Bank regulation, exchange rate policy, overseas debt, and asset sales: how to untangle them?

Geoff Bertram

31 March 2011

- In the real world, market imperfections are pervasive. The history of economics is largely about analysing the nature of those imperfections and what can be done about them

- The 'market efficiency' paradigm works from the presumption that for practical purposes real-world markets cannot be improved upon

- The 'mixed-economy' paradigm starts from the presumption that markets won't do everything, and even can be improved, and that some things should not be left to the market mechanism to solve but require collective choice, exercised through politics

- Market failures quickly become bound up with issues of power: perfect markets would be democratic in the sense of dispersing power (not of solving distributional questions), but imperfect markets are all about the exercise of power by some at the expense of others

- Even perfect markets leave open the question of the ideal distribution of wealth and income. A fundamental theoretical conclusion of twentieth-century neoclassical economic theory was that disagreements over distribution could not be resolved by *a-priori* reasoning

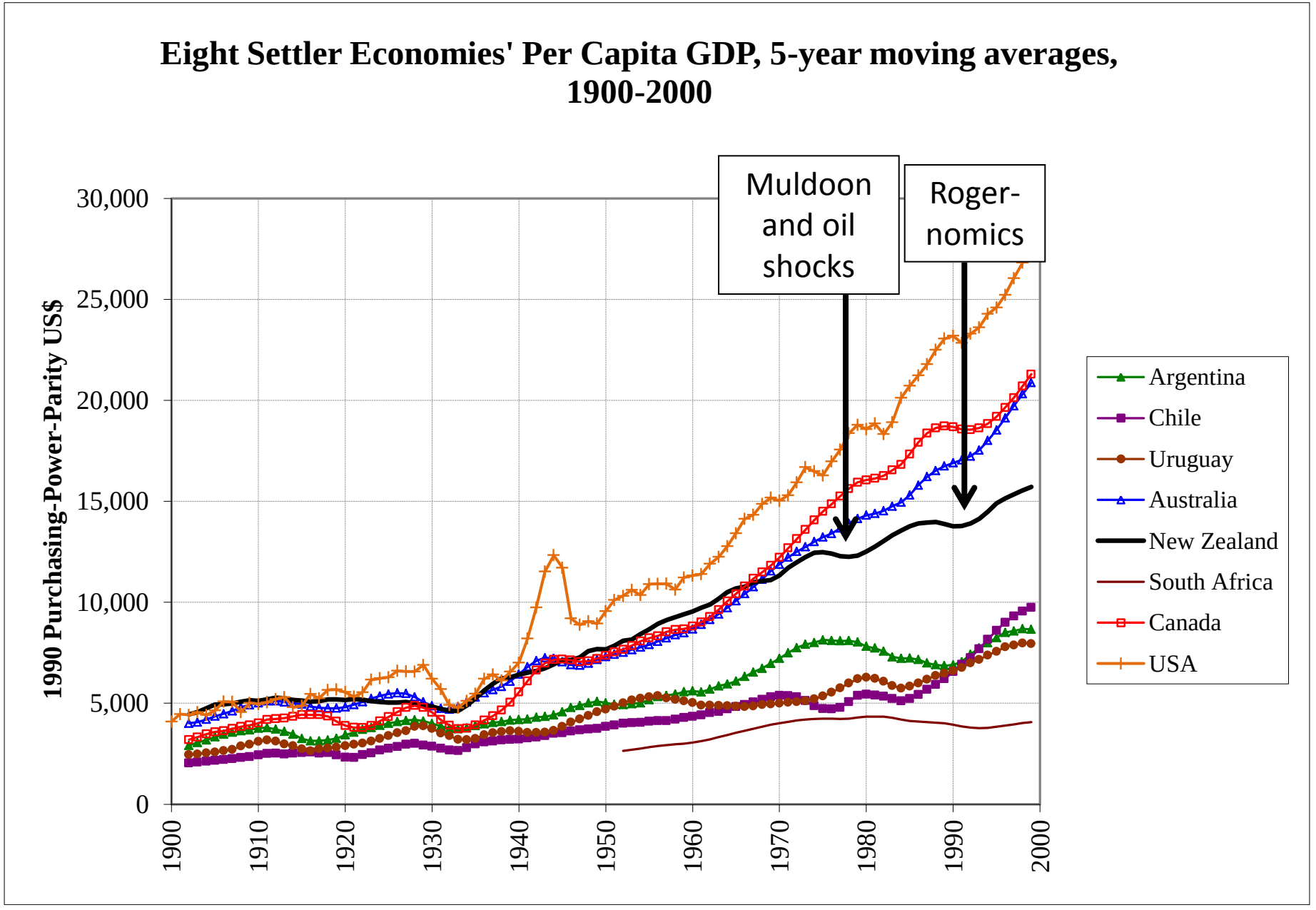
Thinking about New Zealand macroeconomics

- Firstly, if indeed there are fundamental imbalances in the economy as a whole, it is important to understand how those imbalances have emerged from the interplay of market forces with policy and social structure, and to think about how policy can key variables with a long-run perspective

- Secondly, in thinking about changes that might be made to policy settings, it is important to explicitly sort out
  - what mechanisms you think are at work
  - how particular policy changes would be supposed to deliver desired results
  - whether there is evidence for the causal mechanisms being appealed to

- Thirdly, humility is a virtue in an economist. Three cautionary notes:
  - It's seductively easy to overstate the scale and imminence of macroeconomic threats and then engage in "shock doctrine" arguments for instant radical changes. That's where Think Big, Rogernomics, and the current renewed war on the welfare state came from. The essence of the approach is to underplay the resilience and sustainability of the market economy
  - Policies do have long-run effects on the shape of the economy and the distribution of wealth and income. Once set, those effects are not easy to reverse –institutional incentives and constraints in a market system are like the forms for concrete (the liquid settles to equilibrium in the liquid short run, then sets hard in the long run) – so there are real long-run costs and benefits from today's policies
  - I have been one of those worried abut sustainability issues in New Zealand in the era of inflation targeting and floating exchange rate, and I have been pleasantly surprised by the absence of a macroeconomic 'sudden stop' since 1990. New Zealand did have two sudden stops in the preceding decades – one in the mid 1970s and one triggered by Rogernomics in the 1980s – but the deregulated economy has performed better than I expected. Migration has helped a lot, and the bank-facilitated inflow of capital funds has staved off the transfer problem that I thought possible early last decade.

Those sudden stops did hurt both absolutely and relatively



What are the 'imbalances' and why have they developed?

- The current account deficit on the balance of payments, which is bound up with (i) the evolution of relative prices and the allocation of resources between tradables and non-tradables; and (ii) the degree of capital inflow into the economy

- The ability of deregulated 'sheltered sectors' to exercise market power while 'exposed sectors' are unable to do so, which drives part of the relative-price story (capital inflow drives another part)

- The external debt, which flows from the current account deficit but itself plays a role in driving the deficit, via the exchange rate and domestic relative prices

- The emergence and persistence of a financial sector rife with perverse incentives (i) for New Zealand households and firms to consume and borrow without facing the external costs of their decisions; and (ii) for the banks to drive credit expansion on a basis that looks dodgy (potentially 'unsustainable') in the longer run

- The persistent drive by wealthy private interests to appropriate gains, socialise losses, and lessen the taxes they face – and the continual weakness of government policy and regulation in the face of the lobbying pressures these groups command

- The worsening distribution of income and wealth, both wages/profits, and poor/rich (closely linked to the political success of neoliberal thinking:

A couple of toy models from old textbooks

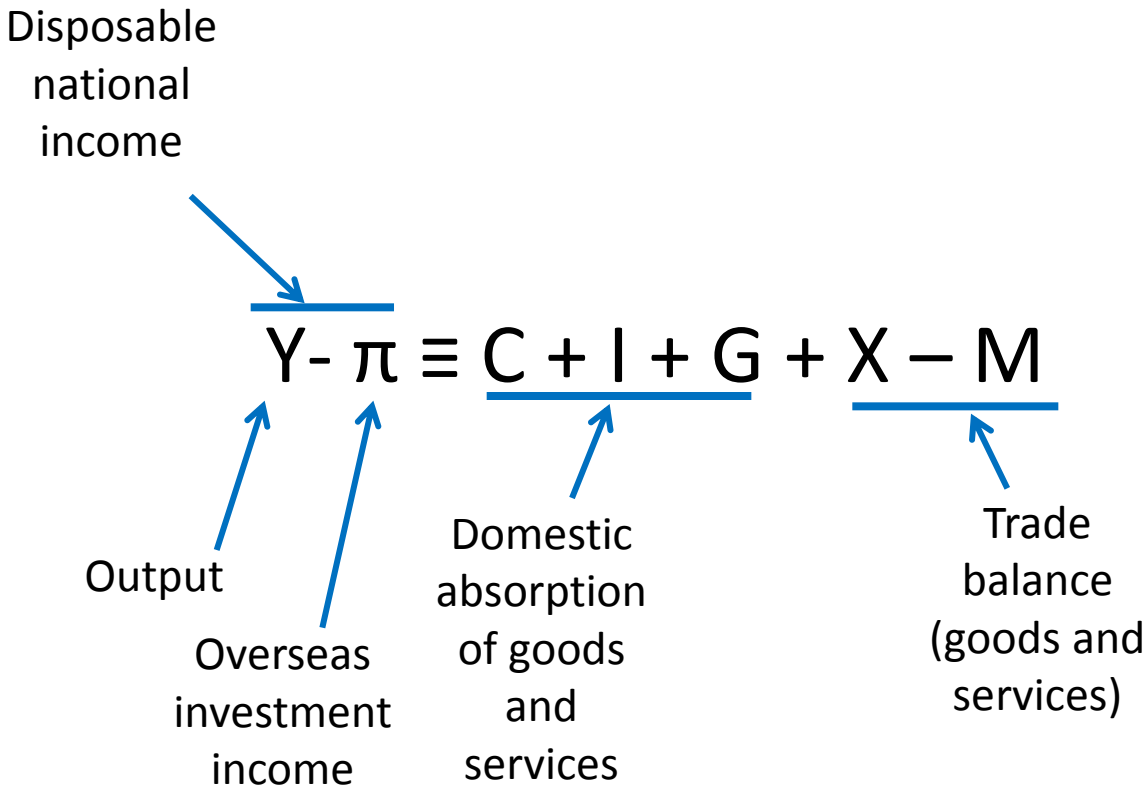
- Useful for organising one's thinking about a small open economy, used to be taught as central parts of the macro-economics syllabus, and capture important elements in how New Zealand economists of the 1960s and 1970s used to think about macro

- First, the macroeconomic identity that the market economy delivers *ex post* in each period

- Second a loanable-funds model to see how the identity shows up in the balance of payments current account

- Third some implications/consequences of recognising that output is comprised of two imperfectly-substitutable types of production: tradable and non-tradable

The macro identity



Rewrites as:

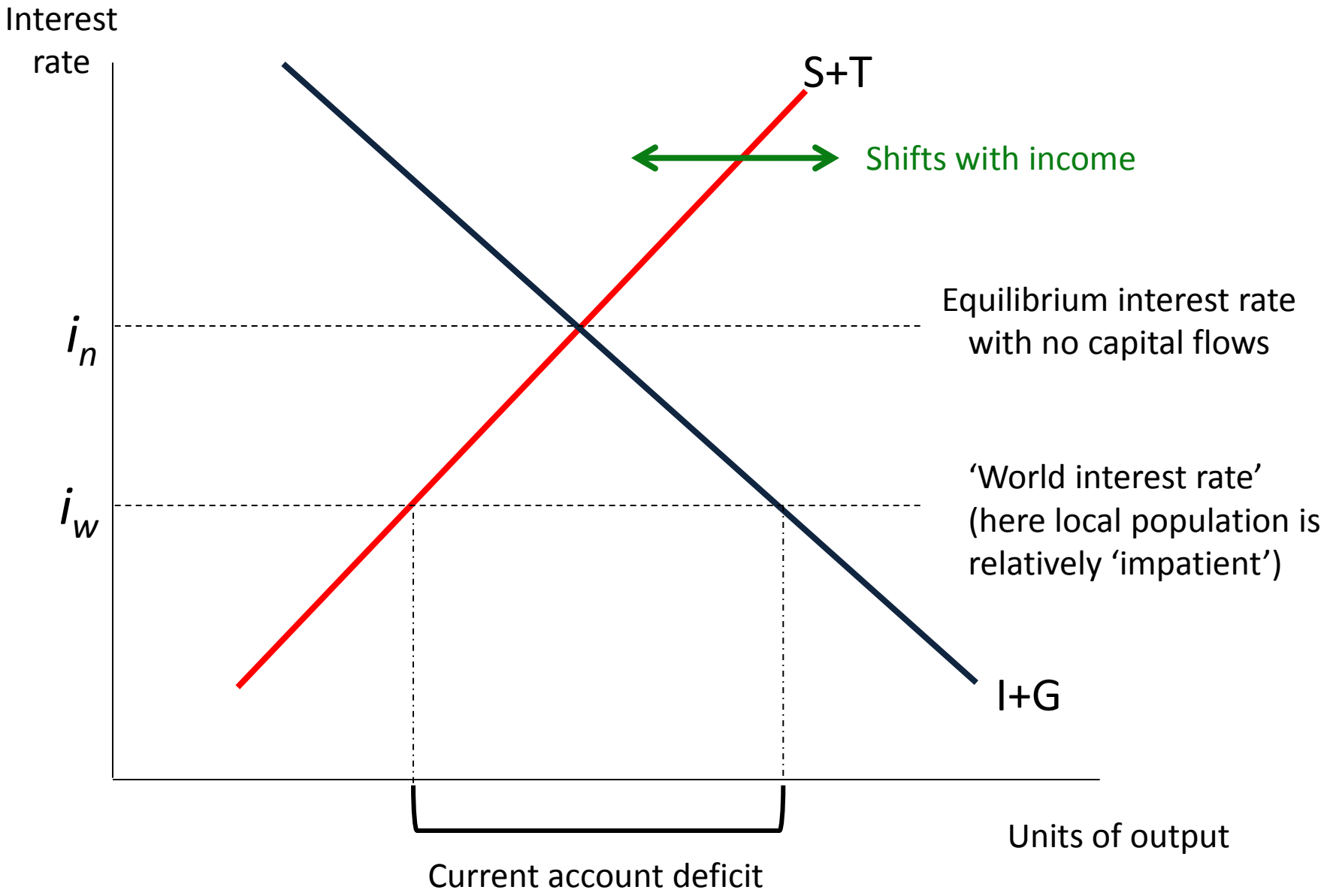
$$(S - I) + (T - G) \equiv (X - M - c_y\pi)$$

Private savings

Government savings

≈ Current account surplus

The loanable-funds model at given Y

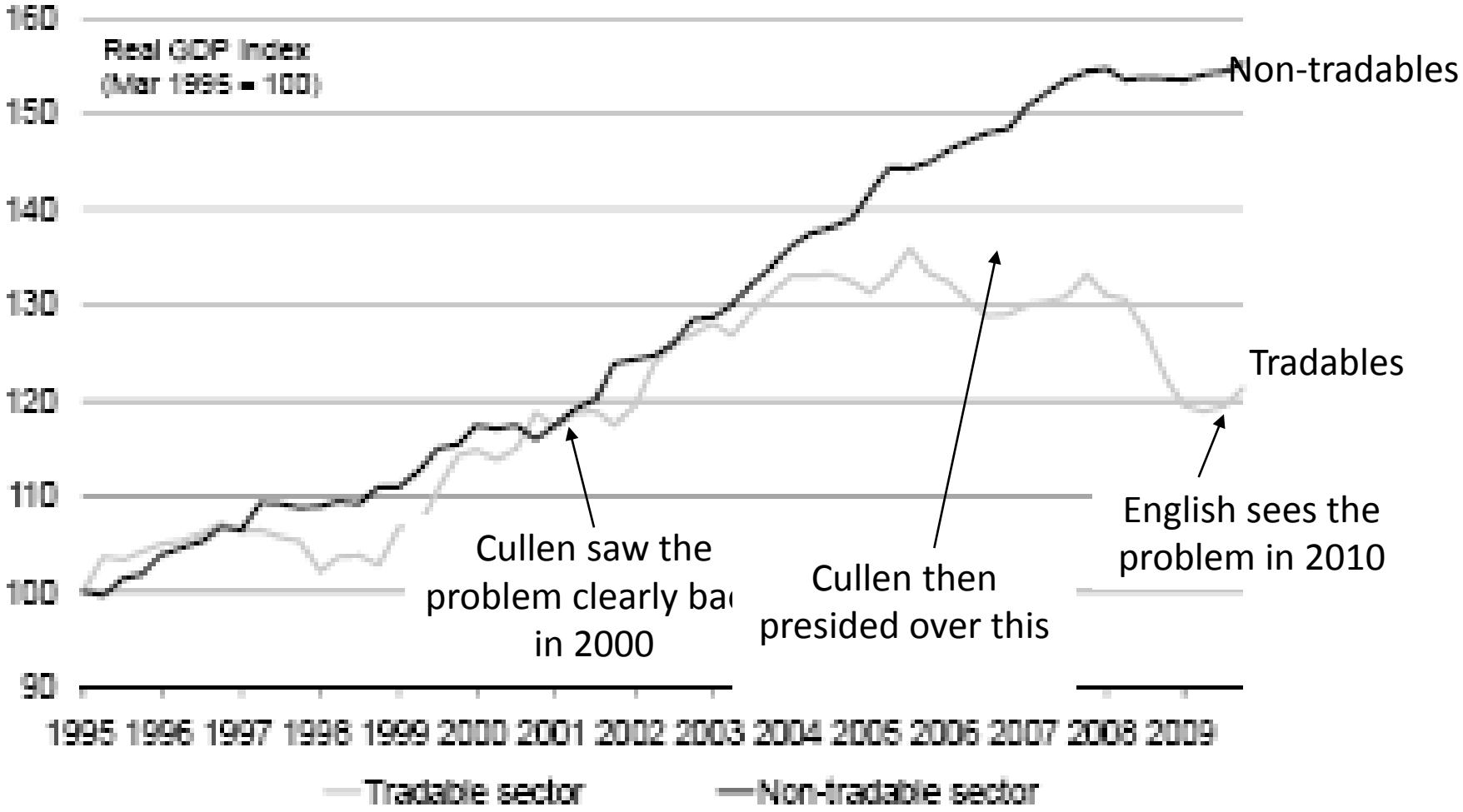


Sudden stops do happen in the real world

- Intertemporal optimisation models don't all imply optimal outcomes!

