Macroeconomic policy 1992-onwards

- Nature and causes of inflation in 1992-1995. Cost-push versus demand pull- inflation
- Demonetization of the economy, barter, non-payments, money substitutes
- Exchange rate based and money based stabilization
- Currency crisis in 1998
- Alternative explanations of the crisis
- Macroeconomic policy after the 1998 crisis

TABLE 2

INFLATION IN THE ECONOMIES IN TRANSITION RETAIL/CONSUMER PRICE INDEX, %

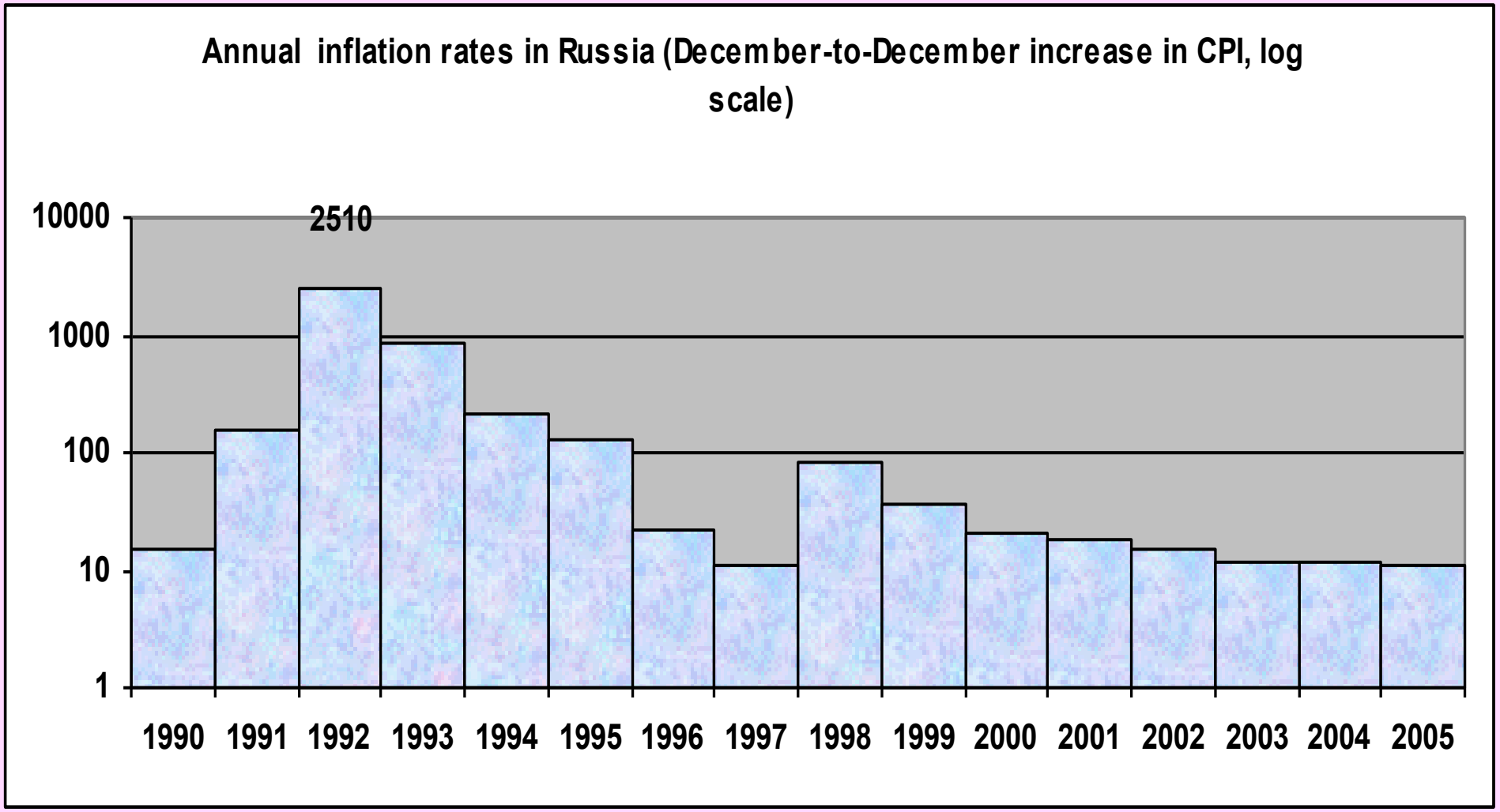
Countries/Years	1990	1991	1992	1993	1994	1995	1996*
Eastern Europe and Baltic countries**	116	148	516	223	51	26	15
Albania	0	36	226	85	28	8	6
Bulgaria	22	334	82	73	89	62	30
Croatia	136	250	938	1516	98	4	5
Czech Republic	11	57	11	21	10	9	7
Estonia	23	211	1069	89	48	29	22
Hungary	29	34	23	22	19	28	22
Latvia	10	124	951	109	36	25	20
Lithuania	8	225	1020	290	72	35	30
FYR Macedonia	120	230	1925	248	65	50	6
Poland	586	70	43	35	32	28	19
Romania	5	174	211	256	131	32	20
Slovak Republic	11	61	10	23	14	10	7
Slovenia	550	118	201	32	20	13	6
CIS states**	5	94	994	2008	2874	397	114
Armenia	10	100	825	3732	5458	175	20
Azerbaijan	8	106	616	833	1500	412	30
Belarus	4	84	969	1188	2200	800	80
Georgia	3	78	913	3126	18000	160	20
Kazakhstan	4	91	1610	1760	1980	180	30
Kyrgyzstan	3	85	855	1209	280	45	25
Moldova	4	98	1276	789	327	30	16
Russia	**6**	**93**	**1353**	**896**	**303**	**190**	**45**
Tajikistan	4	112	1157	2195	452	635	500
Turkmenistan	5	102	493	3102	2400	1800	500
Ukraine	4	91	1210	4735	842	375	60
Uzbekistan	3	82	645	534	746	315	40
China	2	3	5	13	22	17	-
Mongolia	0	209	321	183	145	75	-
Vietnam	68	68	18	5	8	17	-

*Forecast

**Non-weighed average

Source: For 1990-5 World Bank (World Development Report *From Plan to Market*, 1996:174), annual inflation. For 1996 EBRD (*Transition Report Update*, April 1996:23), December to December inflation.

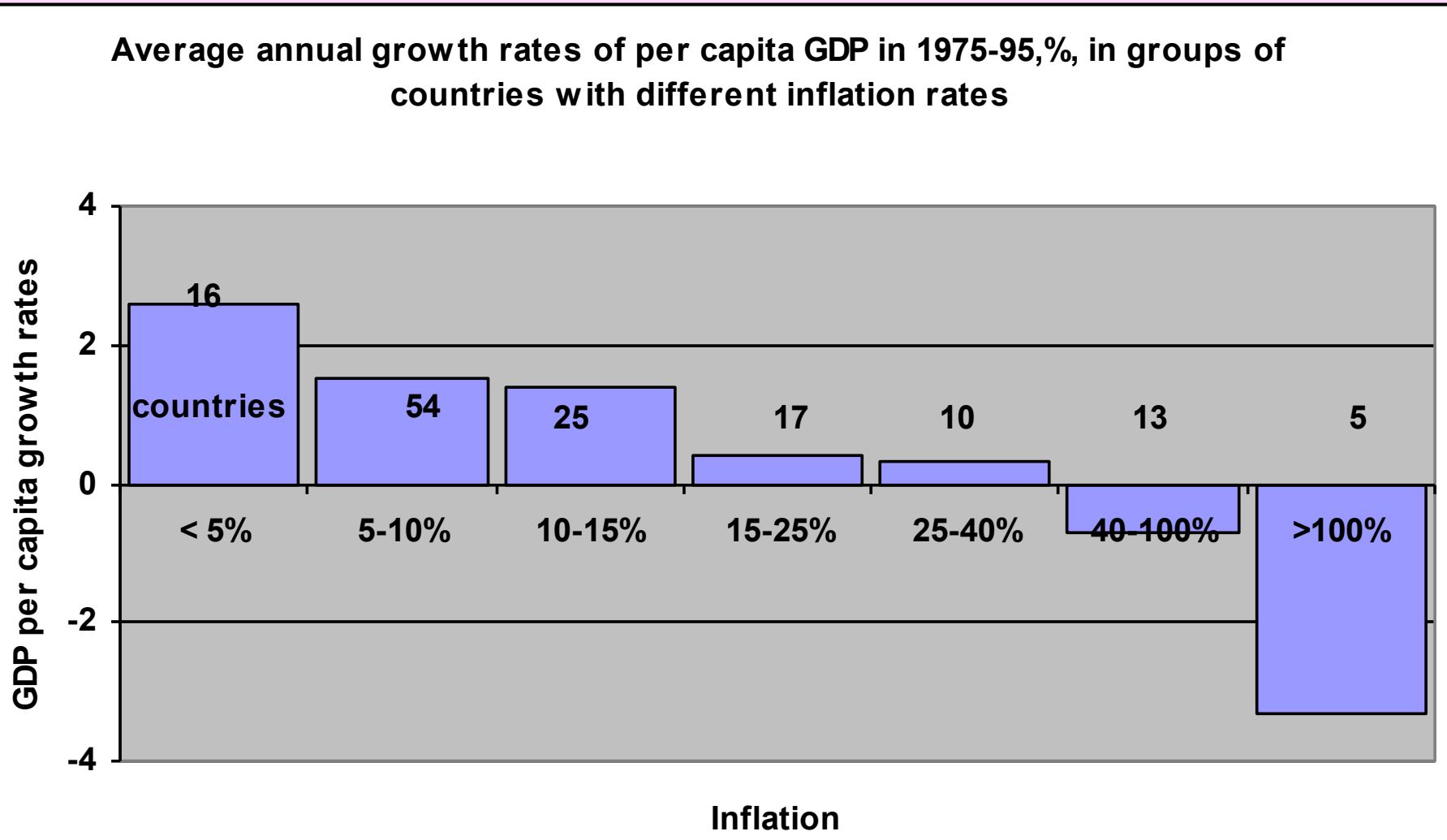
Inflation in Russia 1990-2005



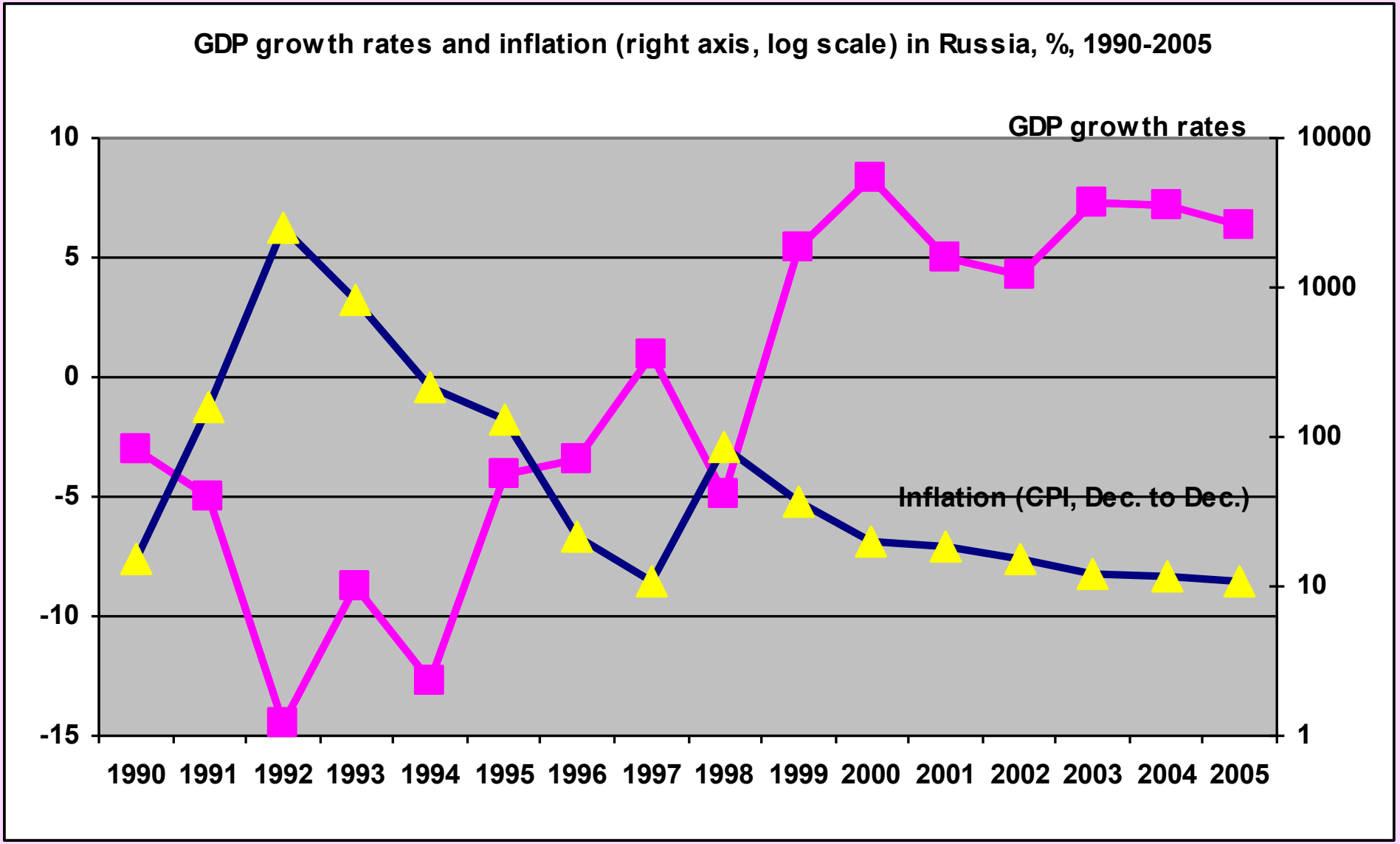
Inflation in 1992-1995

- Inflation as high as several hundred/thousand percent a year in most transition economies
- Inflation:
  - Cost-push: caused by price rigidity, monopolization, costs growth
  - Demand-pull: caused by money supply growth; MV=PY, if M↑, then P↑ (monetary theory of inflation)
- In the beginning of 1990s many Russian economists believed that inflation in Russia was cost-push in nature, because of rigid prices (lack of competition, capital and labor cannot move freely between sectors)

