Some thoughts on exchange rate overvaluation and bank regulation

slides for Fabians seminar ‘Fresh Ideas for a Productive Economy’

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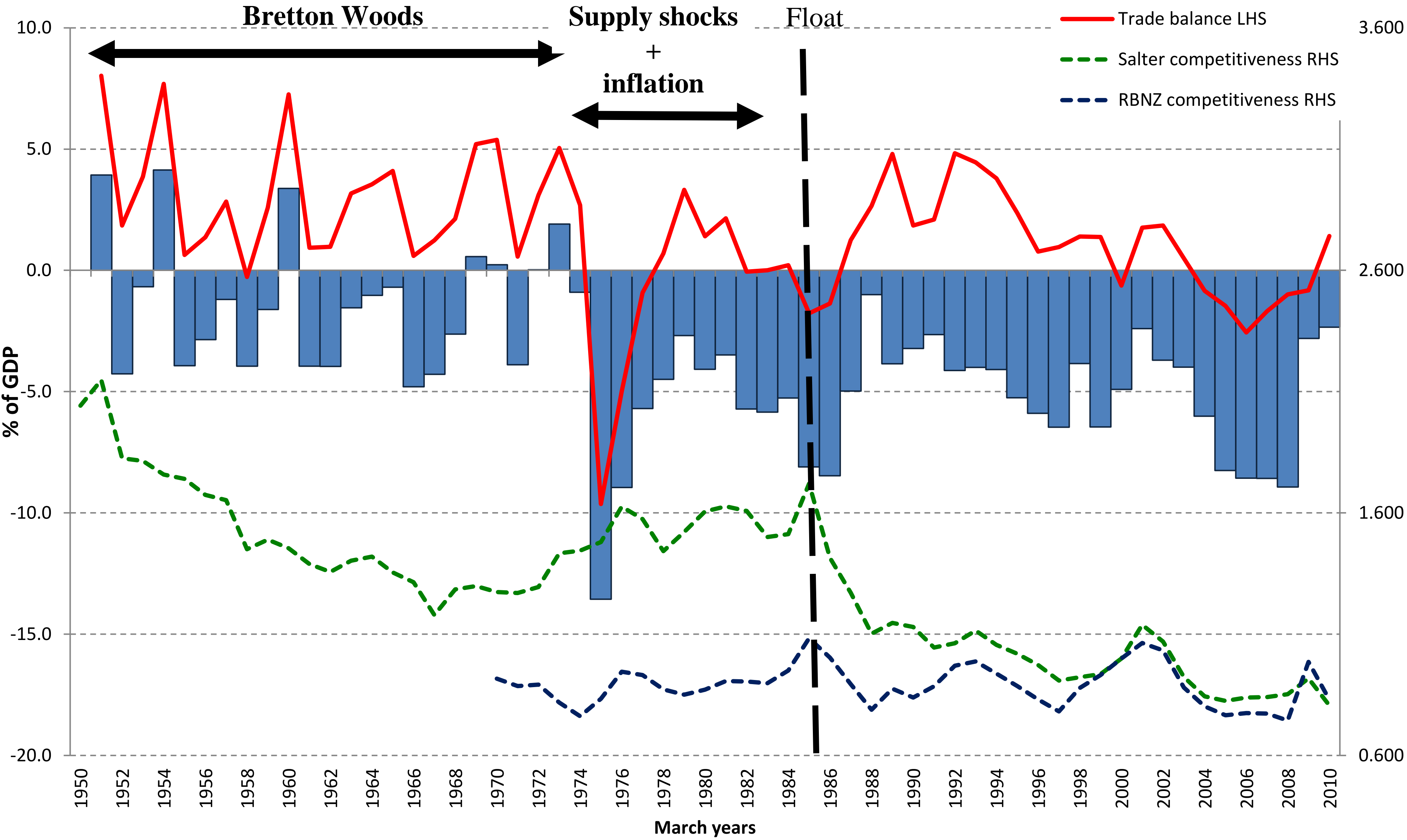

New Zealand Current Account Balance and Merchandise Trade Balance, 1951-2010
Current account balance LHS
Trade balance LHS
Salter competitiveness RHS
RBNZ competitiveness RHS
Bretton Woods
Supply shocks
+
inflation
Float
% of GDP
10.0
5.0
0.0
-5.0
-10.0
-15.0
-20.0
3.600
2.600
1.600
0.600
1950
1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
March years

Fairly widespread agreement that the NZ economy suffers from some sort of structural imbalance

- Generally summed up in the weak performance of 'tradables' sectors relative to GDP as a whole, especially in the past decade

- Linked to that is a persistent current account deficit attributable initially (1970-2000) to government borrowing and then capital inflow, but in the past decade to servicing costs on the external debt plus weakness of tradables production

- Both seem at least in part attributable to the high nominal and real exchange rate – i.e. to a relative-price misalignment which has distorted resource allocation

- The issue is one of market failure: asset markets can and co make large and persistent errors in valuing assets, including currencies

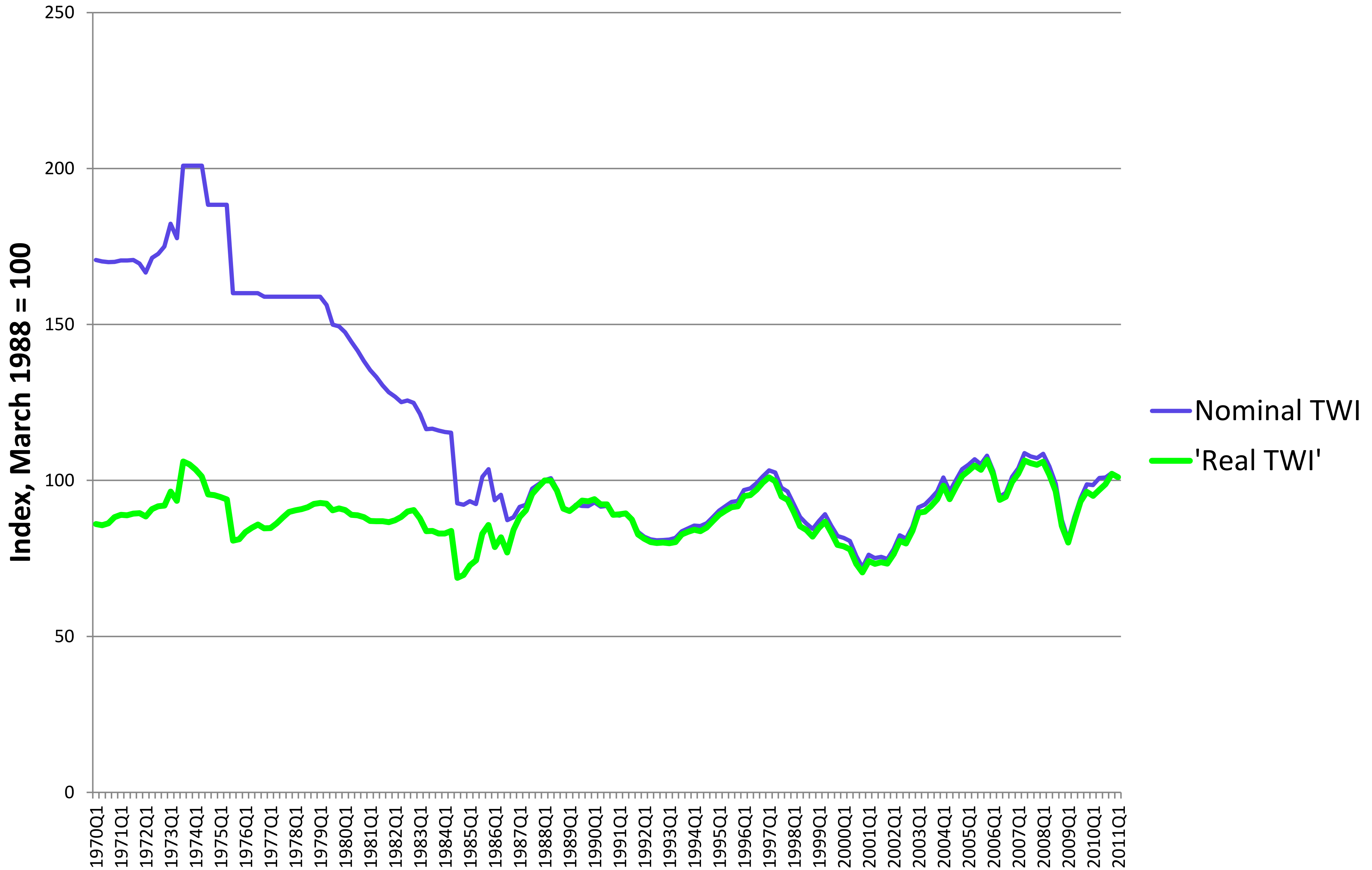
‘Rebalancing” the economy is mainly about getting relative prices right and keeping them that way