- Treasury and Bill English have both recently talked about economic imbalances

Figure 2 – Tradables and non-tradables output



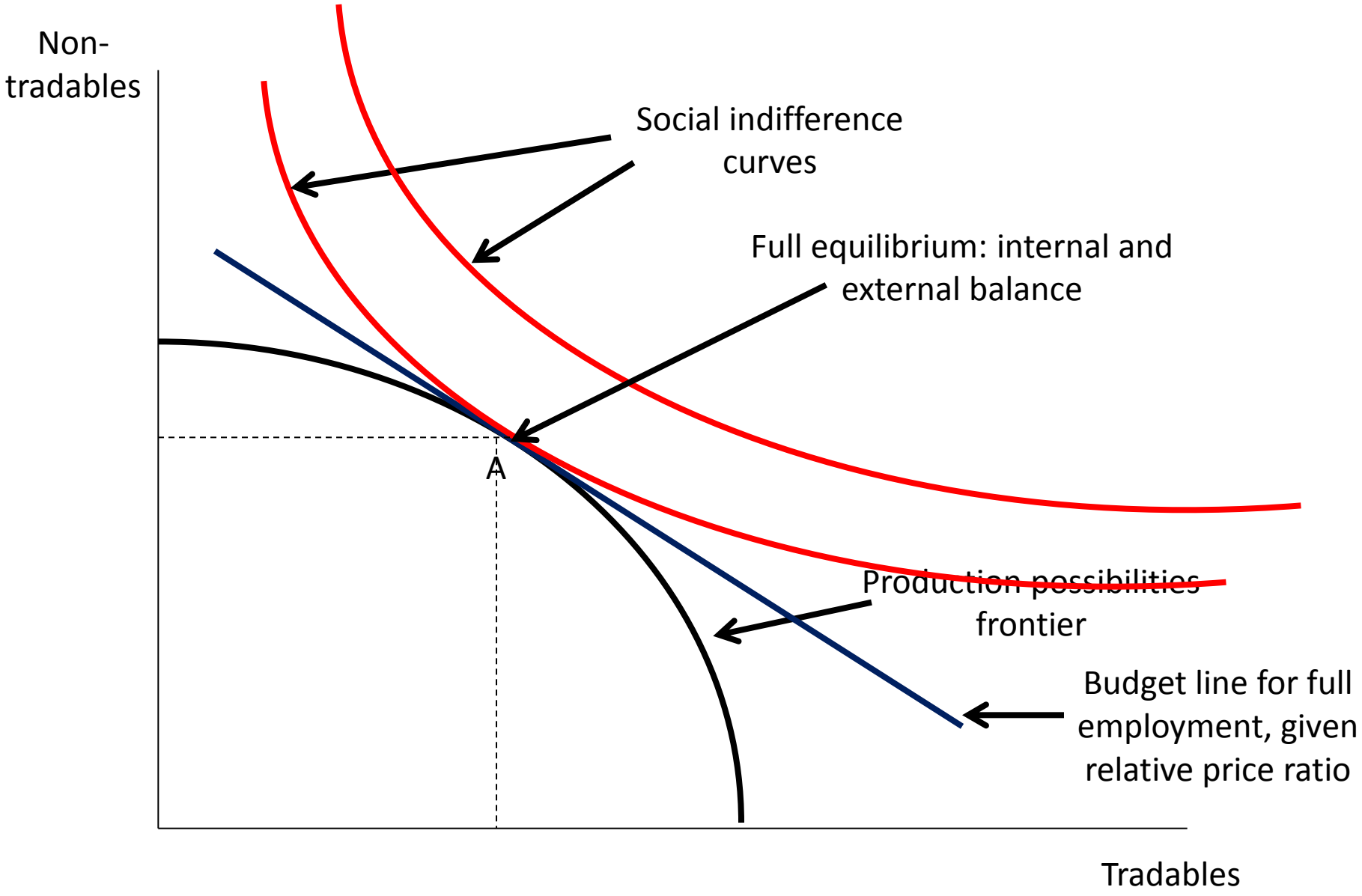
Source: The Treasury

From Budget 2010

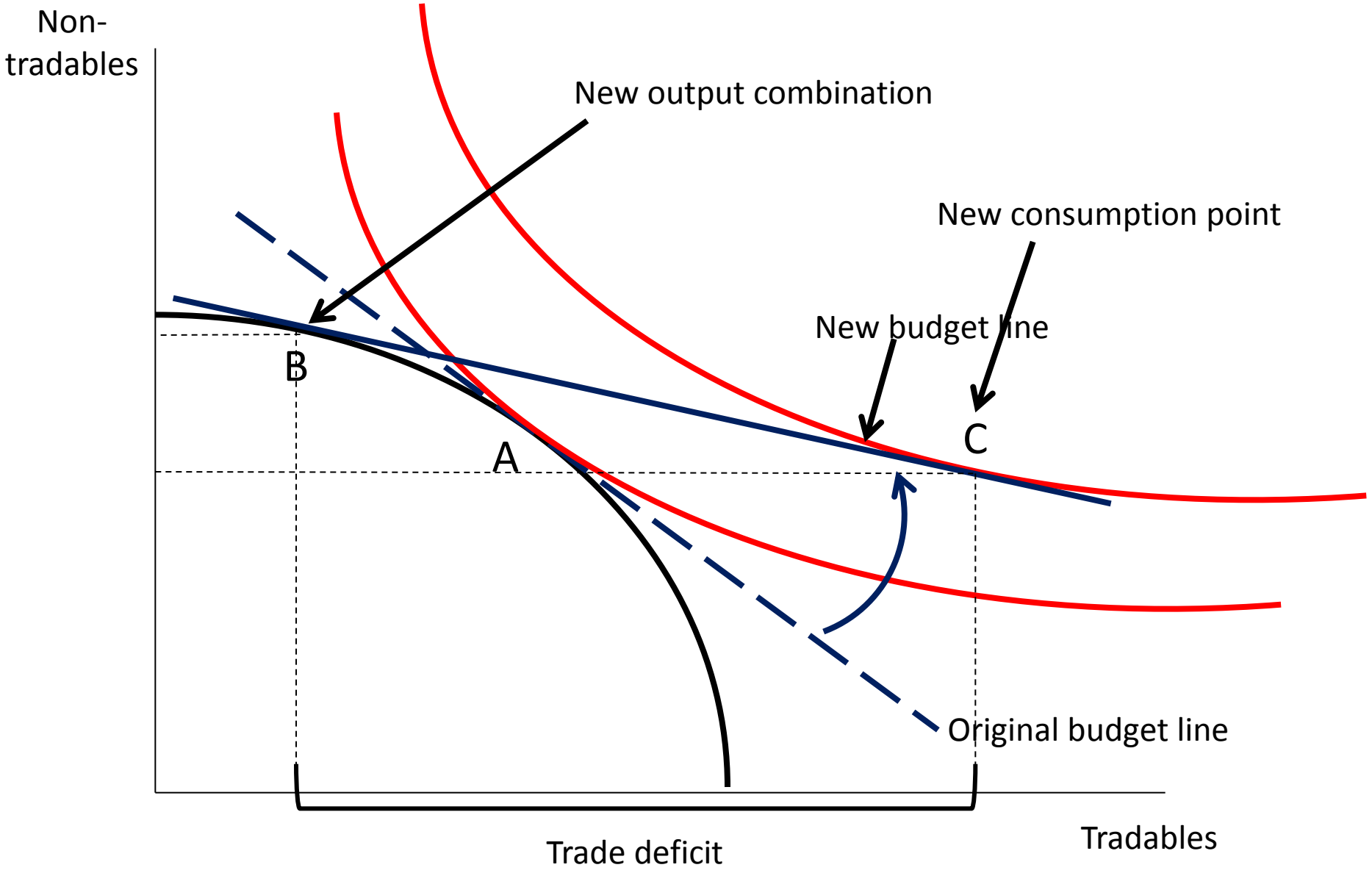
Why that falling-behind of tradables?

- Possibly a change in the economy's resource endowment
- More likely a result of economic incentives, i.e. relative prices
- High nominal and real exchange rate squeezes the profitability of tradables unless their production costs fall rapidly
- Prices moving in favour of non-tradables induce resource reallocation
- [But note that a lot of non-tradables actually bring foreign exchange income – services in tourism, education, film production, software => there's a need for more careful decomposition of output data]

Toy model with tradables and non-tradables: Salter-Swan (1950s)



What if the price of non-tradables rises relative to the price of tradables, while internal balance is maintained?

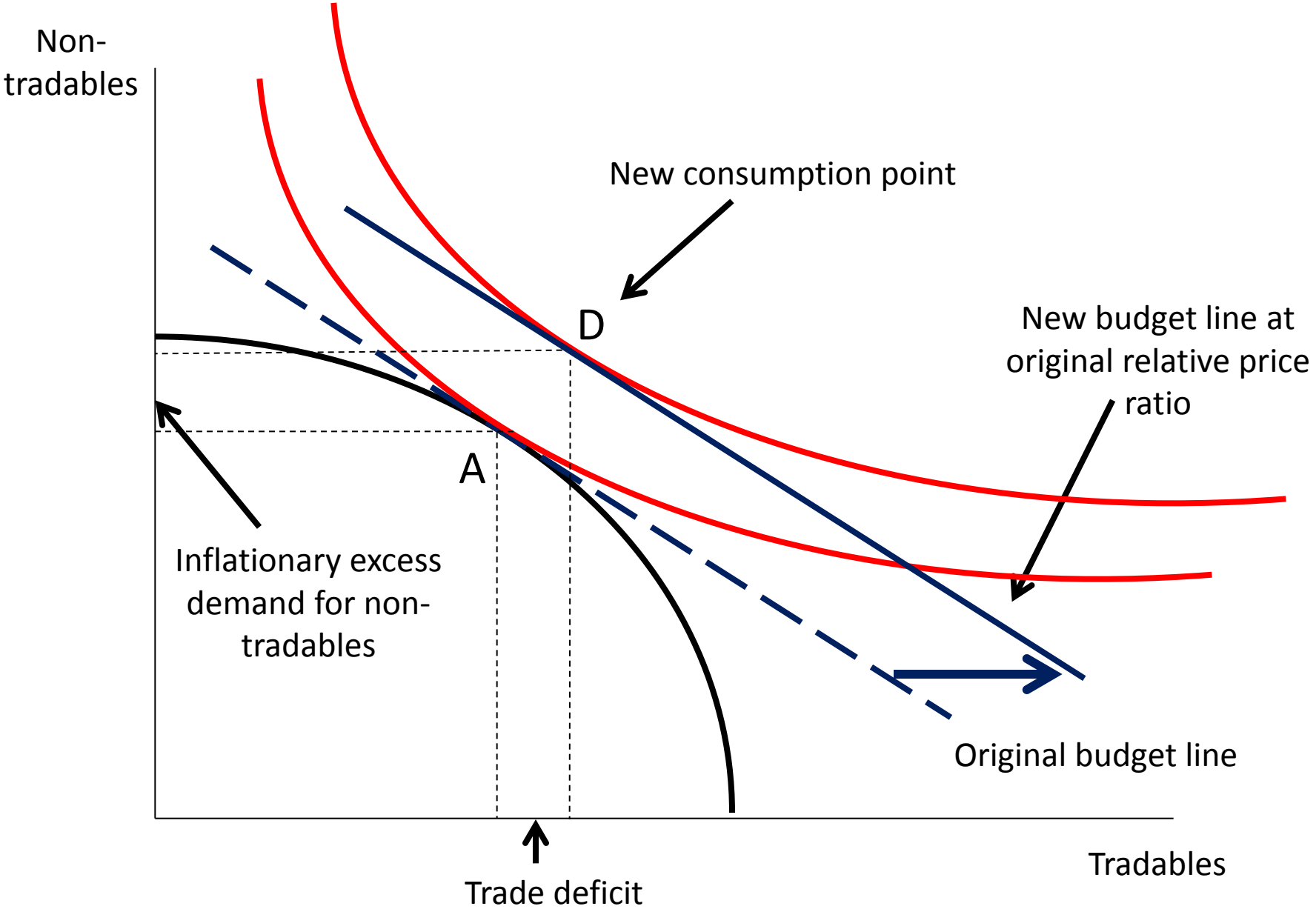


Conclusion: internal balance is retained but external balance is not

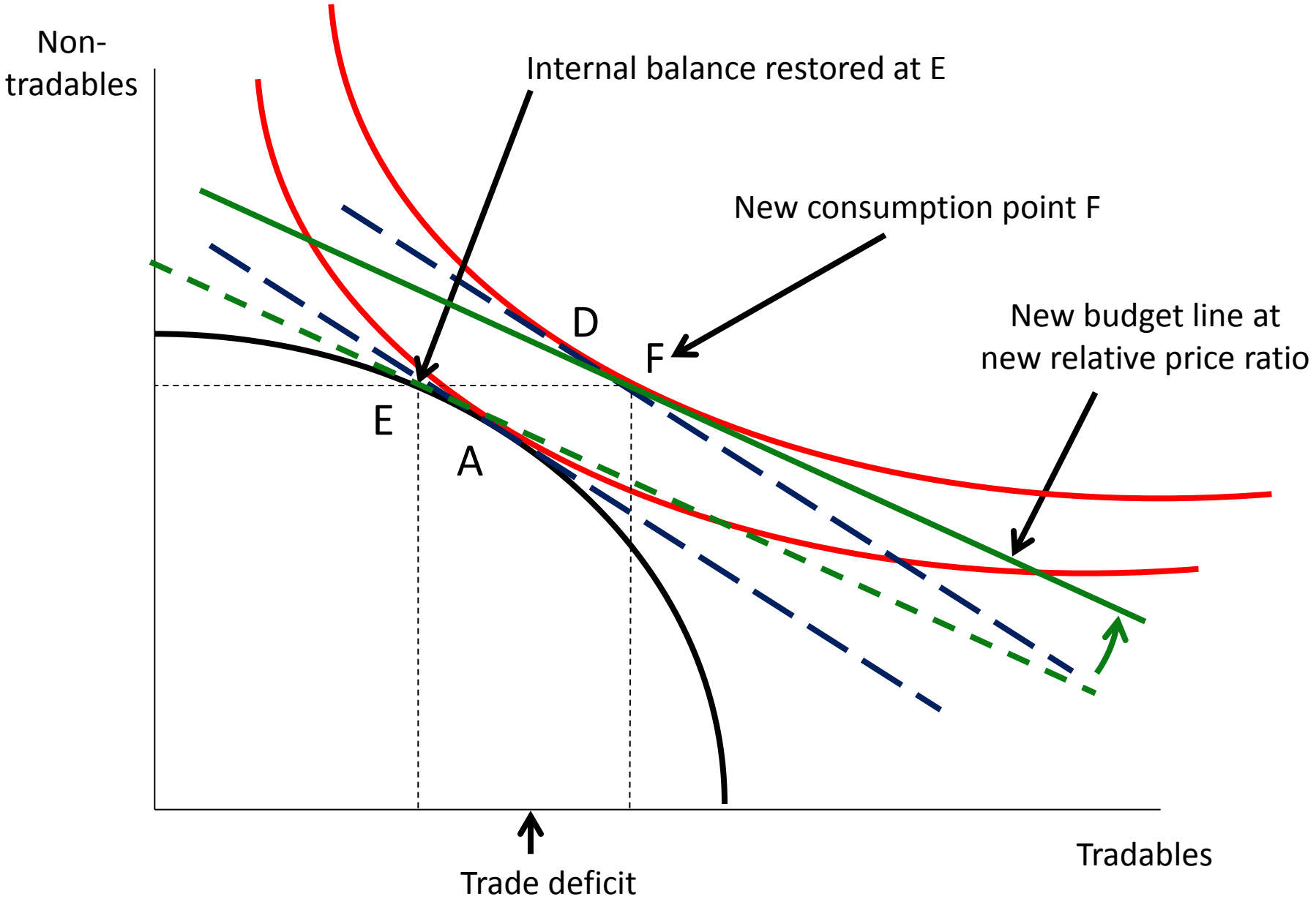
This leaves the economy with external debt accumulating over time

Whether that is sustainable, and to what level of debt, depends on the attitudes of overseas investors

Another Salter-Swan story: what if overseas capital flows in to buy up local assets?



What happens next? Answer: inflation driven by non-tradables prices until their relative price rises enough to bring demand and supply into balance at E



Conclusion: internal balance is retained but external balance is not

This leaves the economy with external debt accumulating over time

Whether that is sustainable, and to what level of debt, depends on the attitudes of overseas investors

That's the same as the earlier case of an exogenous shock to non-tradable prices ….

Which story dominates? First is the 'hoover effect'; second is the 'overseas takeover' effect

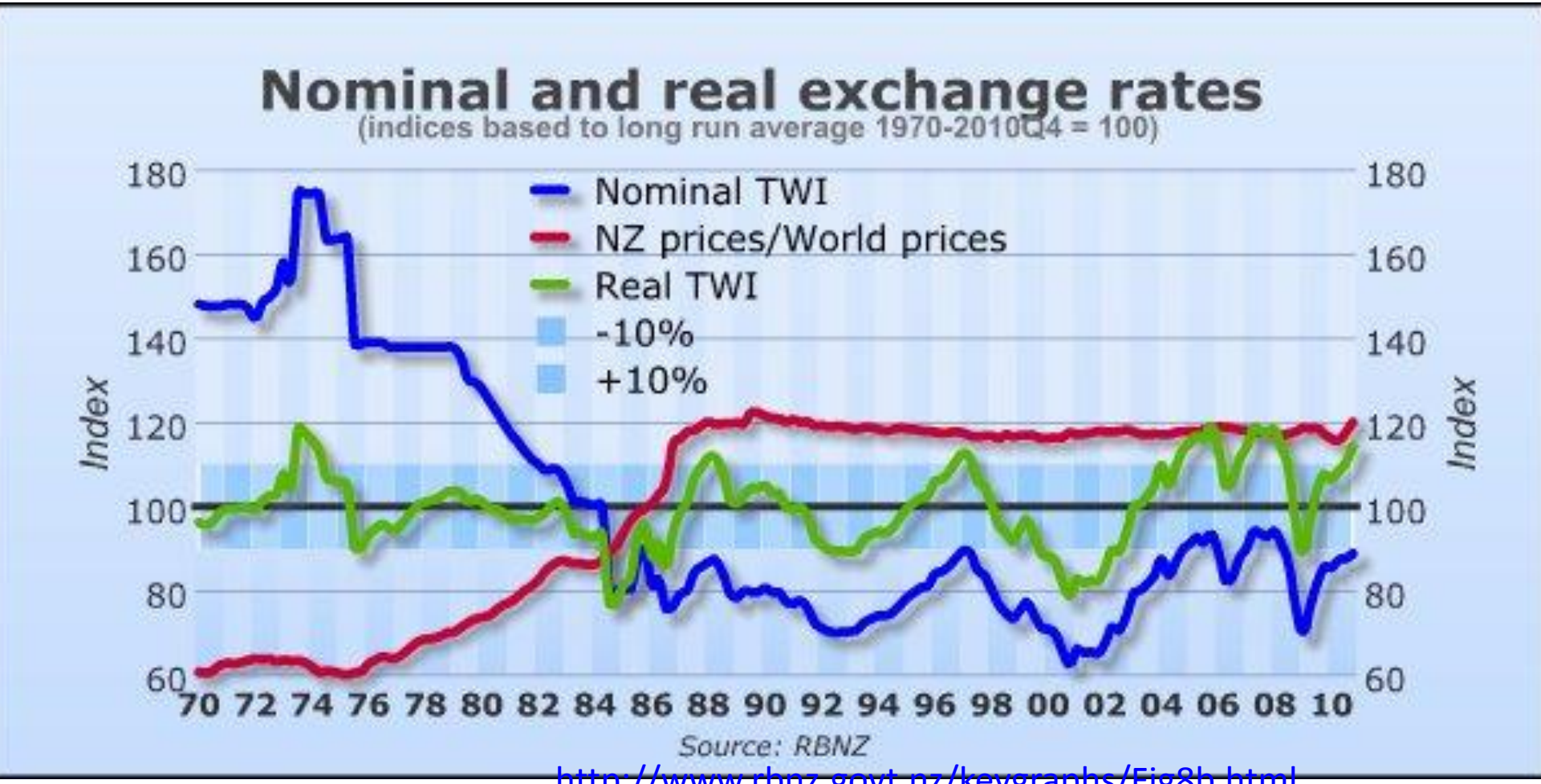
In the first case, policy would worry about driving down the domestic price ratio (e.g. by regulating non-tradables prices) to shift resources into tradables, and thus slow down offshore borrowing

