1.8% 1.4% 6.8% 4.7% 0.5% 4.4% 3.2% 0.8%
Figure 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 -48.2 -51.7 -66.5 -78.5 -71.8 -68.2 -78.3 -21.6 -28.5 -34.5 -31.8
Mexico
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
-3.4
1.5
U.K.-1.8

Japan
China
Hong Kong
South Korea
Singapore
Taiwan
U.S. Total
Source: DataStream, Deutsche Bank
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
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 Securities Inc.

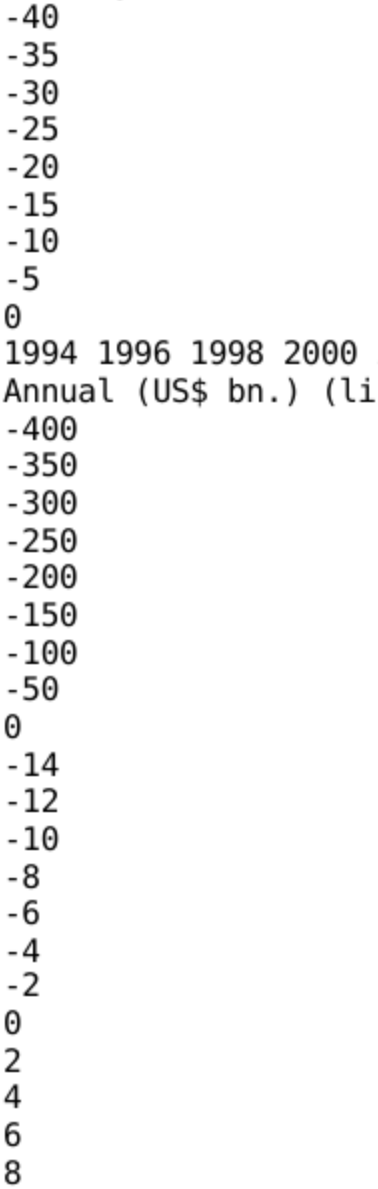
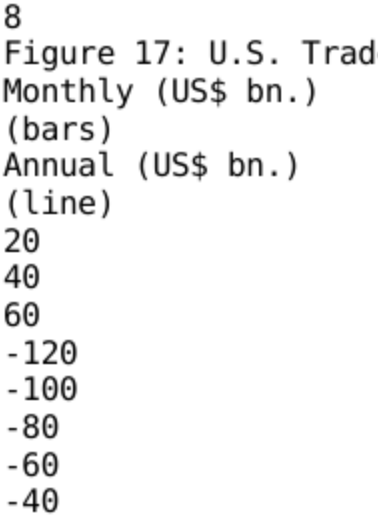
U.S Exports-Imports by Commodity
Figure 16: U.S. Trade Balance Excluding China &
Petroleum (Monthly & Annual Balance)


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


-20
0
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
Source: DataStream
Source: DataStream
Figure 18: U.S. Trade Balance – Petroleum Products
Monthly (US$ bn.) (bars)
-45
-40
-35
-30
-25
-20
-15
-10
-5
0
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
Annual (US$ bn.) (line)
-500
-450
-400
-350
-300
-250
-200
-150
-100
-50
0
-35
-30
-25
-20
-15
-10
-5
0
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

