Financial liberalisation, exchange rate regime and economic performance in BRICs countries

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Goldman and Sachs' report (2003)

- Using demographic and productivity growth projections, the report forecasted that in less than 40 years the BRICs economies (Brazil, Russia, India and China) together could be larger than the G6 in US dollar terms, and by 2025 they should account for over half of the size of the G6 (currently they are worth less than 15%).
- In spite of problems of social inequality and poverty of these countries, there are no doubt about the potentiality of these economies.

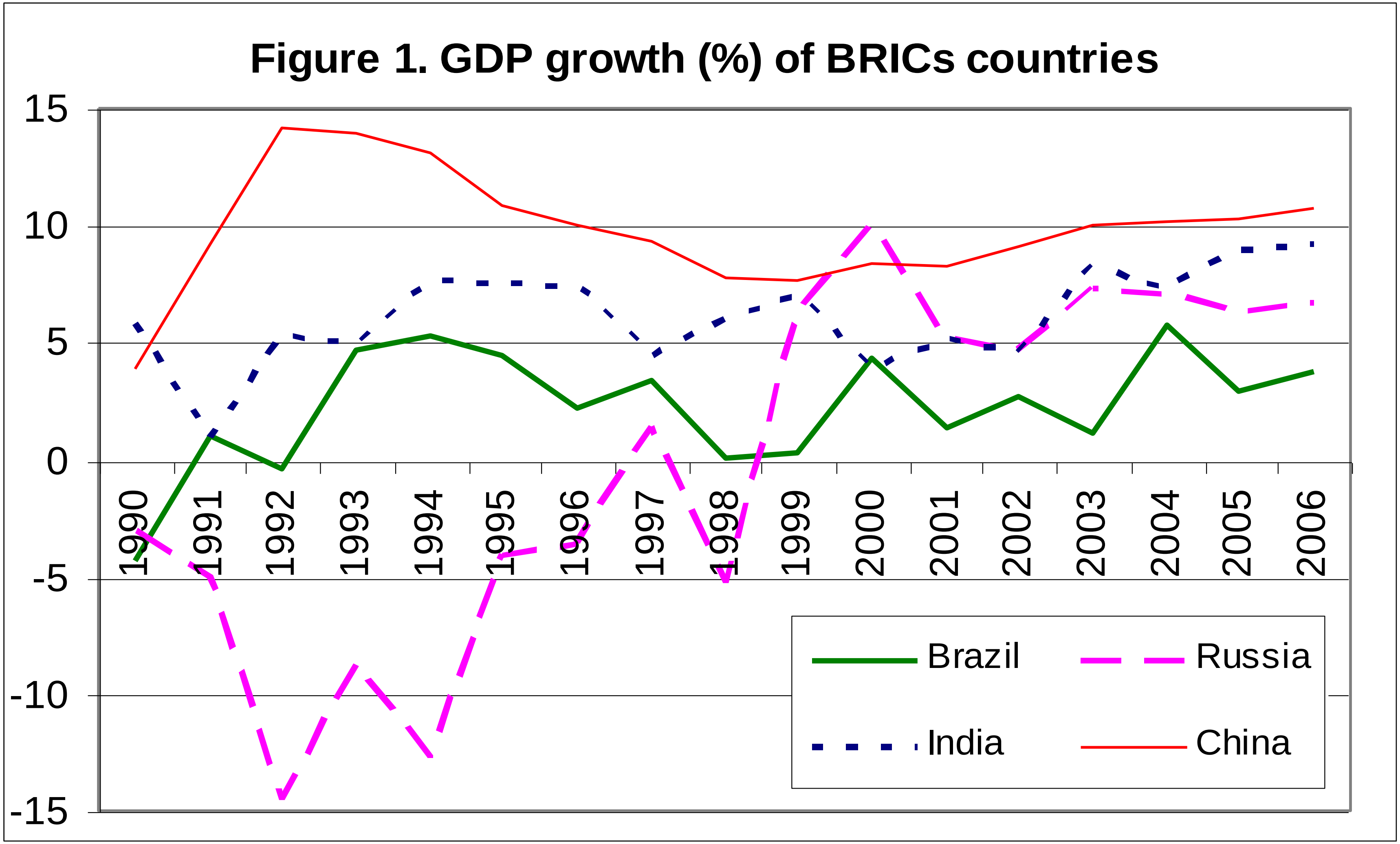


Figure 1. GDP growth (%) of BRICs countries
15
10
5
0
-5
-10
-15
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
Brazil
Russia
India
China

Questions:

- Why the economic performance and macroeconomic stability have differed among the BRICs countries?
- More specifically, in which way macroeconomic policy regime and the management of the economic policy have defined an economic environment that has contributed for a higher (or lower) economic performance and macroeconomic stability in the BRICs countries?
- Hypothesis: the economic performance of each BRIC country is the result, at least partially, of the quality of the macroeconomic policy management adopted in each country, in which exchange rate policy, capital account convertibility and the degree of external vulnerability play a key role.

Exchange rate regimes choices for emerging countries I

a) *Bipolar view*: intermediary regimes are less appropriate for economies with substantial involvement in international capital markets as make countries more vulnerable to speculative attacks (Fischer, 2001)

b) "*Fear floating*" (Calvo and Reihart, 2002): many emerging countries that adopt flexible exchange rate regime in practice seek to limit exchange rate movements.

-> Problems of floating: effects of exchange rate devaluation on debts denominated in foreign currency (currency mismatching), on public bonds denominated or indexed to foreign currency, and on domestic prices (pass-through effect) etc.

d) Empical literature: exchange rate volatility in emerging countries are greater than in developed countries due to larger and volatile capital flows, in relation to the size of their capital markets (asymmetric financial integration).

Exchange rate regimes choices for emerging countries II

a) What exchange rate regime is more appropriate? “There is no optimal exchange rate regime that is adequate to all countries in all times, as their effectiveness depends on the specific features of each country and their degree of international integration” (Frenkel, 1999).

b) However, emerging countries can operate *flexible exchange rate regimes* without having to adopt a textbook type of pure float.

-> Some flexibility can be helpful in absorbing the capital inflow, in buffering external shocks, and can also inhibit some short-term flows,

-> Some sort of *intermediary exchange rates* (“managed floating exchange regime”) can be interesting if the objective of the economic policy is to reduce the exchange rate volatility and also to reach a level of exchange rate more competitive for international trade purposes.

Exchange rate regimes choices for emerging countries III

- In order to enhance the possibility of a successful exchange rate regime in emerging markets can be necessary some measures to reduce the volatility and intensity of capital flows, and also to increase the autonomy of monetary policy (driving a wedge between onshore and offshore interest rates).
- One possibility is the implementation of a **foreign reserves accumulation policy**, that can be used to a intentional governmental influence on exchange rate and also as a insurance against speculation on domestic currency -> sterilised and non-sterilised intervention.
- Another possibility is the use '***capital management techniques***': *capital controls*, that is measures that manage volume, composition, and/or allocation of international private capital flows ***plus*** *prudential controls*, that refer to policies, such as to limit the opportunities for residents to borrow in foreign currency, and to keep very tight constraints on banks' ability to have open foreign exchange positions or indirect exposure through foreign exchange loans (Epstein et al, 2003).