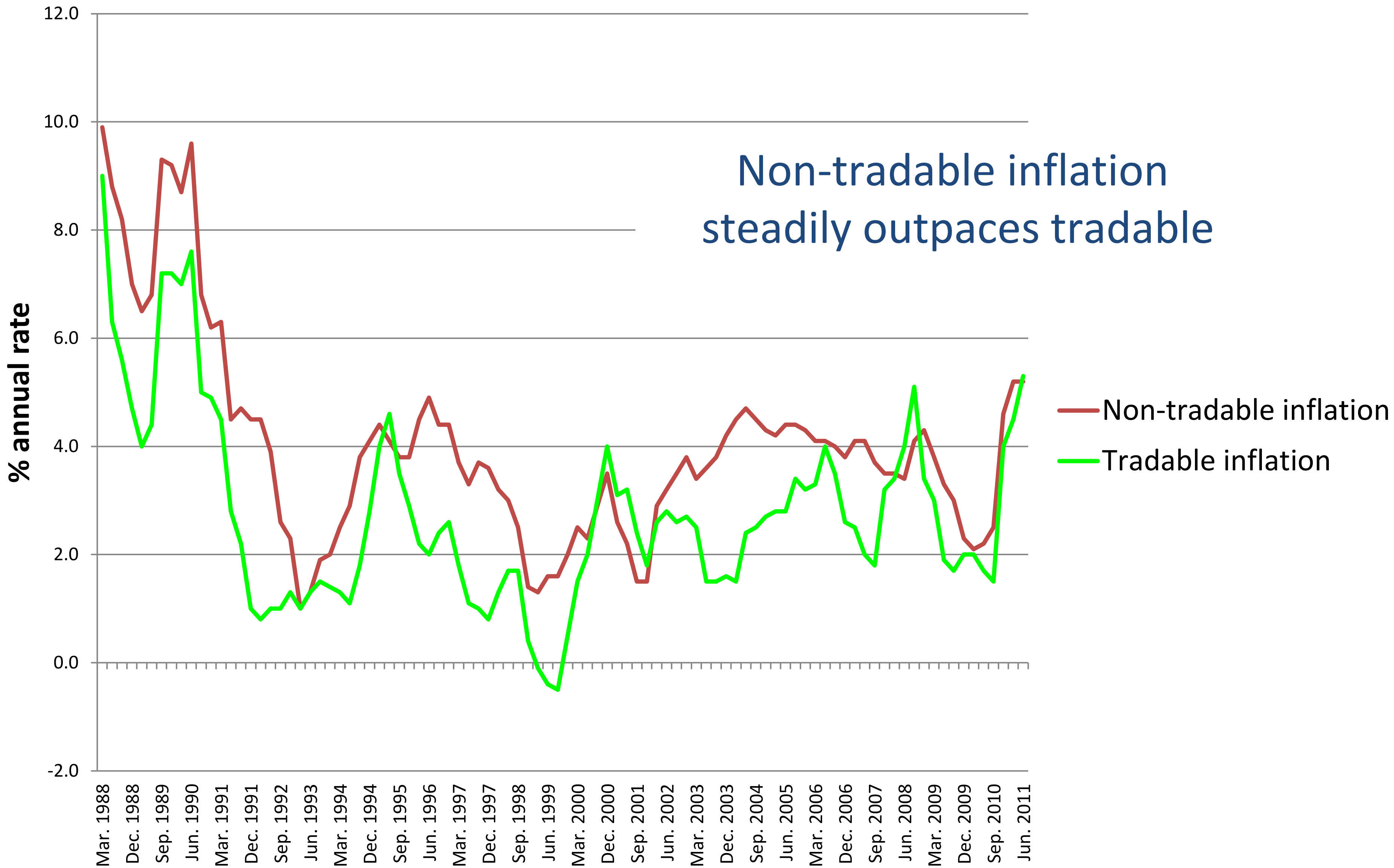
- Exchange-rate misalignment reflects, and is reinforced by, macro policy settings to which NZ Governments have adhered since the 1980s:

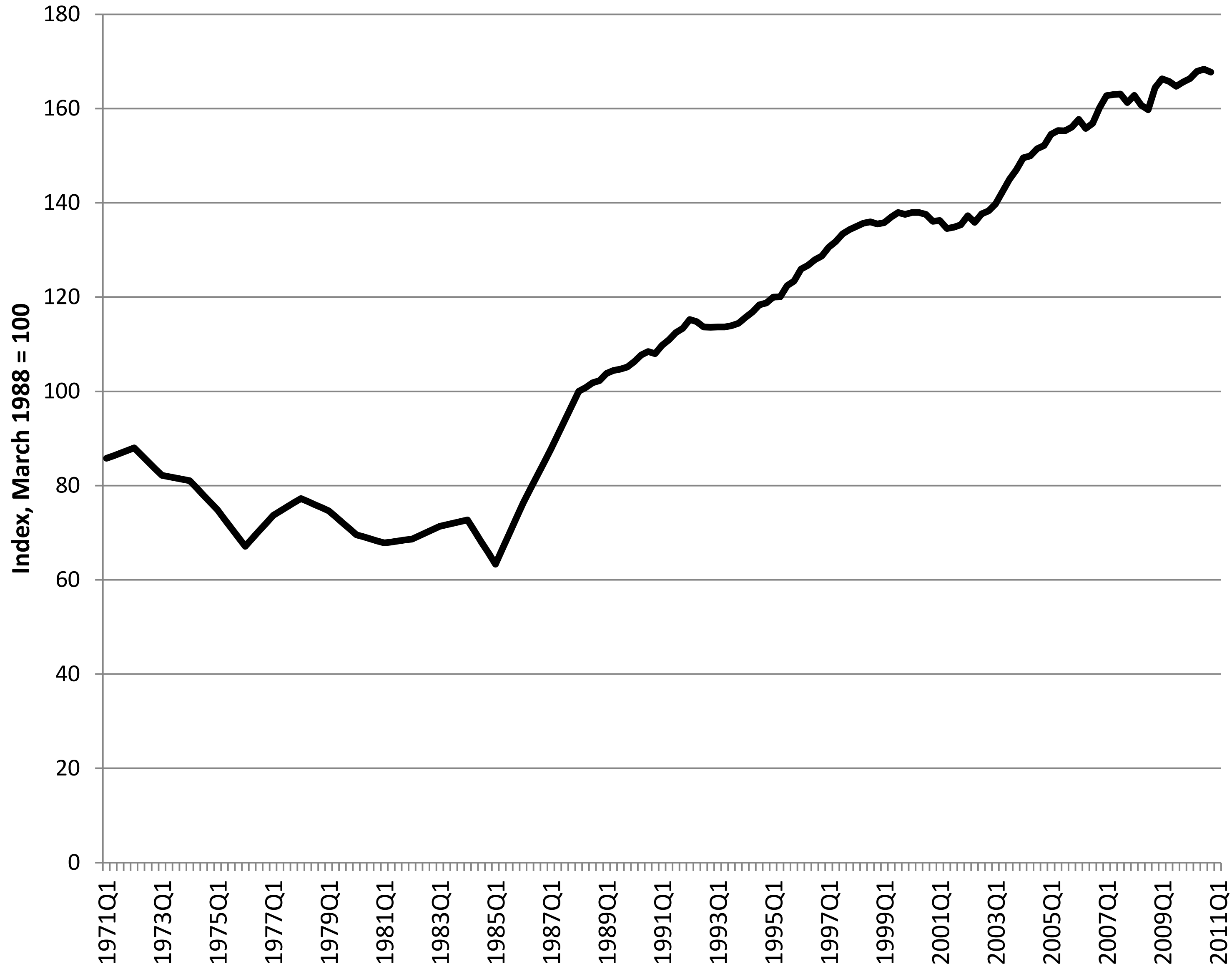
  – Inflation targeting by use of a single instrument, the interest rate, a rise in which which restrains tradables profitability by driving up the nominal exchange rate but has much less effect on non-tradables
  – Free floating exchange rate in a context of unregulated capital flows and weakly-regulated banks
  – Deregulation of non-tradables combined with weak competitive disciplines => relatively high inflation rate of non-tradables

- The real exchange rate has two faces:
  – Nominal exchange rate deflated by relative inflation rates in the various trading countries: assumes inflation is uniform across sectors
  – Price of tradable goods relative to price of non-tradables: changes insofar as inflation is <u>not</u> uniform across sectors

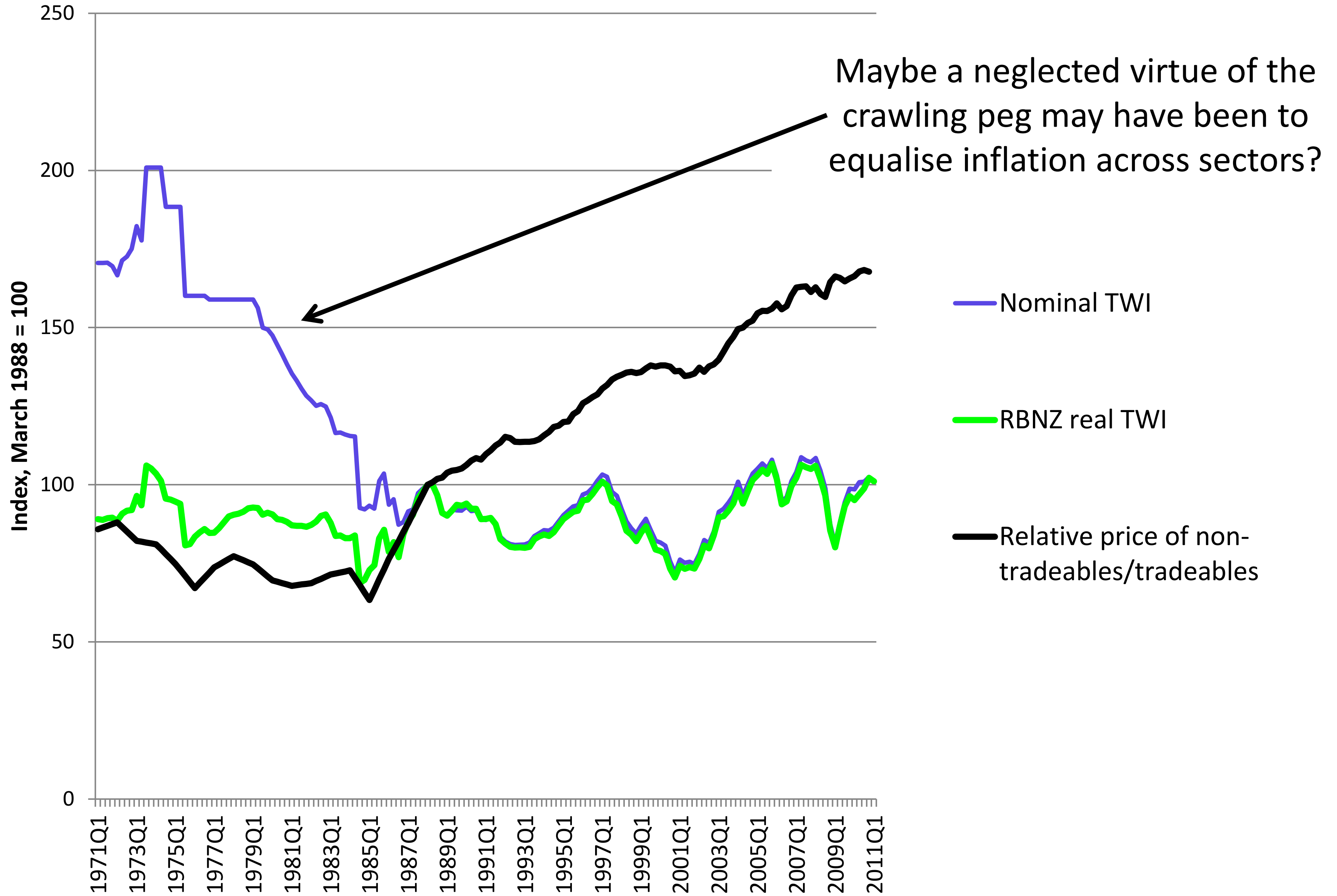
The RBNZ story: nominal rate deflated by country relative rates