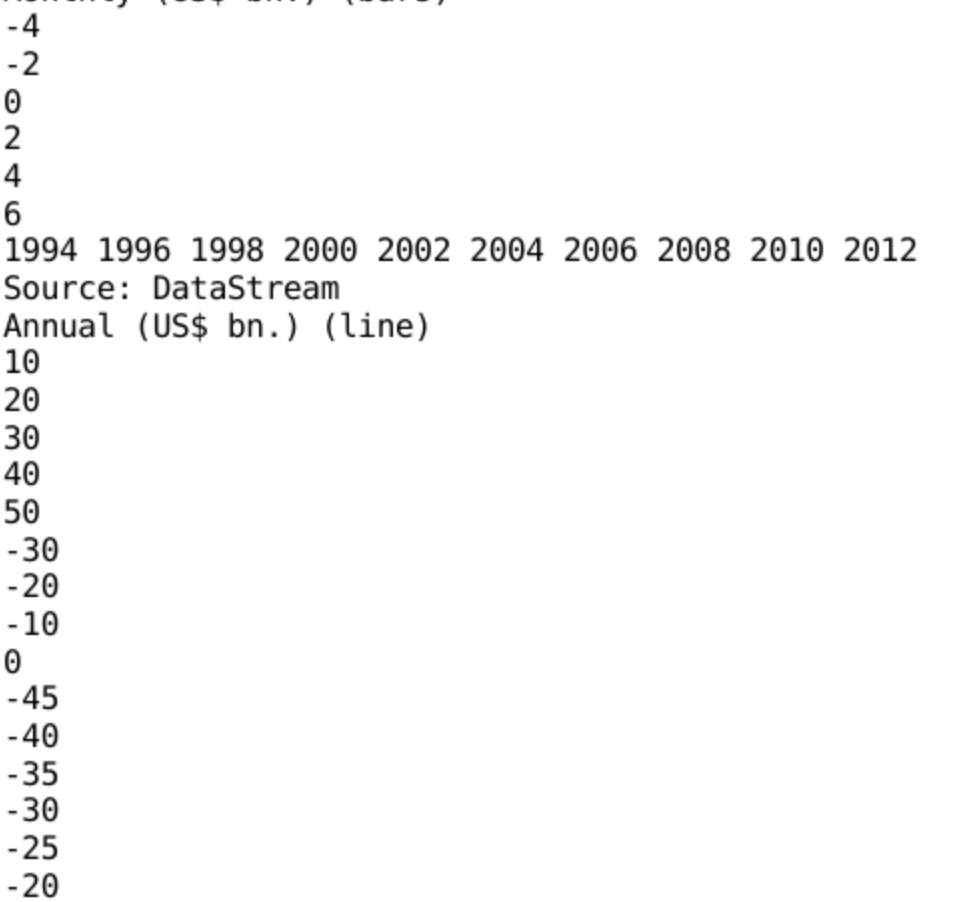
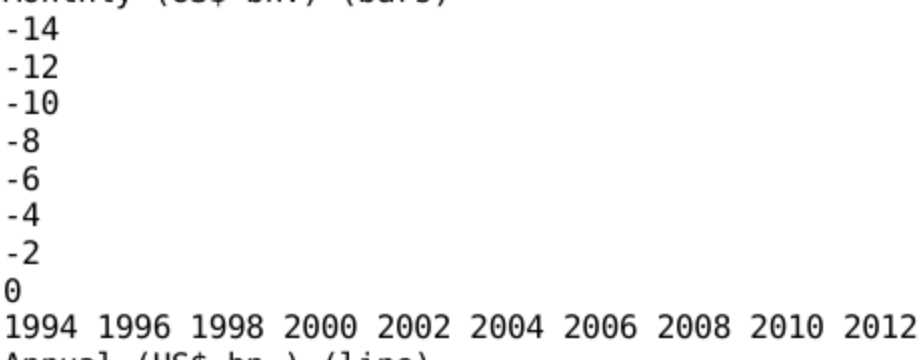
Figure 19: U.S. Trade Balance – Consumer Goods
Source: DataStream
Source: DataStream
Figure 20: U.S. Trade Balance – Capital Goods
Figure 21: U.S. Trade Balance – Industrial Supplies


Figure 22: U.S. Trade Balance – Automotive
Figure 23: U.S. Trade Balance – Food & Beverages
Monthly (US$ bn.) (bars)
-16
-14
-12
-10
-8
-6
-4
-2
0
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
Source: DataStream
Annual (US$ bn.) (line)
-180
-160
-140
-120
-100
-80
-60
-40
-20
0
-2
-1
0
1
2
3
4
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
Source: DataStream
Monthly (US$ bn.) (bars)
Annual (US$ bn.) (line)
10
15
20
25
30
-15
-10
-5
0
5
U.S. Bilateral Trade Balances by Country & Region
Figure 24: U.S. Trade Balance with China
-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
-300
-250
-200
-150
-100
-50
0
-10
-9
-8
-7
-6
-5
-4
-3
-2
-1
0
Figure 25: U.S. Trade Balance with Japan
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
Source: DataStream
Figure 26: U.S. Trade Balance with the Pacific Rim
(Asia excluding China and Japan)
Figure 27: U.S. Trade Balance with OPEC
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
Annual (US$ bn.) (line)
-85
-75
-65
-55
-45
-35
-25
-15
-5
-30
-25
-20
-15
-10
-5
0
5
Monthly (US$ bn.)
(bars)
Annual (US$ bn.) (line)
1994 1996 1998 2000 2002 2004 2006 2008 2010 2012
Source: DataStream
-200
-160
-120
-80
-40
0