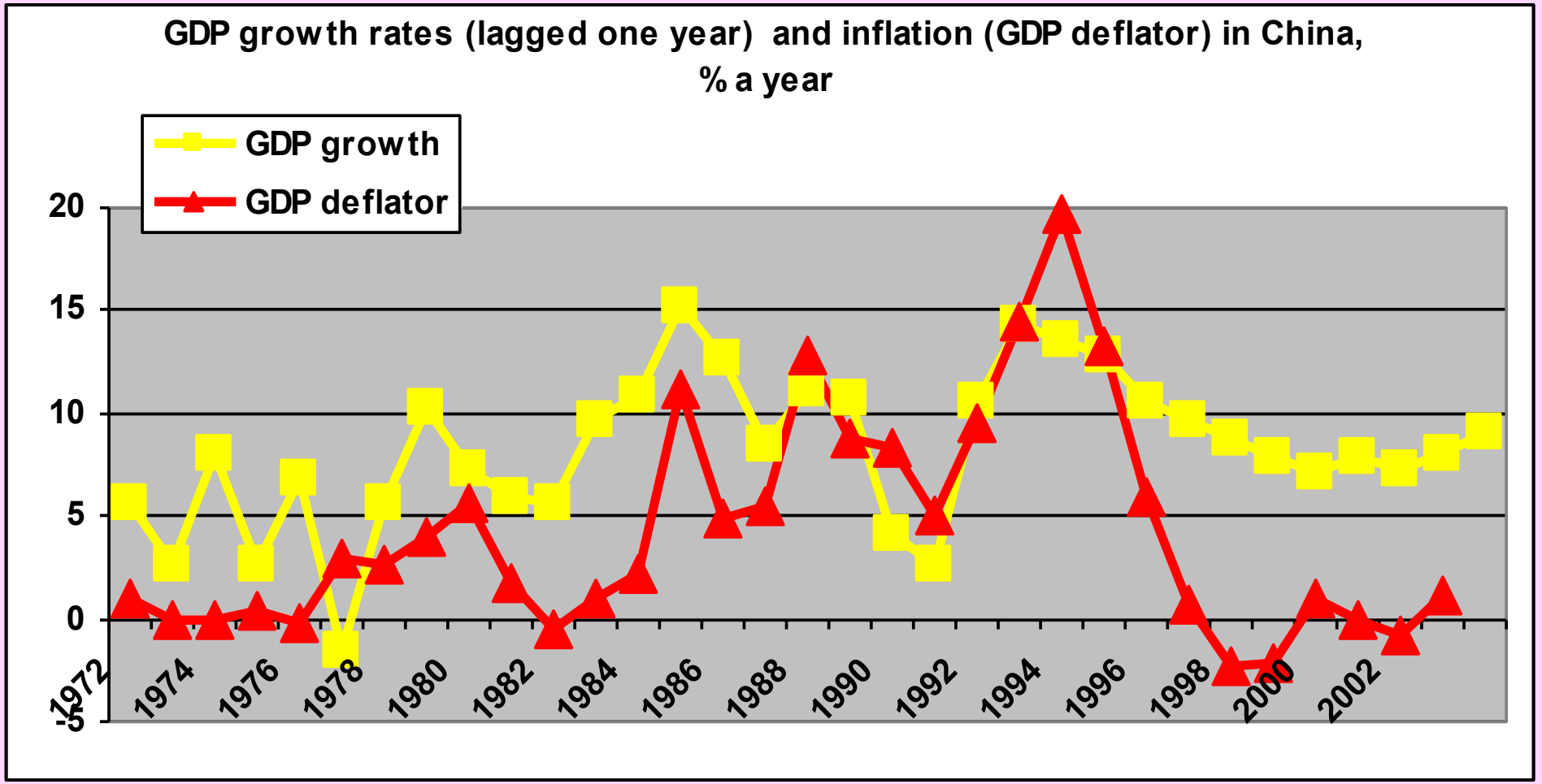
Long term relationship between inflation and growth



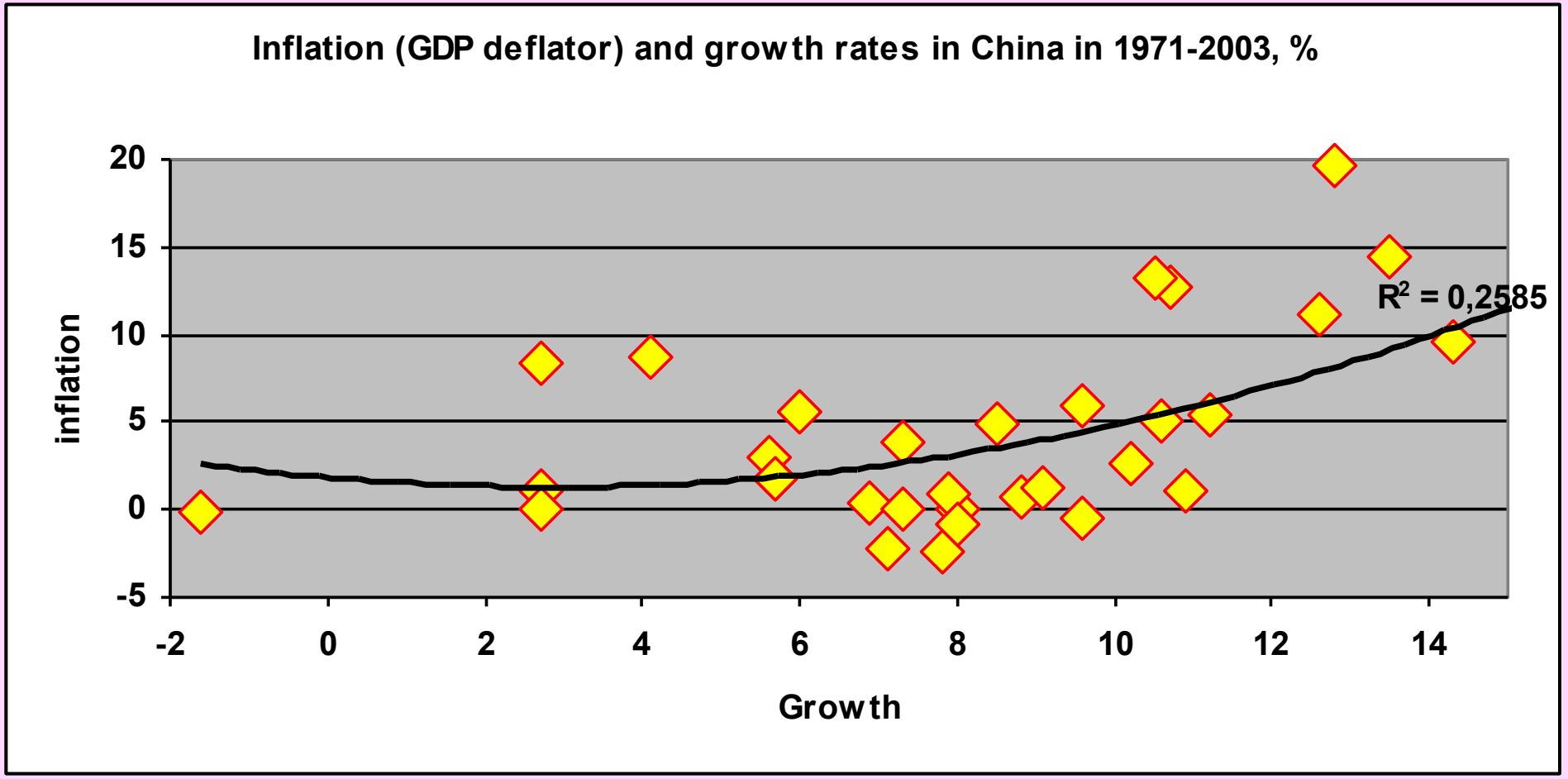
Negative relationship between growth and inflation for the long term



Monetary expansion first (18 months) leads to the expansion of output, then - to the acceleration of inflation



Phillips curve - negative short term relationship between inflation and unemployment (positive - between inflation and growth)



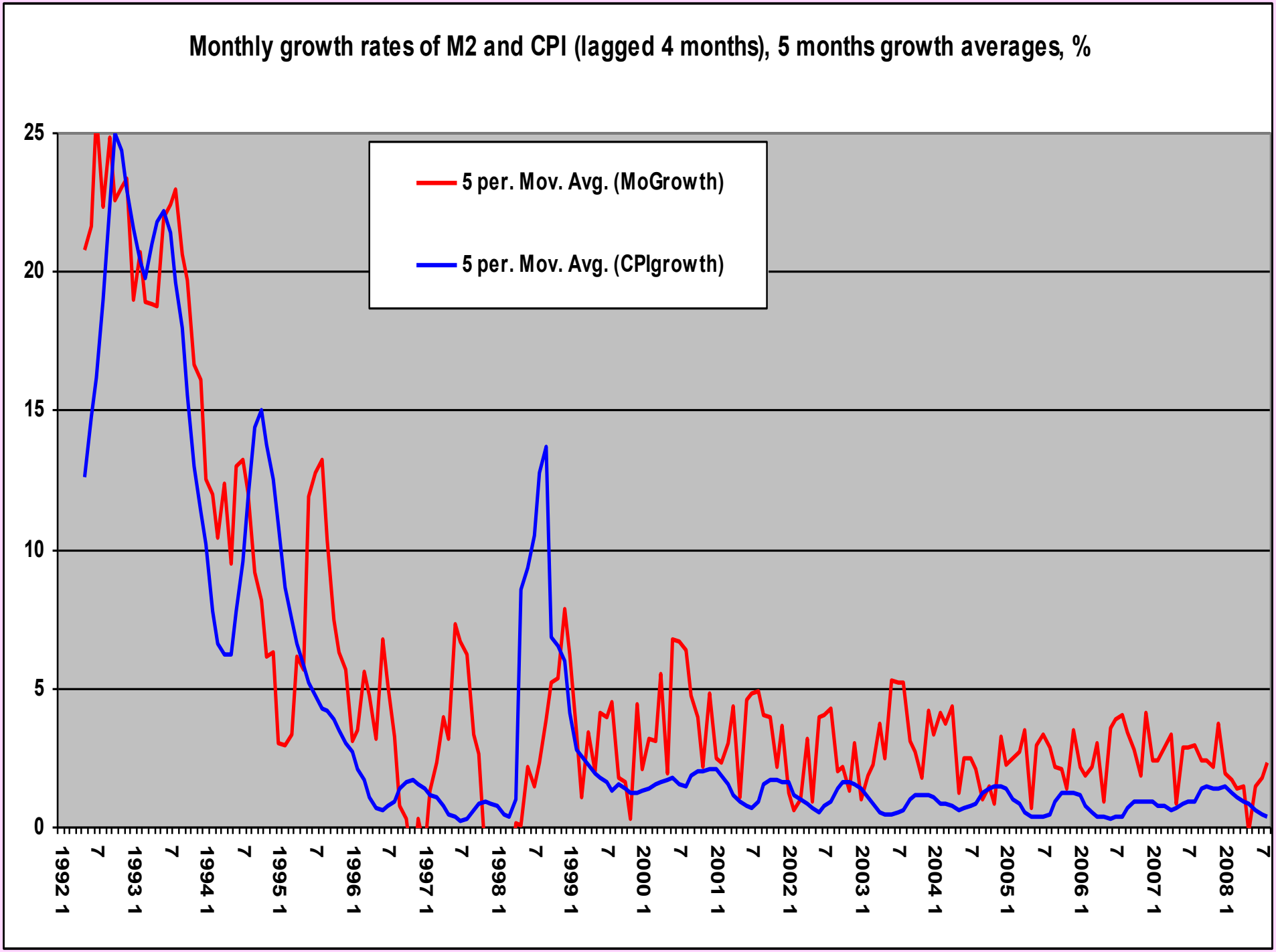
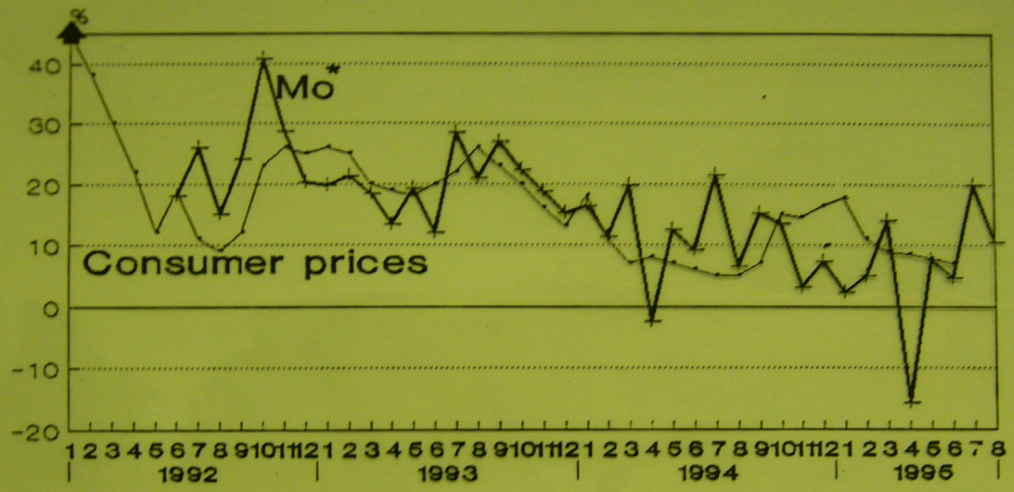
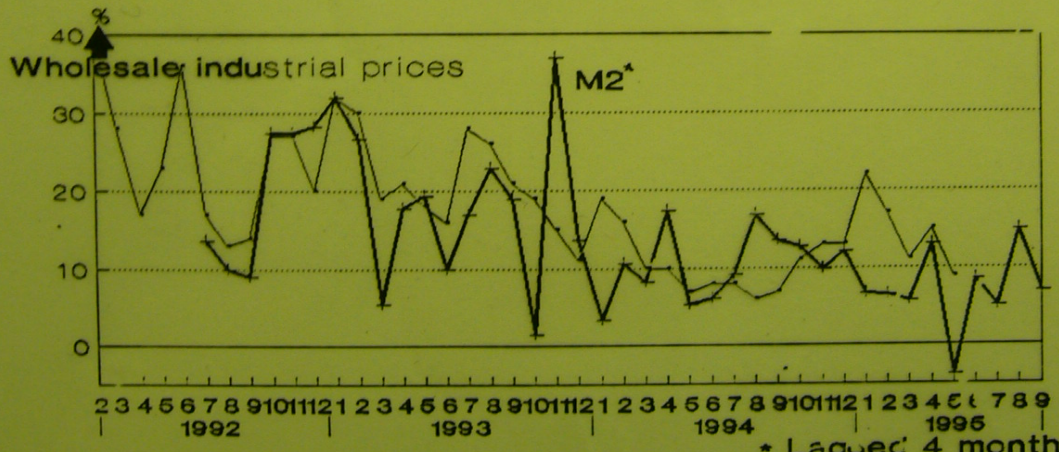

Monthly growth rates of M2 and CPI (lagged 4 months), 5 months growth averages, %
5 per. Mov. Avg. (MoGrowth)
5 per. Mov. Avg. (CPIgrowth)
25
20
15
10
5
0
1992 1
7
1993 1
7
1994 1
7
1995 1
7
1996 1
7
1997 1
7
1998 1
7
1999 1
7
2000 1
7
2001 1
7
2002 1
7
2003 1
7
2004 1
7
2005 1
7
2006 1
7
2007 1
7
2008 1
7

Fig.15. Monthly rates of growth of prices and money supply, %



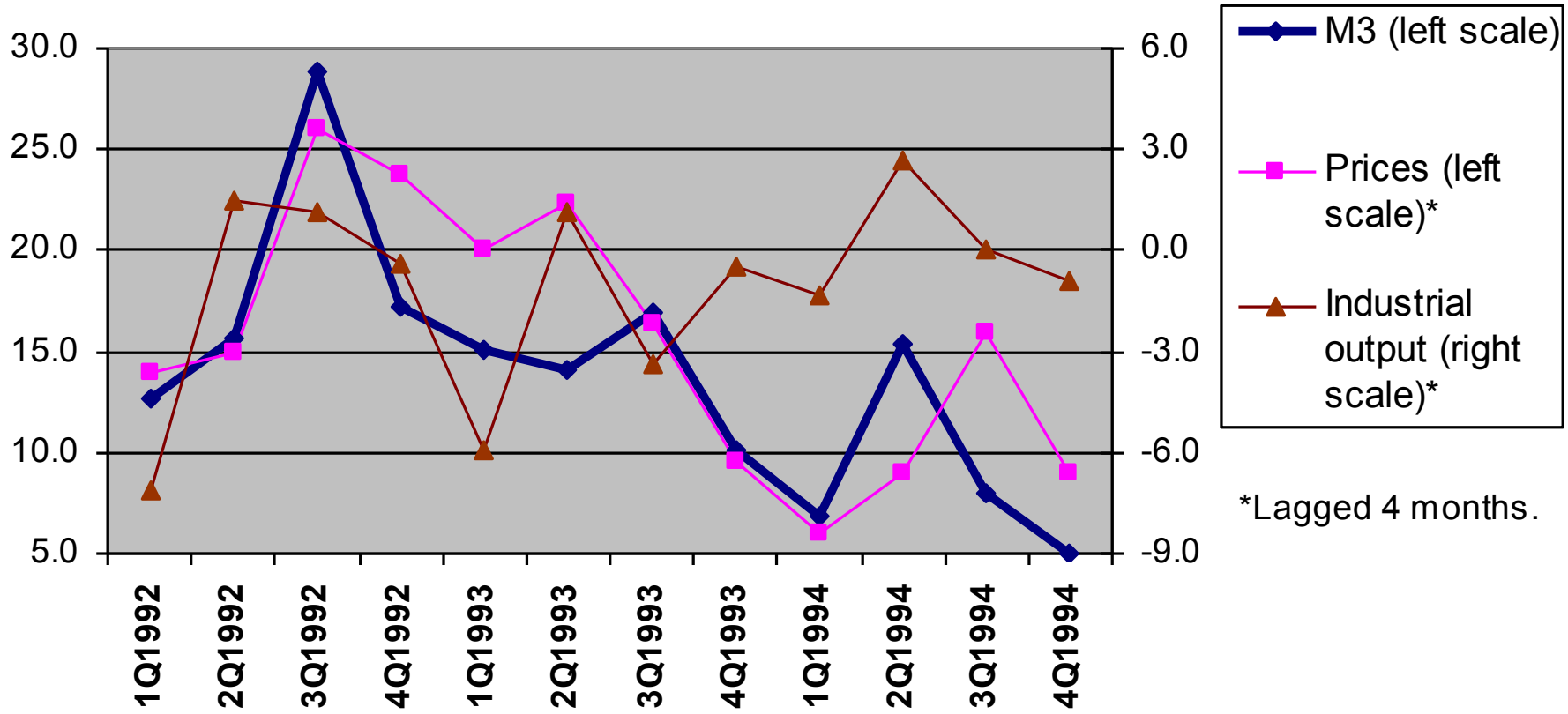
*Lagged 3 months.