Tradable and non-tradable inflation
12.0
10.0
8.0
6.0
4.0
2.0
0.0
-2.0
% annual rate
Non-tradable inflation
steadily outpaces tradable
Non-tradable inflation
Tradable inflation
Mar. 1988
Dec. 1988
Sep. 1989
Jun. 1990
Mar. 1991
Dec. 1991
Sep. 1992
Jun. 1993
Mar. 1994
Dec. 1994
Sep. 1995
Jun. 1996
Mar. 1997
Dec. 1997
Sep. 1998
Jun. 1999
Mar. 2000
Dec. 2000
Sep. 2001
Jun. 2002
Mar. 2003
Dec. 2003
Sep. 2004
Jun. 2005
Mar. 2006
Dec. 2006
Sep. 2007
Jun. 2008
Mar. 2009
Dec. 2009
Sep. 2010
Jun. 2011



Salter-Swan story: non-tradable/tradable relative price
Index, March 1988 = 100
180
160
140
120
100
80
60
40
20
0
1971Q1
1973Q1
1975Q1
1977Q1
1979Q1
1981Q1
1983Q1
1985Q1
1987Q1
1989Q1
1991Q1
1993Q1
1995Q1
1997Q1
1999Q1
2001Q1
2003Q1
2005Q1
2007Q1
2009Q1
2011Q1



New Zealand Real Exchange Rate: Two Versions 1971-2011
Maybe a neglected virtue of the crawling peg may have been to equalise inflation across sectors?
Index, March 1988 = 100
250
200
150
100
50
0
1971Q1
1973Q1
1975Q1
1977Q1
1979Q1
1981Q1
1983Q1
1985Q1
1987Q1
1989Q1
1991Q1
1993Q1
1995Q1
1997Q1
1999Q1
2001Q1
2003Q1
2005Q1
2007Q1
2009Q1
2011Q1
Nominal TWI
RBNZ real TWI
Relative price of non-tradeables/tradeables

Conclusions

- The Salter-Swan story probably overstates the trend because it doesn't adjust for sectoral inflation differentials in trading partners
- The RBNZ story understates the trend because it assumes no inflation differential across sectors
- Somewhere in the space between there is a steady squeeze on tradables
- Conventional inflation-targeting delivers unbalanced relative prices
  - Need for more targets or instruments to deal with non-tradable inflation
  - Industry policy (regulation) may be as important as monetary policy

<u>Nominal</u> overvaluation boils down to excess demand for the home currency at the optimal exchange rate

- In the NZ case this derives from persistent capital inflows to purchase both real and financial assets

- There are two sides to any asset transaction. Even with freed-up capital markets, a foreign-currency inflow requires that some agents in the NZ economy are selling assets for some purposes

- Diagnosis requires identification of the transactions that are producing foreign currency bonanzas

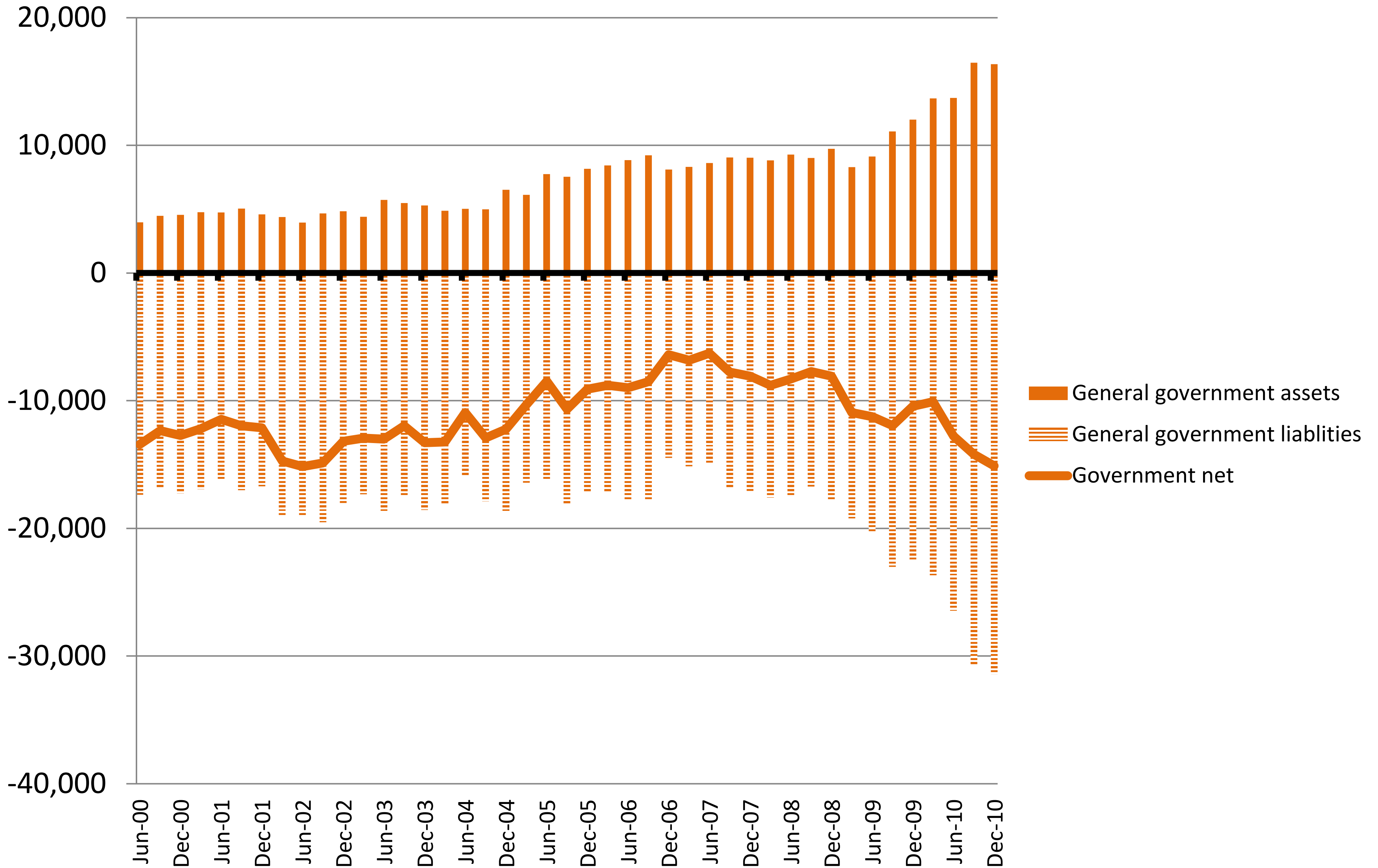
There is a distant family resemblance to “Dutch disease”

- In Dutch disease, there is a bonanza of foreign-exchange inflows on current account which, if not sterilised, pushes up the nominal and real exchange rates and thus squeezes out other tradables, leaving an economy dominated by the booming sector and non-tradables