In the second case, policy would look at controlling the capital inflow with an eye on keeping tradables healthy in case of a sudden stop/transfer problem

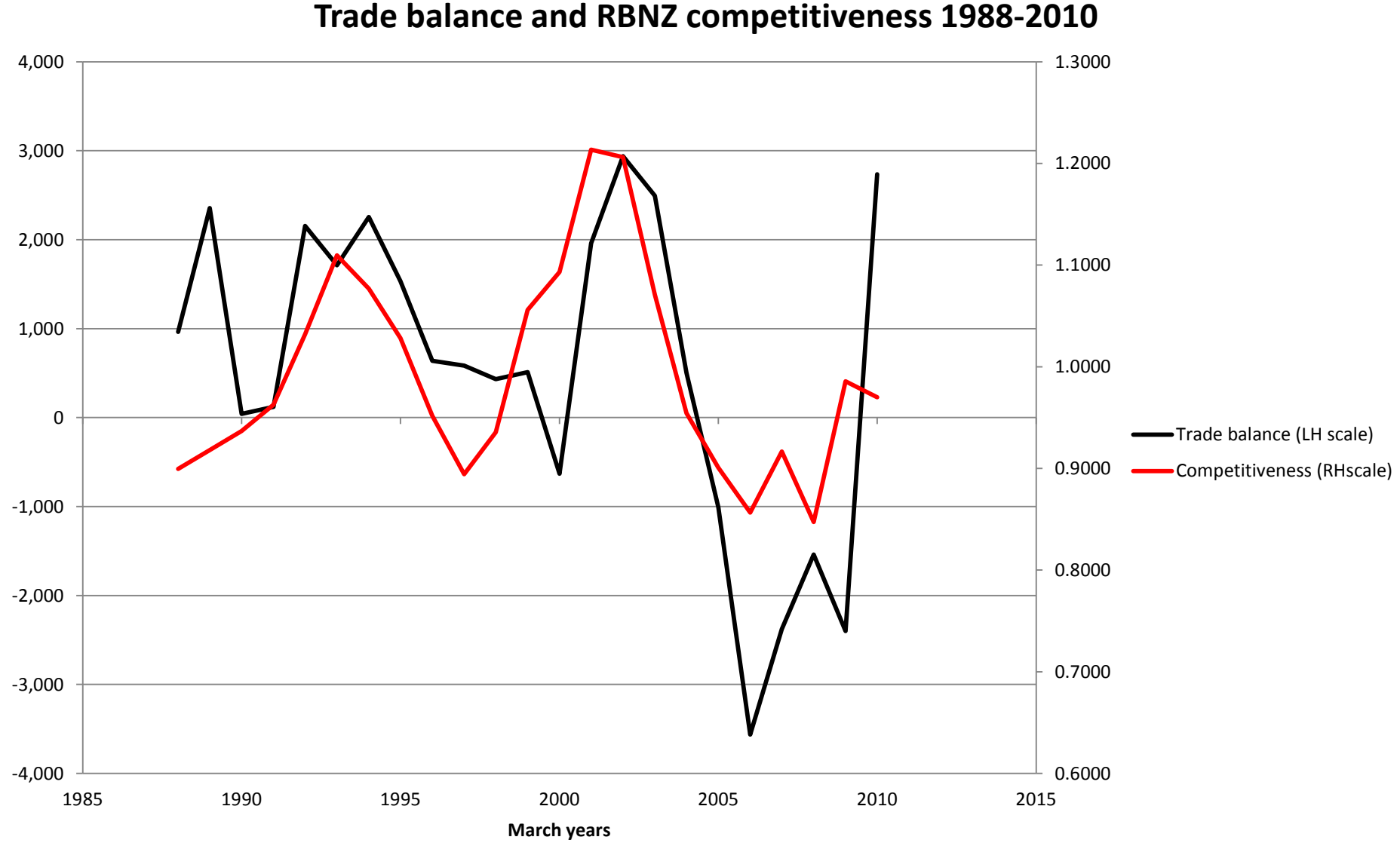
If you don't know which causal mechanism prevails, be ready for both sorts of policy intervention

So what do the data show?

Take first the inflation-adjusted nominal exchange rate (RBNZ)



http://www.rbnz.govt.nz/keygraphs/Fig8b.html



Trade data from Infoshare; inverted real TWI from RBNZ

But then there's the Salter-Swan real exchange rate: the price ratio between non-tradables and tradables

In terms of economic structure NZ faces a steady relative-price swing against tradables

- I have attributed this to the failure to regulate monopoly utilities which have therefore been able to push up margins and pass on cost increases, while tradables producers have been squeezed

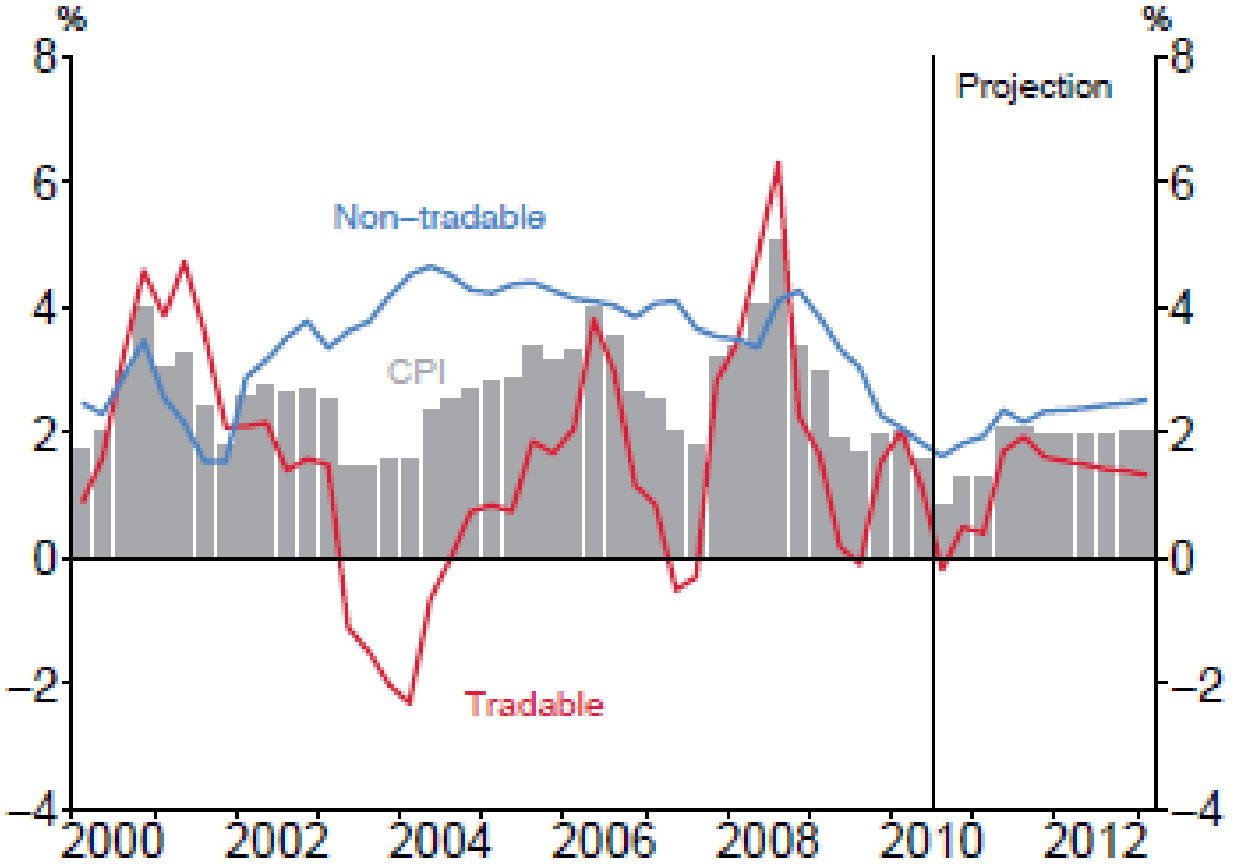
- It may also reflect, though, changing relative supply cost…

- The mechanism is a higher inflation rate for non-tradables, which year by year moves prices in their favour

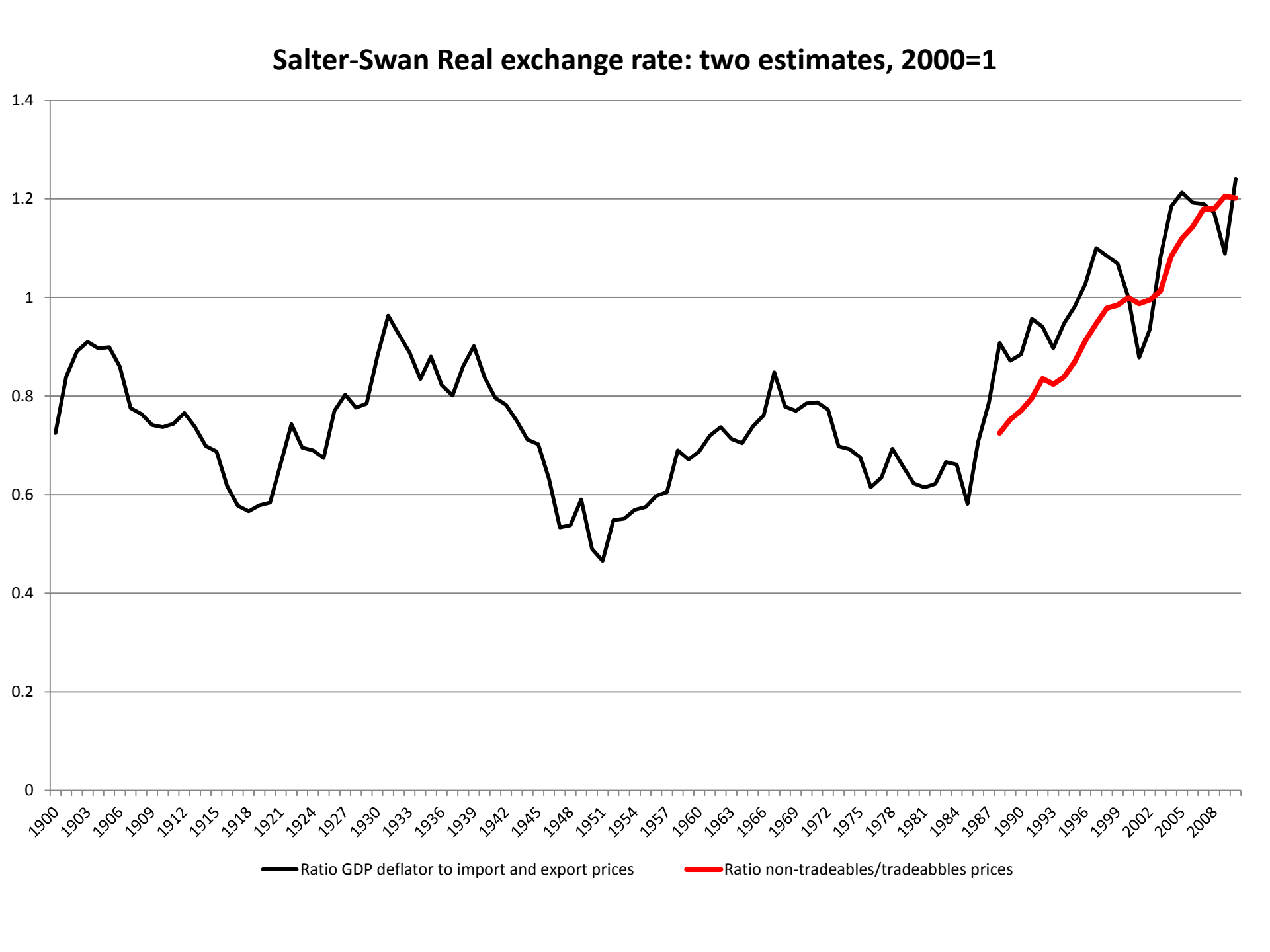
Figure 5.9

CPI, tradable and non-tradable inflation

(annual, excluding policy changes)



RBNZ, *Monetary Policy Statement* September 2010 p.2


Salter-Swan Real exchange rate: two estimates, 2000=1
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1900
1903
1906
1909
1912
1915
1918
1921
1924
1927
1930
1933
1936
1939
1942
1945
1948
1951
1954
1957
1960
1963
1966
1969
1972
1975
1978
1981
1984
1987
1990
1993
1996
1999
2002
2005
2008
Ratio GDP deflator to import and export prices
Ratio non-tradeables/tradeabbles prices

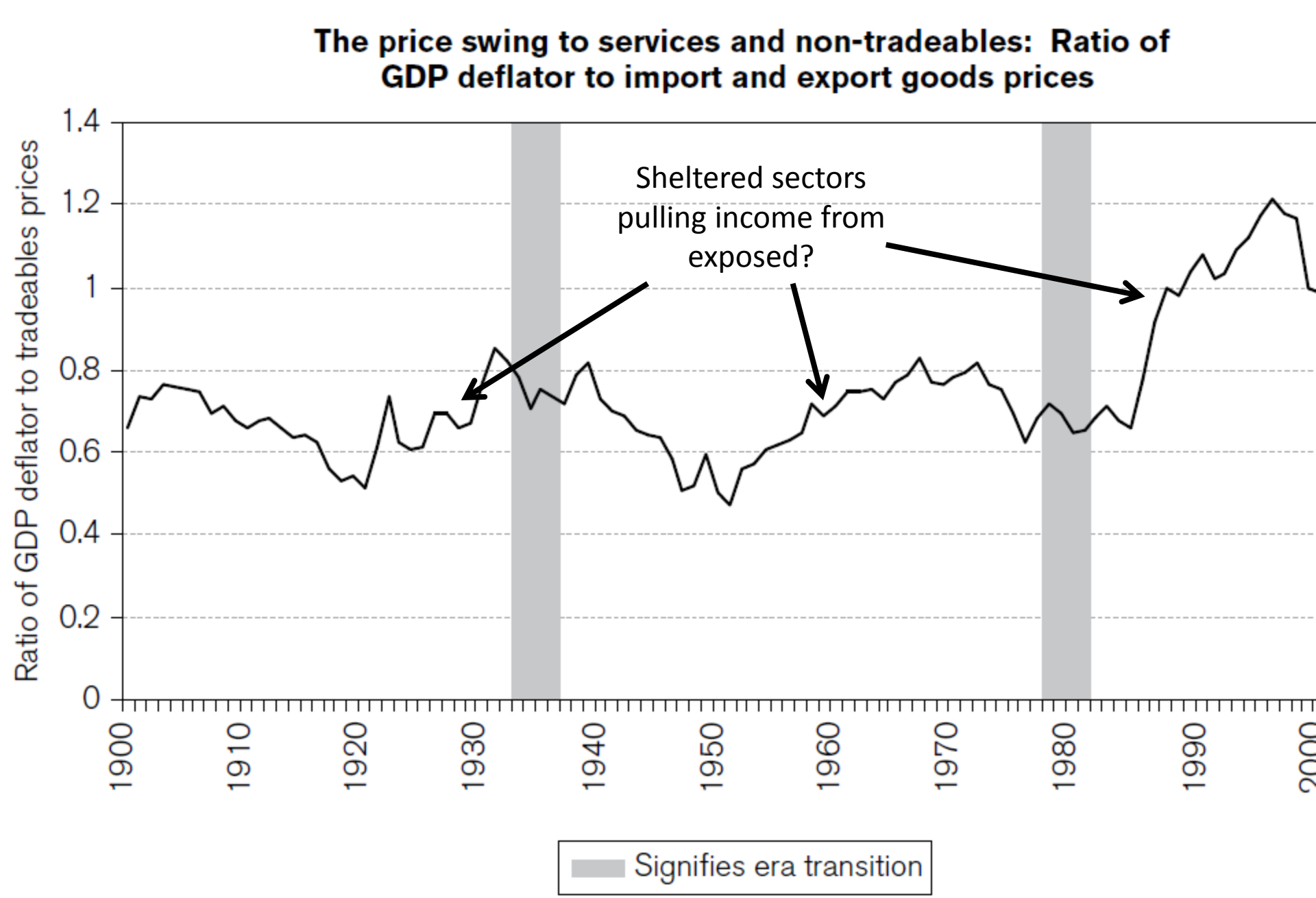
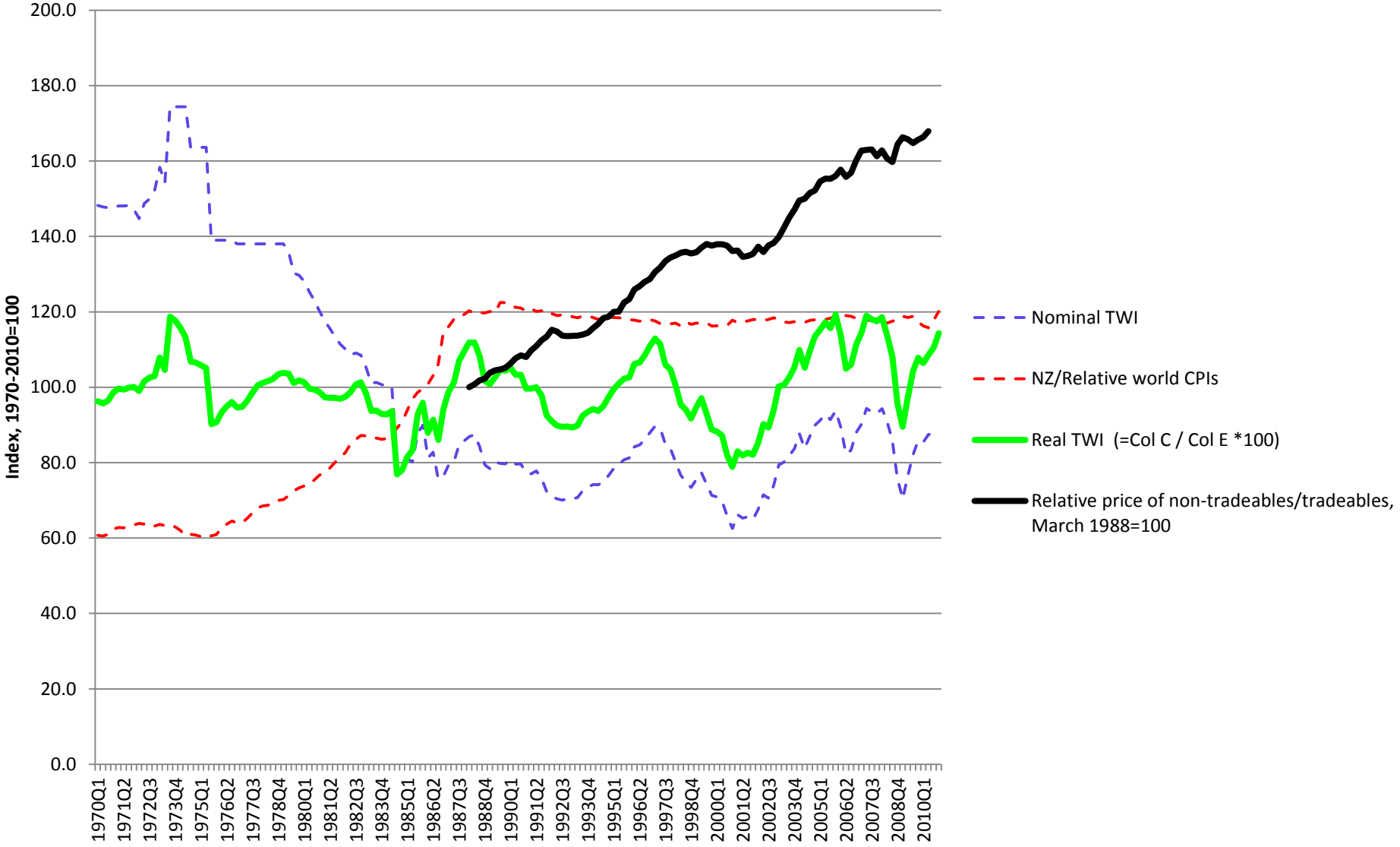