* Lagged 4 months.

Source: Russian Economy in 1995.Forecast and Survey of 1994. *Graduate School of International Business.* Moscow, 1995.

Average monthly growth rates of money supply (M3), prices and industrial output by quarters, %

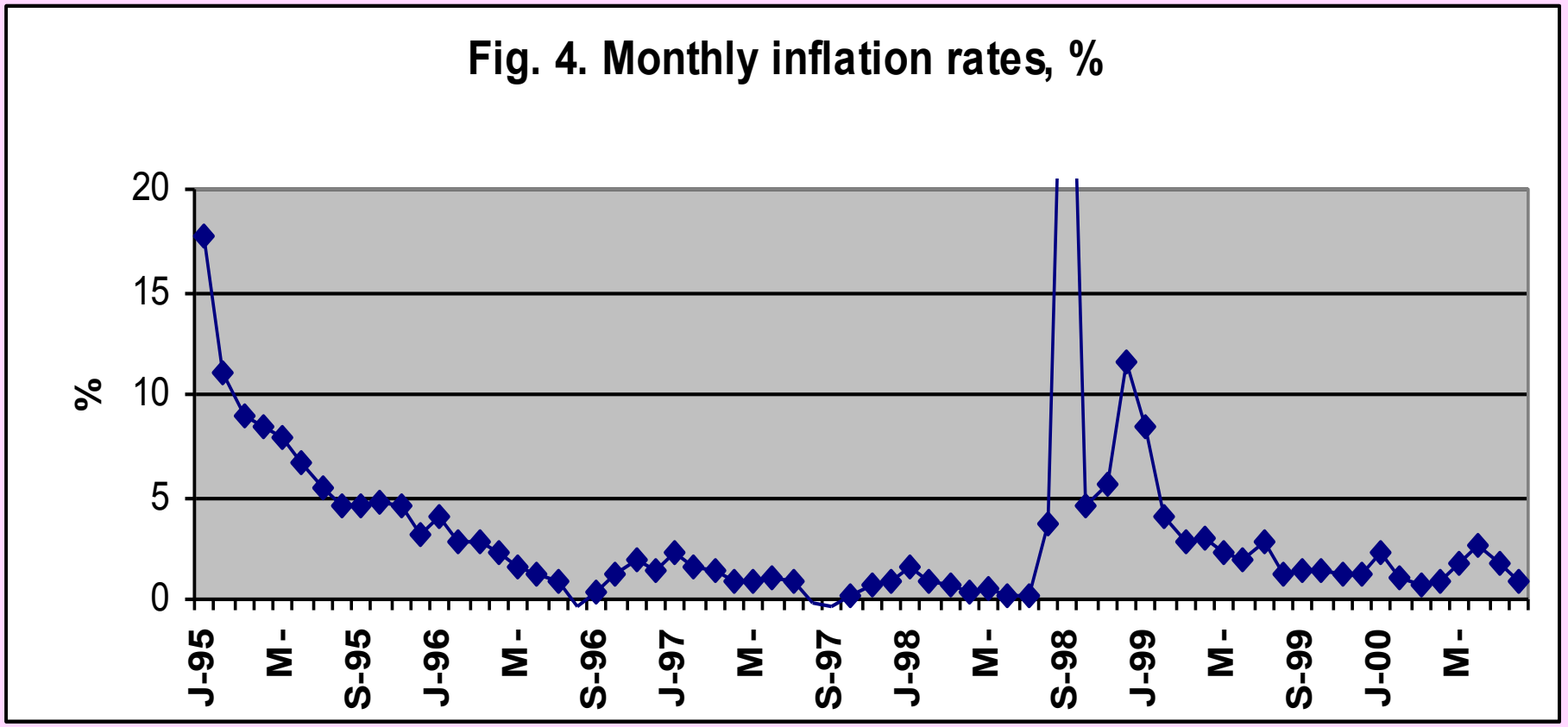


*Lagged 4 months.

Рис. 1. Инфляция и экономический спад

По данным Госкомстата РФ.

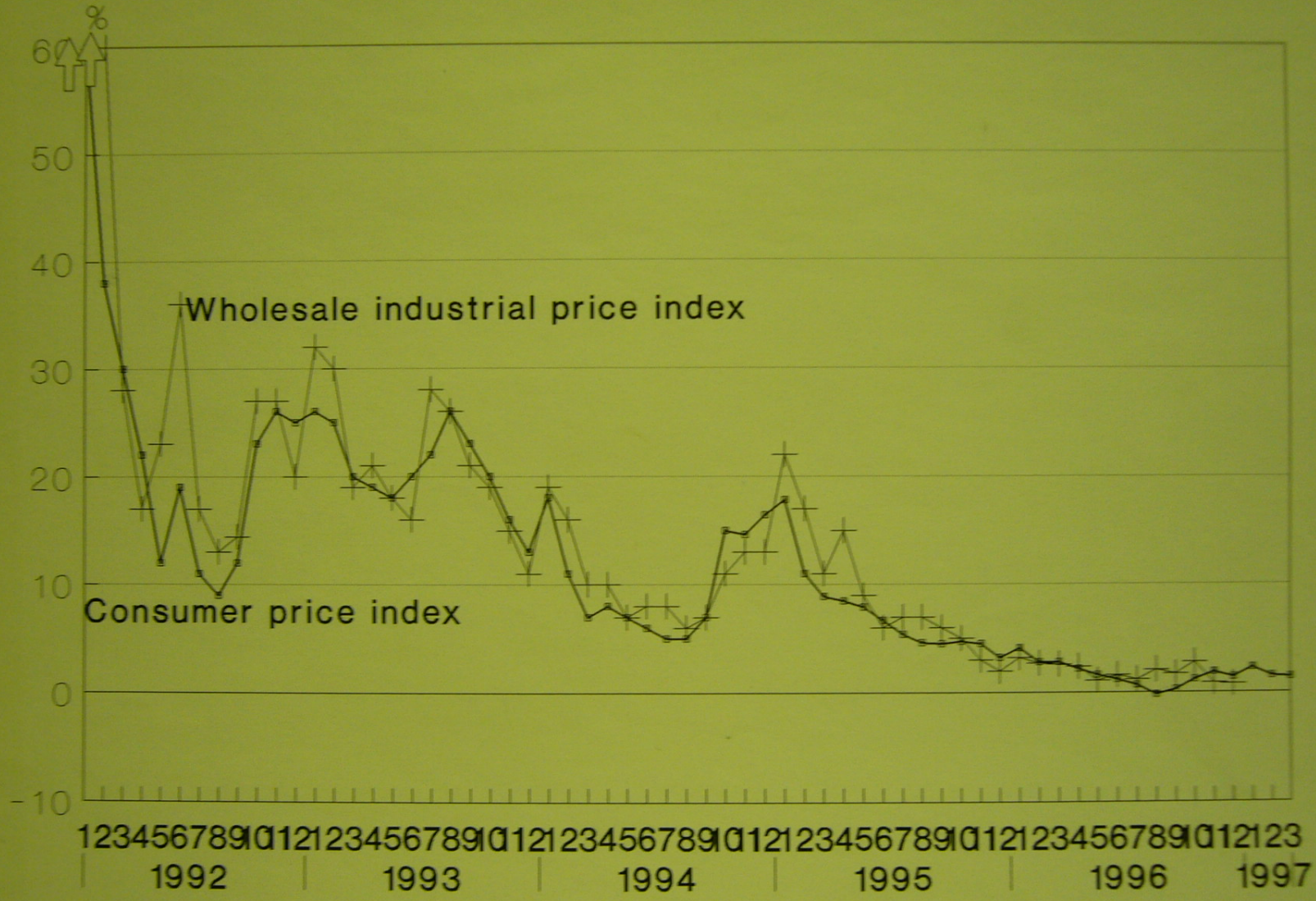
Inflation in Russia 1995-2000



Attempts to fight inflation in Russia

- First half of 1992 (Gaidar). Growth of money supply was restricted; inflation fell to 10% a month in summer 1992; as a consequence, massive non-payments emerged
- First half of 1994 (Chernomyrdin). Tightening monetary policy allowed to bring down inflation to 5% a month in summer 1994; again, non-payments increased
- mid 1995: exchange rate based stabilization; inflation brought down to 6% **a year** (July 1998 to July 1997); currency crisis in August 1998, acceleration of inflation
- 1999 - onwards - money based stabilization

Fig.6. Monthly inflation rates, %



Source: *Goskomstat.*

Why fight inflation?

- High inflation damages financial markets, as risk-free assets disappear
- Empirical evidence: high inflation (more than 40% per year) is bad for growth (e.g. Michael Bruno and William Easterly)
- But if inflation rates are moderate, then attempts to reduce inflation may negatively affect the economy

Demonetization

- When inflation is high, alternative costs of keeping money balances are high $\Rightarrow$ money demand is low
- Money velocity is high
- Monetization=1/money velocity. Monetization is lower whenever inflation is higher
- Cagan effect - reduction of demand for real cash balances during hyperinflation