Efficacy of capital controls

- Capital controls can be a option to overcome the obstacles related to the '*impossible trinity*' (that says that it is not possible to have at the same time fixed exchange rate regime, capital account convertibility and autonomy of monetary policy).
- Magud and Reihart (2006) review more than 30 papers that study capital controls either on inflows or outflows around the world and they conclude that "capital controls on inflows seem to make monetary policy more independent; alter the composition of capital flow; reduce real exchange rate pressures", but "seem not to reduce the volume of net flows".

Brazil I

- *Economic policy:*

a) *1994-1998*: price stabilization plan (Real Plan) with a semi-fixed exchange rate (nominal anchor of prices) -> high external vulnerability (current account-to-GDP 4.0% in 1998)

b) *Since 1999:* floating exchange rate + inflation targeting regime + primary fiscal surplus + opening up of capital account ("New Consensus of Macroeconomics").

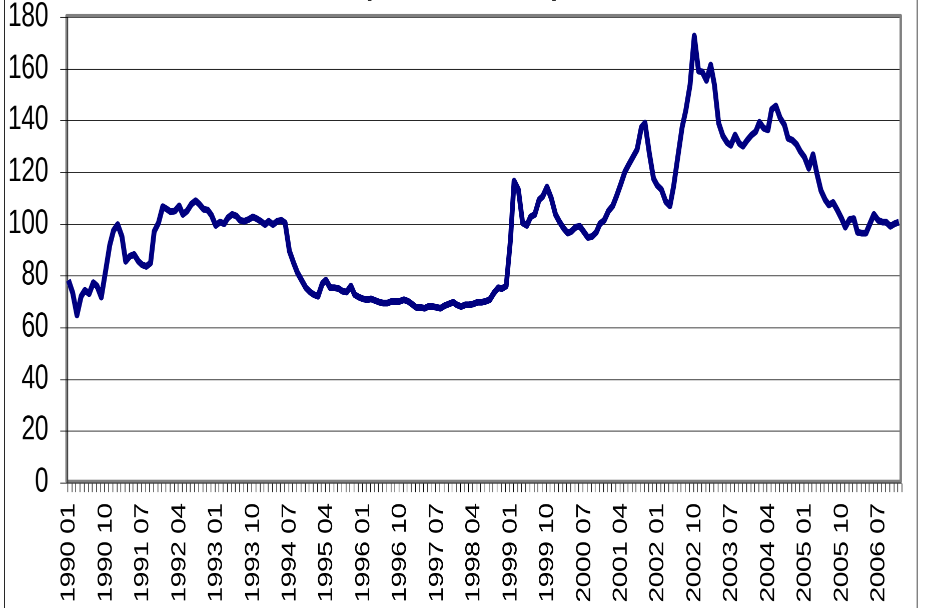
- *Liberalisation of capital account*: in 1991 institutional investors were allowed to invest in securities/stock markets of Brazil in 1992 CC5 account allowed residents and non-residents to send money abroad freely: *de facto* convertibility; in 2005 unification of foreign exchange markets and increase of exchange coverage of exports.
- However there is no convergence between domestic and international interest rates! Empirical works (Ono et al, 2005) found a negative relation between capital controls and short term interest rate in 1990-2001.
- Results: (i) high volatility of exchange rate (after 1999) and high level of domestic interest rates; (ii) low GDP growth: 2.1% in 1990-2006; (iii) high external vulnerability (contagious), although with a recent reduction in external vulnerability due commodities boom; (iv) foreign reserve accumulation (2003).

Brazil II

Figure 3. Brazil - nominal exchange rate

Source: Central Bank of Brazil

Figure 4. Brazil - real effective exchange rate (June 1994=100)



Source: Central Bank of Brazil

Brazil III

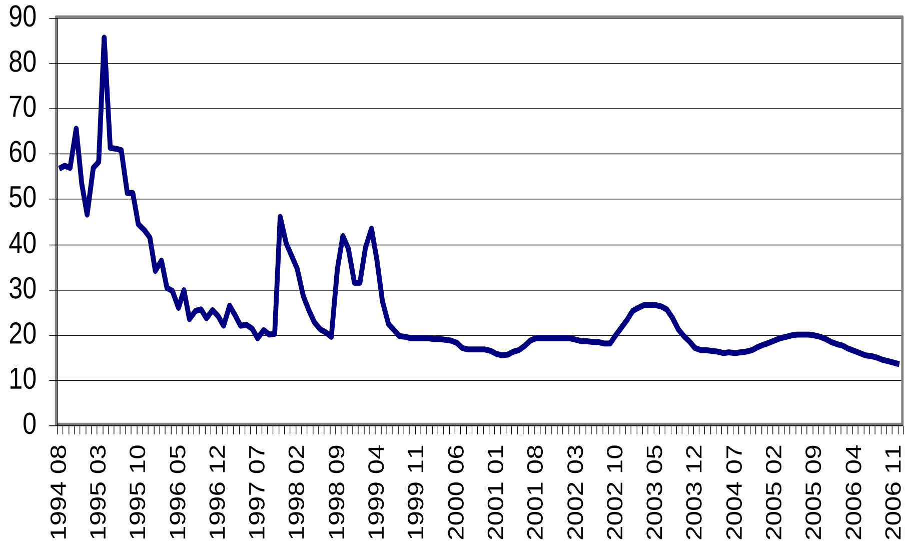
Table 1. Brazil - basic economic indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP real growth (% p.a.)	-4.4	1.0	-0.5	4.7	5.3	4.4	2.2	3.4	0	0.3	4.3	1.3	2.7	1.2	5.7	2.9
Gross fixed capital formation(%GDP)	17.3	18.3	18.4	19.3	20.7	20.5	19.3	19.9	19.7	18.9	19.3	19.5	18.3	17.8	19.6	19.9
Consumer price index (% p.a.)	1621.0	472.7	1119.1	2477.1	916.5	22.4	9.6	5.2	1.7	8.9	6.0	7.7	12.5	9.3	7.6	5.7
Fiscal balance (%of GDP)	...	26.5	44.3	59.6	24.7	6.6	5.3	5.5	7.0	5.3	3.4	3.3	4.2	4.7	2.4	3.0
Public debt (% of GDP)	42.01	34.14	37.06	32.56	30.01	27.98	30.72	31.83	38.94	44.53	45.54	48.44	50.46	52.36	46.99	46.45
Exchange rate average (real/USD)	0.0000	0.0001	0.0016	0.0322	0.6393	0.9177	1.0051	1.0780	1.1605	1.8147	1.8301	2.3577	2.9208	3.0771	2.9251	2.4344
Intern.reserves(excl.gold,USD million	7441	8033	22521	30604	37070	49708	58323	50827	42580	34796	32488	35739	37684	49111	52740	53574
Current account (% of GDP)	-0.8	-0.4	1.6	-0.2	-0.3	-2.4	-2.8	-3.5	-4.0	-4.3	-3.8	-4.2	-1.5	0.75	1.6	1.2
International reserves(% of imports)	36.0	38.2	109.6	121.2	112.1	99.5	109.3	85.1	73.7	70.6	58.2	64.3	79.8	101.7	84.0	72.8
External debt (% of GDP)	26.3	30.5	35.1	33.9	27.3	20.1	21.4	23.0	28.6	41.1	36.6	37.9	41.8	38.8	30.3	19.2
External debt/exports ratio	3.9	3.9	3.8	3.8	3.4	3.4	3.8	3.8	4.7	5.0	4.3	3.6	3.5	2.9	2.1	1.4
Income debt (% of exports)	40.6	33.4	25.5	30.2	25.9	31.3	36.7	40.9	48.0	47.4	39.0	39.5	35.6	30.0	24.6	24.6
Trade balance (USD million)	10747	10578	15239	14329	10861	-3157	-5453	-6652	-6603	-1261	-698	2650	13121	24794	33666	44757
Current account (USD million)	-3823	-1450	6089	20	-1153	-18136	-23248	-30491	-33829	-25400	-24225	-23215	-7636.6	4177.29	11737.6	14198.9