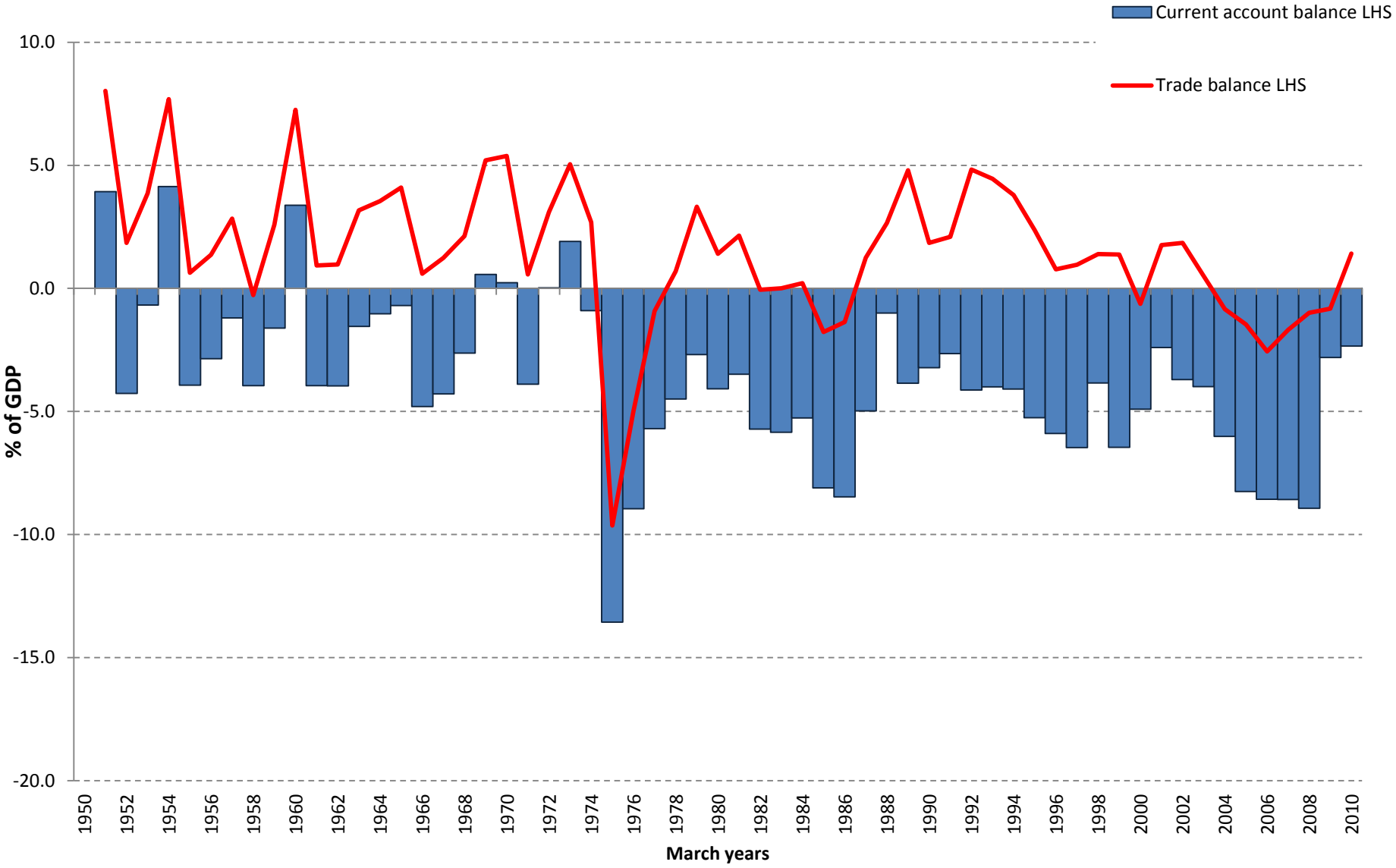
FIGURE 22.7:

THE PRICE SWING TO SERVICES AND NON-TRADEABLES: RATIO OF GDP DEFLATOR TO IMPORT AND EXPO

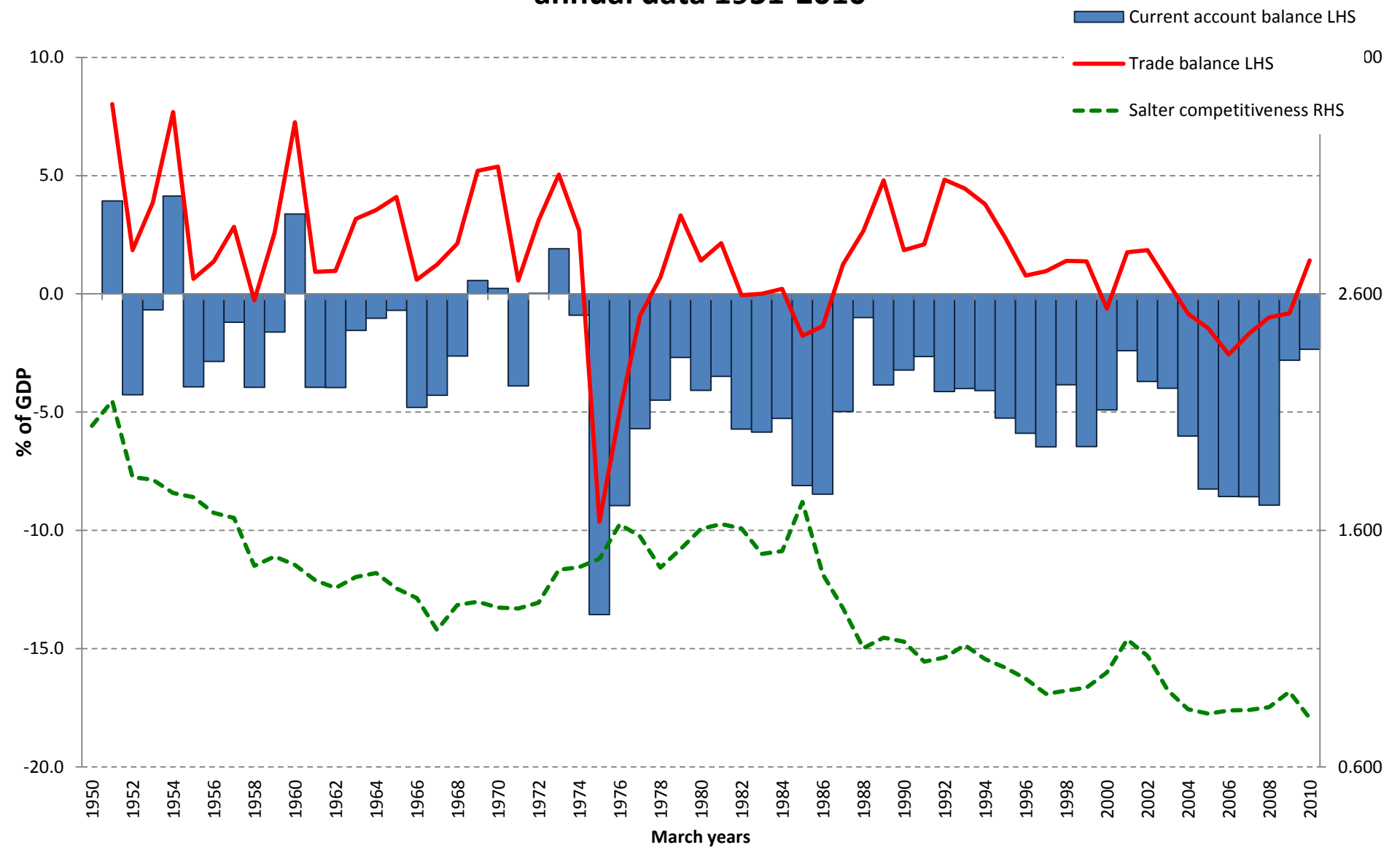
New Zealand Real Exchange Rate: Two Versions



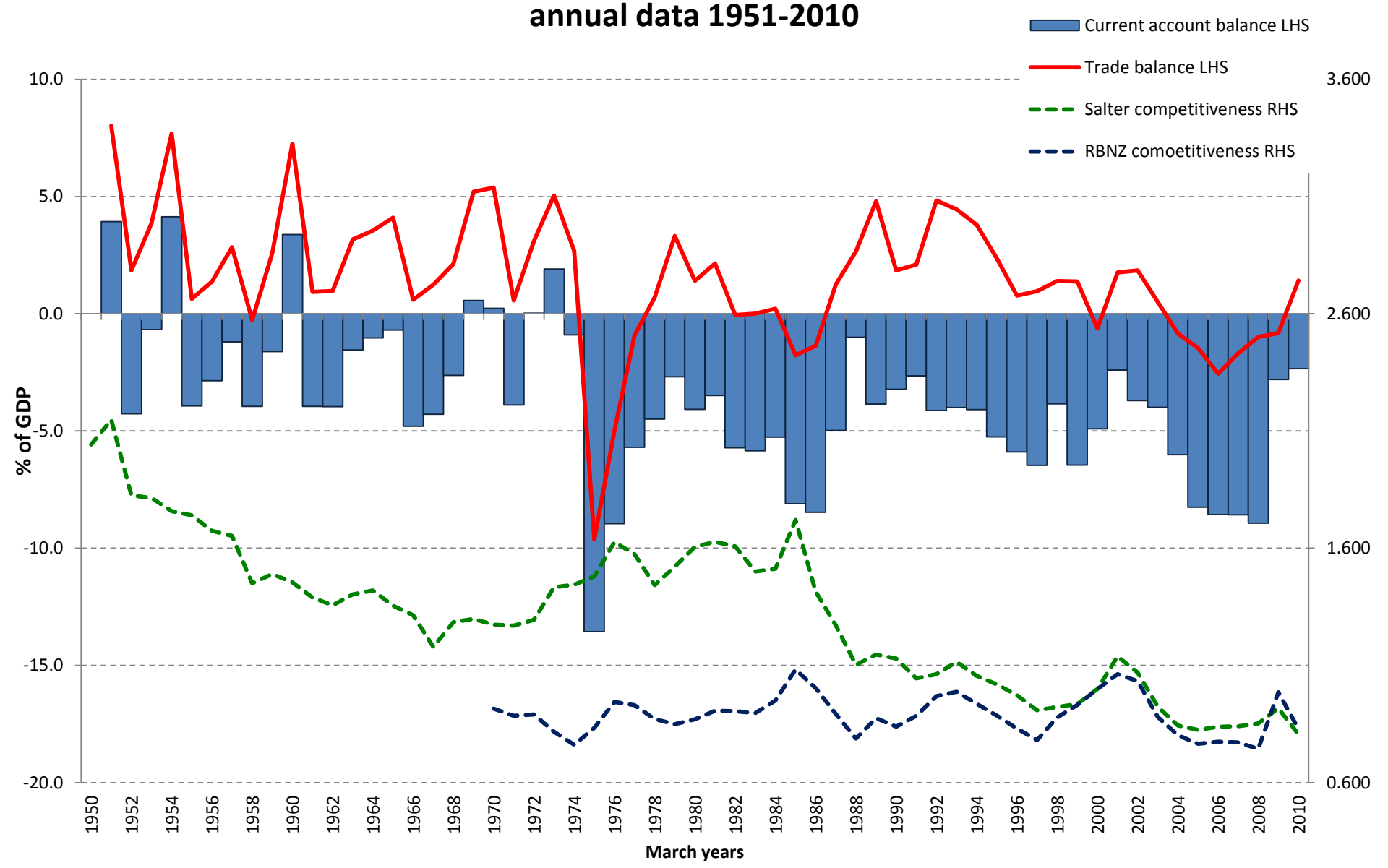
New Zealand Current Account Balance and Merchandise Trade Balance, annual data 1951-2010



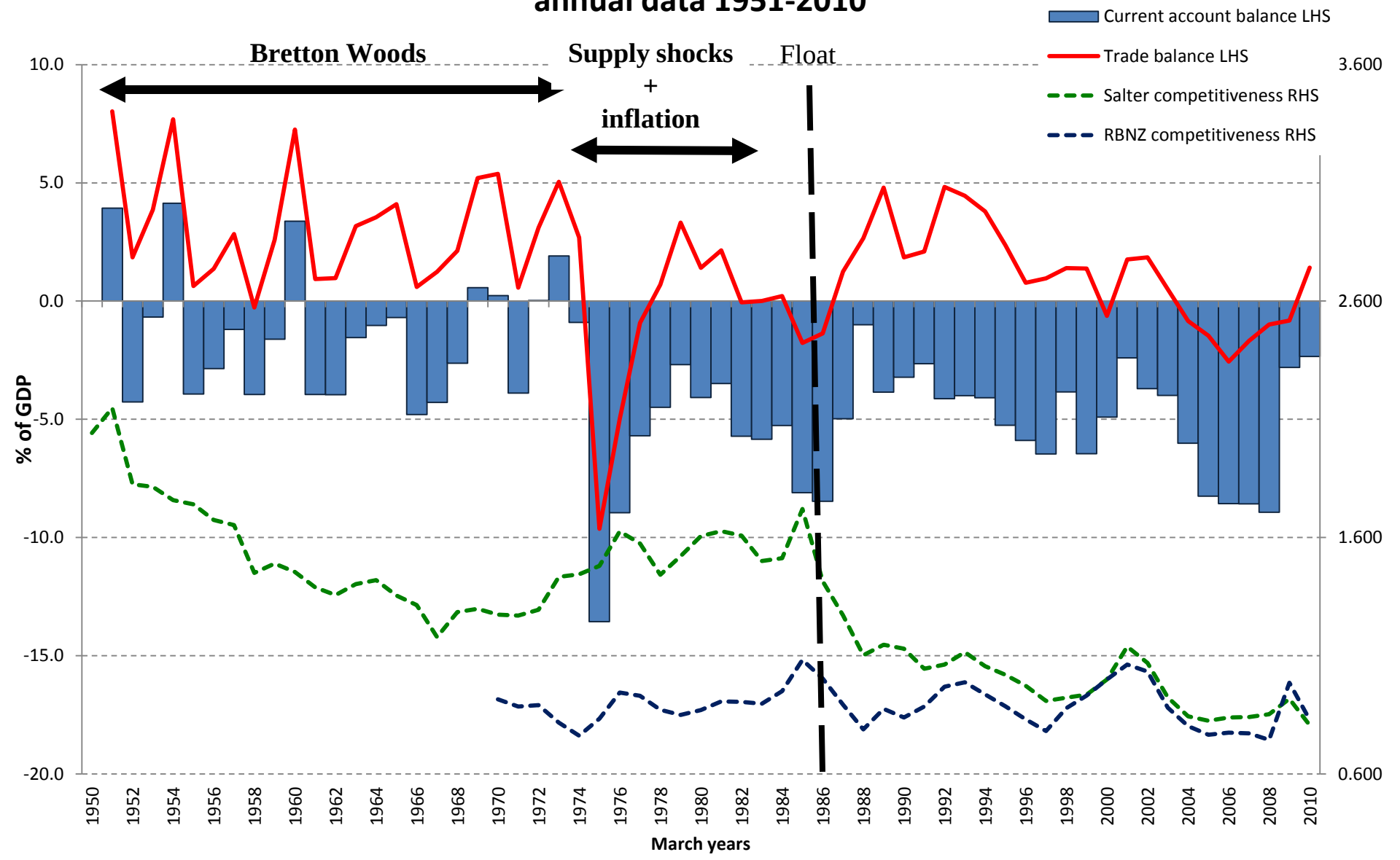
New Zealand Current Account Balance and Merchandise Trade Balance, annual data 1951-2010