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


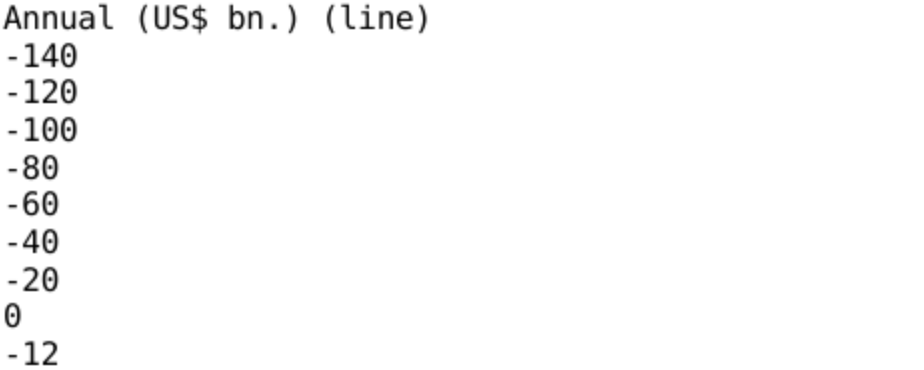
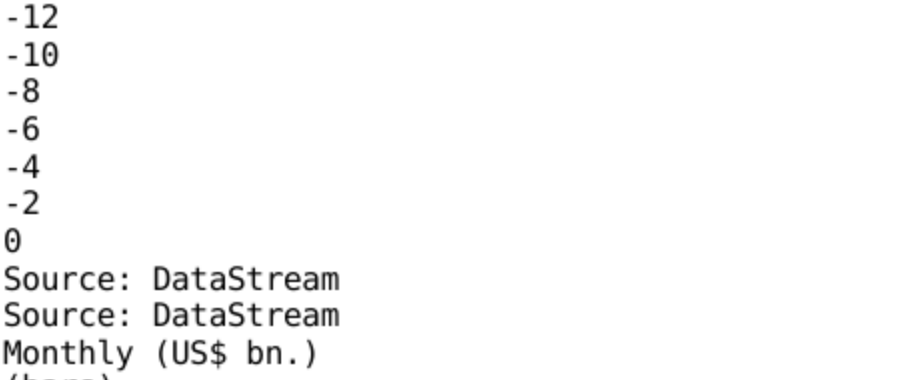
Source: DataStream
Source: DataStream


Figure 29: U.S. Trade Balance with Canada
Figure 30: U.S. Trade Balance with Mexico
Figure 31: U.S. Trade Balance with Latin America


-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
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: Deutsche Bank
Source: Deutsche Bank
U.S Current-Account Balance Monitor
Figure 32: U.S. Current-Account Balance
(1980-2010)
Annualized Current Account as % of GDP
-7.0
-5.0

-3.0
-1.0
1.0
-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
Source: DataStream
1200
600
-1800
-1200
-600
0
Figure 33: U.S. Savings and Investment
(Private & Government Sector Savings-Investment)
Private Sector Balance
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