Source: IMF - International Financial Statistics; IPEADATA (GDP growth, CPI, fiscal balance and public debt)

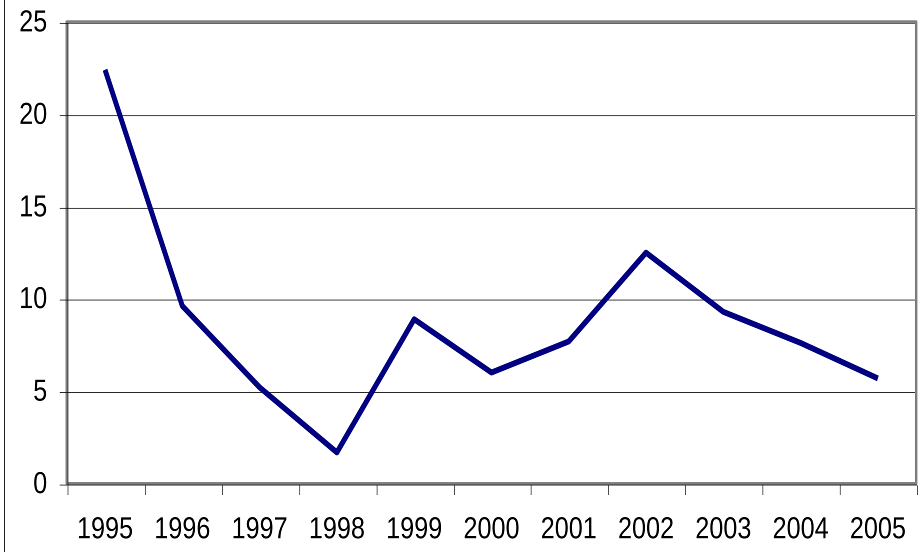
Brazil IV

Figure 5. Brazil - Selic interest rate



Source: Central Bank of Brazil

Figure 6. Brazil - consumer price index (% p.a.)



Source: IMF

Russia I

a) GDP growth: 1990-98 (-4.6%) 1999-2006 (6.7%)

b) 1990-1997: quick and chaotic process of economic transition: trade liberalisation, privatisation. financial liberalisation, exchange rate appreciation for price stabilisation purposes, and large budget deficit (7.4% of GDP in 1996).

c) After 1998: economic recovery (import substitution due to large exchange rate depreciation), increase in the international prices of petrol (23% total exports), and a more pragmatic economic policy

-> Economic policy: managing floating exchange rate, expansionary monetary policy (non-sterilized operations), accumulation of foreign reserves, and fiscal surplus (extra revenue from higher oils prices since 2002).

d) *Managing floating exchange rate*: Central Bank of Russia is a very active player in the foreign exchange market (unsterelised operations), in order to influence the level of nominal effective exchange rate (primary objective of CBR policy).

e) *Financial liberalisation*: quick removal of capital controls before 1998, mainly related to non-residents, that could buy public bonds; after the 1998 crisis, adoption of reserve requirements on capital inflows in order to reduce the pressures on ruble; there are also some controls on capital outflows (requirement permission from CBR to portfolio investment abroad).

f) Improvement in the fiscal results and in the external vulnerability indexes, in consequence of increasing trade surplus, reduction of external debt and policy of foreign reserves accumulation

Russia II

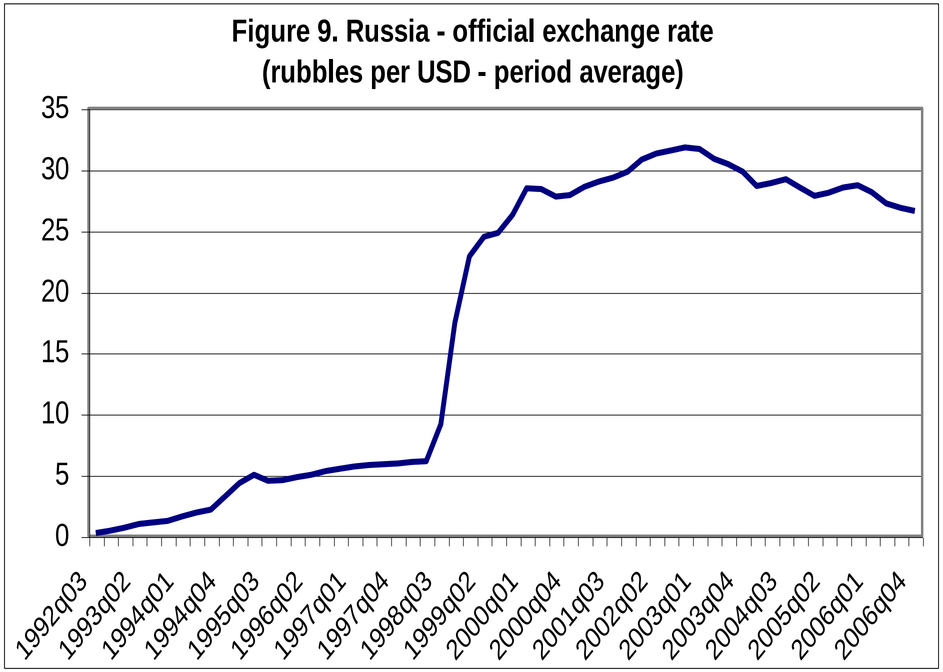


Figure 9. Russia - official exchange rate
(rubbles per USD - period average)
35
30
25
20
15
10
5
0
1992q03
1993q02
1994q01
1994q04
1995q03
1996q02
1997q01
1997q04
1998q03
1999q02
2000q01
2000q04
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2004q03
2005q02
2006q01
2006q04