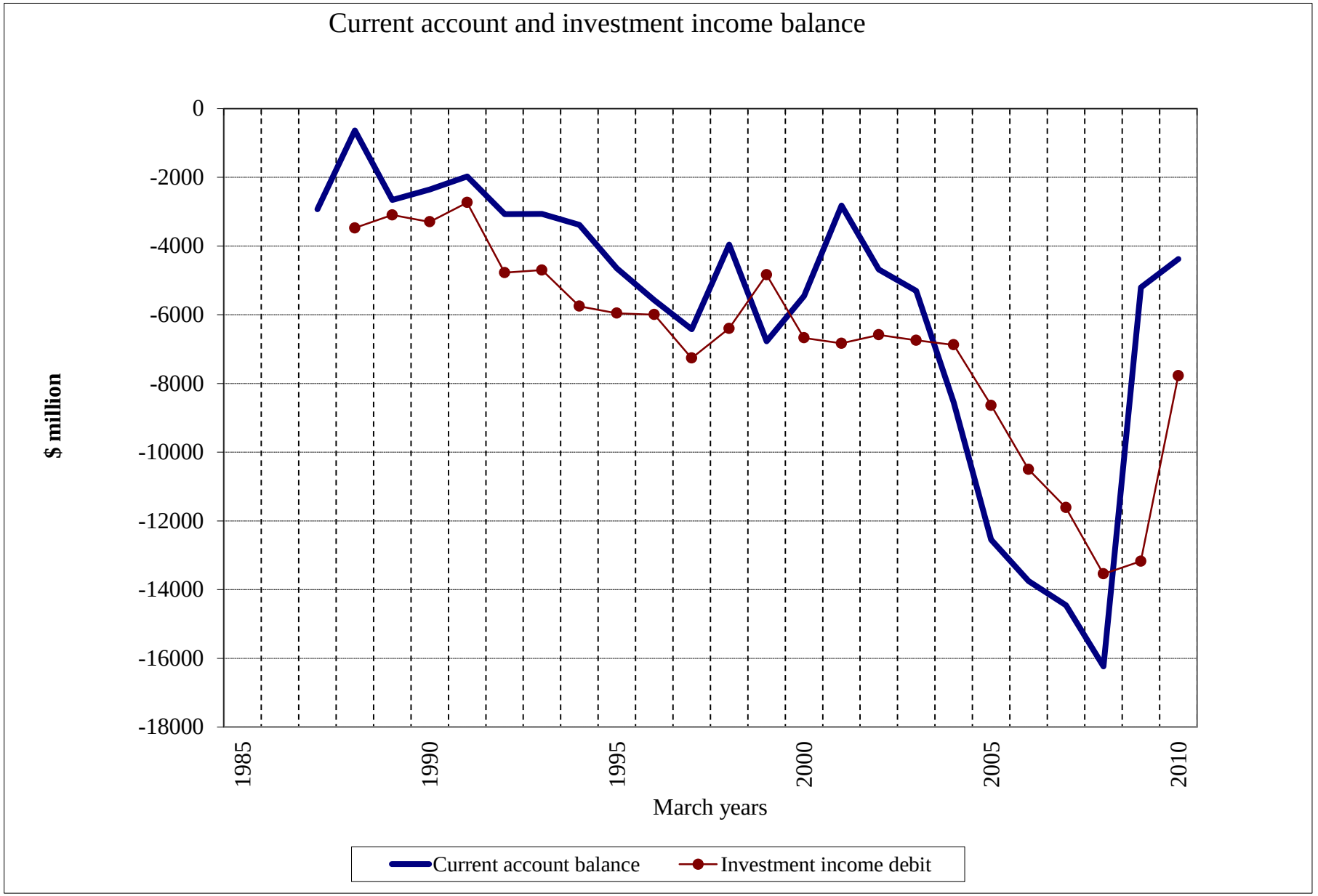
New Zealand Current Account Balance and Merchandise Trade Balance, annual data 1951-2010

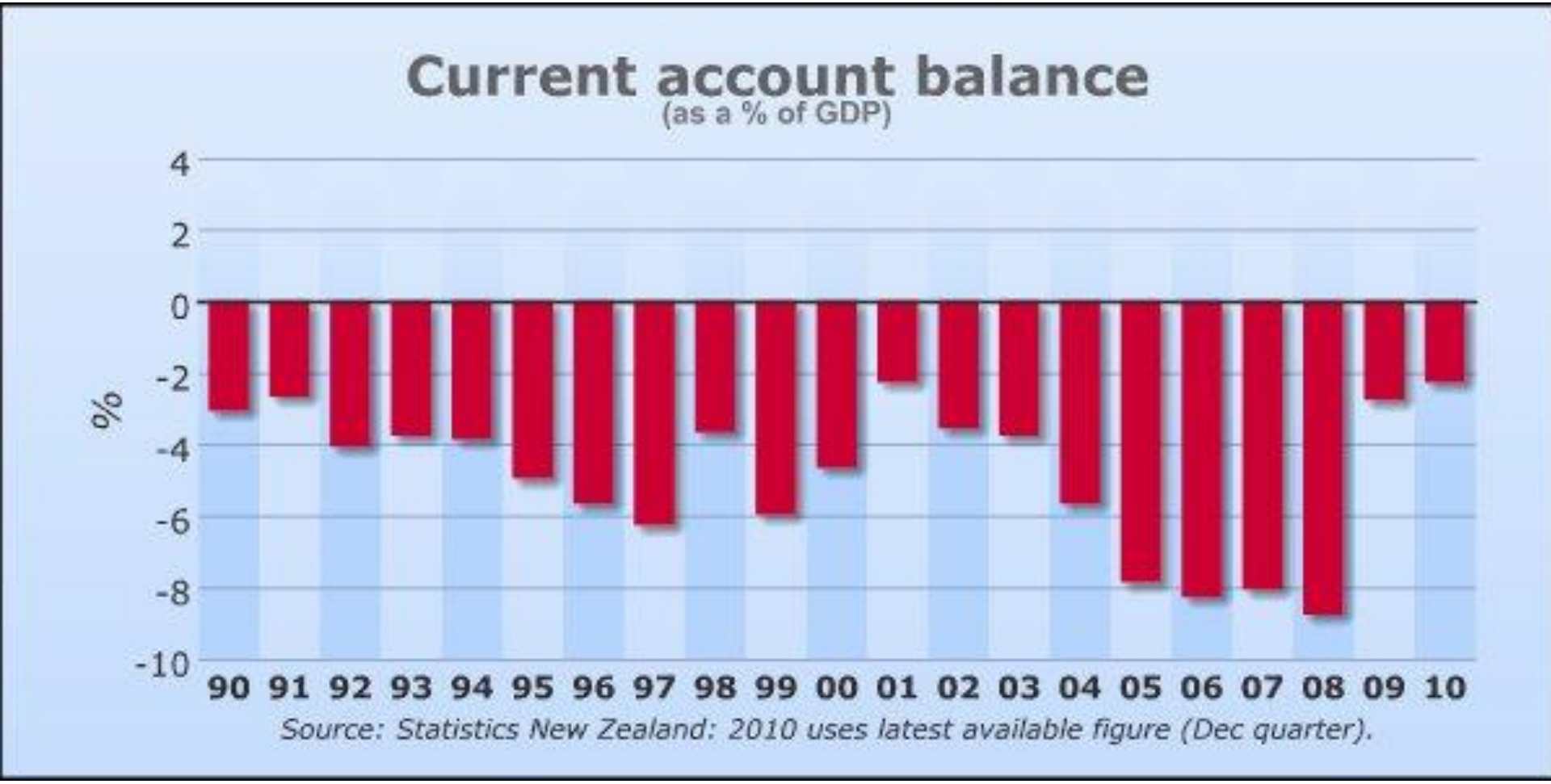


New Zealand Current Account Balance and Merchandise Trade Balance, annual data 1951-2010



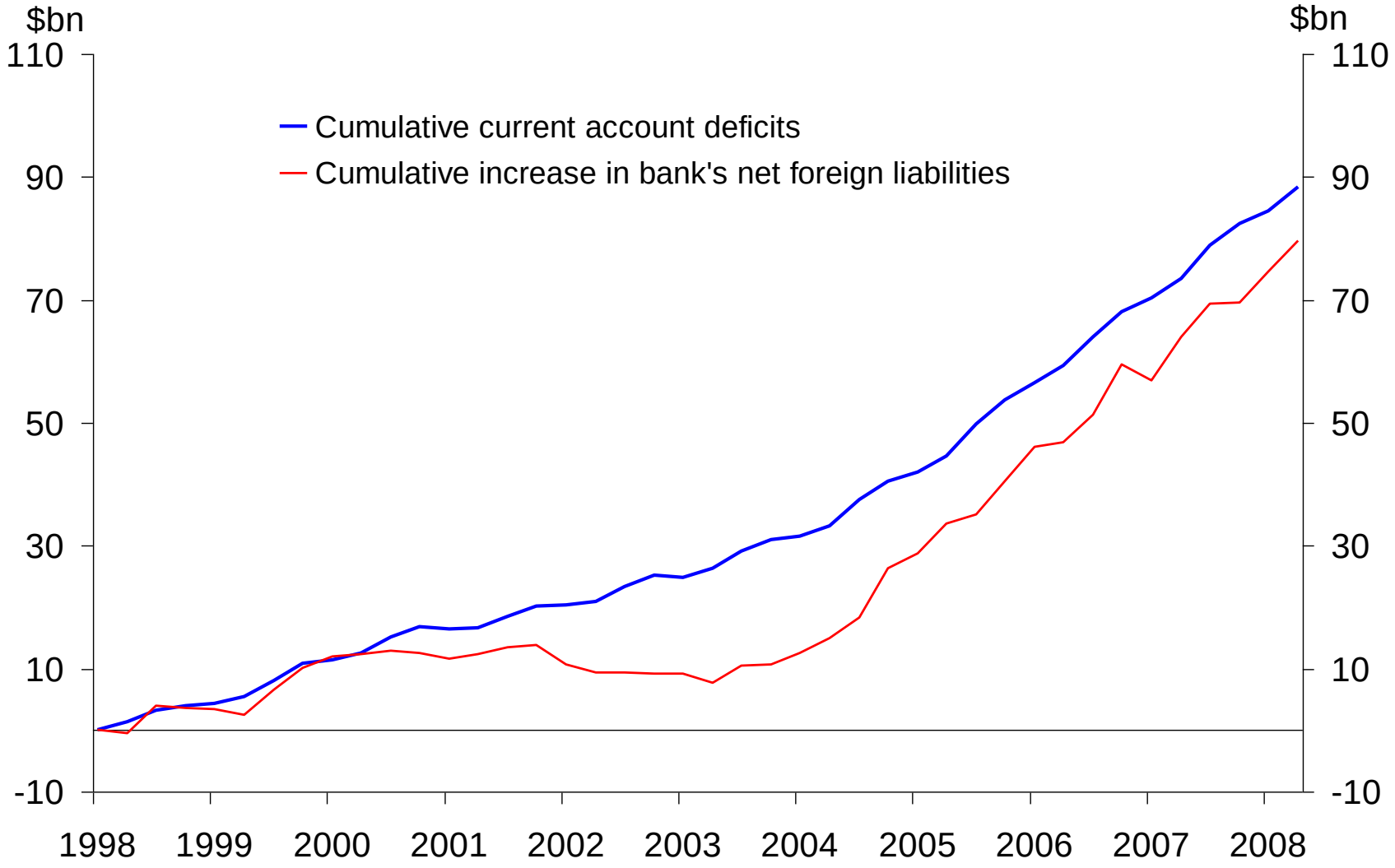
As external debt rises, the current account gets driven by investment income π



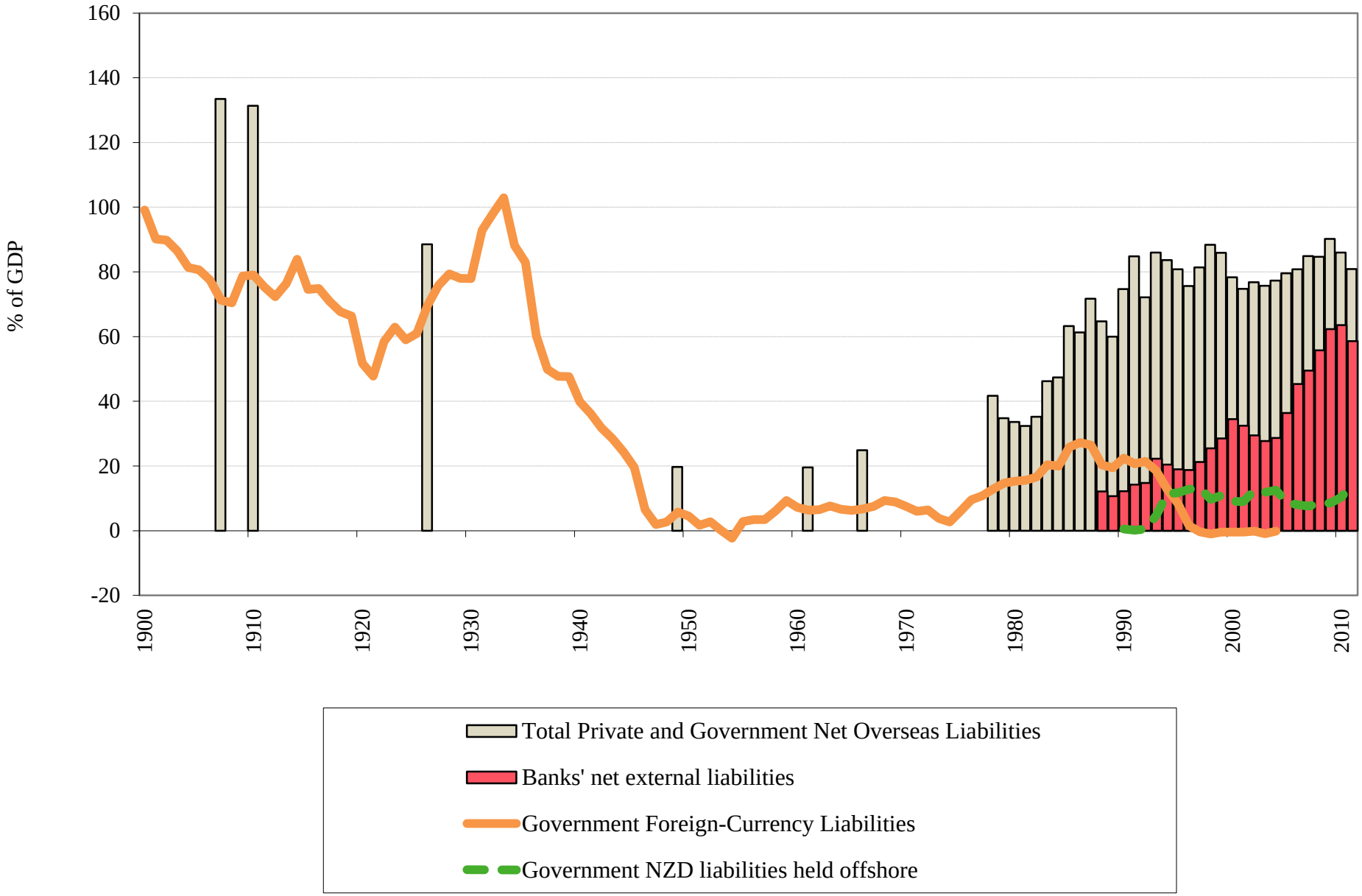


http://www.rbnz.govt.nz/keygraphs/Fig6.html

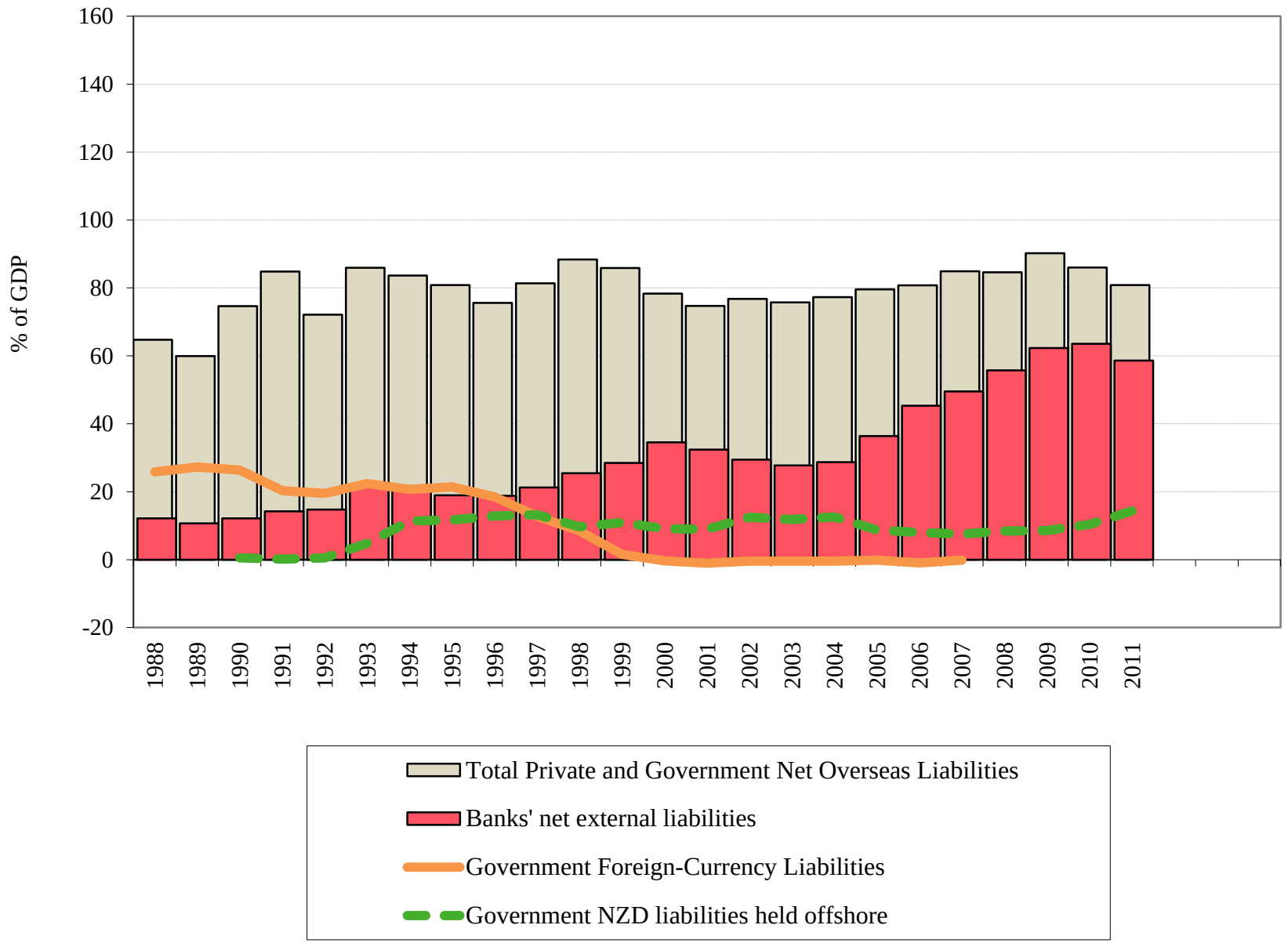
Figure 4.1
The funding of the current account deficit: it's the banks



Net International Investment Position (Government plus Private)



Net International Investment Position (Government plus Private)



New Zealand's international assets[3]				
Equity assets[4]	S5AA1A	58,020		
Lending	S5AA3	94,858		
Banks	S5AA8C	**27,080**	17.7%	of gross assets
General government	S5AA8B	16,355		
Monetary authorities	S5AA8A	17,907		
Other sectors	S5AA8D	33,516		
Total international assets	S5AA1	152,879		
New Zealand's international liabilities				
Equity liabilities	S5AL1A	63,437		
Borrowing	S5AL3	248,488		
Banks	S5AL8C	**144,243**	46.2%	of gross liabilities
General government	S5AL8B	31,453		
Monetary authorities	S5AL8A	1,113		
Other sectors	S5AL8D	71,679		
Total international liabilities	S5AL1	311,925		
New Zealand's net international asset				
Net international equity	S5AA2A	-5,417		
Net international debt	S5AA2B	-153,630		
Net international asset positi	*S5AA2*	-159,046		