Inflation and monetization in transition economies

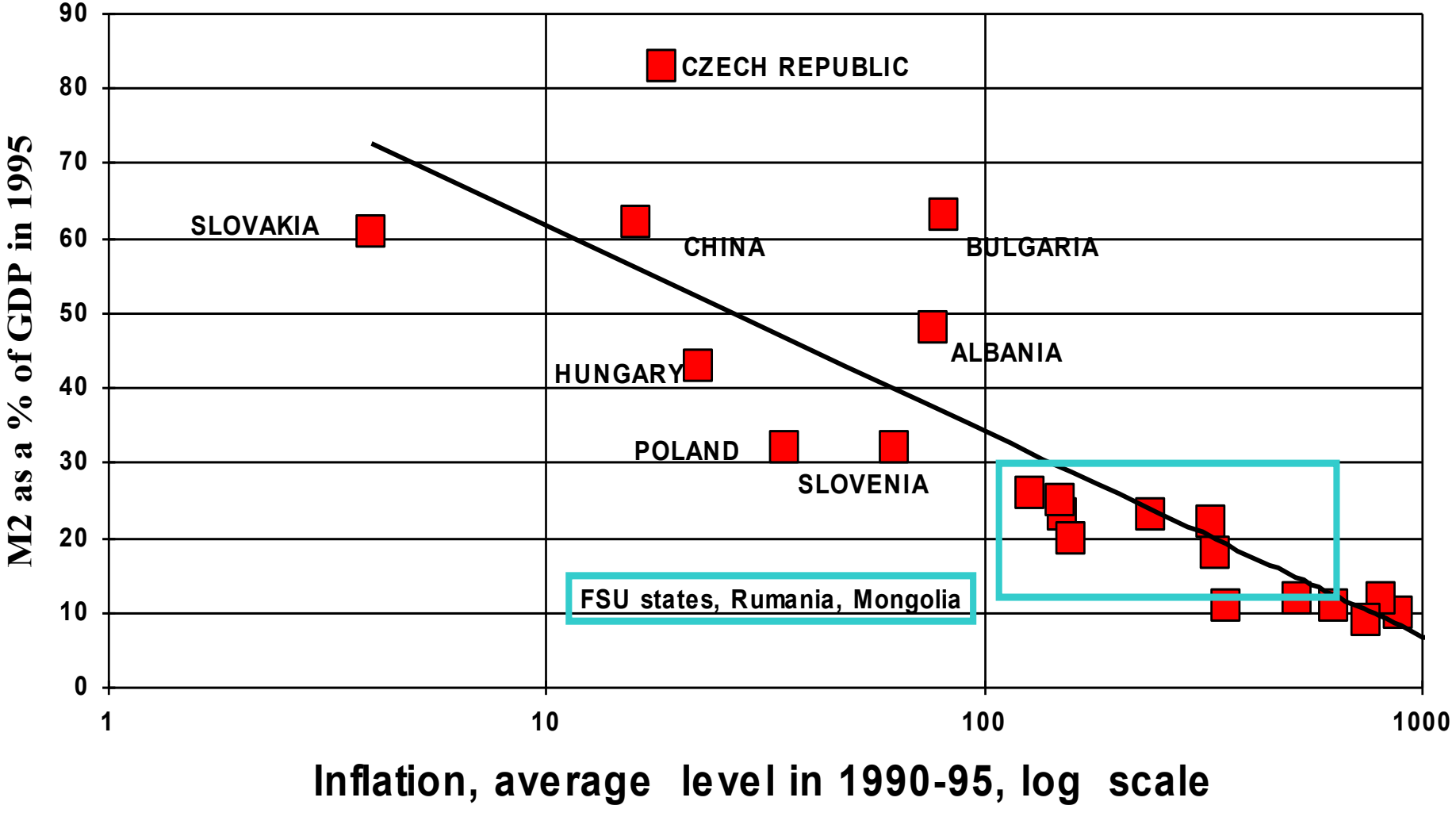
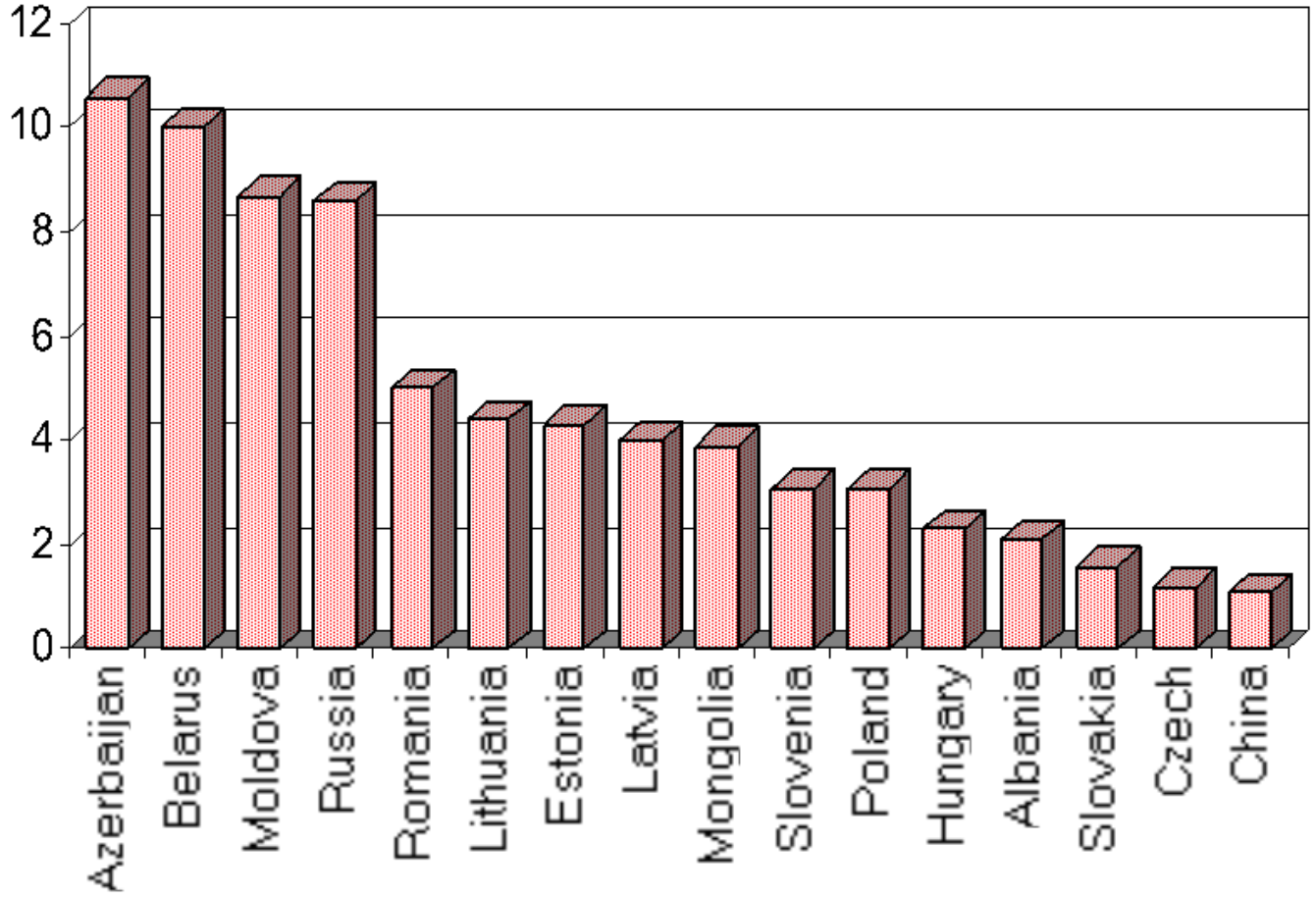
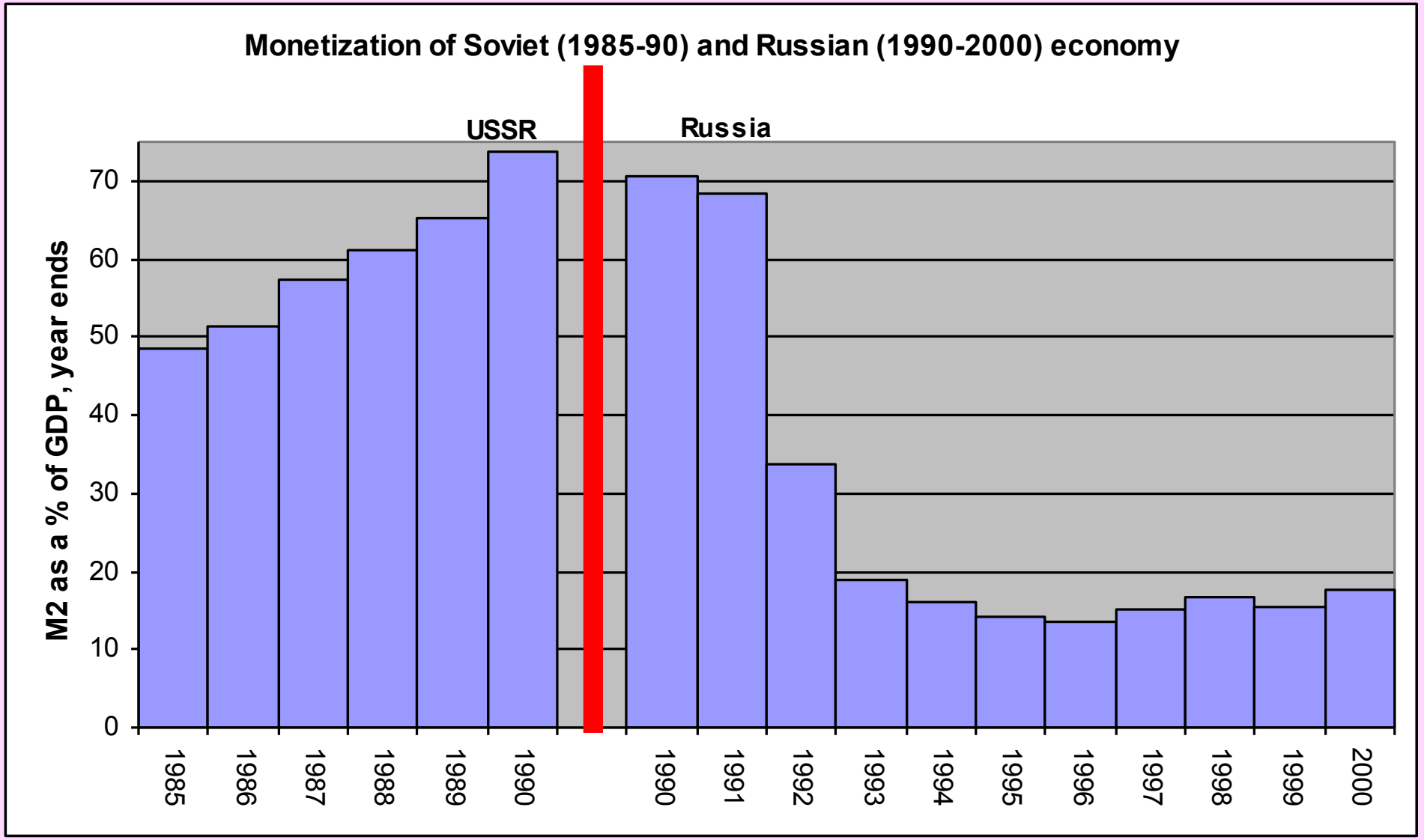
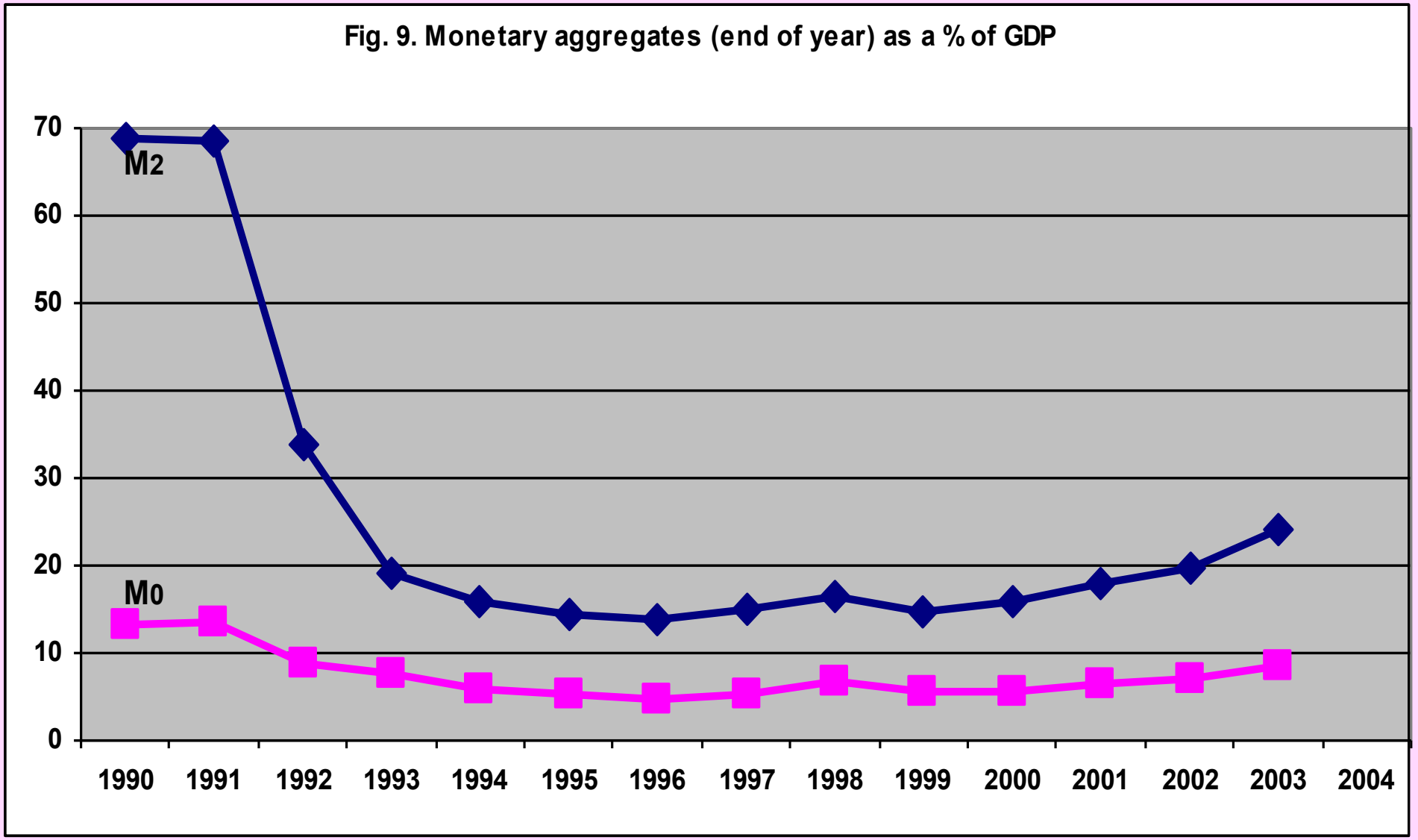


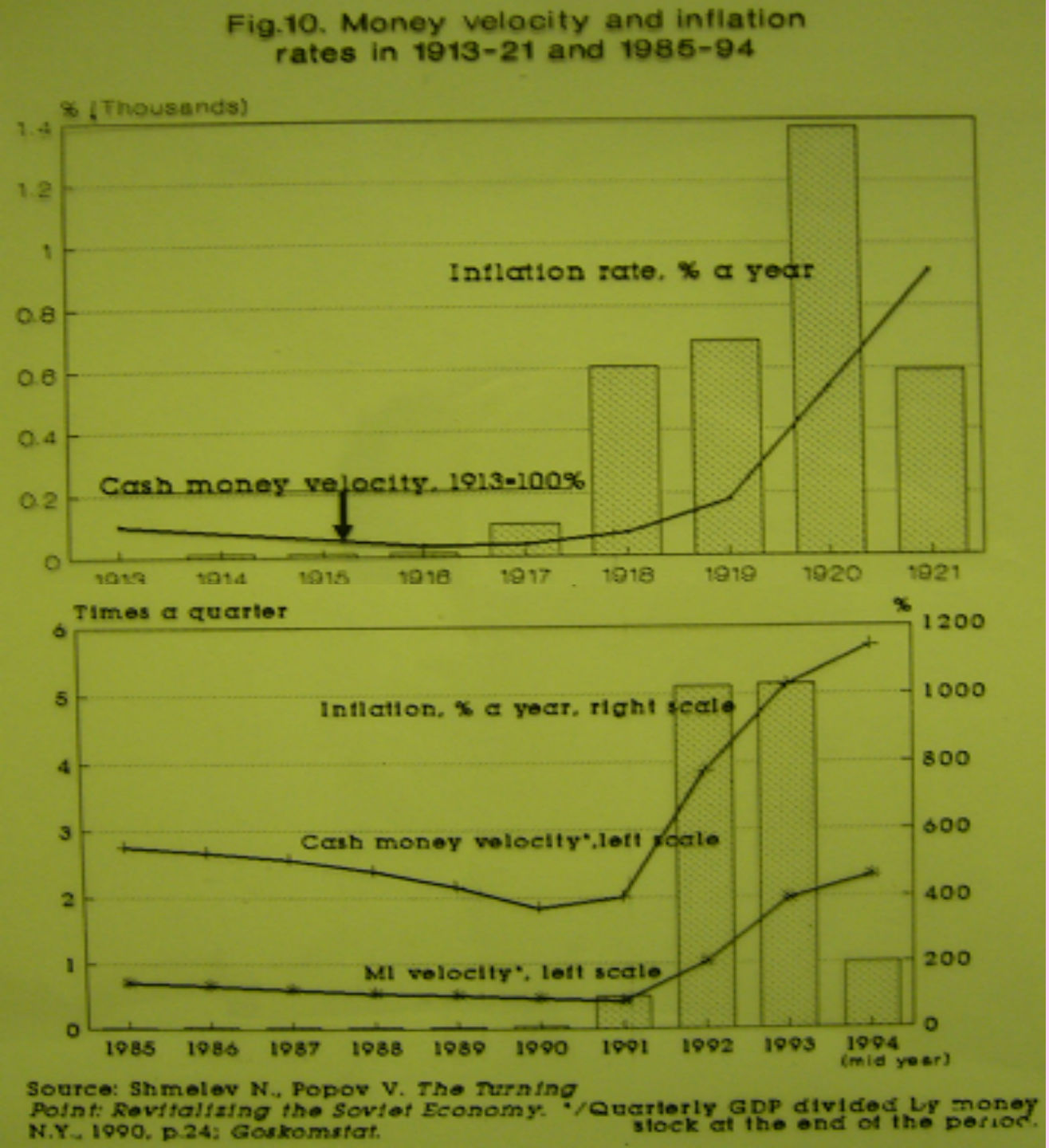
Fig. 7. Money velocity, GDP/M2, 1995




Monetization of Soviet (1985-90) and Russian (1990-2000) economy
USSR
Russia
M2 as a % of GDP, year ends
0
10
20
30
40
50
60
70
1985
1986
1987
1988
1989
1990
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000

Monetary aggregates in 1990-2003





High inflation leads to the reduction of the demand for real cash balances (increase in money velocity) – in 1913-21 more so, than in the early 1990s

Demonetization goes hand in hand with “decreditization”