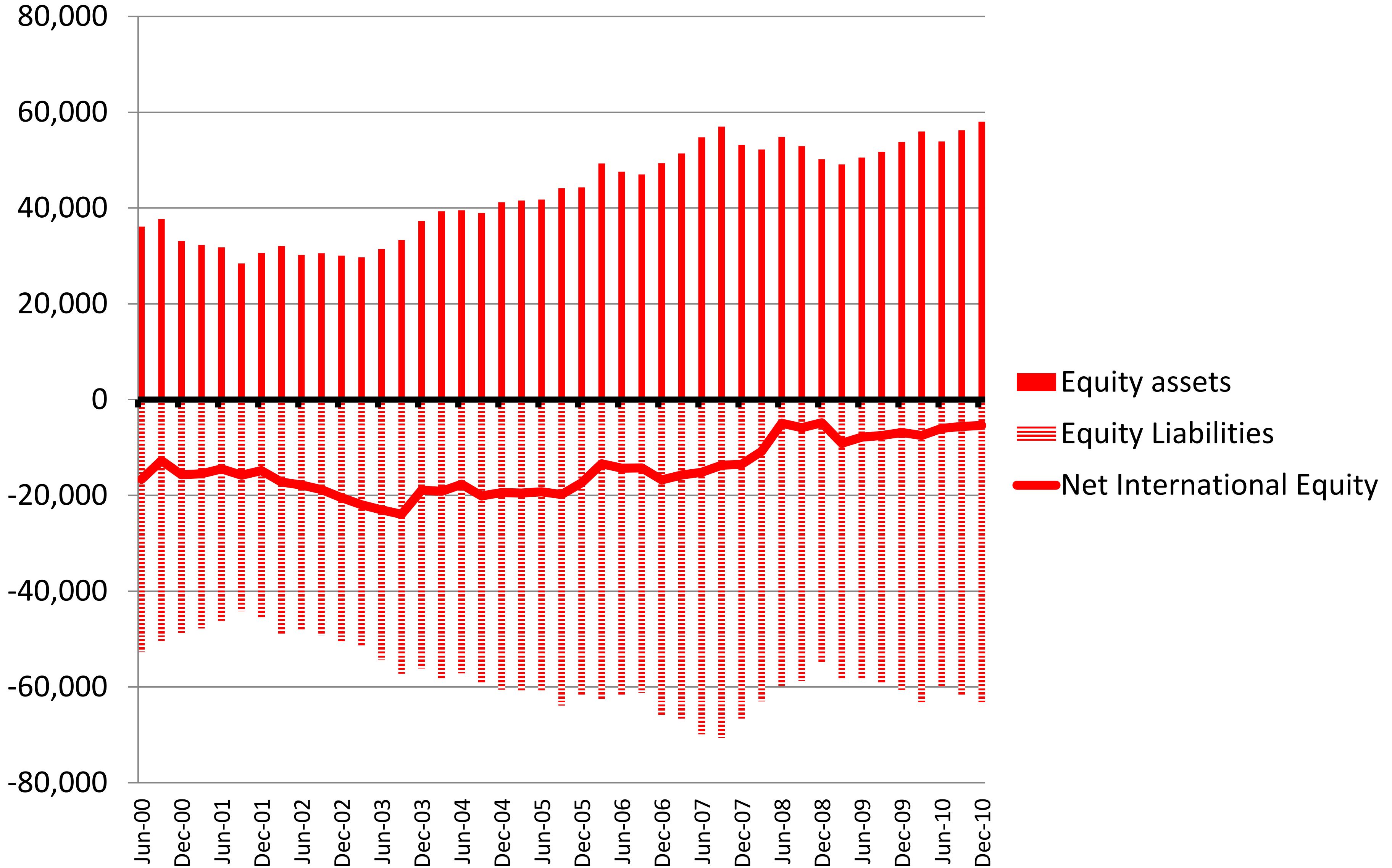
- But the New Zealand overvaluation is not in general driven by current account bonanzas (though pending reinsurance inflows from the Christchurch earthquake fit the model, and Fonterra sometimes looks like a booming sector)

- Rather, the overvaluation of the nominal exchange rate has been driven by capital [financial]-account transactions – capital inflow and the carry trade crowd out tradables production

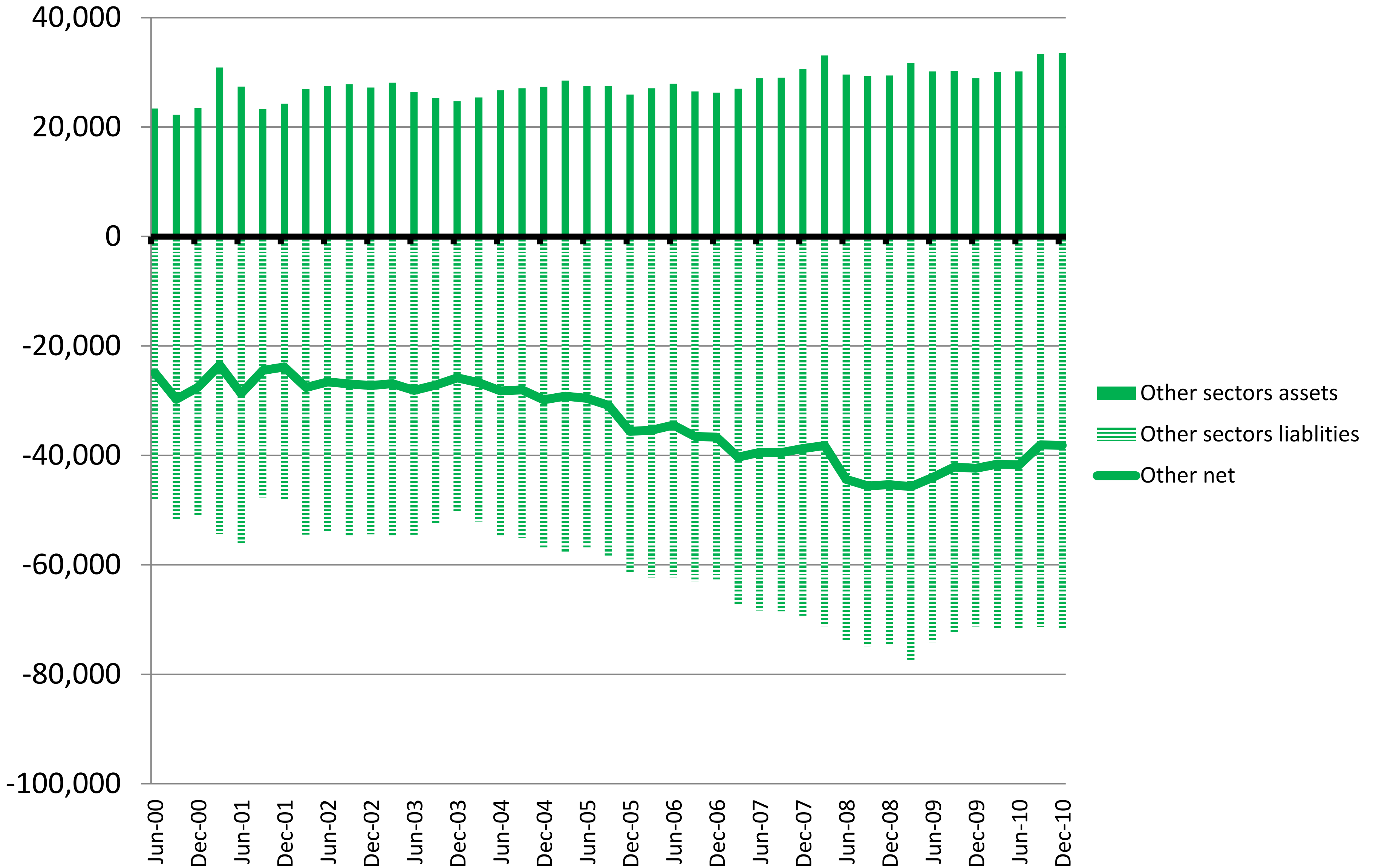
A look at sectoral balance sheets in the IIP statistics shows where the big net capital-inflow transactions have been:

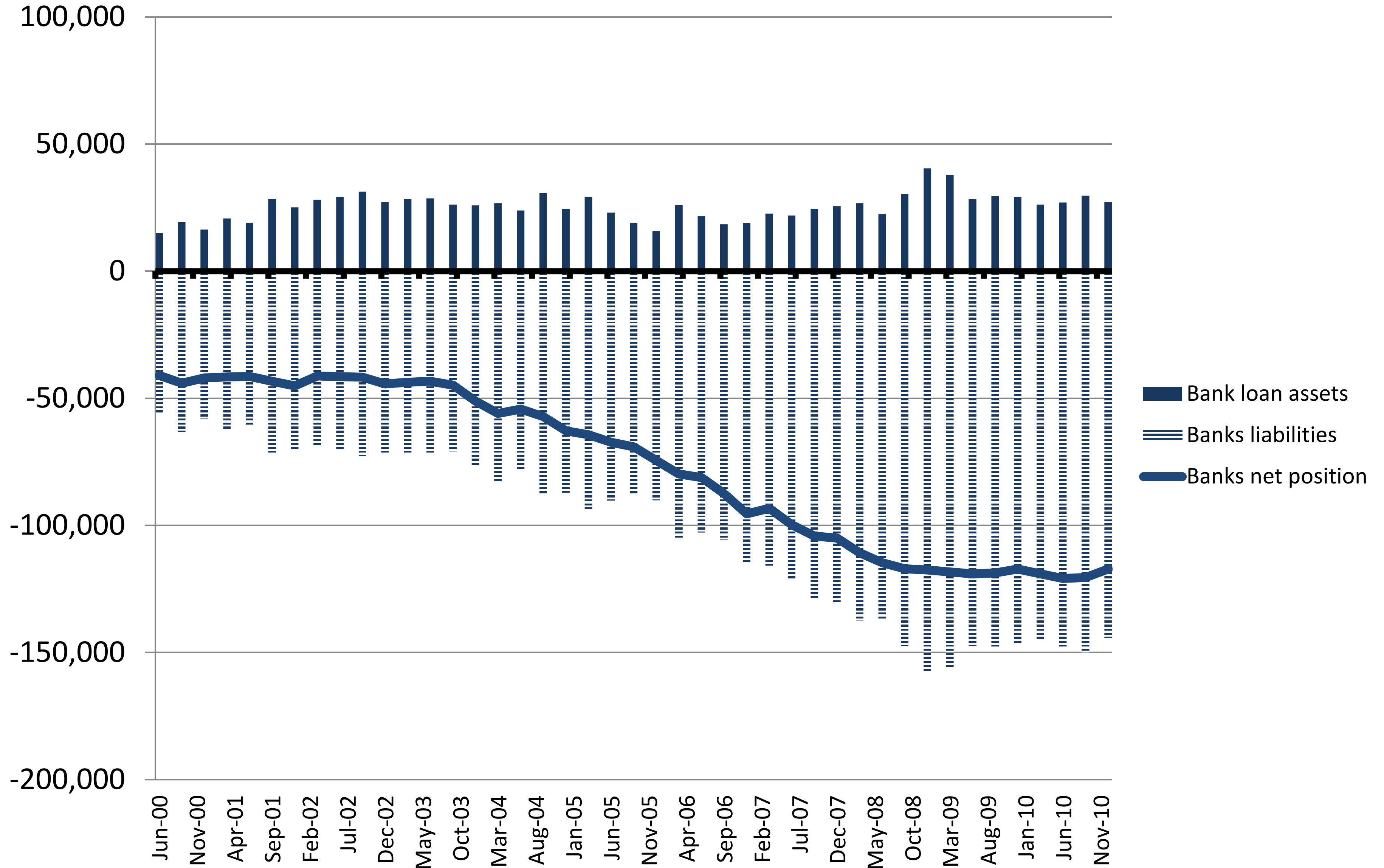


Government International Loan Position
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Dec-04
Jun-05
Dec-05
Jun-06
Dec-06
Jun-07
Dec-07
Jun-08
Dec-08
Jun-09
Dec-09
Jun-10
Dec-10
General government assets
General government liablities
Government net