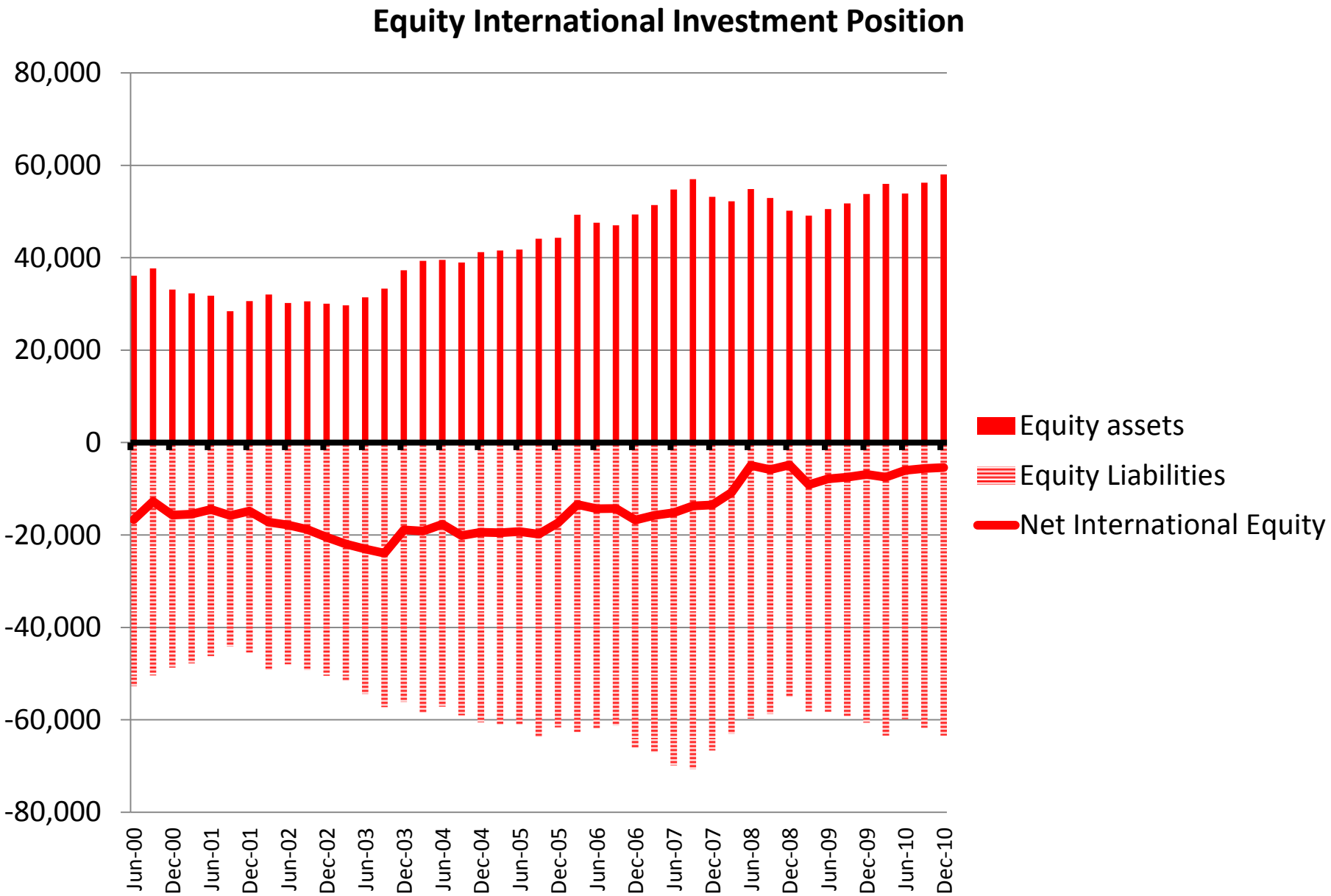
Who owes what exactly to whom?

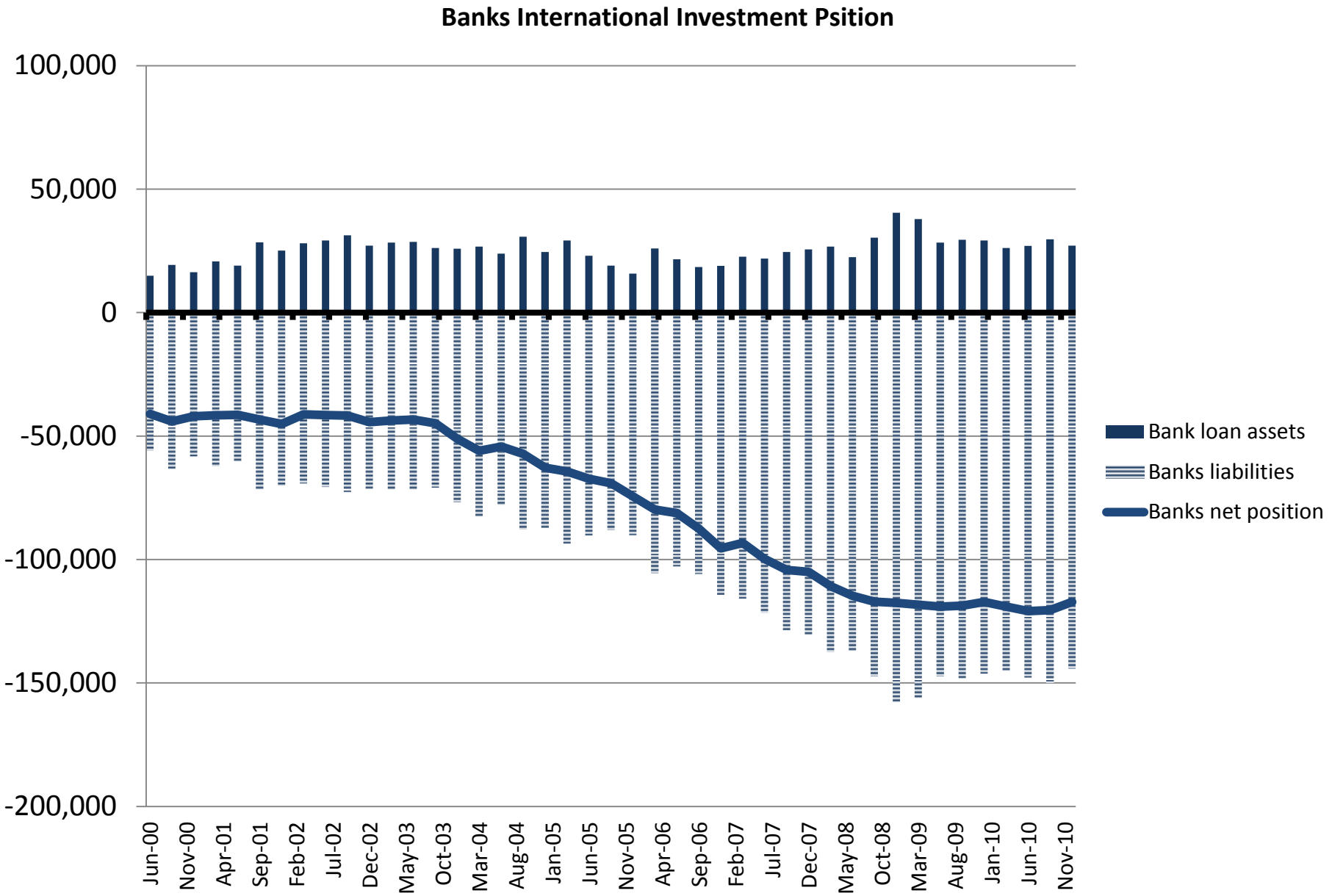
- It’s not helpful to just say “we” or “the country” are in debt or overextended.
- The fact is that NZ residents basically owe the banks sums in NZD, with no exchange rate exposures
- The banks are sitting on $318 billion of NZD assets funded by $96 billion of foreign currencies and $230 billion of NZD liabilities
- The long-run worry for the banks is of capital losses in the event of depreciation: the NZD claims are collectible in NZD; the foreign-currency liabilities will revalue upwards if the NZD exchange rate falls
- This is not the hedging issue as usually understood – it’s a longer-run balance sheet mismatch

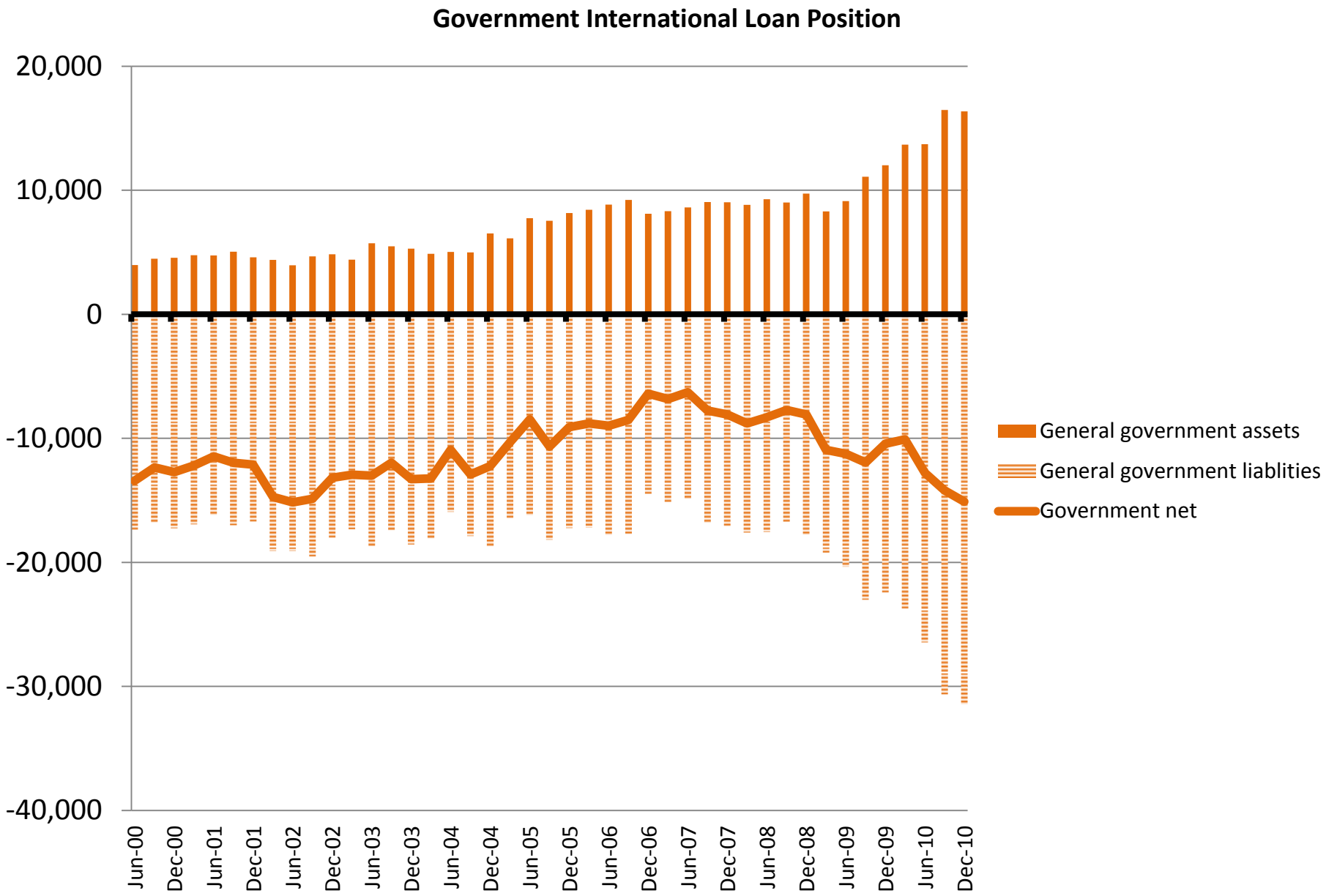
Consolidated Balance Sheets of the Banks January 2011

	Liabilities, capital and reserves	Jan-11		Assets	Jan-11
	NZ dollar funding			NZ dollar claims	
1	NZ resident	192.4		NZ resident (non-M3)	297.8
2	Non-resident	37.9		Non-resident	7.1
3	Total 1+2	**230.3**		Sub-total to here	**304.9**
				NZ resident (M3 institutions)	12.9
				Total	**317.8**
	Foreign currency funding			**Foreign currency claims**	
4	NZ resident	7.2		NZ resident	3.6
5	Non-resident	88.5		Non-resident	4
6	**Total 4+5**	**95.7**		**Total**	**7.6**
7	Capital and reserves	22.8		Foreign-currency fixed assets	0.1
8	Other iabilities	28.8		Shares in NZ companies	0.2
				Other assets	**30.2**
				Government bonds	5
				NZ nots and coin	0.6
				Claims on the Reserve Bank	7.1
	Total labilities	**377.6**		**Total assets**	**377.6**
	Memo items:			Memo items:	
	funding from associates	43.2		financial claims on associates	5.5
	total non-resident funding	126.4		total non-resident claims	11.1

New Zealand's international assets[3]				
Equity assets[4]	S5AA1A	58,020		
Lending	S5AA3	94,858		
Banks	S5AA8C	**27,080**	17.7%	of gross assets
General government	S5AA8B	16,355		
Monetary authorities	S5AA8A	17,907		
Other sectors	S5AA8D	33,516		
Total international assets	S5AA1	152,879		
New Zealand's international liabilities				
Equity liabilities	S5AL1A	63,437		
Borrowing	S5AL3	248,488		
Banks	S5AL8C	**144,243**	46.2%	of gross liabilities
General government	S5AL8B	31,453		
Monetary authorities	S5AL8A	1,113		
Other sectors	S5AL8D	71,679		
Total international liabilities	S5AL1	311,925		
New Zealand's net international asset				
Net international equity	S5AA2A	-5,417		
Net international debt	S5AA2B	-153,630		
Net international asset positi	*S5AA2*	-159,046		


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


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

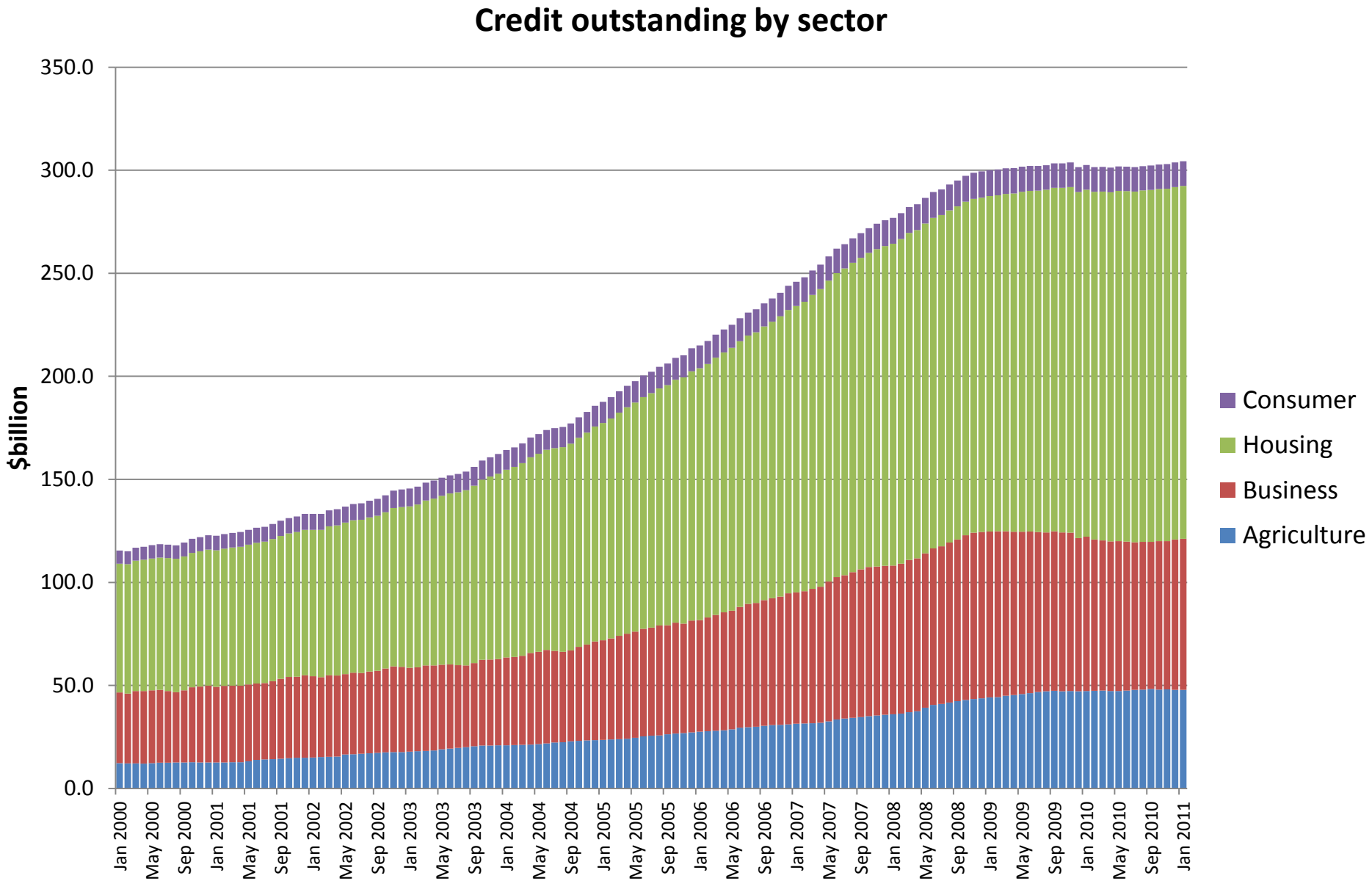

Government International Loan Position
20,000
10,000
0
-10,000
-20,000
-30,000
-40,000
Jun-00
Dec-00
Jun-01
Dec-01
Jun-02
Dec-02
Jun-03
Dec-03
Jun-04
Dec-04
Jun-05
Dec-05
Jun-06
Dec-06
Jun-07
Dec-07
Jun-08
Dec-08
Jun-09
Dec-09
Jun-10
Dec-10
General government assets
General government liablities
Government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