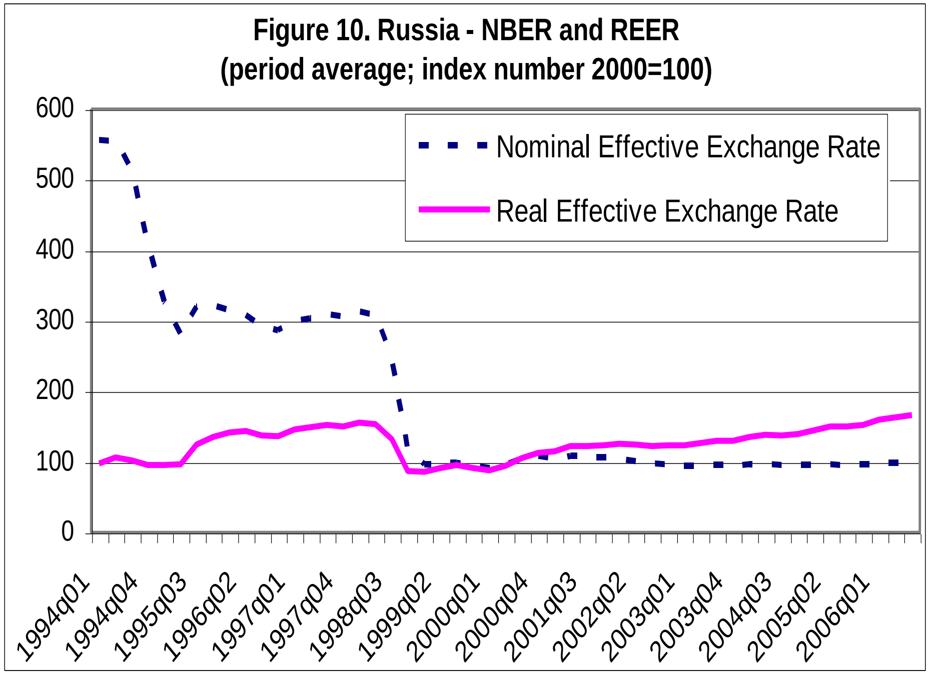


Figure 10. Russia - NBER and REER
(period average; index number 2000=100)
600
500
400
300
200
100
0
Nominal Effective Exchange Rate
Real Effective Exchange Rate
1994q01
1994q04
1995q03
1996q02
1997q01
1997q04
1998q03
1999q02
2000q01
2000q04
2001q03
2002q02
2003q01
2003q04
2004q03
2005q02
2006q01

Russia III

Table 2. Russia - basic economic indicators

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP real growth (% p.a.)	-8.7	-12.7	-4.1	-3.6	1.4	-5.3	6.4	10.0	5.1	4.7	7.3	7.2	6.4
Gross fixed capital formation(%GDP)	20.4	21.8	21.1	20.0	18.3	16.1	14.4	16.9	18.9	17.9	18.4	18.3	18.2
Consumer price index (% p.a.)	874.6	304.6	197.5	47.7	14.8	27.7	85.7	20.8	21.5	15.8	13.7	10.9	12.7
Fiscal balance (%of GDP)	...	...	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Public debt (% of GDP)	65.1	45.7	40.7	32.8	55	79.4	88.8	56.8	42.9	36.6	31.9	24.5	16.6
Oil price, brent blend (USD/bbl)	17.1	15.96	17	20.6	19.2	12.8	17.8	28.4	24.4	24.9	28.8	38.2	54.4
Exchange rate average (ruble/USD)	1.0	2.2	4.6	5.2	5.8	9.7	24.6	28.1	29.2	31.3	30.7	28.8	28.3
Intern.reserves(excl.gold,USD million)	5835	3980	14383	11276	12895	7801	8457	24264	32542	44054	73175	120809	175891
Current account (% of GDP)		4.6	2.3	3.0	0.0	0.2	13.8	18.1	11.4	8.5	7.9	9.6	11.1
International reserves (% of imports)	24.7	11.7		20.5	22.6	19.2	28.6	56.9	61.9	71.3	92.0	116.3	132.4
External debt (% of GDP)	...	...	39.3	34.6	31.4	115.4	...	...	...	33.8	24.0	...	10.2
External debt/exports ratio	...	...	1.5	1.4	1.4	2.0	...	...	...	1.1	0.8	...	0.3
Income debt (% of exports)	...	7.9	9.2	10.8	14.7	21.5	15.3	10.9	10.8	11.4	17.8	13.7	15.2
Trade balance (USD million)	...	16928	19816	21591	14913	16429	36014	60172	48121	46335	59860	85825	118266
Current account (USD million)	...	7844	6965	10847	-80	219	24616	46839	33935	29116	35410	58592	83184

Source: IMF - International Financial Statistics; Deutsche Bank Research (GDP, oil price and public debt).

Russia IV

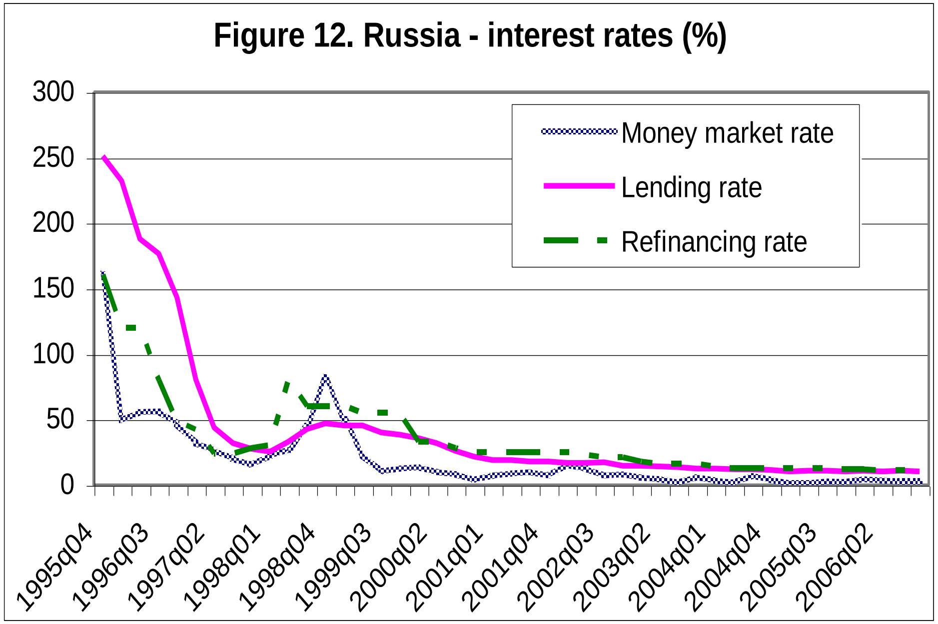


Figure 12. Russia - interest rates (%)
300
250
200
150
100
50
0
Money market rate
Lending rate
Refinancing rate
1995q04
1996q03
1997q02
1998q01
1998q04
1999q03
2000q02
2001q01
2001q04
2002q03
2003q02
2004q01
2004q04
2005q03
2006q02