Equity International Investment Position
80,000
60,000
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Dec-04
Jun-05
Dec-05
Jun-06
Dec-06
Jun-07
Dec-07
Jun-08
Dec-08
Jun-09
Dec-09
Jun-10
Dec-10
Equity assets
Equity Liabilities
Net International Equity


Other sectors International Loan Position
40,000
20,000
0
-20,000
-40,000
-60,000
-80,000
-100,000
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Dec-04
Jun-05
Dec-05
Jun-06
Dec-06
Jun-07
Dec-07
Jun-08
Dec-08
Jun-09
Dec-09
Jun-10
Dec-10
Other sectors assets
Other sectors liablities
Other net



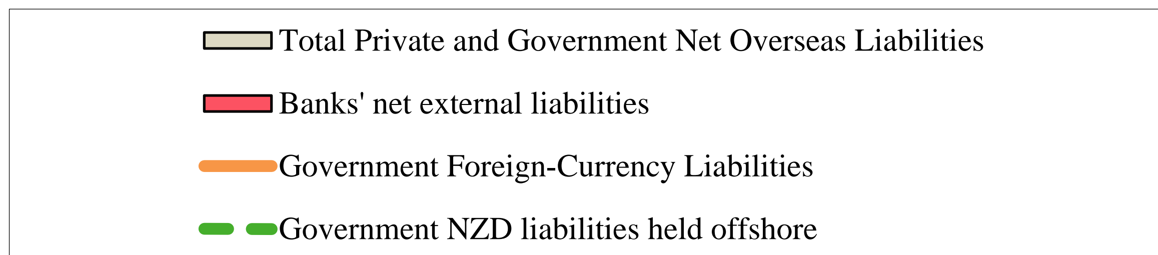
Banks International Investment Psition
100,000
50,000
0
-50,000
-100,000
-150,000
-200,000
Jun-00
Nov-00
Apr-01
Sep-01
Feb-02
Jul-02
Dec-02
May-03
Oct-03
Mar-04
Aug-04
Jan-05
Jun-05
Nov-05
Apr-06
Sep-06
Feb-07
Jul-07
Dec-07
May-08
Oct-08
Mar-09
Aug-09
Jan-10
Jun-10
Nov-10
Bank loan assets
Banks liabilities
Banks net position

Net International Investment Position (Government plus Private)

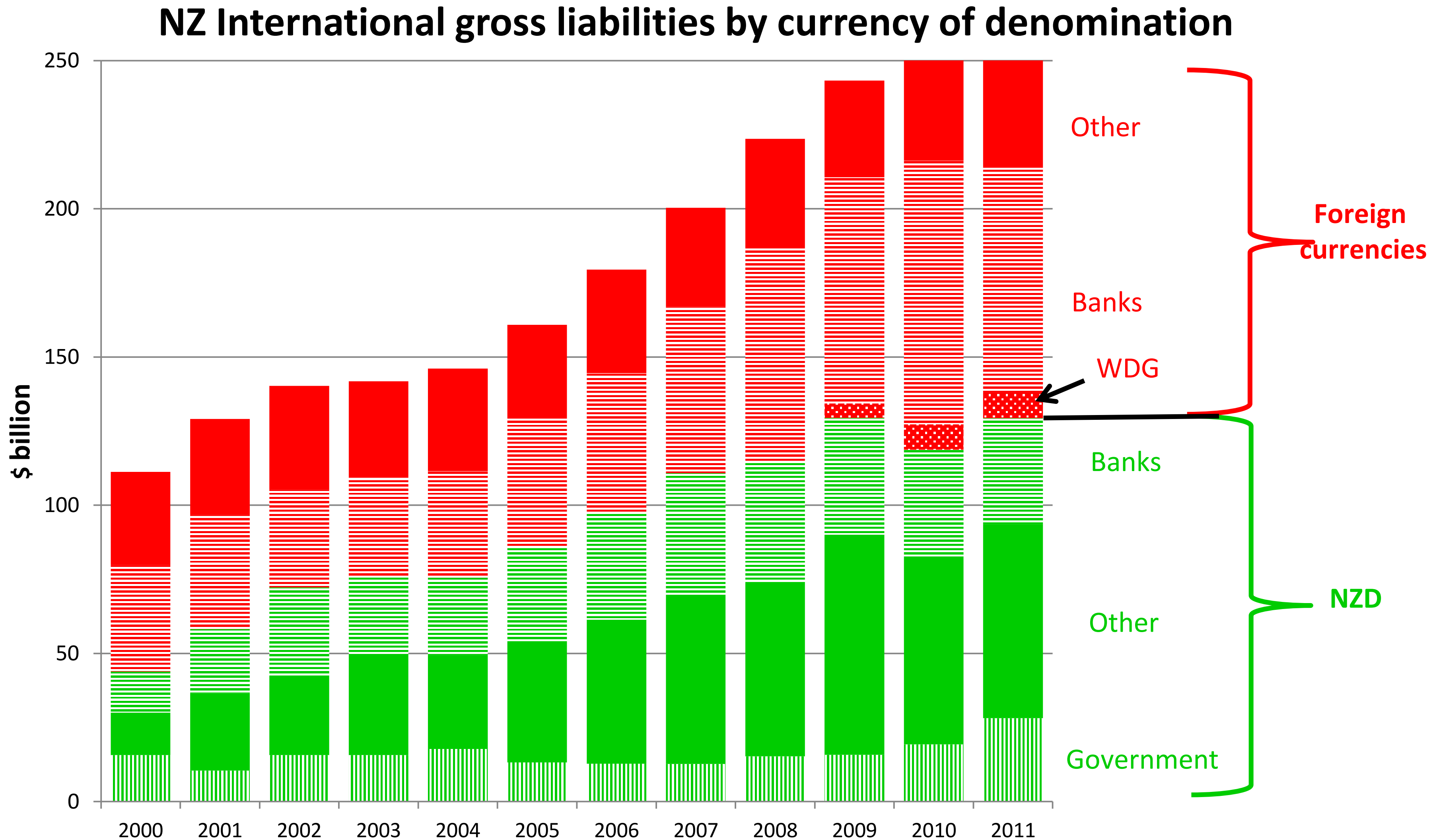
160
140
120
100
80
60
40
20
0
-20

% of GDP

1900 1910 1920 1930 1940 1950 1960 1970 1980 1990 2000 2010

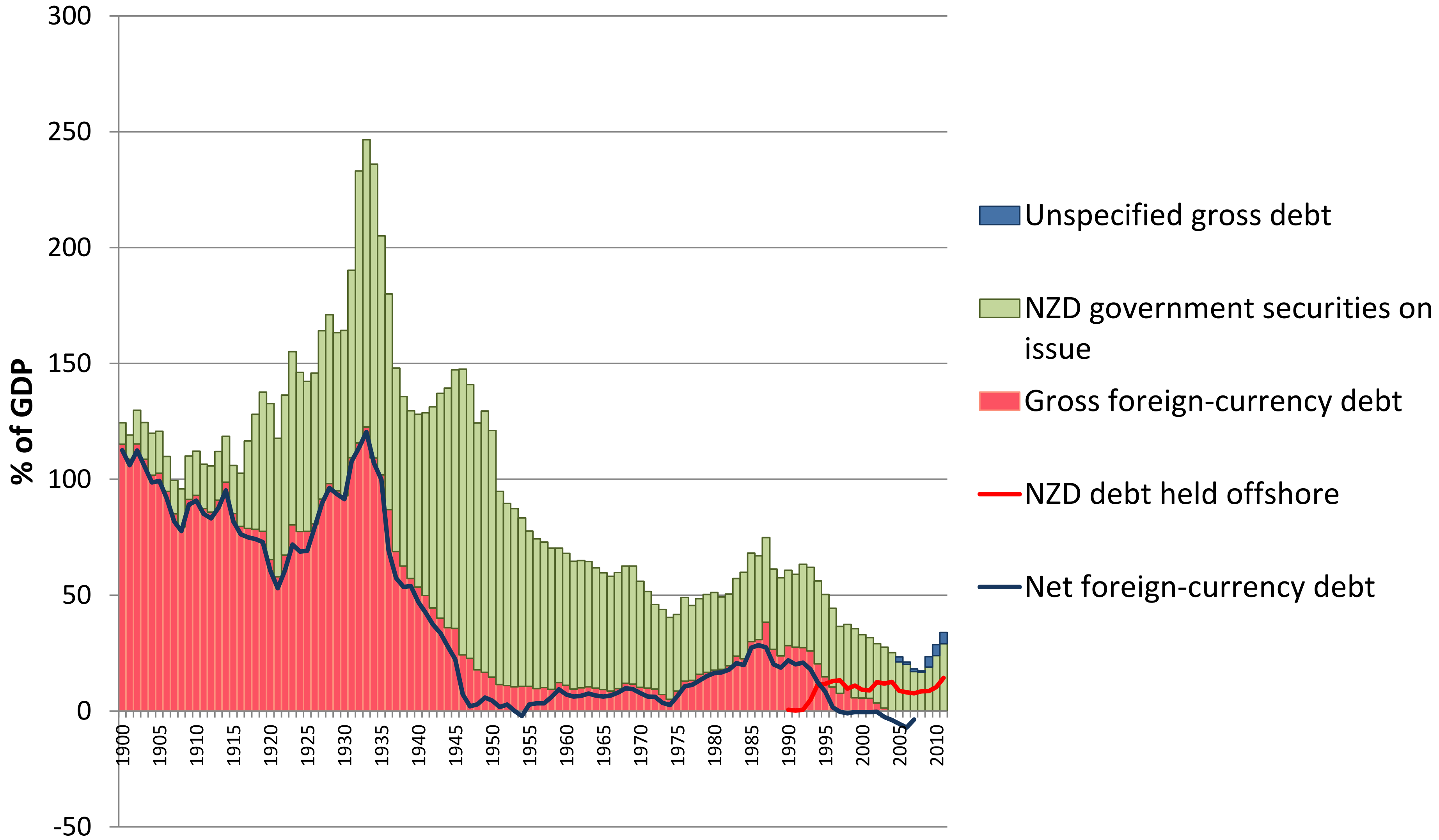


A central feature of bank borrowing offshore has been that it has been in foreign currencies, while others have issued NZD instruments