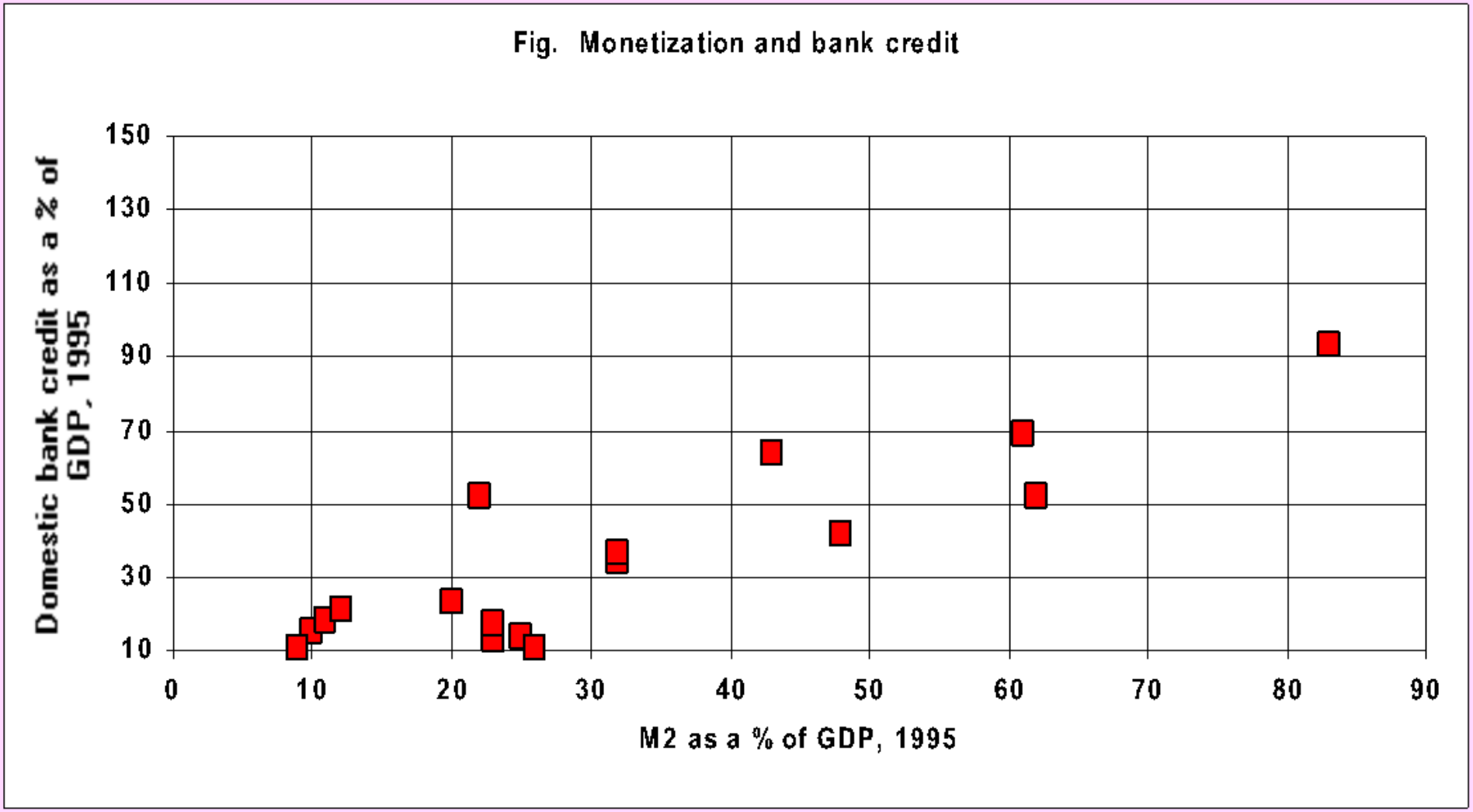


Fig. 9. Bank crediit as a % of GDP, 1990 and 1995

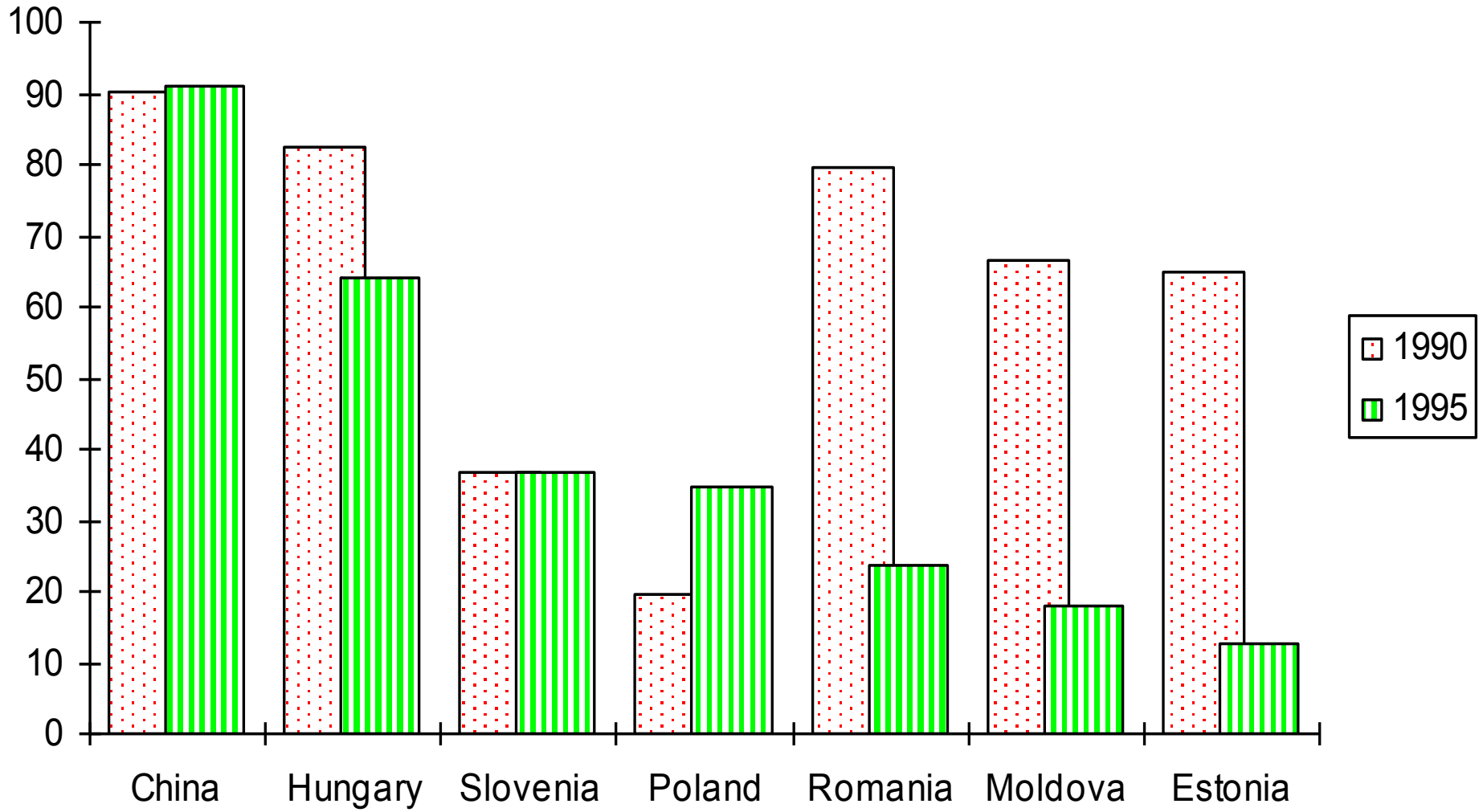
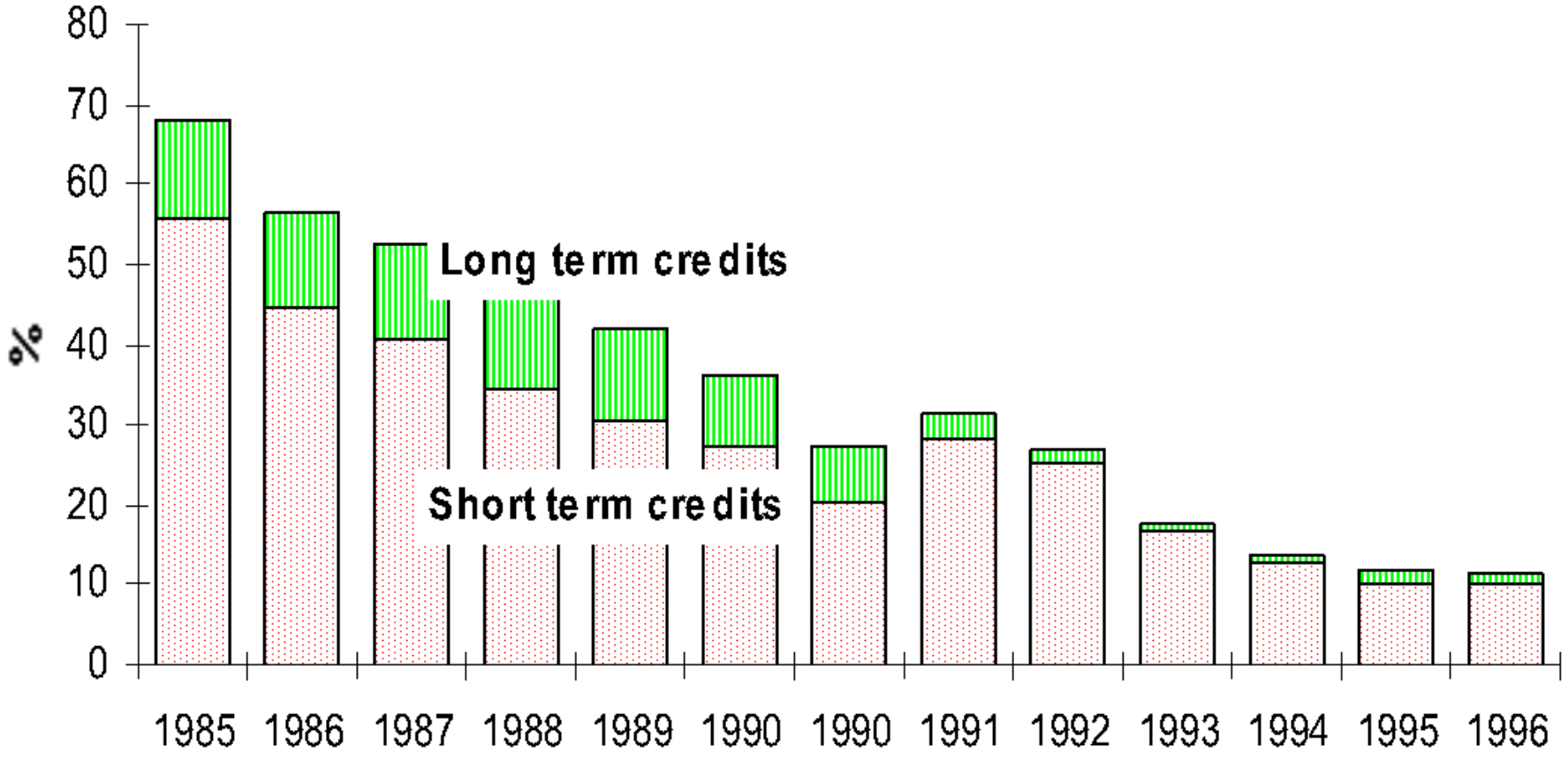
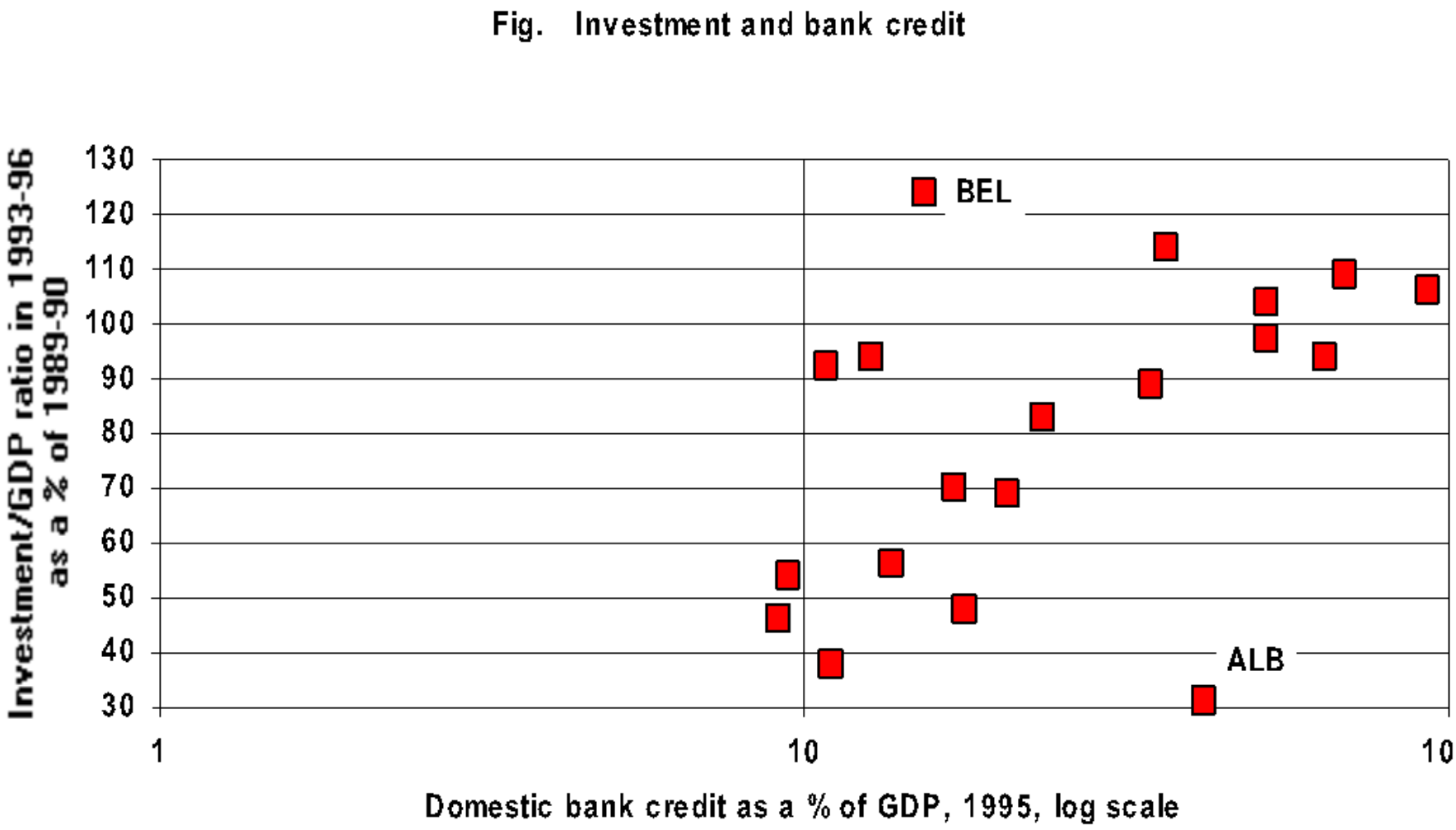