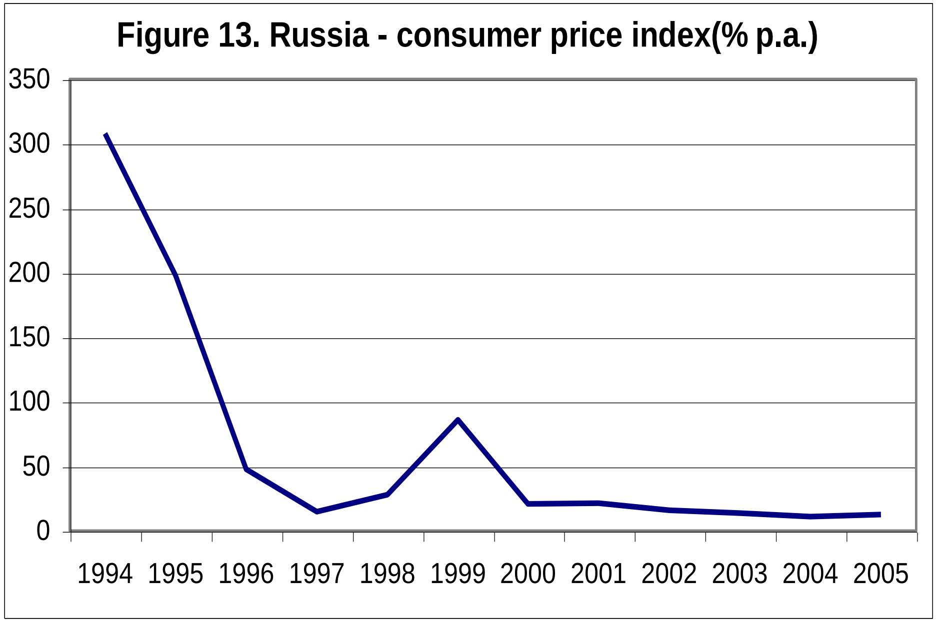


Figure 13. Russia - consumer price index(% p.a.)
350
300
250
200
150
100
50
0
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005

India I

a) 1990/2006: GDP growth of 6.5%

-> increasing importance of service sector, gradual economic liberalisation (first trade liberalisation, after financial liberalisation).

b) Exchange rate regime: managed floating since 1993; RBI acts actively in the foreign exchange markets in order to affect nominal effective exchange rate and to accumulate foreign reserves -> *very low exchange rate volatility*.

c) Economic policy: managing floating exchange rate + stability of nominal exchange rate + capital controls (outflows) ± expansionary monetary policy (no inflation targeting) + fiscal deficit

c) Capital account convertibility: gradual liberalisation (first FDI and portfolio investment, instead of external debt), with widespread controls: strict controls on *capital outflows of residents* (quantitative controls, restrictions on debt accumulation); recent liberalisation of direct investment abroad by residents.

d) Improvement in the indicators of external vulnerability, with predominance of long-term capital flows, reduction of external debt (38% of GDP in 1992 to 25% in 1996) and increase in foreign reserves (since 1999); fiscal deficit of 4.0% in 2004-05 with public debt denominated in ruppe and long-term bonds.

India II

Figure 15. India - nominal exchange rate (rupee/dollar)

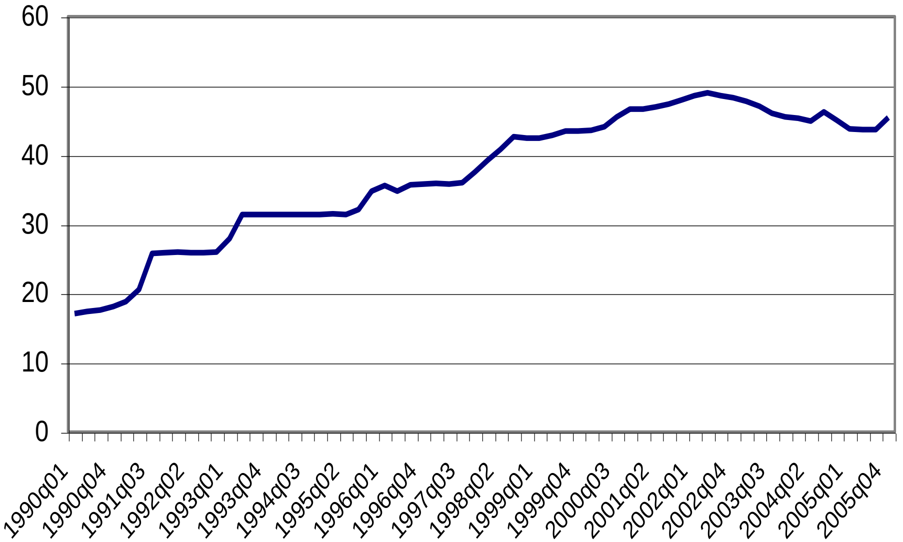
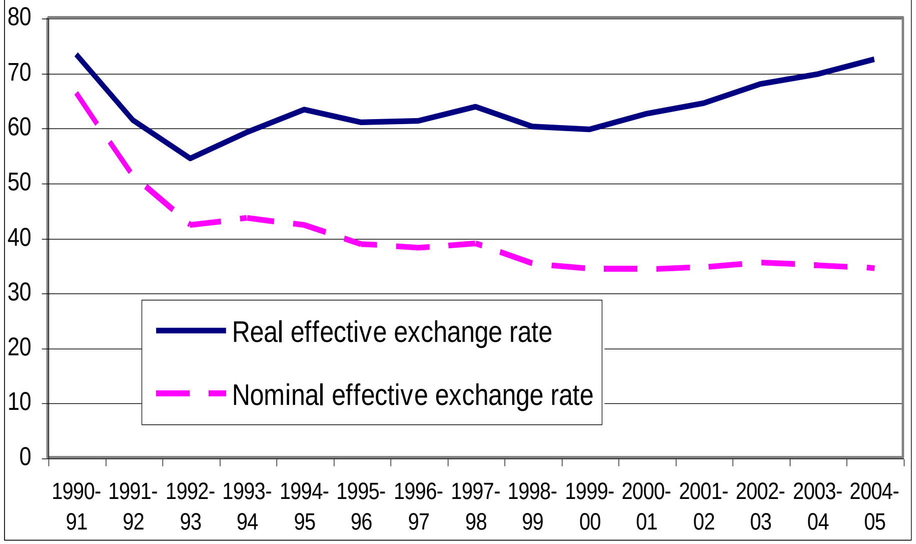


Figure 16 India - REER and NEER (export-based weights, annual average)