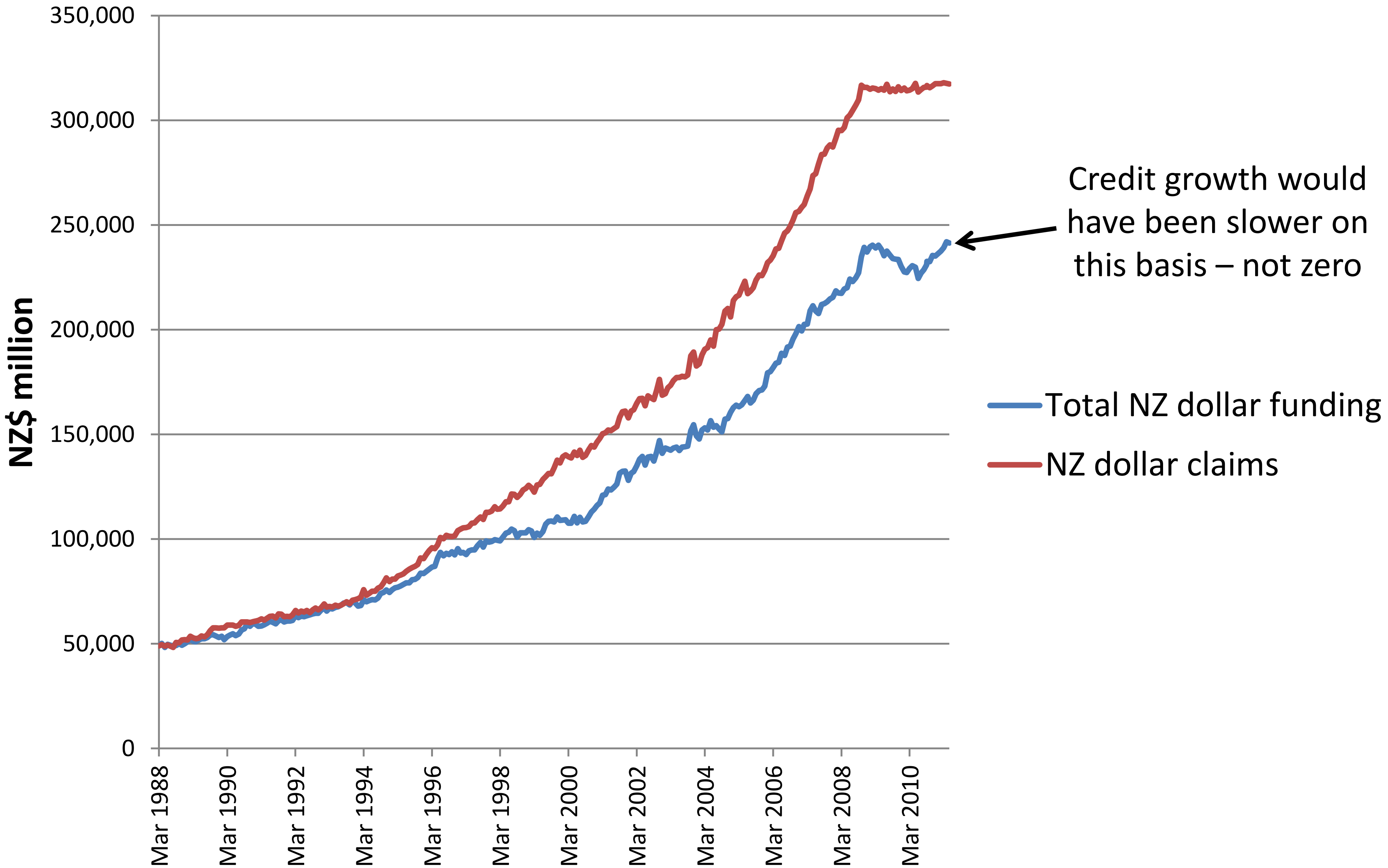
The New Zealand Government in the past understood the virtues of having its debt in NZD – escape from Eichengreen & Hausmann's "original sin"

- The less debt is denominated in foreign currency, the less a country's exposure to exchange-rate risk and hence to financial crisis
- In 1970 all NZ Government debt to overseas creditors was in foreign currency. By 2008 effectively none of it was.
- This switch removed the government's exposure to heavy losses in the event of a depreciation of the NZD – the risk was transferred to the overseas buyers of NZD-denominated bonds
- Between 1990 and 2000 government foreign-currency debt was phased out and new debt was in NZD
- This means that under extreme circumstances the government debt can be inflated away rather than having to be defaulted outright
- Having reduced its net foreign-currency liabilities to zero the government stopped even reporting the currency denomination of its assets and liabilities in the Crown accounts after 2008

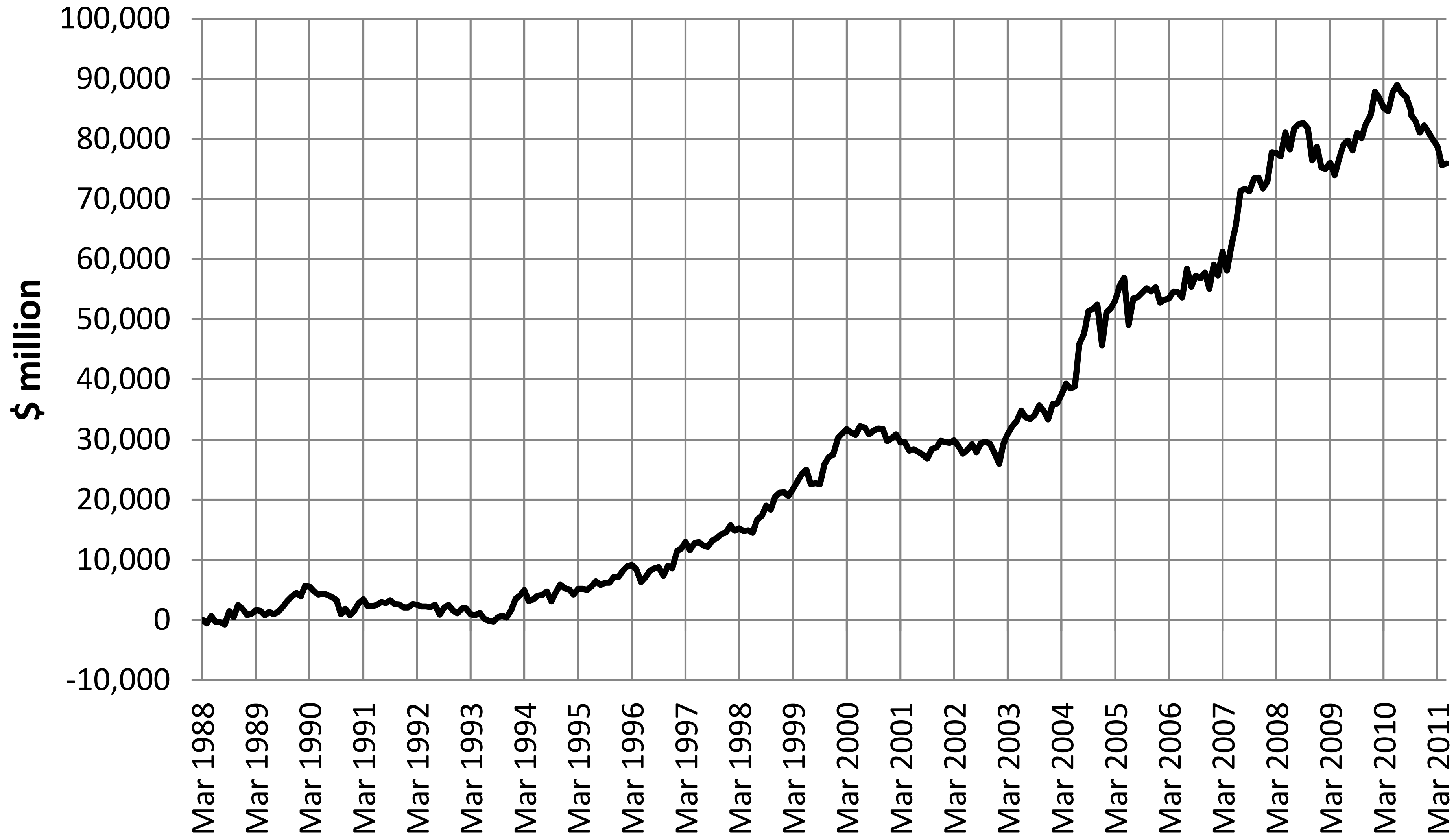

Breakdown of New Zealand Government Debt
% of GDP
300
250
200
150
100
50
0
-50
1900
1905
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
Unspecified gross debt
NZD government securities on issue
Gross foreign-currency debt
NZD debt held offshore
Net foreign-currency debt

Back to the banks

- Until the end of 1993 one could still think of the banks in traditional terms as simple intermediaries between local-currency borrowers and local-currency savers
- Through the Asian financial crisis years 1997-2000 the banks' NZD lending continued unchecked but NZD funding fell behind
- The gap was filled by offshore borrowing so that by 2000 there was a $30 billion currency mismatch in the balance sheets (20% of assets)
- By 2008 before the global financial crisis struck, this had risen to $80 billion
- The result is a currency mismatch in the banks' consolidated balance sheet



Emergence of currency mismatch in M3 institutions' balance sheets
NZ$ million
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Mar 1988
Mar 1990
Mar 1992
Mar 1994
Mar 1996
Mar 1998
Mar 2000
Mar 2002
Mar 2004
Mar 2006
Mar 2008
Mar 2010
Credit growth would have been slower on this basis – not zero
Total NZ dollar funding
NZ dollar claims