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

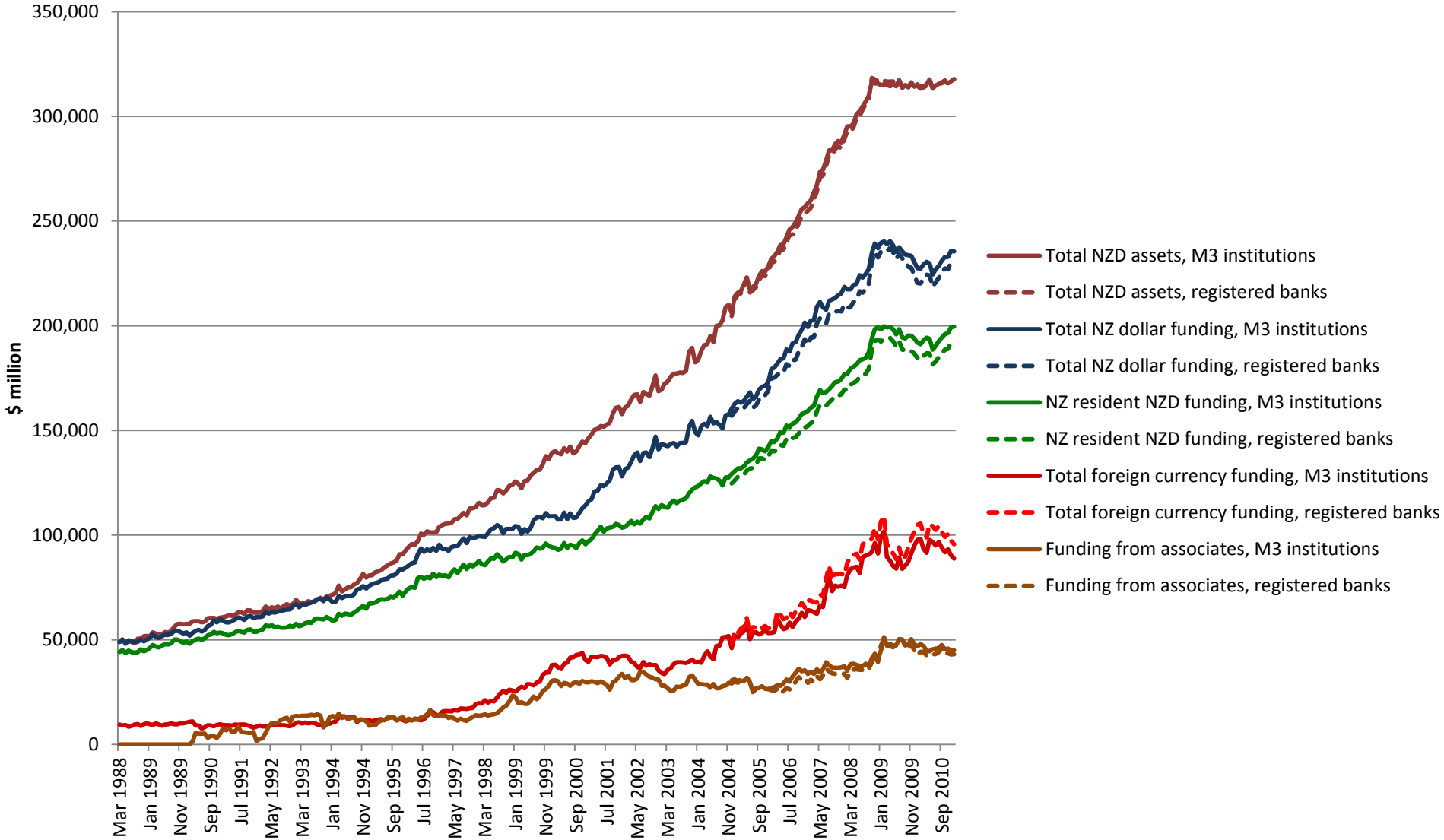
But there has been a break in the trend since the 2008 crisis

(The interesting question domestically is whether the economy has saturated its demand for credit – i.e. whether deleveraging will continue for the next few years regardless of inducements to borrow)

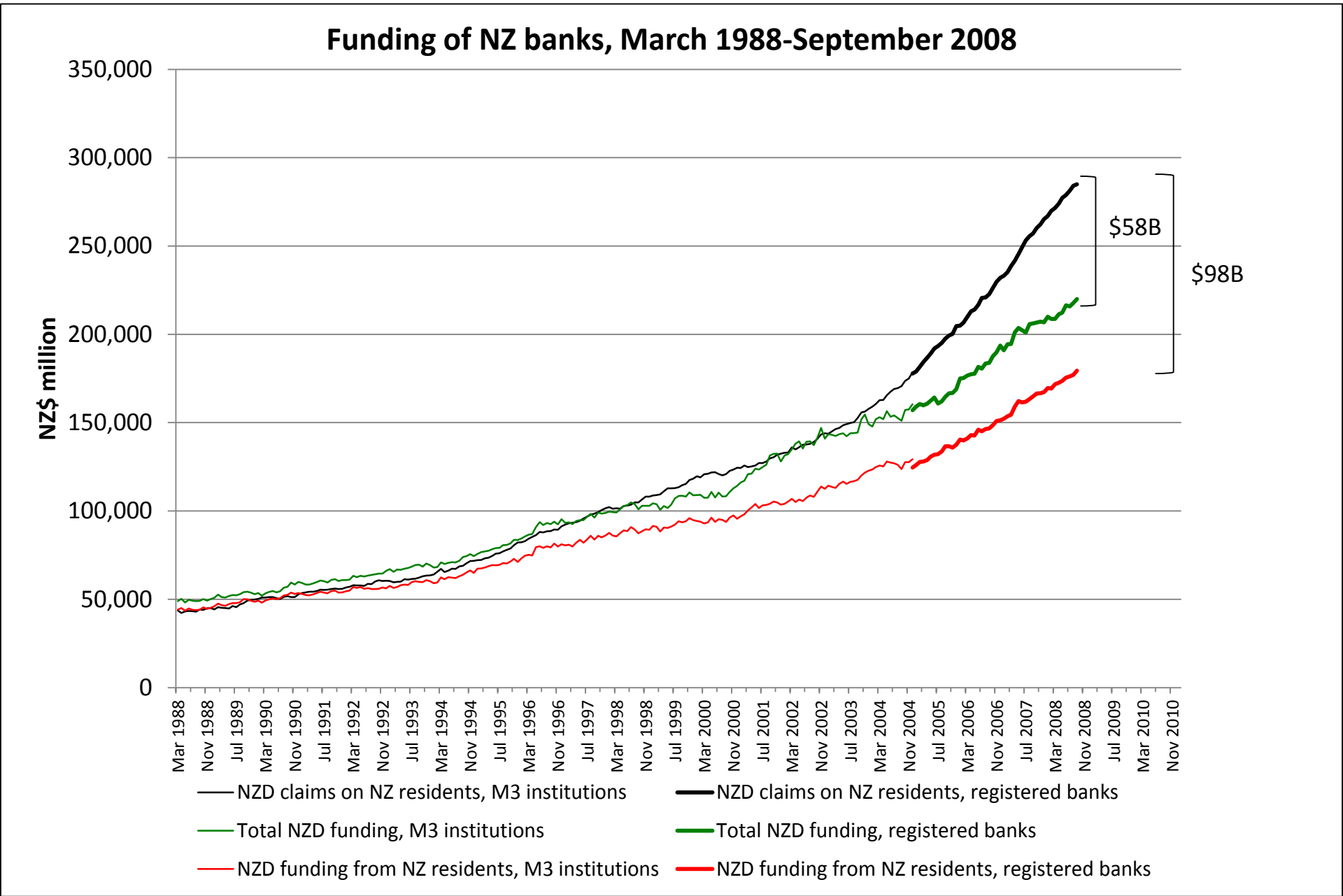
% change in credit outstanding by sector, June 2000 to January 2011


Credit outstanding by sector
$billion
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
Jan 2000
May 2000
Sep 2000
Jan 2001
May 2001
Sep 2001
Jan 2002
May 2002
Sep 2002
Jan 2003
May 2003
Sep 2003
Jan 2004
May 2004
Sep 2004
Jan 2005
May 2005
Sep 2005
Jan 2006
May 2006
Sep 2006
Jan 2007
May 2007
Sep 2007
Jan 2008
May 2008
Sep 2008
Jan 2009
May 2009
Sep 2009
Jan 2010
May 2010
Sep 2010
Jan 2011
Consumer
Housing
Business
Agriculture

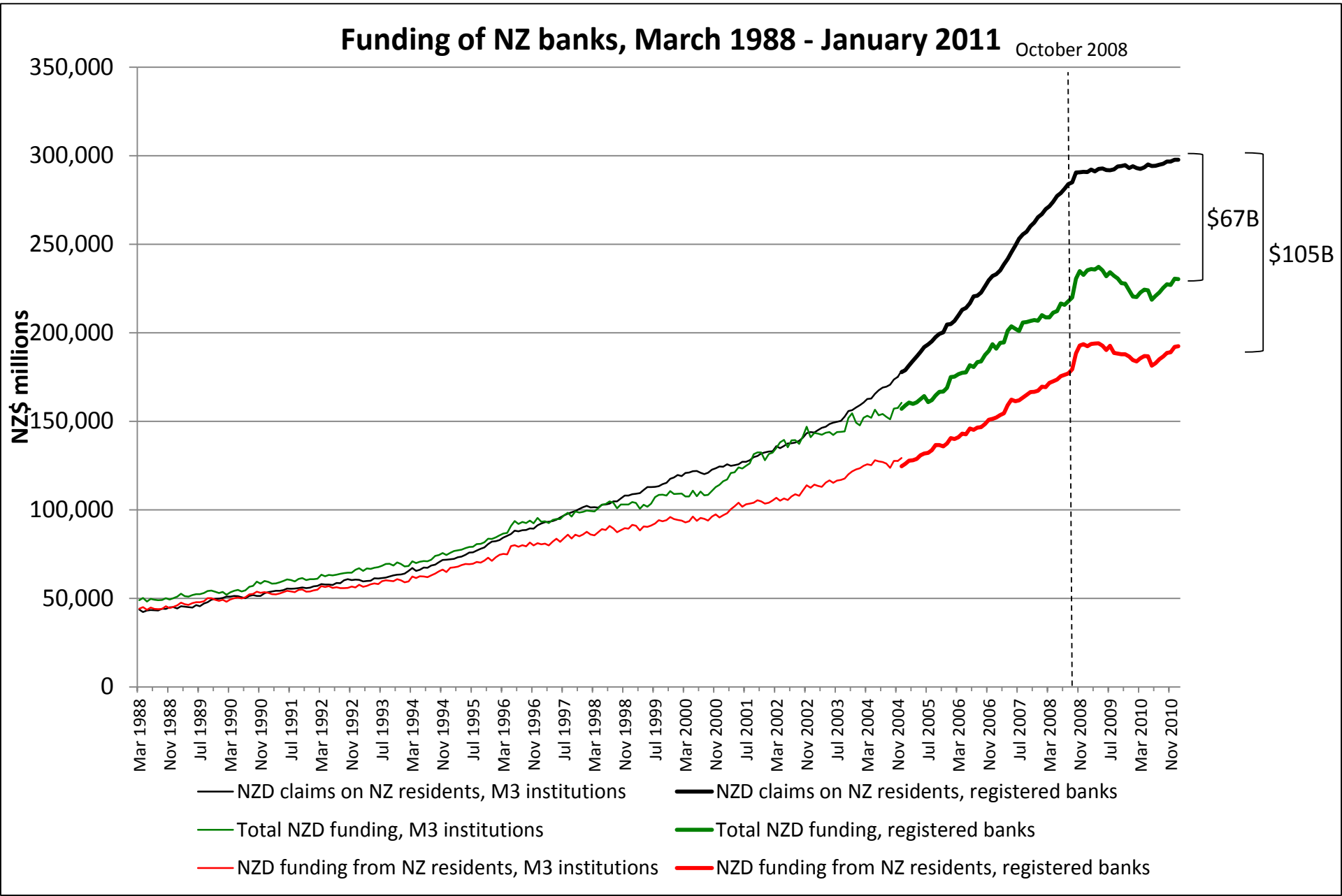
Funding the growth of NZ dollar assets of the banks and M3 institutions
March 1988 - Jan 2011



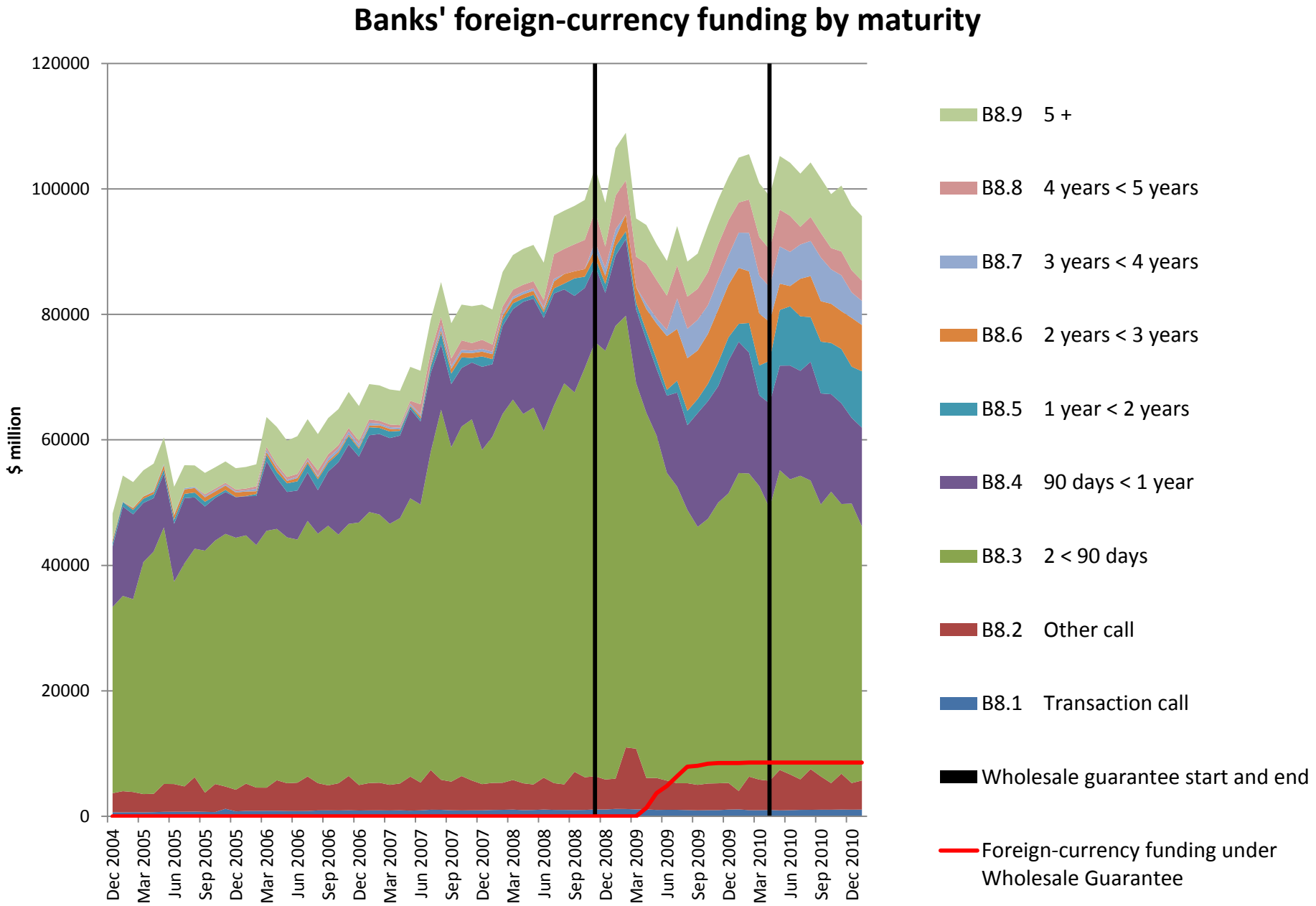
Back in 2009 I was worrying about the rapidly growing gap



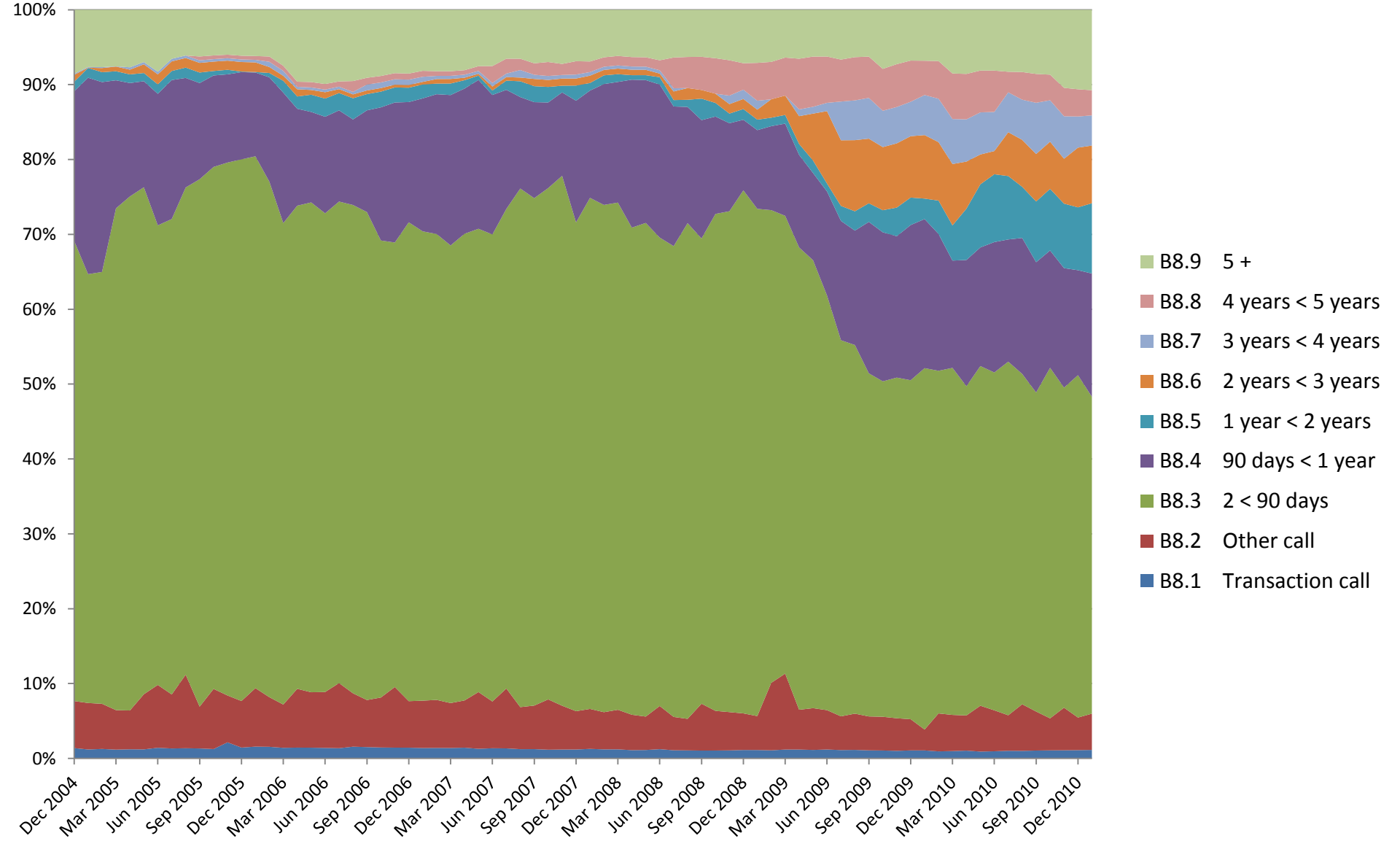
Three years on, it's virtually frozen



Meantime the Core Funding Requirement has begun to shift the maturity structure of bank funding