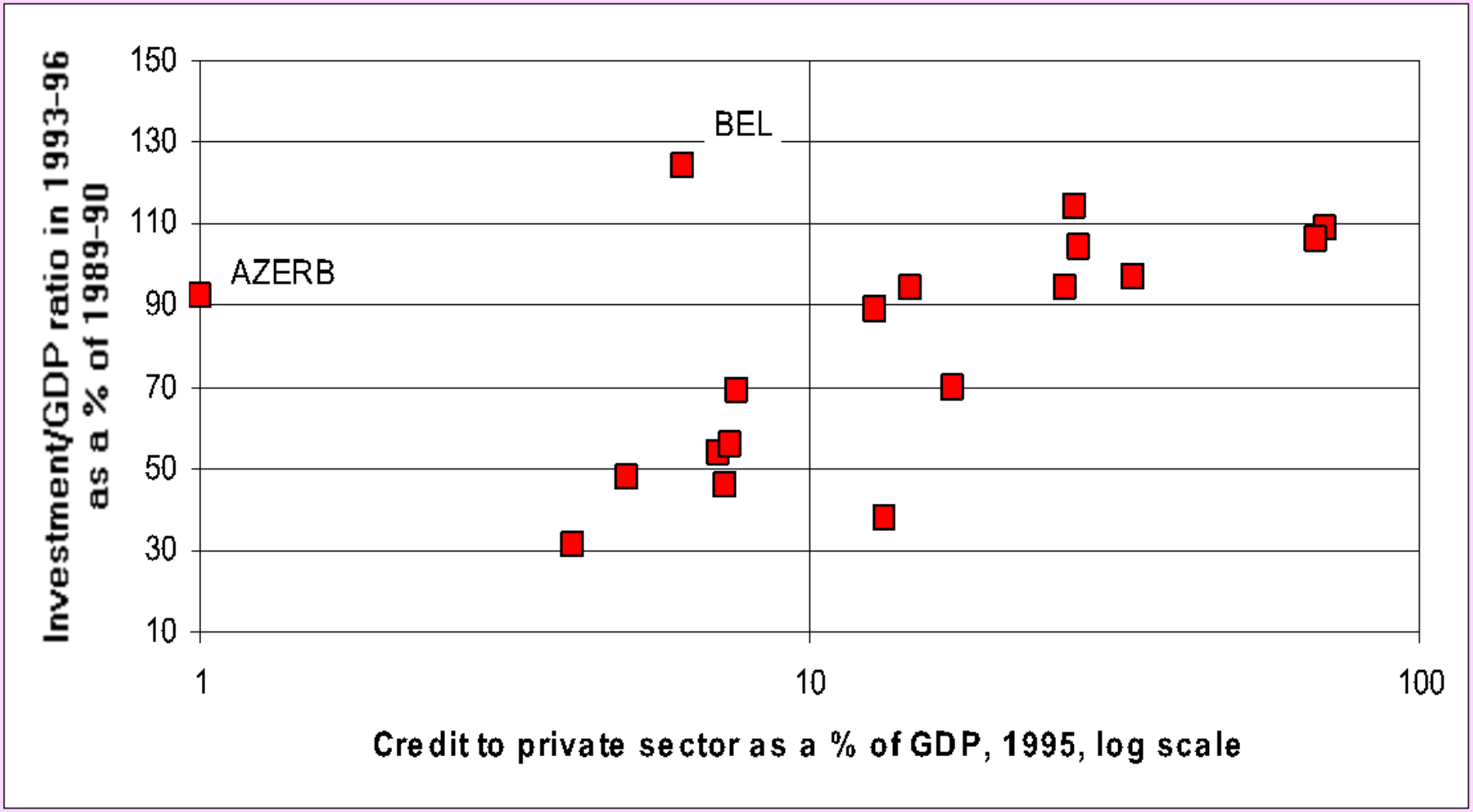
Fig.10. Bank credit outstanding (excluding credits to the government) as a % of GDP in USSR and Russia



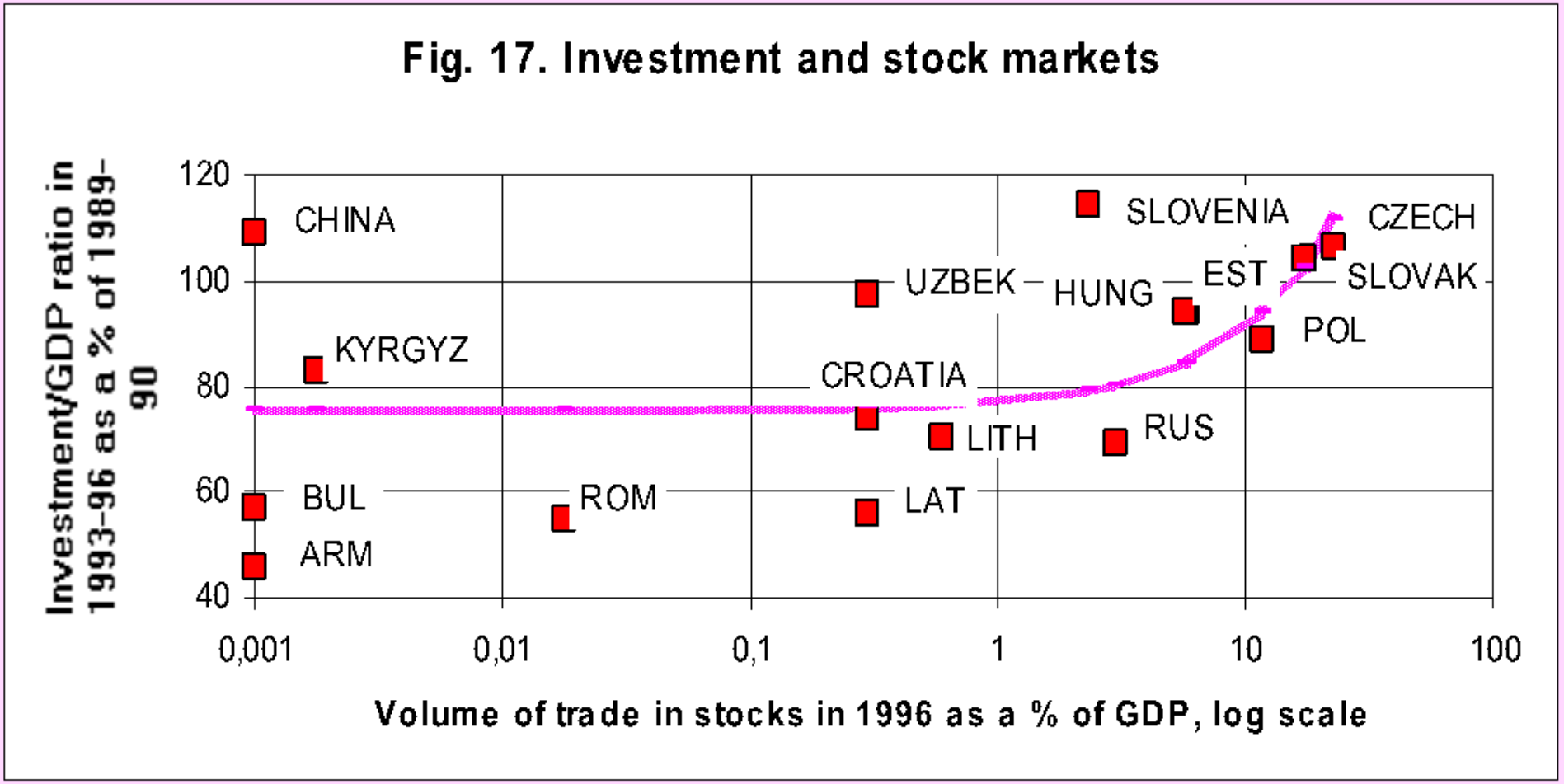
No credit - no investment



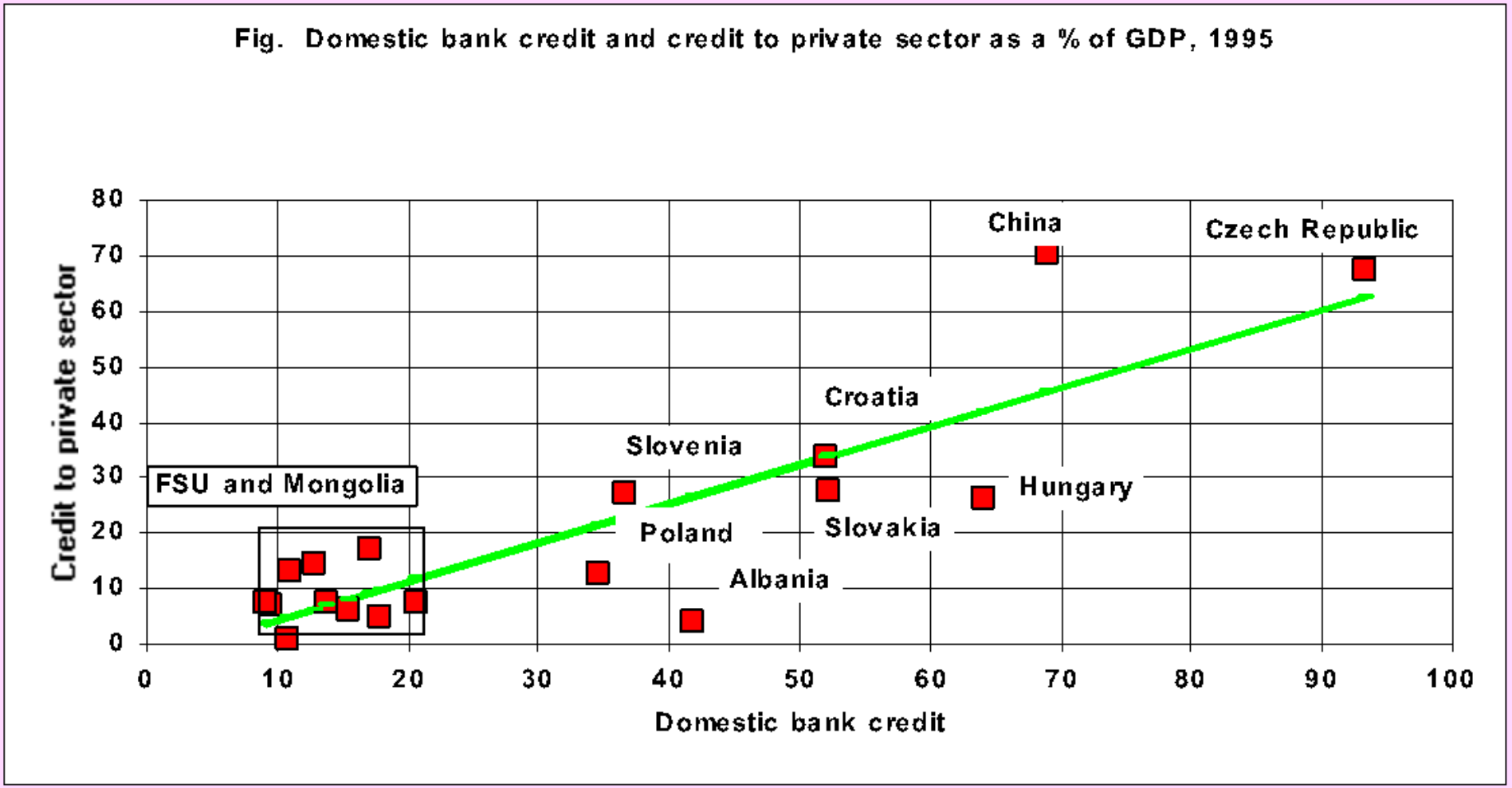
Investment could be maintained by government subsidies though, like in Azerbaijan and Belarus



Stock markets, if developed, could help maintain investment, but stock markets are negatively affected by high inflation



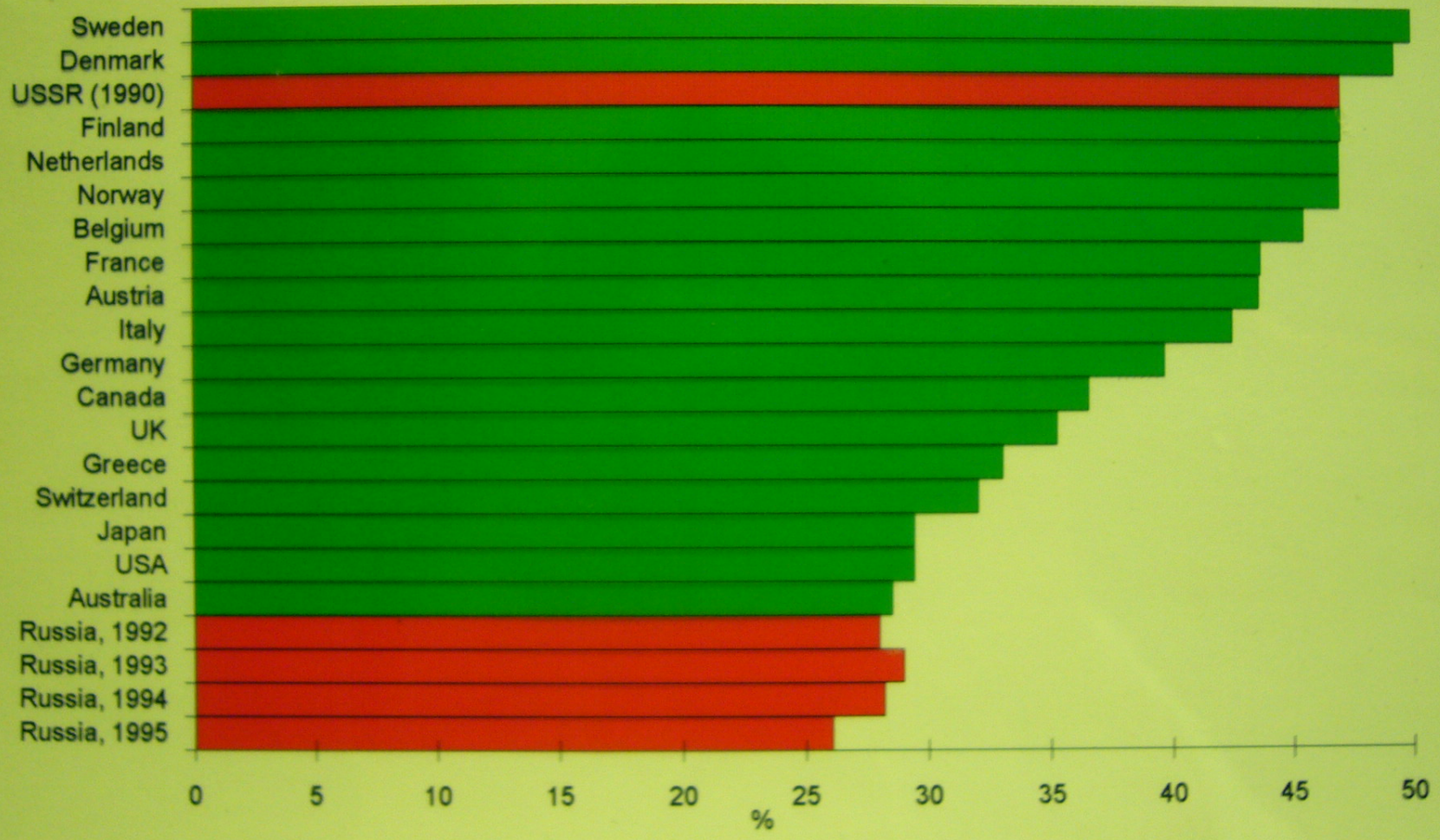
In FSU countries that experienced high inflation both - domestic bank credit and credit to private sector - are lower than in EE countries and China



Why high inflation was so persistent?