Currency mismatch in M3 balance sheets: NZD assets funded in other currencies
$ million
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
-10,000
Mar 1988
Mar 1989
Mar 1990
Mar 1991
Mar 1992
Mar 1993
Mar 1994
Mar 1995
Mar 1996
Mar 1997
Mar 1998
Mar 1999
Mar 2000
Mar 2001
Mar 2002
Mar 2003
Mar 2004
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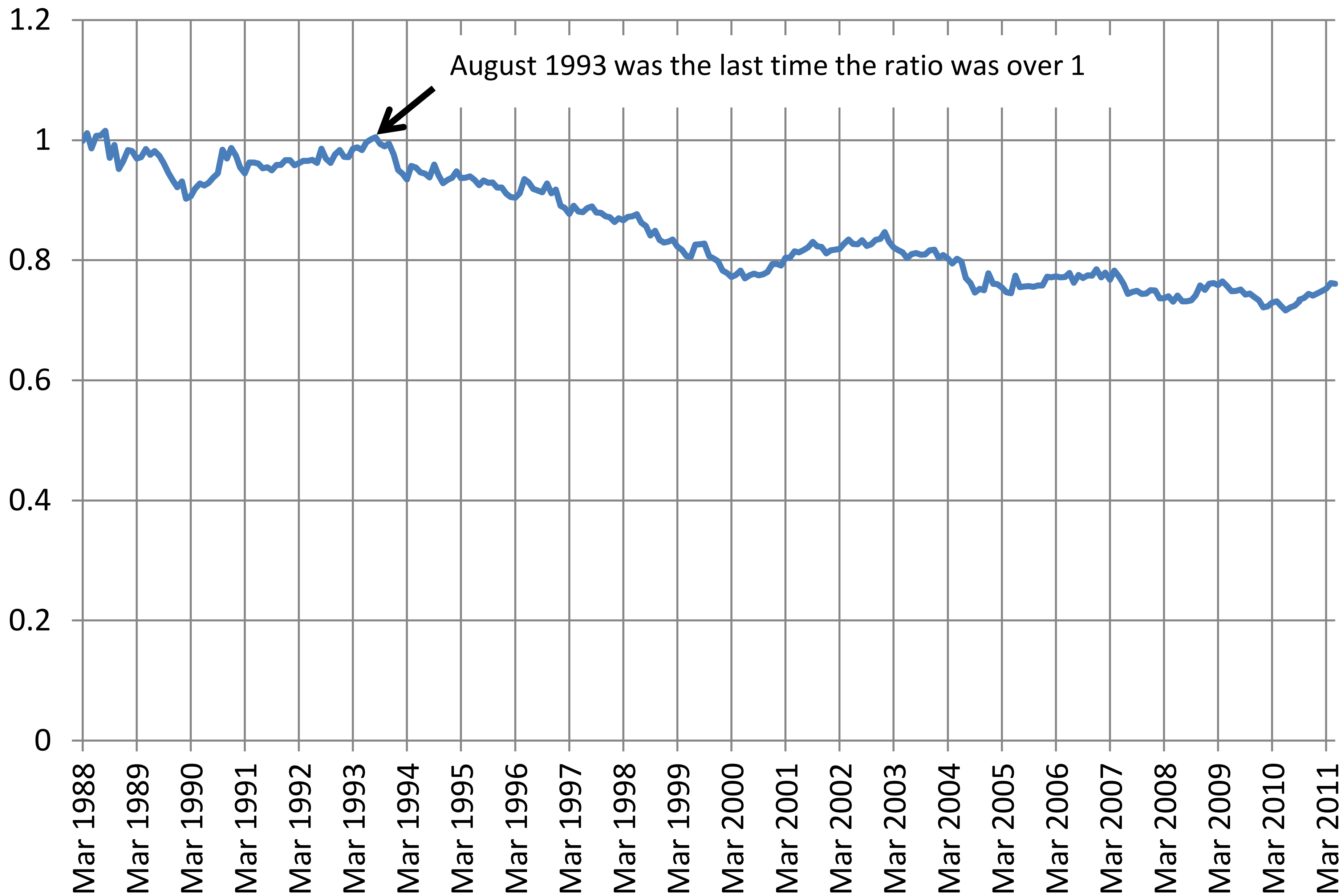
Mar 2008
Mar 2009
Mar 2010
Mar 2011



Ratio of NZD funding to NZD assets
August 1993 was the last time the ratio was over 1
1.2
1
0.8
0.6
0.4
0.2
0
Mar 1988
Mar 1989
Mar 1990
Mar 1991
Mar 1992
Mar 1993
Mar 1994
Mar 1995
Mar 1996
Mar 1997
Mar 1998
Mar 1999
Mar 2000
Mar 2001
Mar 2002
Mar 2003
Mar 2004
Mar 2005
Mar 2006
Mar 2007
Mar 2008
Mar 2009
Mar 2010
Mar 2011

Implications

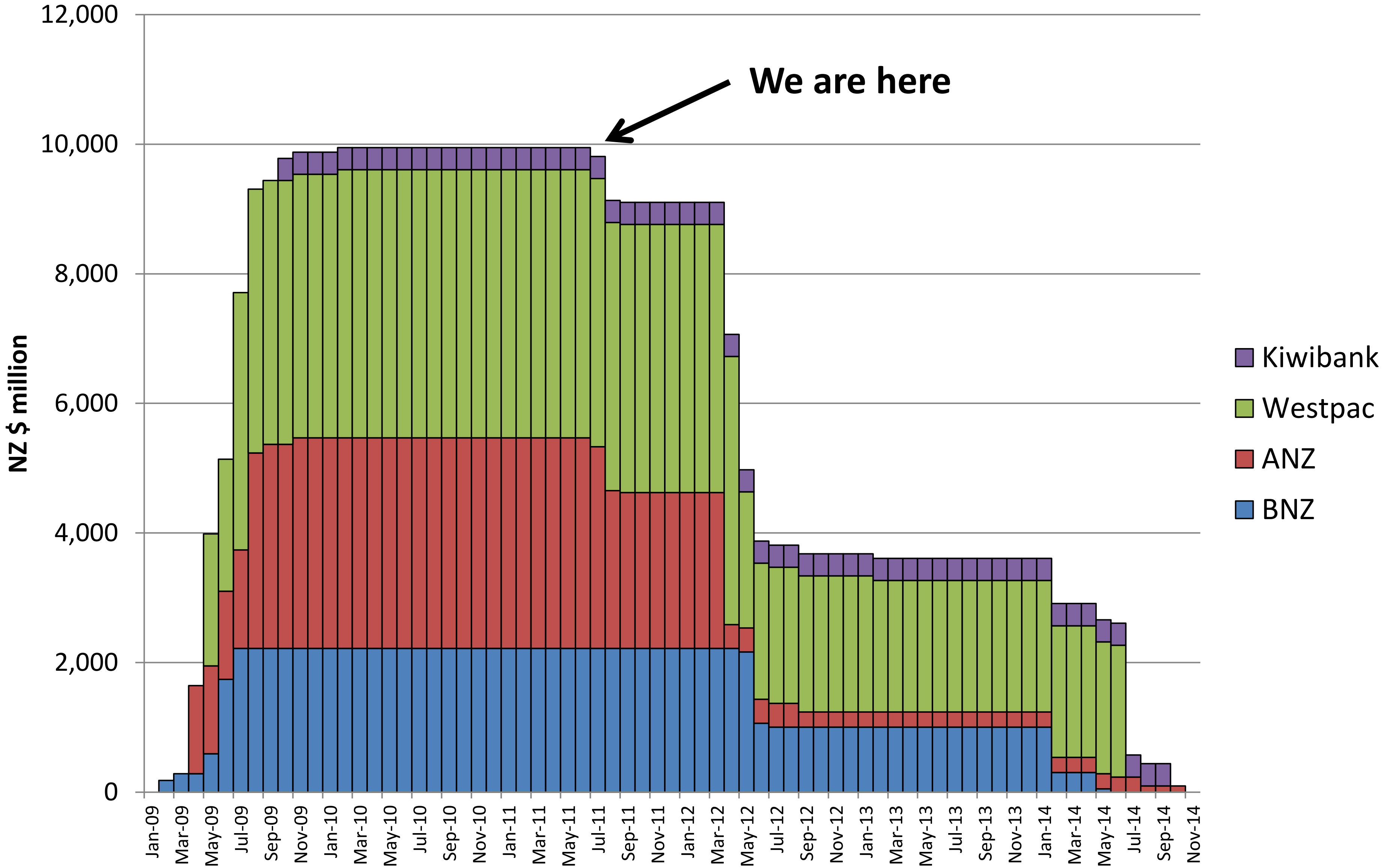
- The influx of foreign currency held the NZD exchange rate above where it would otherwise have been: a major negative externality from the banks' profit-maximising calculations about where to raise funds and how much to expand credit

- The currency mismatch exposed the banks to two sorts of adverse shocks:
  - Depreciation of the NZD which would reduce the value of assets relative to liabilities and thus impose capital losses on the banks' shareholders
  - Credit rationing in overseas markets leading to inability to roll-over funding liabilities

- The second of these eventuated in the second half of 2008

Possible policy responses in 2008

- The NZ Government could have adopted either of two approaches:
  - Provide NZD funding through the RBNZ and let the banks use this to pay off maturing offshore loans
    - Implications would have been a sharp depreciation of the NZD and capital losses for the banks' shareholders
  - Borrow overseas on the banks' behalf so that their offshore funding could be rolled over without loss
    - The Wholesale Deposit Guarantee provided the mechanism for doing this
    - Implications were that NZ taxpayers picked up an $8 billion foreign-currency liability, the bank shareholders' wealth was protected, and the NZD was kept overvalued
- Putting the interests of the banks' (mainly offshore) shareholders ahead of those of NZ taxpayers and exporters came so naturally to the NZ policy elite that the guarantee caused barely a ripple on the political pond