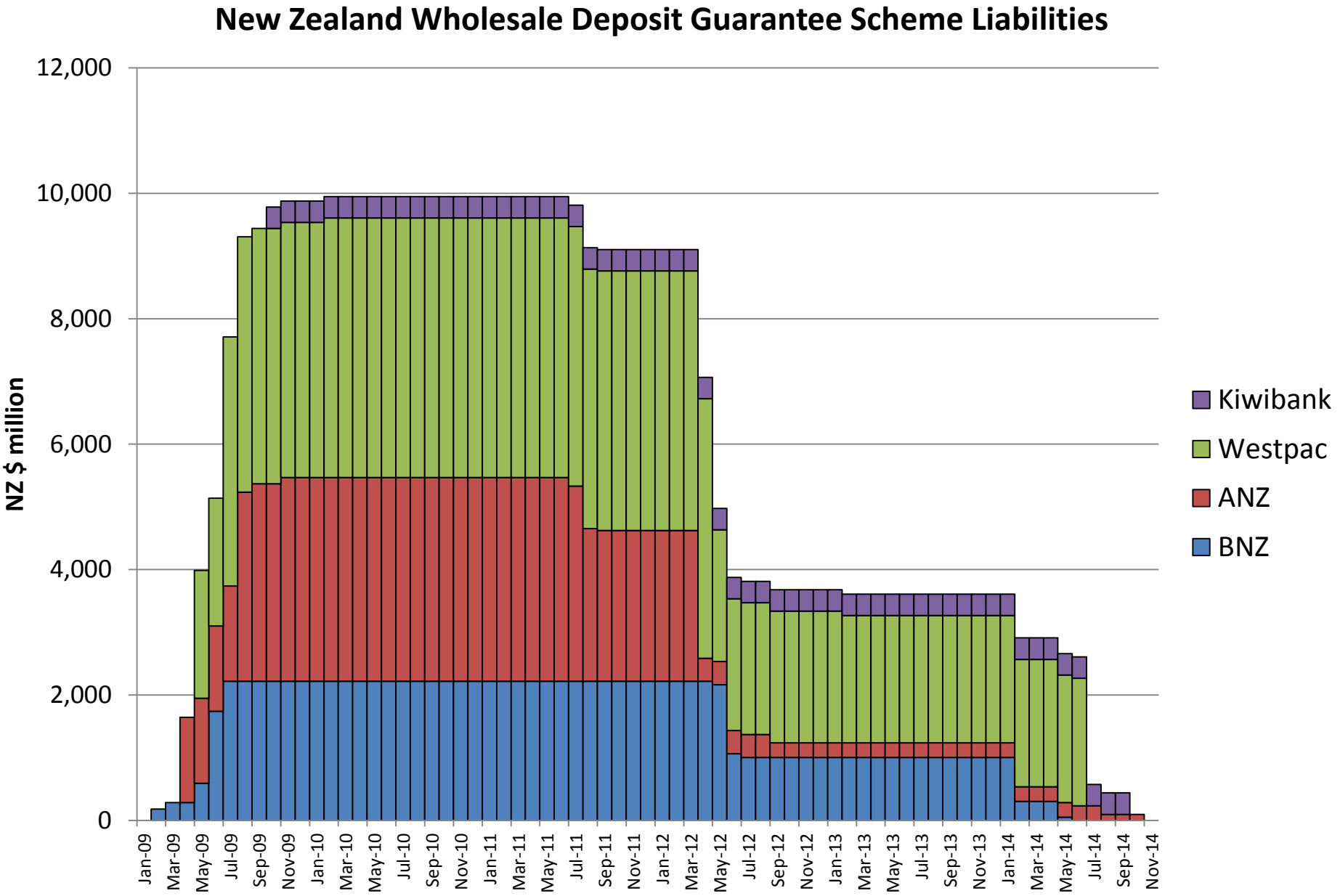

Banks' foreign-currency funding by maturity
$ million
120000
100000
80000
60000
40000
20000
0
Dec 2004
Mar 2005
Jun 2005
Sep 2005
Dec 2005
Mar 2006
Jun 2006
Sep 2006
Dec 2006
Mar 2007
Jun 2007
Sep 2007
Dec 2007
Mar 2008
Jun 2008
Sep 2008
Dec 2008
Mar 2009
Jun 2009
Sep 2009
Dec 2009
Mar 2010
Jun 2010
Sep 2010
Dec 2010
B8.9 5 +
B8.8 4 years < 5 years
B8.7 3 years < 4 years
B8.6 2 years < 3 years
B8.5 1 year < 2 years
B8.4 90 days < 1 year
B8.3 2 < 90 days
B8.2 Other call
B8.1 Transaction call
Wholesale guarantee start and end
Foreign-currency funding under Wholesale Guarantee

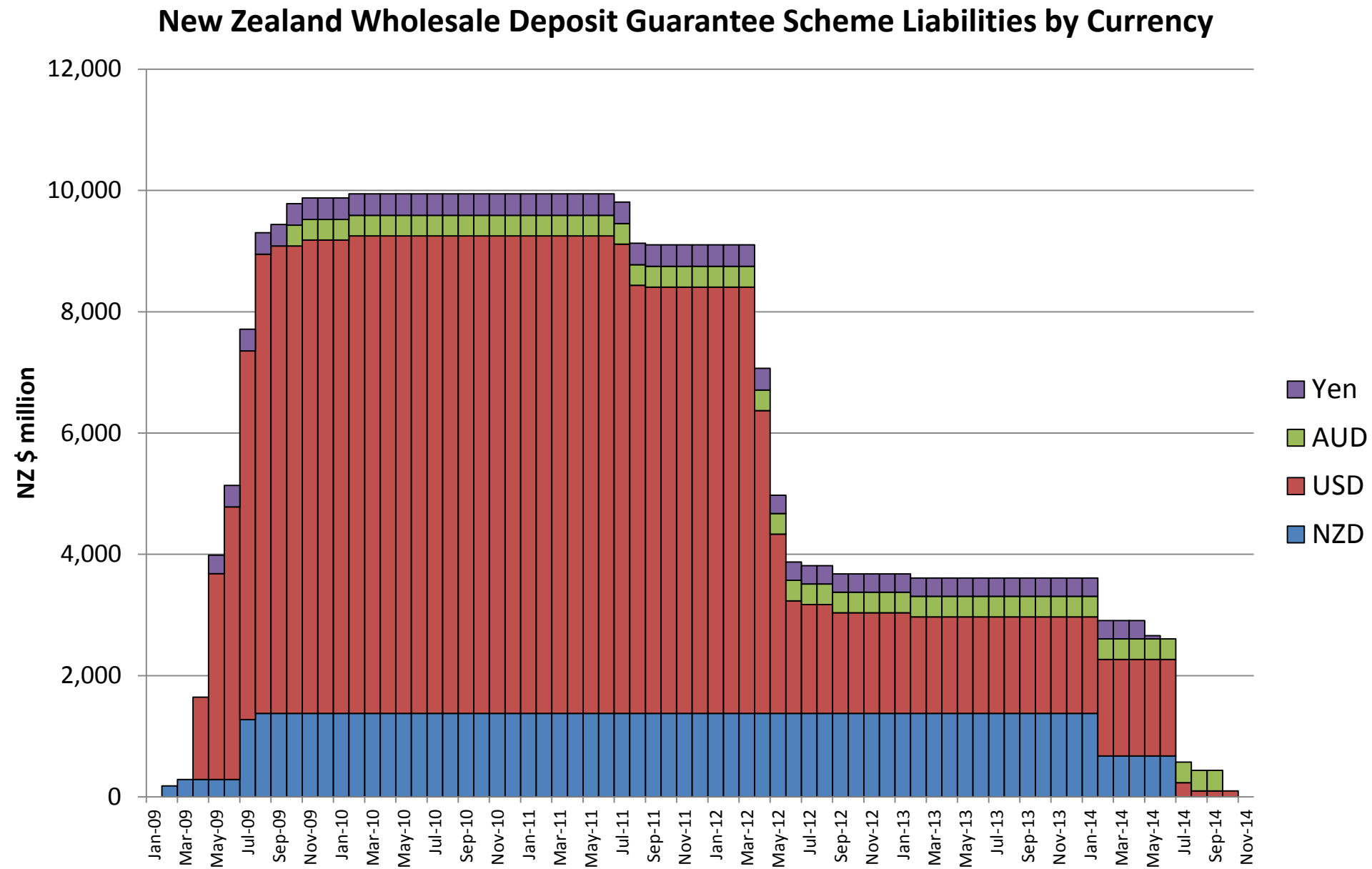
Banks' foreign-currency funding by maturity: % breakdown



One black mark in the picture is the Wholesale Deposit Guarantee, which has made $10 billion of bank borrowing a taxpayer liability, with $8.5 billion owed in foreign currency, mainly USD

That's 6% of the banks' gross foreign currency liabilities for which the exchange risk has been passed to society


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


New Zealand Wholesale Deposit Guarantee Scheme Liabilities by Currency
NZ $ million
12,000
10,000
8,000
6,000
4,000
2,000
0
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
Jan-13
Mar-13
May-13
Jul-13
Sep-13
Nov-13
Jan-14
Mar-14
May-14
Jul-14
Sep-14
Nov-14
Yen
AUD
USD
NZD

So can we be sanguine?

- No, because at some point economic activity will pick up again and at that point the debt buildup could resume unless the banks are restrained or NZ households and businesses decide to operate within their current income

- Also no because there is a big inflow of offshore funds from reinsurance coming up after the Christchurch earthquake, which will tend to hold the nominal exchange rate up and put pressure on domestic non-tradables prices

- The RBNZ's response to the latter will be to raise the OCR, reinforcing the exchange rate overvaluation and rewarding carry traders while putting financial stability again in jeopardy

- There's definitely a need for something extra in the policy mix

- The Core Funding Ratio is a big step in the right direction but does not address currency mismatch in the banks' balance sheets – only the extent of exposure to maturity mismatch

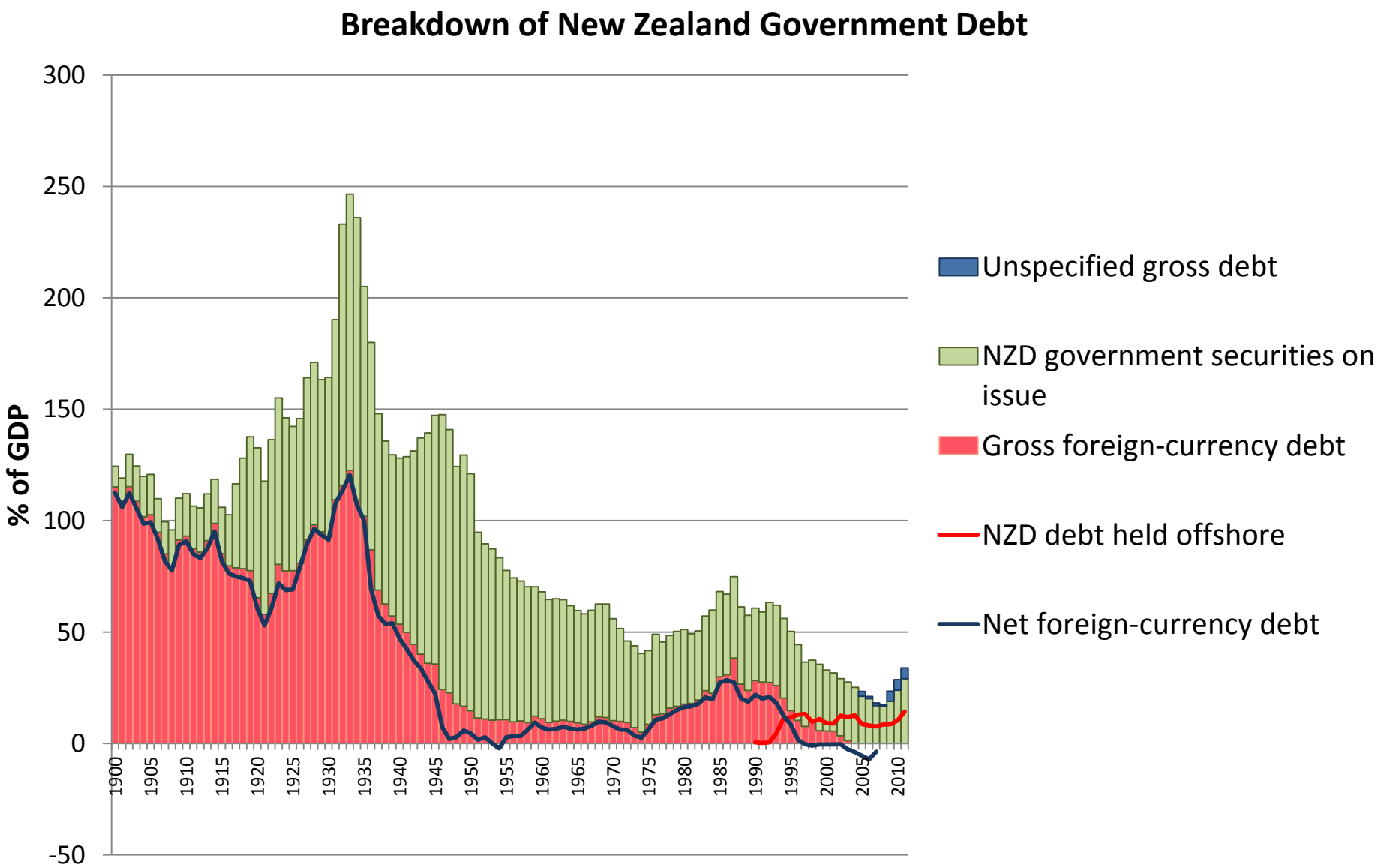
- Over time it would be good to see the currency mismatch unwound, at least to some target level low enough to be free of concern about external debt sustainability

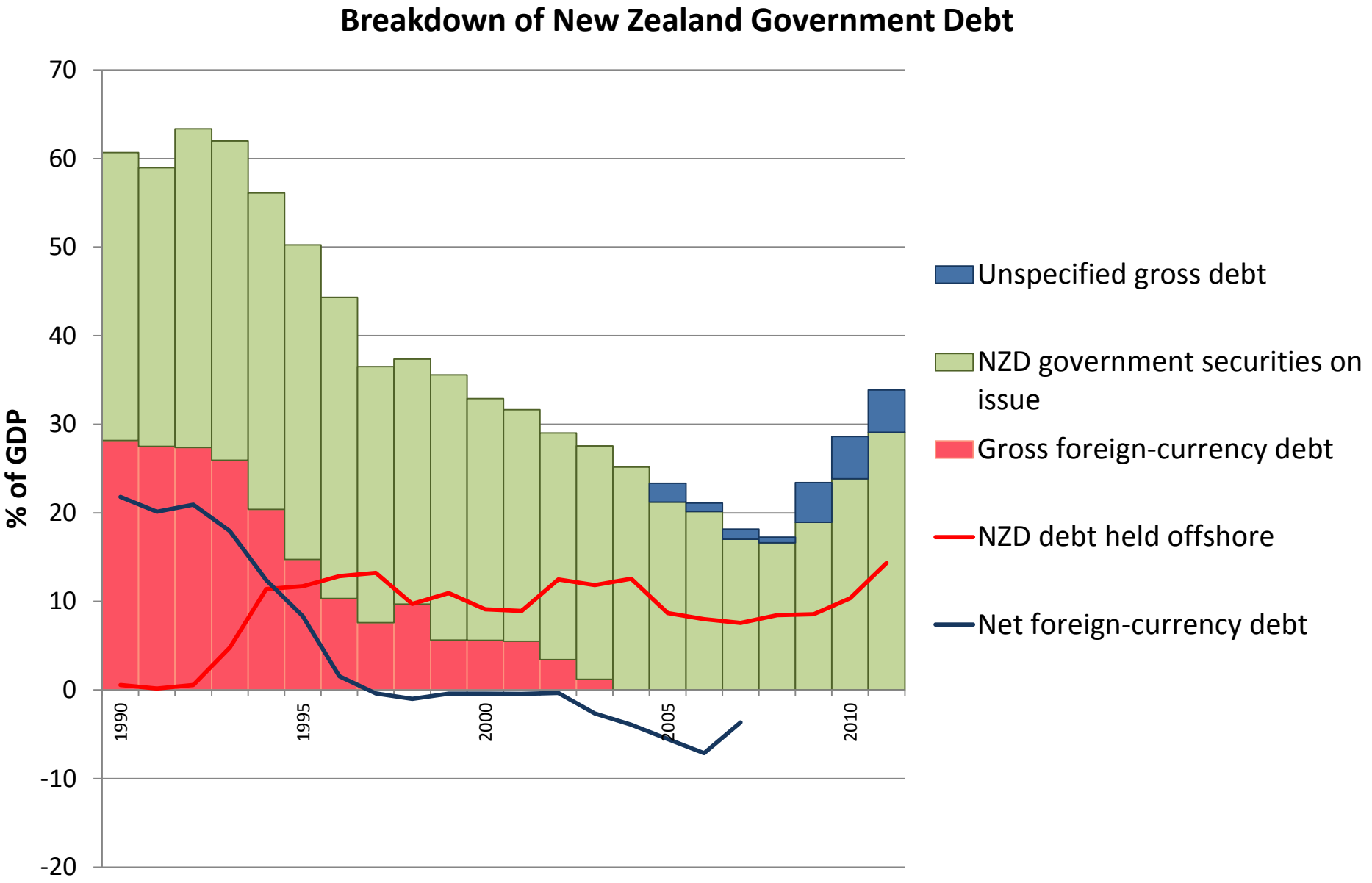
- There is also a good case for restricting hot money flows by some variant of a Tobin tax or other regulatory capital controls

- One way to shift the policy focus in that direction would be to explicitly widen the RBNZ's objectives to include some notion of exchange rate targeting, both real and nominal

- [That was the key role assigned to the 'Bank' in Salter's original paper – he assigned fiscal policy to deal with inflation!]

What about government debt?




Breakdown of New Zealand Government Debt
% of GDP
70
60
50
40
30
20
10
0
-10
-20
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

What does that mean for fiscal policy?

- First, there is a lot of headroom for borrowing

- Second, there are really interesting analytical questions about the ways in which (and extent to which) changes in spending and the fiscal balance work their way through (i) to income (hence S and T) via Keynesian channels, or (ii) diretly to the current account (X-M-π) via financial-market channels

- Third, state asset sales will draw in offshore funds, pushing the nominal exchange rate up and weakening the International Investment Position – perverse from the point of view of helping to raise savings

A couple of lessons for macro policy

- Prices matter in a market economy => price distortions produce distortions in economic structure

- The RBNZ needs multiple instruments to achieve multiple objectives – or some other agency has to take on the issues that the OCR cannot touch

- Inflation targeting causes a lot more collateral damage than its advocates usually acknowledge, in terms of real exchange rate impact of the interest rate

- Setting out deliberately to move the exchange rate down by, e.g., regulating bank balance sheets, has an obvious downside: it drives up the prices of tradables and hence reduces real wages in terms of consumption goods insofar as household budgets contain more tradables than nontradables.