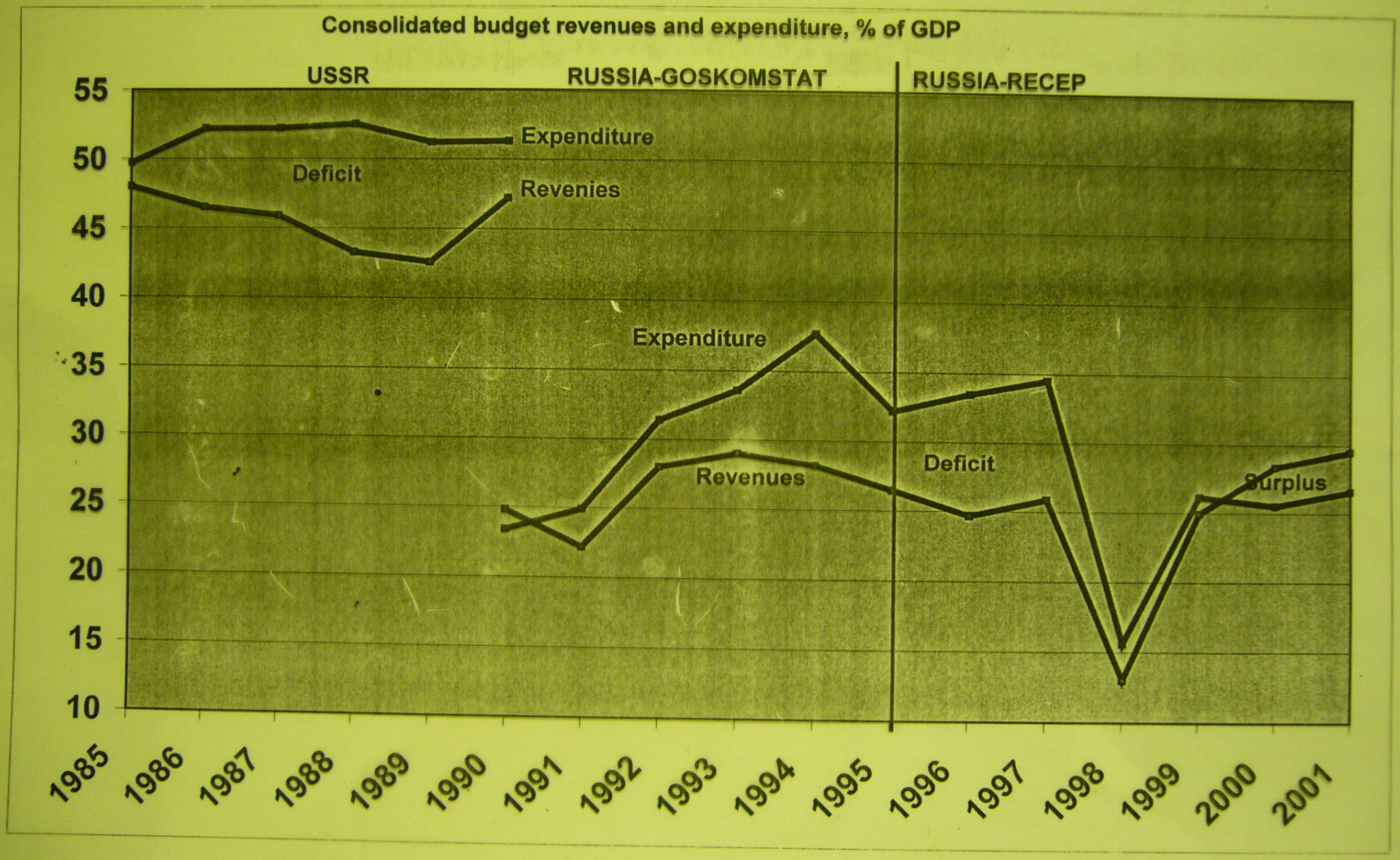
- There was no consensus among major lobbying groups, how to finance reforms, therefore it was impossible to balance the budget
- Problems with tax collection: high level of tax evasion in the 1990s. The government was willing, but not able to increase tax revenues
- Attempts to tighten monetary policy caused non-payments

FIGURE 8
GOVERNMENT BUDGET REVENUES, AS A % OF GDP, 1992*

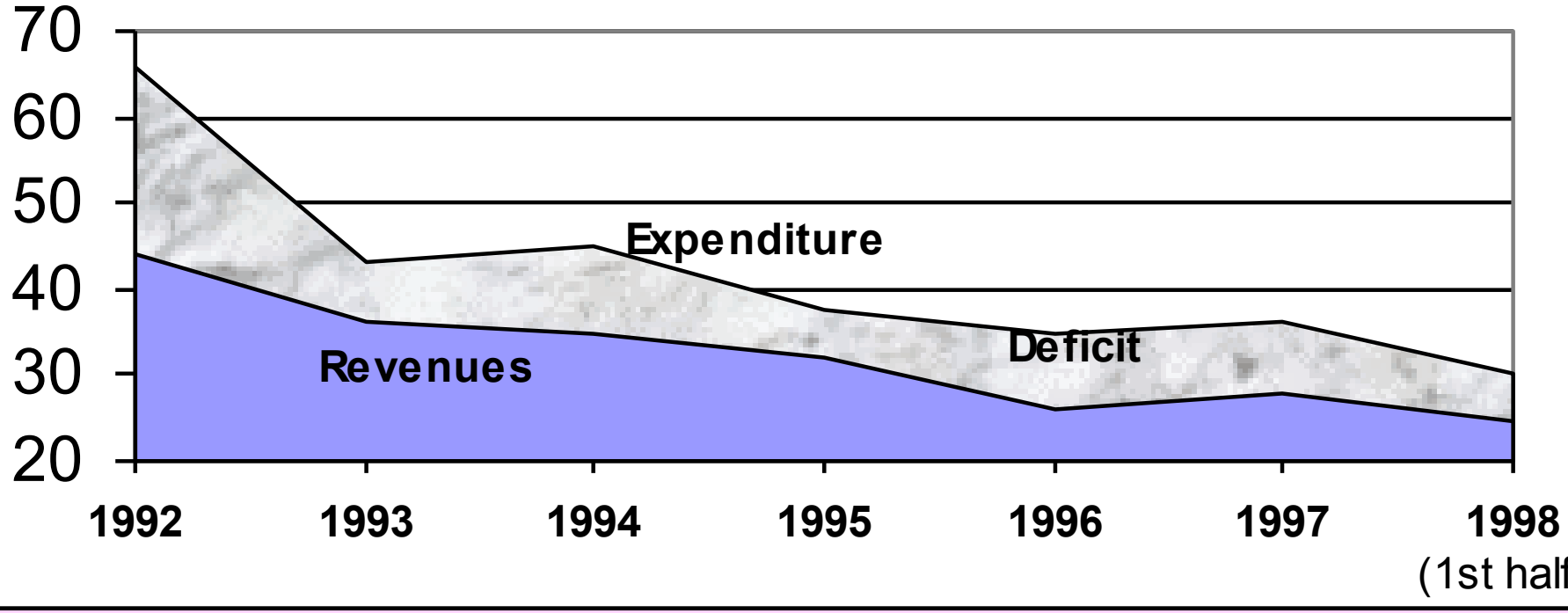


Source: OECD, Goskomstat.

*USSR and Russia - without social security contributions (in 1993 and 1994 such contributions amounted to 7.5% of GDP).


Consolidated budget revenues and expenditure, % of GDP
USSR
RUSSIA-GOSKOMSTAT
RUSSIA-RECEP
55
50
45
40
35
30
25
20
15
10
Expenditure
Deficit
Revenies
Expenditure
Revenues
Deficit
Surplus
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001

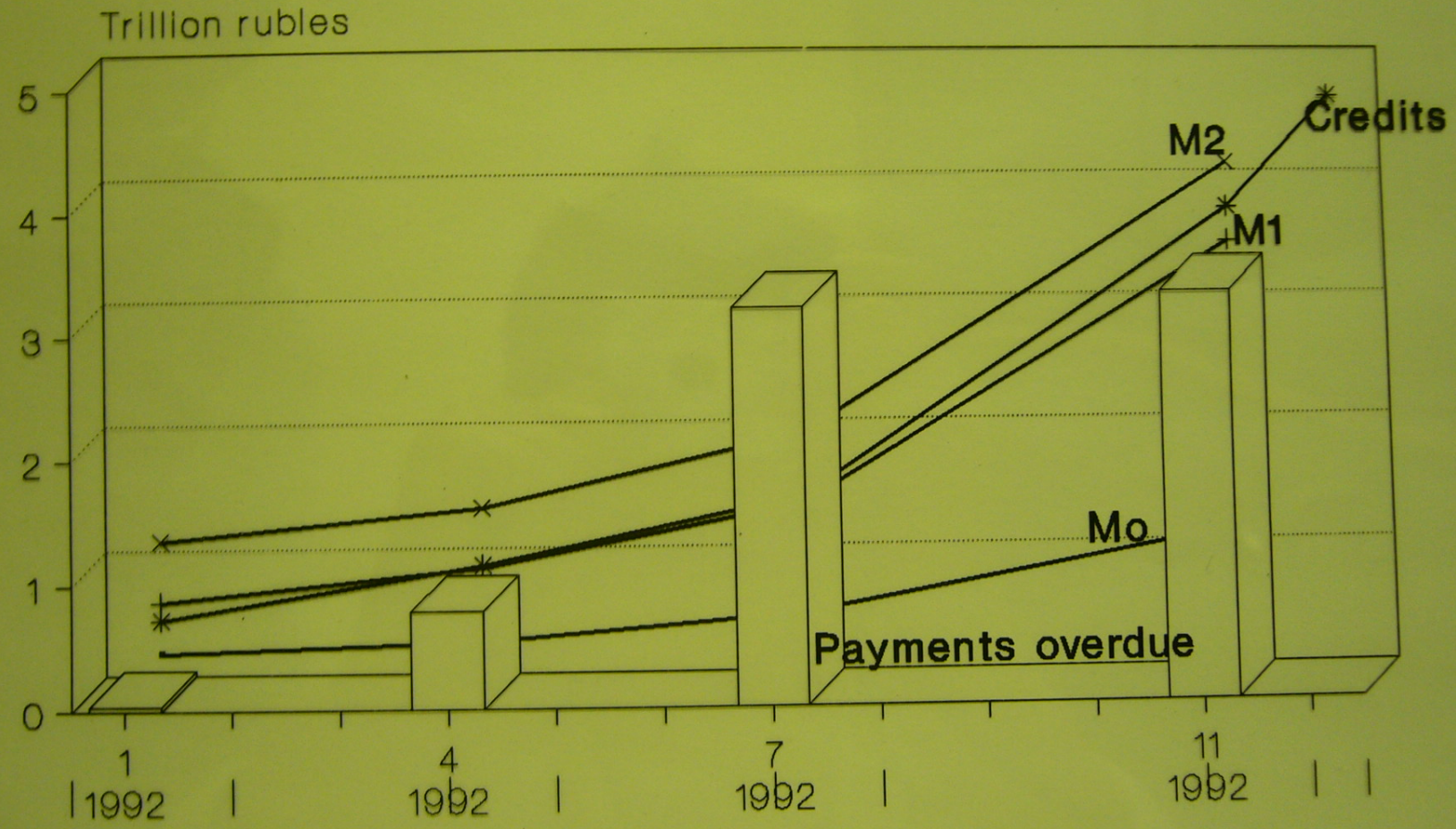
Consolidated government revenues and expenditure, % of GDP



Demonetization: related phenomena

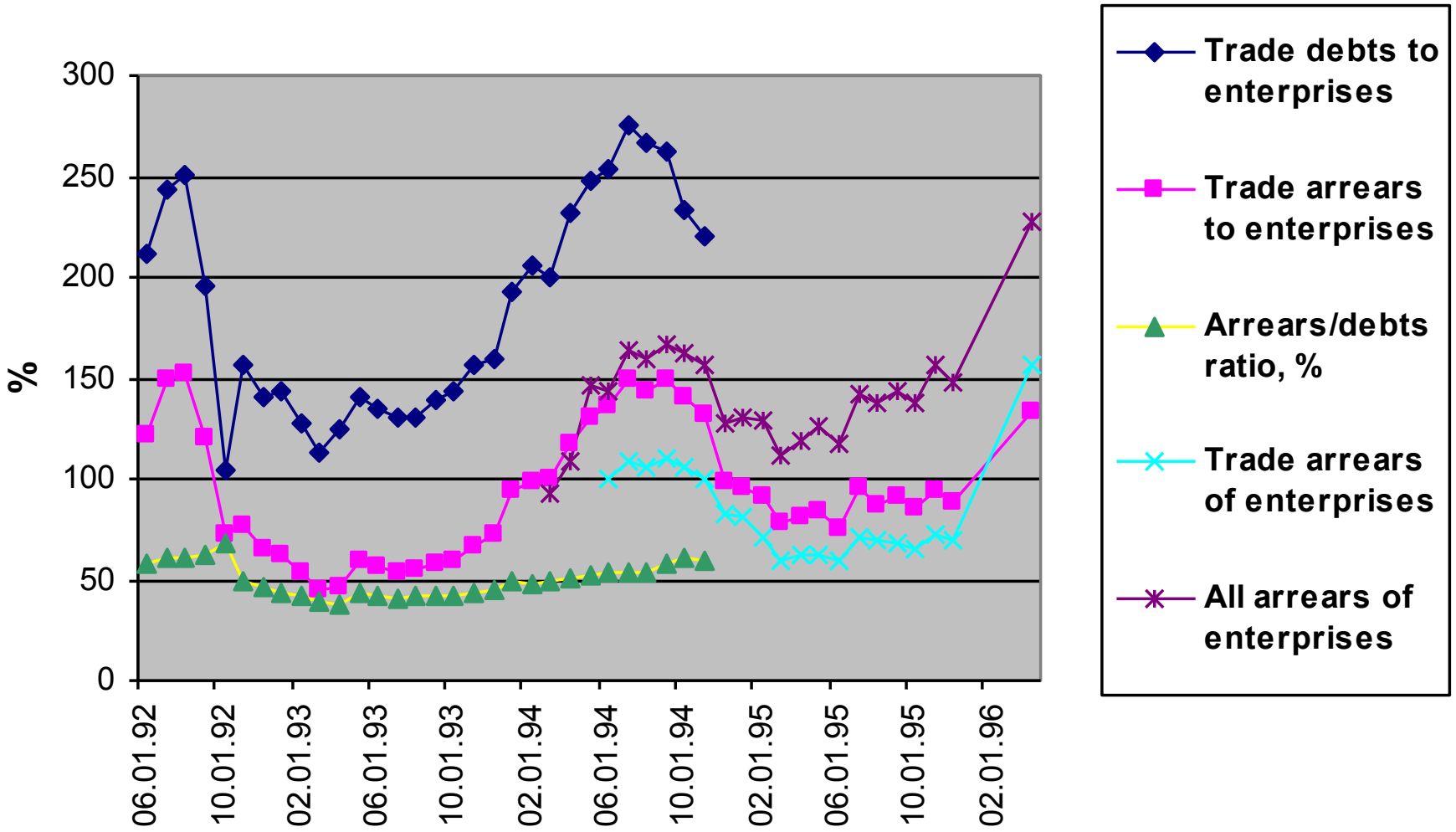
- Barter trade
- Non-payments (trade, tax, bank, wage arrears)
- Money substitutes
- Dollarization (cash dollars used for payments and savings)
    - Estimates are that the amount of cash dollars in Russia in 1990s was comparable with the amount of cash rubles

Figure 10.Money supply, credit outstanding, and payments overdue, trillion rubles