New Zealand Wholesale Deposit Guarantee Scheme Liabilities
We are here
NZ $ million
12,000
10,000
8,000
6,000
4,000
2,000
0
Kiwibank
Westpac
ANZ
BNZ
Jan-09
Mar-09
May-09
Jul-09
Sep-09
Nov-09
Jan-10
Mar-10
May-10
Jul-10
Sep-10
Nov-10
Jan-11
Mar-11
May-11
Jul-11
Sep-11
Nov-11
Jan-12
Mar-12
May-12
Jul-12
Sep-12
Nov-12
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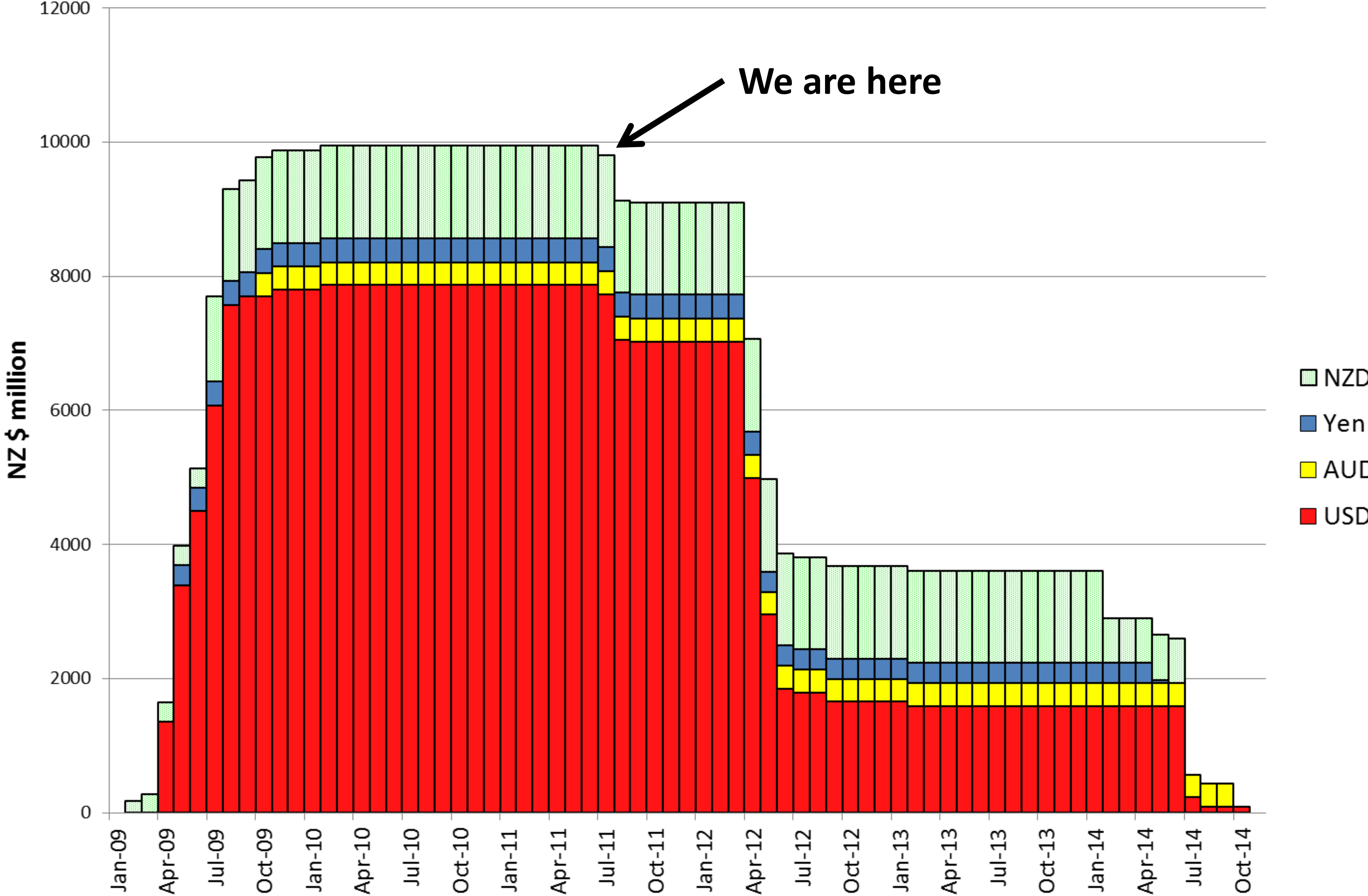
Sep-13
Nov-13
Jan-14
Mar-14
May-14
Jul-14
Sep-14
Nov-14


New Zealand Wholesale Deposit Guarantee Scheme Liabilities by Currency
We are here
NZ $ million
12000
10000
8000
6000
4000
2000
0
Jan-09
Apr-09
Jul-09
Oct-09
Jan-10
Apr-10
Jul-10
Oct-10
Jan-11
Apr-11
Jul-11
Oct-11
Jan-12
Apr-12
Jul-12
Oct-12
Jan-13
Apr-13
Jul-13
Oct-13
Jan-14
Apr-14
Jul-14
Oct-14
NZD
Yen
AUD
USD

Treasury kept the Wholesale Deposit Guarantee off-balance-sheet

- That amounts to keeping fingers crossed that no new financial crisis breaks out that might push the banks into triggering the guarantee

- But more basically, over and above the $8 billion of bank foreign-currency funding underwritten by taxpayers, there is still another $68 billion (at May 2011) of foreign-currency-funded NZD bank assets outstanding

- A high priority for the robustness of the NZ economy is to get at least part of these bank liabilities repatriated into NZD

- Other things equal, that would put downward pressure on the NZD exchange rate, probably implying some capital losses for the banks' shareholders

So here's one suggestion for monetary policy

- Rather than just imitating overseas central banks by regulating maturity mismatch in bank balance sheets via the Core Funding Ratio, RBNZ could require the banks progressively to eliminate currency mismatch from their books

- If the banks want to raise new funds offshore they should do so by issuing NZD-denominated securities

- Or they could raise funds locally (including from the RBNZ) and pay off overseas loans as they mature

- Just as the past fifteen years of growing currency mismatch propped up the nominal exchange rate, so should an unwinding bring it down

- Getting this to happen in an orderly fashion is a matter of speed and timing – precisely the things the RBNZ has expertise in

Standard ways of preventing a foreign-currency inflow from appreciating the exchange rate

- One option is outright capital control, effectively putting up a “not for sale” sign on all real assets in the home economy and preventing the offshore sale of financial assets.

- A second is taxation of capital inflows, confronting the parties to any capital-flow transaction with an effective exchange rate below the prevailing market exchange rate

- A third is sterilisation, with the foreign-currency inflow captured by the central bank or other government agency and put into reserves, with only a domestic-currency flow reaching the home-economy participant in the deal. This basically how East Asian governments have kept the IMF at bay, while simultaneously preventing exchange-rate appreciation, since the Asian crisis of the late 1990s. It was also how Norway handled bonanza revenues from its state-owned oil industry, given that the foreign-currency funds arrived directly into the government’s hands and could be stowed in a sovereign wealth fund – a novel argument in favour of state ownership of a commanding height, since capturing private-sector bonanzas presents a raft of problems to be overcome.

- A fourth is to work on market sentiment to increase the frequency of negative views on the longer-run value of home-currency financial instruments, and thus to arbitrage down the market nominal exchange rate even as capital flows in. My suggestion about regulating bank balance sheers probably falls into this category to a considerable extent

‘Not for sale’

- The “not for sale” approach immediately calls to mind the present Government’s planned sale of shares in state-owned assets to offshore investors.

- The inflow of foreign currency from state-owned asset sales can be expected to provide an unhelpful short-term boost to the nominal exchange rate over a period of a year or two.

- Best not to proceed with the sales at all under present circumstances, unless somebody really can think of a way of restricting the holding of shares to New Zealand residents – I see no prospect of doing that without quite stringent regulatory intervention to control the share register.

- If the sales proceed, given that the shares will end up in foreign hands there may be the option to capture and sterilise the foreign currency proceeds. That could mean, ironically, that it could be better to sell the assets directly offshore, rather than have them go first into the hands of local investors and then to foreign buyers in a second round, since at that stage the foreign currency inflow will be diffuse and hard to capture.

Taxation

- Taxation has attractions, especially if it could be calibrated to capture the negative externality component of sales of assets or financial instruments to offshore buyers – by, for example, taxing away the component of the sales proceeds that is estimated to derive from currency over-valuation.

- Apart from the fact that a tax instrument would have to be devised, the setting and declaration of the optimal exchange rate would be pretty controversial and inherently a bit arbitrary. Both of these are valid problems but not in themselves reasons to walk away from thinking about the tax option.

- A Tobin tax on the carry trade is a separate option, not inconsistent with the above

Sterilisation in particular cases

- The forthcoming bonanza of reinsurance funds following the Christchurch earthquake might be a prime case for sterilisation.
- Reinsurance claims from the September 2010 quake are about $3.6 billion and those from the February quake about $7.6 billion compared, with current account deficit of $8.3 billion in the year to March 2011
- The funds will be arriving through well-defined channels, and the expenditures they are to finance will be mainly within the New Zealand economy on locally-produced gods and services – concrete, wood, steel, labour, design services.
- Simply letting the bonanza flow through the foreign exchange market is, again a recipe for upward pressure on the nominal exchange rate.
- Sterilising the foreign currency component, and letting the import content of the earthquake reconstruction be financed as a claim on the regular foreign exchange market, might not bring the exchange rate down much, but would prevent it drifting up.

None of these stands out as the single silver-bullet solution to New Zealand's overvaluation, but all of them contain kernels of ideas about how policymakers could approach economic decisions as they arise, and all deserve to be worked through.

- The really key step would be to agree that the exchange rate should come down, and to make a clear and credible commitment to nudge it in that direction as a key element in economic policy decisions

- That requires a broad consensus among policy elites, which is not currently on offer….