India III

Table 3. India - basic economic indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP real growth (% p.a.)	5.8	0.9	5.3	4.9	7.6	7.5	7.4	4.5	6.0	7.1	3.9	5.2	4.6	8.3	7.3	9.0
Gross fixed capital formation(%GDP)	22.9	22.0	22.4	21.4	21.9	24.4	22.8	21.7	21.5	23.3	22.7	23.1	24.1	24.7	25.9	...
Consumer price index (% p.a.)	9.0	13.9	11.8	6.4	10.2	10.2	9.0	7.2	13.2	4.7	4.0	3.7	4.4	3.8	3.8	4.2
Fiscal balance (%of GDP)	-7.6	-5.5	-5.3	-7.0	-5.6	-5.0	-4.9	-4.9	-5.3	-5.4	-5.2	-4.7	-5.9	-4.5	-4.0	-4.1
Public debt (% of GDP)	...	...	84.5	83.9	77.9	71.4	67.8	68.3	69.5	69.9	71.1	82.7	85.5	82.1	86.0	83.1
Exchange rate average (ruppe/USD)	17.5	22.7	25.9	30.5	31.4	32.4	35.4	36.3	41.3	43.1	44.9	47.2	48.6	46.6	45.3	44.1
Intern.reserves(excl.gold,USD million)	5504	6841	8961	13916	23366	22046	24212	27933	30216	35744	40793	48819	71049	103582	131830	136932
Current account (% of GDP)	-2.2	-1.7	-1.6	-0.7	-0.5	-1.6	-1.6	-0.8	-1.7	-0.7	-1.0	0.3	1.4	1.1	...	...
International reserves (% imports)	23.5	32.4	39.1	57.7	78.7	58.1	55.3	61.1	67.4	78.5	75.7	95.3	129.9	151.9	...	...
External debt (% of GDP)	26.7	32.5	37.6	34.9	32.2	26.9	24.5	23.2	23.8	22.2	21.8	20.5	20.7	18.8	17.9	...
External debt/exports ratio	3.2	2.7	2.3	2.6	2.8	3.4	3.7	4.0	4.0	4.3	4.4	4.7	4.6	5.1	5.2	...
Income debt (% of exports)	20.6	23.9	21.8	19.1	17.5	17.0	14.1	14.3	16.3	15.8	17.5	17.7	14.1	14.0	...	...
Long-term debt (% external debt)	86.6	87.7	87.6	90.8	91.6	92.1	91.4	93.9	95.3	96.0	96.5	97.0	96.1	95.4	93.5	...
Trade balance (USD million)	-5150.9	-2992	-2911.2	-2092.5	-4150.1	-6718.8	-10052	-10028	-10752	-8678.9	-10640	-6417.9	-3559.3	-8870.2	...	...
Current account (USD million)	-7037	-4292	-4485	-1876	-1676	-5563	-5956	-2965	-6903	-3228	-4601	1410	7060	6853	...	...

Source: IMF - International Financial Statistics; ADB (fiscal balance in 2002-2005; external debt).

India IV

Figure 18. India - interest rate (% p.a.)

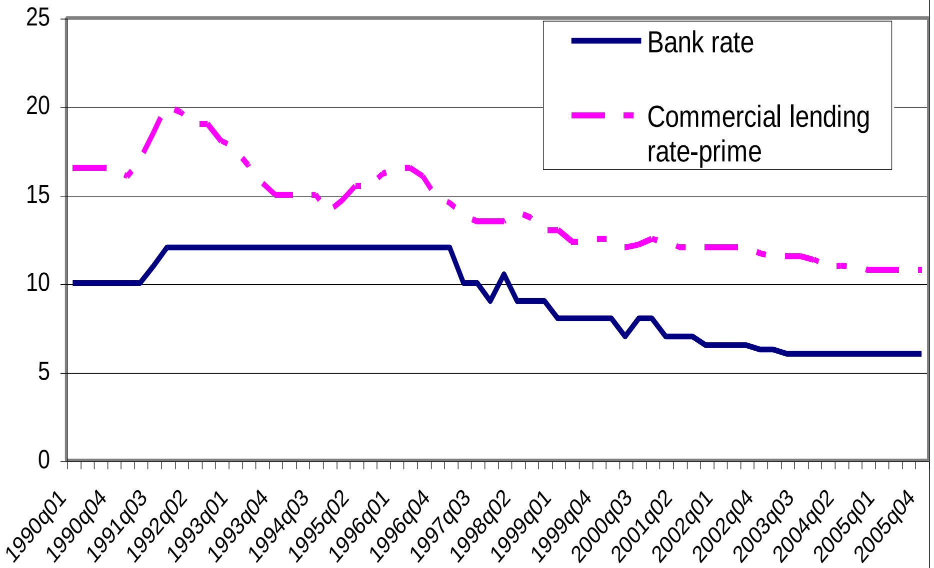
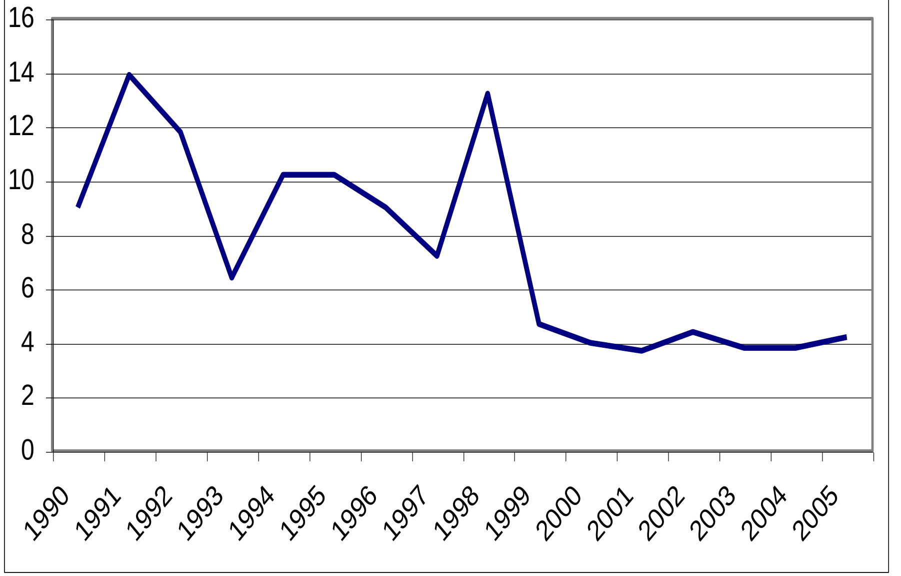


Figure 19. India - consumer price index (% p.a.)



China I

a) Average GDP growth in 1990/2006: 9,8%

-> gradual economic liberalisation (FDI in experimental basis – Special Economic Zones) and dramatic growth of trade: country's share in world trade increased from 0.8% 1988 to 7.7% 2005.

b) Managed floating exchange rate with narrow band (1994): in practice exchange rate has been (almost) fixed, allowed by capital controls on inflows and outflows and enormous volume of exchange reserves; after July 2005, narrow range of daily devaluation was permitted (± 0.3% and ± 0.5%), Popular Bank of China acts as a market maker in the foreign exchange market.

c) Capital account convertibility: strict restrictions on capital inflows and capital outflows of *residents* (they need to have previous approval to borrow abroad and to issue any bond in foreign exchange); restrictions on non-residents to borrow in domestic currency and to invest in public debt; recent flexibilisation includes permission to non-residents to invest in the domestic stock market and some flexibilisation on capital outflows.

d) Economic policy: semi-fixed exchange rate that result in a very stable exchange rate (and stable REER); capital controls; foreign exchange accumulation policy, expansionary monetary and fiscal policies (deficit of 1.2% GDP 2005)

e) External vulnerability indicators perform very well: trade and current account surplus, increasing FDI, low external indebtedness (12.0% GDP in 2004), and increase in the foreign reserves; moderate fiscal deficits.