Figure 34: U.S. Current-Account Balance (last 13 quarters) (US$ Billions)
Q1 2010Q2 2010Q3 2010Q4 2010Q1 2011Q2 2011Q3 2011Q4 2011Q1 2012Q2 2012Q3 2012Q4 2012Q1 2013
Balance on Goods
Balance on Services
Bal on Goods & Services
Investment Income
Unilateral Transfers
Bal on Current Account
-152.9 -165.3 -169.3 -162.6 -181.7 -187.7 -183.9 -190.9 -193.6 -186.5 -179.0 -182.4 -179.1
34.7 36.2
38.0 41.9
42.8 46.8
-32.0
-30.4
45.3 47.1
55.1 55.4
-35.3
-33.8
49.2 45.7
61.1 61.1
-32.0
50.7 51.2
-32.4
54.9 57.5
-32.8
-32.7
54.6 57.0 52.0
-32.3
-31.9
50.0 55.0 55.5
-118.3 -129.2 -131.3 -120.7 -136.4 -140.6 -134.7 -145.2 -142.9 -135.3 -129.0 -127.4 -123.7
43.8 44.2
-34.9 -30.4
-109.4 -115.4 -120.5 -104.2 -116.6 -118.9 -105.6 -116.6 -120.8 -110.5 -106.7 -102.3 -106.1
(annualized, as % of GDP) -3.1% -3.2% -3.3% -2.8% -3.1% -3.2% -2.8% -3.0% -3.1% -2.8% -2.7% -2.6% -2.7%
Source: DataStream
Figure 35: U.S. Current-Account Balance (1998-2012) (US$ Billions)
2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2012
Balance on Goods
Balance on Services
Bal on Goods & Services
Investment Income
Unilateral Transfers
Bal on Current Account

-445.8 -421.3 -474.5 -540.4 -663.5 -780.7 -835.7 -818.9 -830.1 -505.8 -645.1
-738.4 -735.3
69.0 59.5
57.1 49.4
25.2 43.7
-65.0
-71.8
58.2 72.1
65.1 68.6
44.2 101.5 147.1 119.7 183.9 227.0 198.6
82.4 122.2 131.8 126.6 150.4 178.5 195.8
-376.8 -361.8 -417.4 -491.0 -605.4 -708.6 -753.3 -696.7 -698.3 -379.2 -494.7
-559.9 -539.5
19.2 29.7
-58.8 -64.6
-416.3 -396.6 -457.2 -519.1 -628.5 -745.8 -800.6 -710.3 -677.1 -381.9 -442.0
-465.9 -475.0
(annualized, as % of GDP) -4.2% -3.9% -4.3% -4.7% -5.3% -5.9% -6.0% -5.1%
-4.7% -2.7% -3.0% -3.1% -3.0%
Source: DataStream
-34.5
-88.2 -105.7 -91.5 -115.1 -125.9 -122.5 -131.1 -133.1 -134.1
Figure 36: U.S. Savings-Investment & Net Foreign Investment (1998-2010) (US$
Billions)
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
Private Savings
Private Investment
Gov't Savings
Gov't Investment
Gov't-Sector Balance
Gross Savings
Gross Investment
Savings-Investment
Private-Sector Balance -396.0 -195.4
423.9 229.2
1376.2 1466.5 1656.8 1749.7 1894.6 1925.4 2079.5 1989.3 2282.7 2574.8 2834.8
2827.4 2840.3
1772.2 1661.9 1646.9 1729.7 1968.5 2172.3 2327.1 2295.2 2087.6 1549.3 1737.3
1854.9 2062.3
9.9
20.0
-73.9 -246.9 -247.6 -305.9 195.1 1025.5 1097.5 972.5 778.0
-95.9 -197.1 -155.9
-6.5 116.5
58.3 -374.5 -1019.0 -1064.1 -990.0 -847.0
304.3 322.0 343.5 355.8 372.3 392.0 425.1 456.4 497.2 506.9 505.5 480.2 472.3
119.6
-92.8 -439.4 -552.9 -528.2 -398.5 -308.6 -398.1 -871.7 -1525.9 -1569.6
-1470.2 -1319.3
1800.2 1695.7 1560.9 1552.6 1738.7 1918.9 2196.0 2047.7 1908.2 1555.8 1770.7
1837.5 1993.3

2076.5 1984.0 1990.4 2085.4 2340.9 2564.3 2752.2 2751.7 2584.7 2056.2 2242.9
2335.1 2534.6
-276.3 -288.3 -429.5 -532.8 -602.2 -645.4 -556.2 -704.0 -676.5 -500.4 -472.2
-497.6 -541.3
Statistical Discrepancy -134.0 -103.3
-22.1
16.6
-22.3
-95.1 -242.3
-12.0
-2.4 118.3
23.3
31.9
67.2
Net Foreign Investment -410.4 -391.6 -451.6 -516.1 -624.6 -740.5 -798.4
-716.0 -679.0 -382.1 -448.9 -465.7 -474.1
Source: DataStream
Deutsche Bank Securities Inc.

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