China I

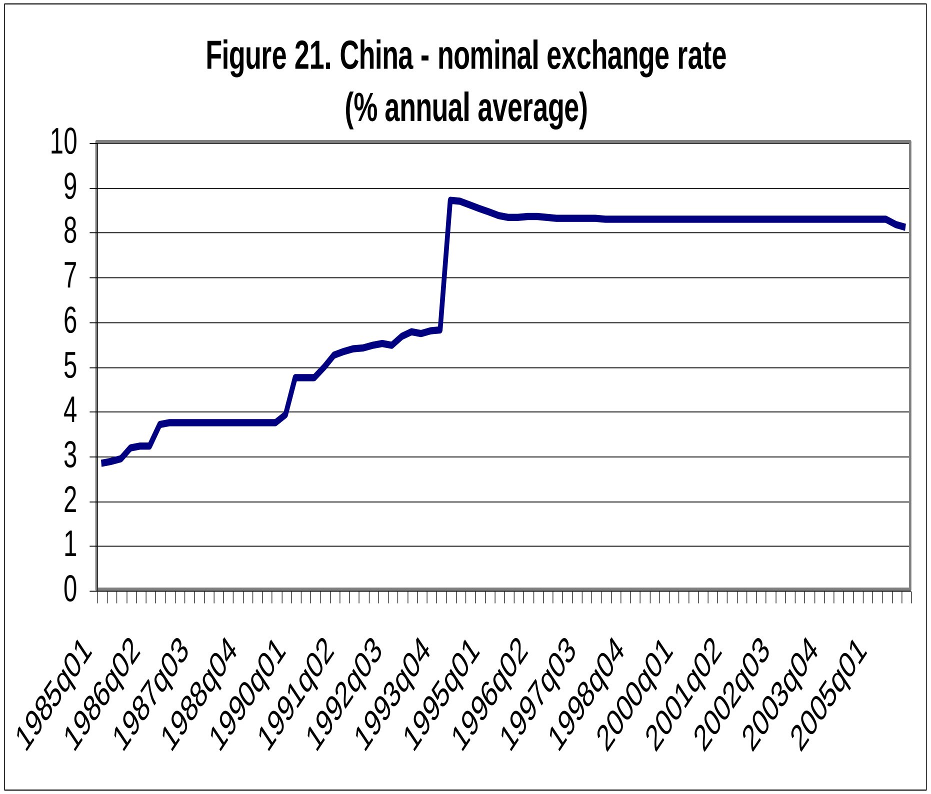


Figure 21. China - nominal exchange rate
(% annual average)
10
9
8
7
6
5
4
3
2
1
0
1985q01
1986q02
1987q03
1988q04
1990q01
1991q02
1992q03
1993q04
1995q01
1996q02
1997q03
1998q04
2000q01
2001q02
2002q03
2003q04
2005q01

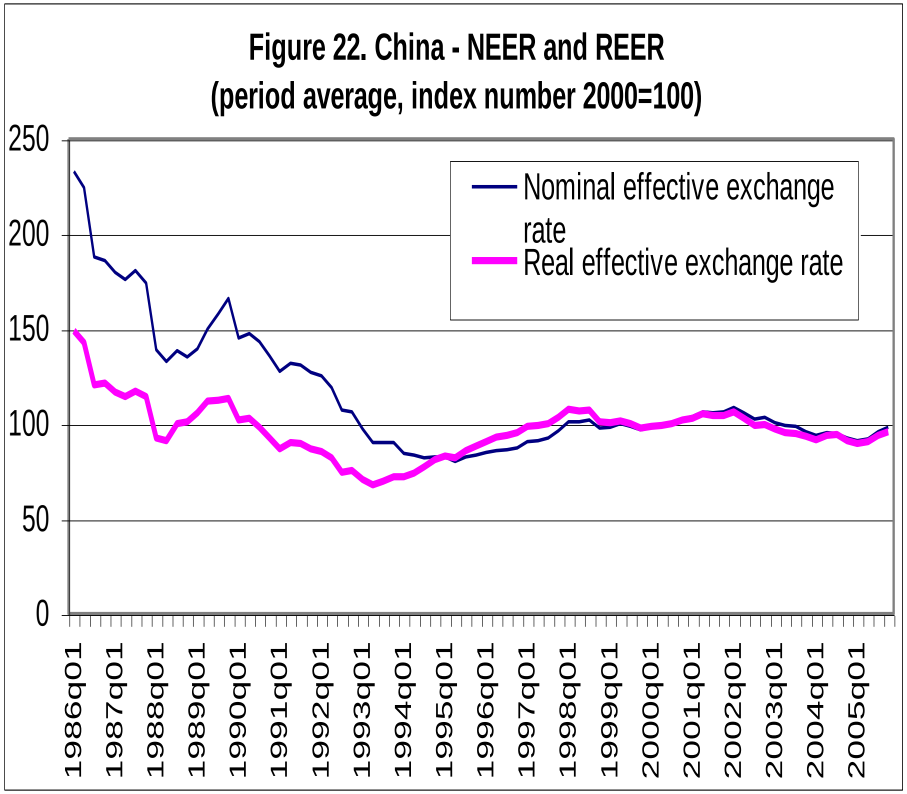


Figure 22. China - NEER and REER
(period average, index number 2000=100)
250
200
150
100
50
0
Nominal effective exchange rate
Real effective exchange rate
1986q01
1987q01
1988q01
1989q01
1990q01
1991q01
1992q01
1993q01
1994q01
1995q01
1996q01
1997q01
1998q01
1999q01
2000q01
2001q01
2002q01
2003q01
2004q01
2005q01

China II

Table 4. China - basic economic indicators

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
GDP real growth (% p.a.)	3.8	9.2	14.2	13.9	13.1	10.9	10.0	9.3	7.8	7.6	8.4	8.3	9.1	10.0	10.1	10.2
Gross fixed capital formation(%GDP)	25.0	26.8	30.9	36.0	34.5	33.0	32.4	31.8	33.0	33.6	34.3	34.6	36.3	39.2	40.6	41.9
Consumer price index (% p.a.)	3.1	3.5	6.3	14.6	24.2	16.9	8.3	2.8	-0.8	-1.4	0.3	0.5	-0.8	1.2	4.0	1.8
Fiscal balance (%of GDP)	-3.7	-3.3	-2.6	-1.9	-1.9	-1.4	-1.2	-1.1	-1.5	-2.2	-2.8	-4.0	-2.6	-2.1	-1.3	-1.2
Public debt (% of GDP)	...	...	...	...	...	...	...	...	...	...	...	17.7	18.9	19.2	18.5	17.9
Exchange rate average (yuan/USD)	4.8	5.3	5.5	5.8	8.6	8.4	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.2
Intern.reserves(excl.gold,USD million)	29586	43674	20620	22387	52914	75377	107039	142762	149188	157728	168278	215605	291128	408151	614500	821514
Current account (% of GDP)	3.2	2.2	1.3	-1.8	1.2	0.2	0.8	3.7	3.0	1.9	1.7	1.3	2.4	2.8	3.5	7.0
International reserves (% of imports)	57.3	70.1	27.1	22.7	46.9	58.4	78.6	102.3	109.4	97.0	76.0	89.9	100.2	100.1	110.3	124.9
External debt (% of GDP)	14.9	14.5	15.1	13.5	16.9	15.5	14.4	14.9	13.8	13.8	12.2	9.0	12.8	12.7	12.0	...
External debt/exports ratio	1.07	1.02	1.04	1.14	0.98	0.92	0.85	0.80	0.78	0.78	0.58	0.69	0.57	0.48	0.42	...
Income debt (% of exports)	3.2	4.0	6.3	6.2	5.6	11.4	13.1	9.1	12.1	11.7	10.9	10.7	7.2	5.5	4.1	3.7
Long-term debt (% external debt)	82.3	82.1	81.0	82.2	82.6	81.1	80.3	78.6	88.0	90.0	91.0	69.5	64.6	57.7	52.8	...
Trade balance (USD million)	9165	8743	5183	-10654	7290	18050	19535	46222	46614	35982	34474	34017	44167	44652	58982	134189
Current account (USD million)	11997	13272	6401	-11609	6908	1618	7243	36963	31472	21115	20518	17401	35422	45875	68659	160818

Source: IMF - International Financial Statistics; Deutsche Bank Research (public debt); ADB (external debt).

China III

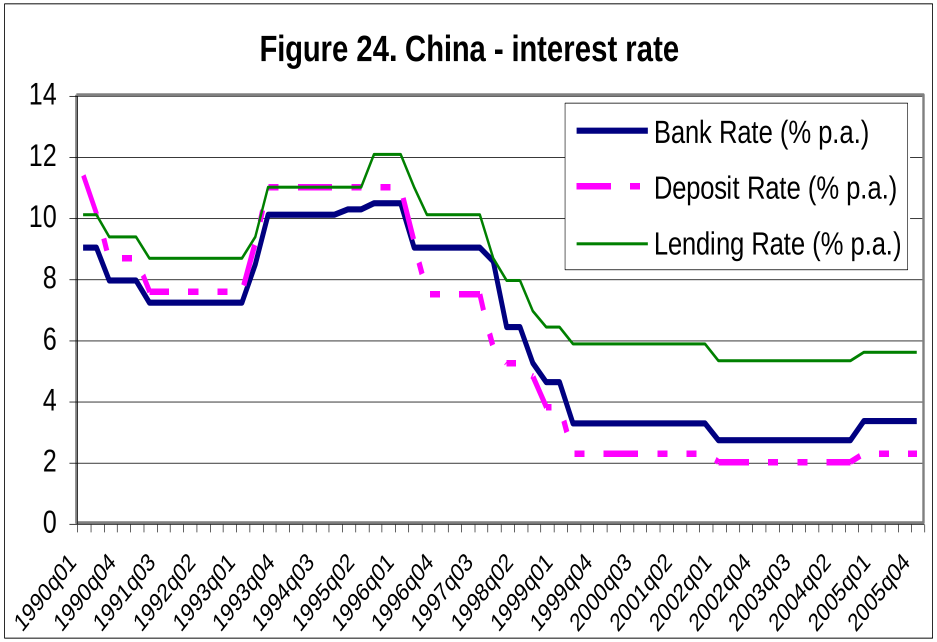


Figure 24. China - interest rate
Bank Rate (% p.a.)
Deposit Rate (% p.a.)
Lending Rate (% p.a.)
14
12
10
8
6
4
2
0
1990q01
1990q04
1991q03
1992q02
1993q01
1993q04
1994q03
1995q02
1996q01
1996q04
1997q03
1998q02
1999q01
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2004q02
2005q01
2005q04

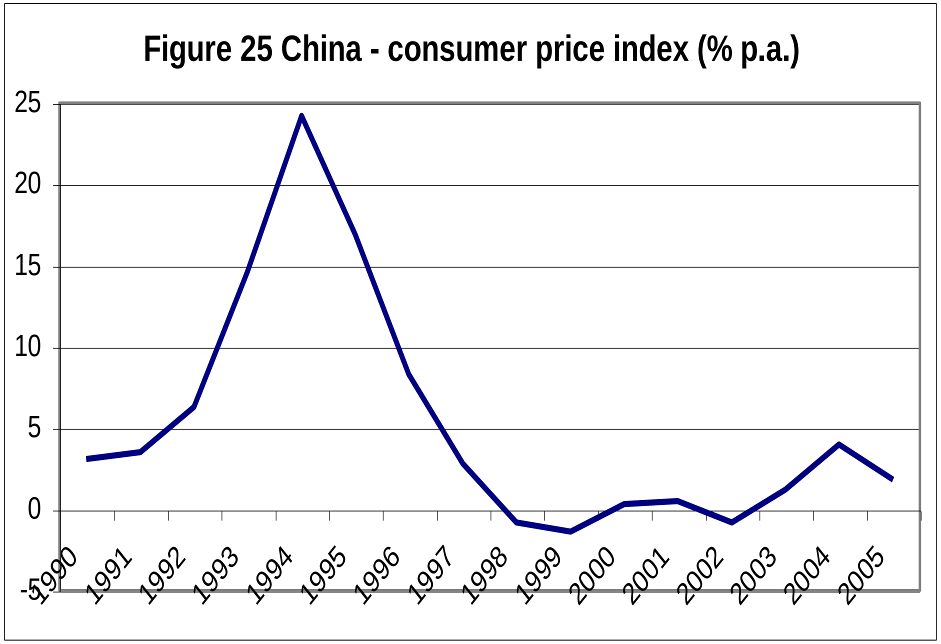
Figure 25 China - consumer price index (% p.a.)
25
20
15
10
5
0
-5
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005

Exchange rate and capital account convertibility

Country	Exchange rate regime	Monetary policy framework	Indicator of exchange rate	Capital account convertibility	Exchange rate volatility
Brazil	Floating, with dirty floating	Inflation targeting	Nominal bilateral	High	High
China	Semi-fixed	Pegged exchange rate	Real effective	Partial, with many restrictions	Very low
India	Managed floating	Multiple indicators	Nominal bilateral and real effective	Partial, with many restrictions	Very low
Russia	Managed floating	Multiple indicators	Nominal bilateral	Partial, with some restrictions	Low

Conclusion

The recent experience of the BRICs countries shows the importance in having:

a) A gradual and careful process of capital account liberalisation;

b) Capital management techniques well-designed and dynamic, but most important that they are coherent and consistent with the overall aims of the economic policy regime;

c) A surplus balance in the current account or a deficit in low level, financed by external capitals with the predominance of long-term capitals;

d) The accumulation of exchange reserves by central bank, in order to avoid speculative attacks on domestic currency and to reduce the volatility of nominal exchange rate;

e) A managed floating exchange regime, according to the specificities of each country, that aims the preservation of a competitive real exchange rate as an intermediate target of macroeconomic policies oriented to employment and growth objectives.