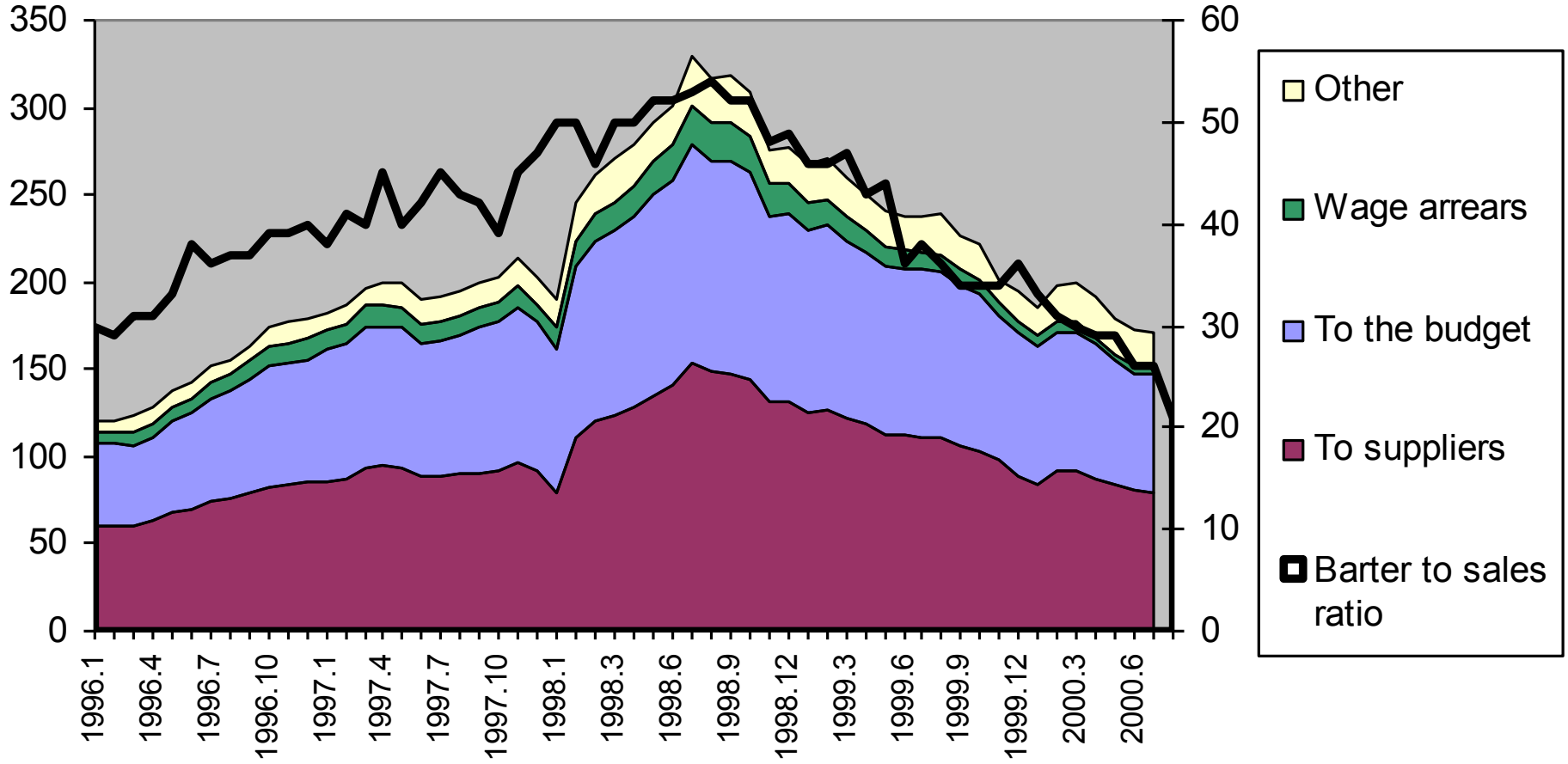


Source: Kommersant Weekly, 1992, N41,45; Goskomstat.

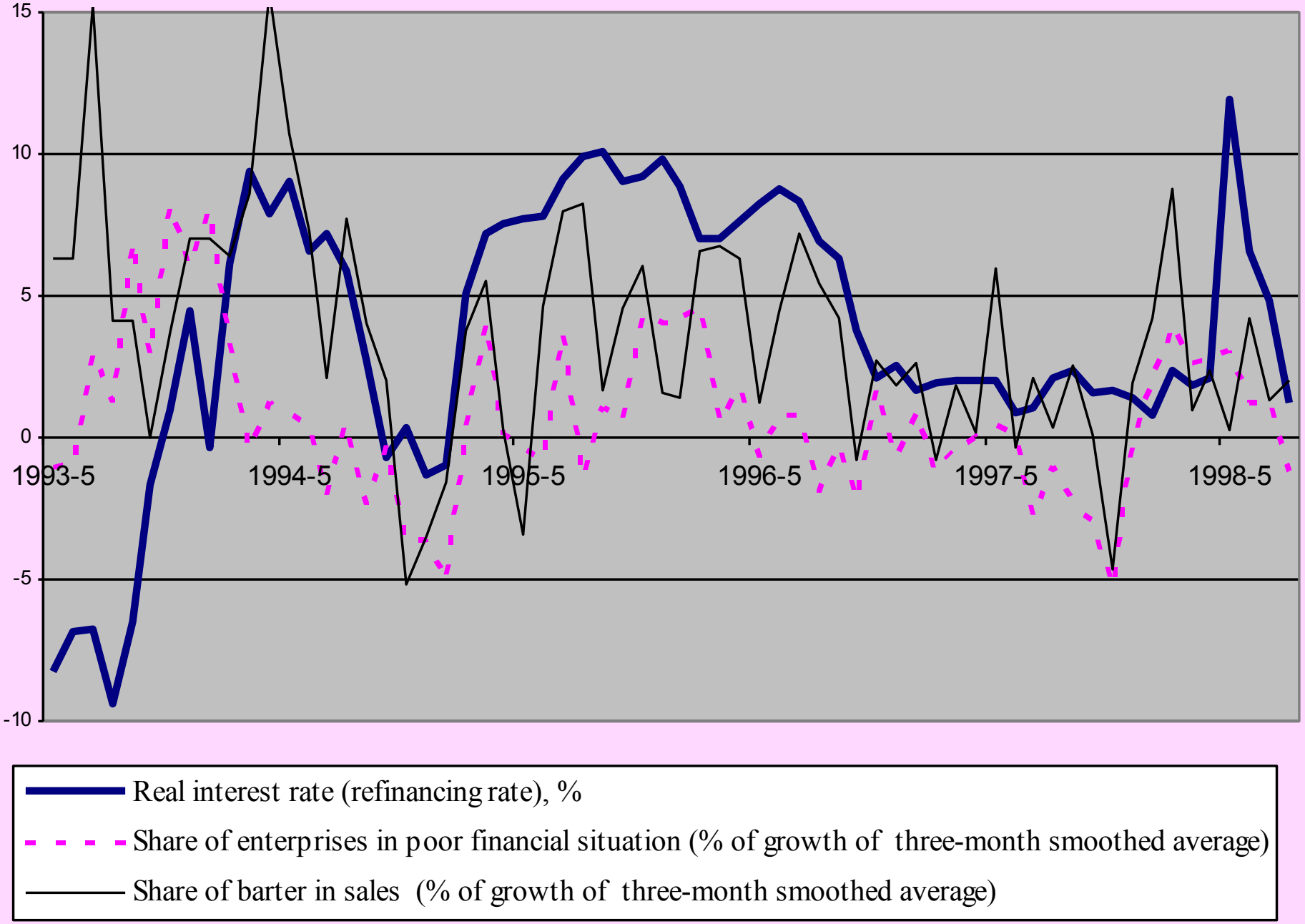
Trade debts and trade arrears of industrial enterprises, as a % of monthly industrial output



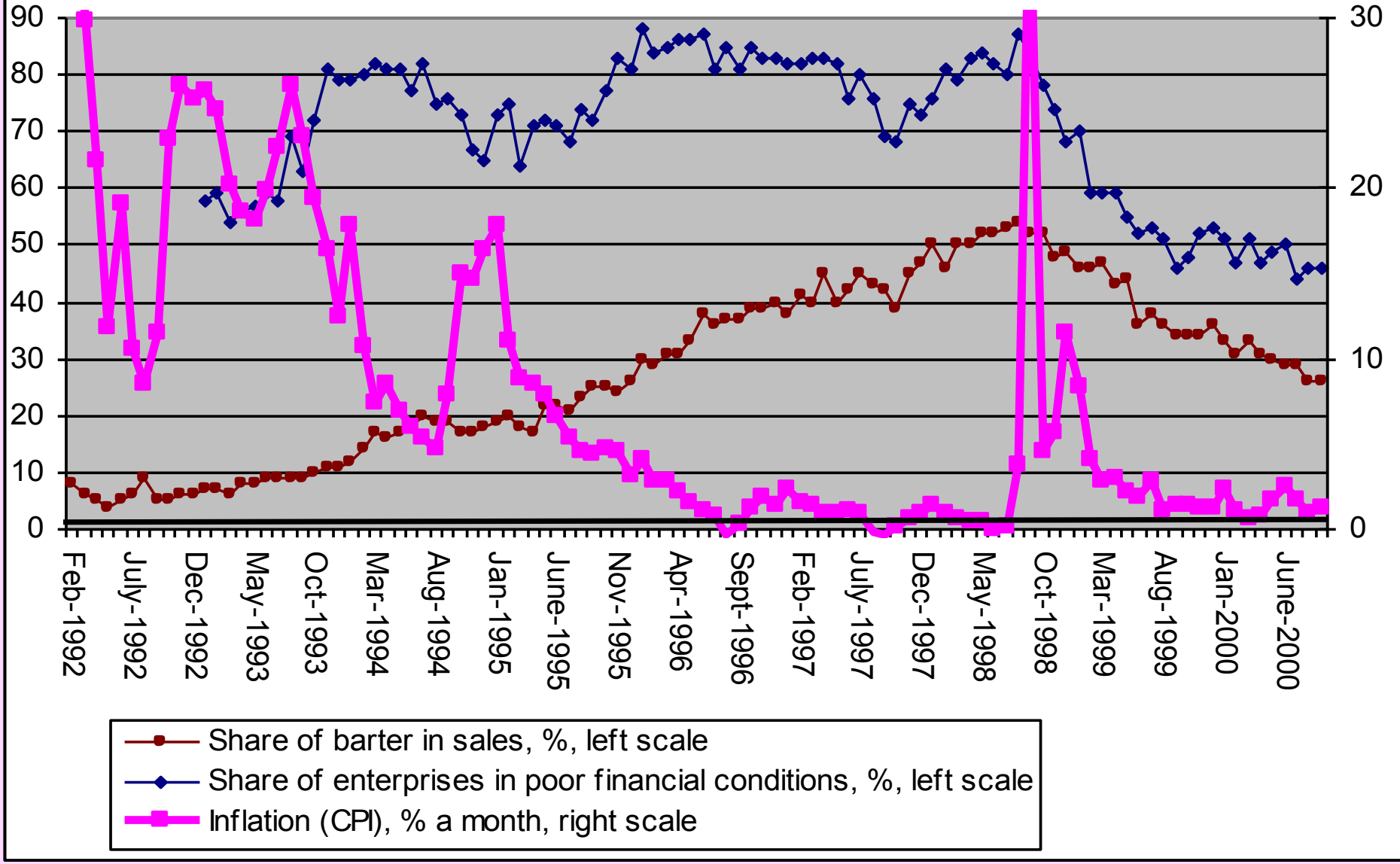
Arrears of enterprises in four major sectors of the economy as a % of GDP (left scale) and barter to sales ratio (%) in industry (right scale)



Real interest rate, share of enterprises in poor financial conditions and barter



Barter, financial conditions of industrial enterprises and inflation



Theories to explain non-payments

- Inconsistent monetary policy
  - Monetarists claim that everybody believed that government would eventually soften the policy and increase money supply. These expectations turned out to be rational. So the mistake was that monetary policy was not tight enough
  - “Structuralists” believed that Russian inflation is cost-push, so attempts to tighten monetary policy would lead only to the reduction of output and increase in non-payments
- Informal relationships (collusion) between top-managers
  - 80-90% of all non-payments were related to the state and 8-10 big enterprises

Theories to explain non-payments

- “Virtual economy” (Clifford Gaddy and Barry Ickes): non-payments were the instrument of redistribution of rent
    - Energy sector was a net creditor of the economy
- Poor protection of creditor rights
  - Bank credits were less feasible, than “borrowings” from suppliers
- Institutional decline: monopoly on coinage (printing money) is a necessary attribute of the state. This monopoly was undermined

Fighting inflation: exchange rate-based stabilization versus money-based stabilization

- Exchange rate-based stabilization: when the exchange rate is fixed, money supply cannot grow fast
  - Using the dollar as an anchor, monetary authorities rely on Federal Reserve System as a guarantor of stability
- Money-based stabilization: authorities restrict money supply growth rates
  - Is believed to be less credible

Currency regimes

- Dollarization: no own currency
  - Examples: Salvador, Ecuador, Panama
- Currency board: money supply is equal to the amount of foreign exchange reserves
  - Examples: Argentina (1991-2002), Bulgaria, Estonia, Hong Kong, Lithuania
- Fixed exchange rate: central bank commits to exchange local currency at the fixed rate

Currency regimes

- Dirty float: central bank does not commit itself to maintain the exchange rate at a certain level, but may carry out interventions
- Floating exchange rate

More flexible currency regime means more room for independent monetary policy

Economy	Population	GDP ($bn)	Political status	Currency	Since
American Samoa	67,000	0.5	U.S. territory	U.S. dollar	1899
Andorra	68,000	1.2	independent	euro (formerly French franc, Spanish peseta), own coins	1278
British Virgin Islands	21,000	0.3	British dependency	U.S. dollar	1973
Cocos (Keeling) Islands	600	0.0	Australian external territory	Australian dollar	1955
Cook Islands	21,000	0.1	New Zealand self-governing territory	New Zealand dollar	1995
Cyprus, Northern	140,000	0.8	de facto independent	Turkish lira	1974
East Timor	857,000	0.2	independent	U.S. dollar	2000
Ecuador	13,200,000	37.2	Independent	U.S. dollar	2000
El Salvador	6,200,000	24.0	Independent	U.S. dollar	2001
Greenland	56,000	1.1	Danish self-governing region	Danish krone	before 1800
Guam	160,000	3.2	U.S. territory	U.S. dollar	1898
Kiribati	94,000	0.1	independent	Australian dollar, own coins	1943
Kosovo	1,600,000	?	U.N. administration	euro	1999
Liechtenstein	33,000	0.7	independent	Swiss franc	1921
Marshall Islands	71,000	0.1	independent	U.S. dollar	1944
Micronesia	135,000	0.3	independent	U.S. dollar	1944
Montenegro	700,000	1.6	semi-independent	euro (partly "DM-ized" since 1999)	2002
Monaco	32,000	0.9	independent	euro (formerly French franc)	1865
Nauru	12,000	0.1	independent	Australian dollar	1914
Niue	2,000	0.0	New Zealand self-governing territory	New Zealand dollar	1901
Norfolk Island	2,000	0.0	Australian external territory	Australian dollar	before 1900?
Northern Mariana Islands	75,000	0.9	U.S. commonwealth	U.S. dollar	1944
Palau	19,000	0.1	independent	U.S. dollar	1944
Panama	2,800,000	16.6	independent	U.S. dollar, own balboa coins	1904
Pitcairn Island	42	0.0	British dependency	New Zealand, U.S. dollars	1800s
Puerto Rico	3,900,000	39.0	U.S. commonwealth	U.S. dollar	1899
San Marino	27,000	0.9	independent	euro (formerly Italian lira), own coins	1897
Tokelau	1,500	0.0	New Zealand territory	New Zealand dollar	1926
Turks and Caicos Isands	18,000	0.1	British colony	U.S. dollar	1973
Tuvalu	11,000	0.0	independent	Australian dollar, own coins	1892
U.S. Virgin Islands	120,000	1.8	U.S. territory	U.S. dollar	1934
Vatican City	1,000	0.0	independent	euro (formerly Italian lira), own coins	1929

Officially Dollarized Economies, June 2002

(Dollarization in the broad sense of using any foreign currency, not just the dollar, as the national currency)

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Sources: Kurt Schuler, "Encouraging Official Dollarization in Emerging Markets," staff report, Office of the Chairman, Joint Economic Committee, U.S. Congress, April 1999; CIA World Factbook 2001; press reports.

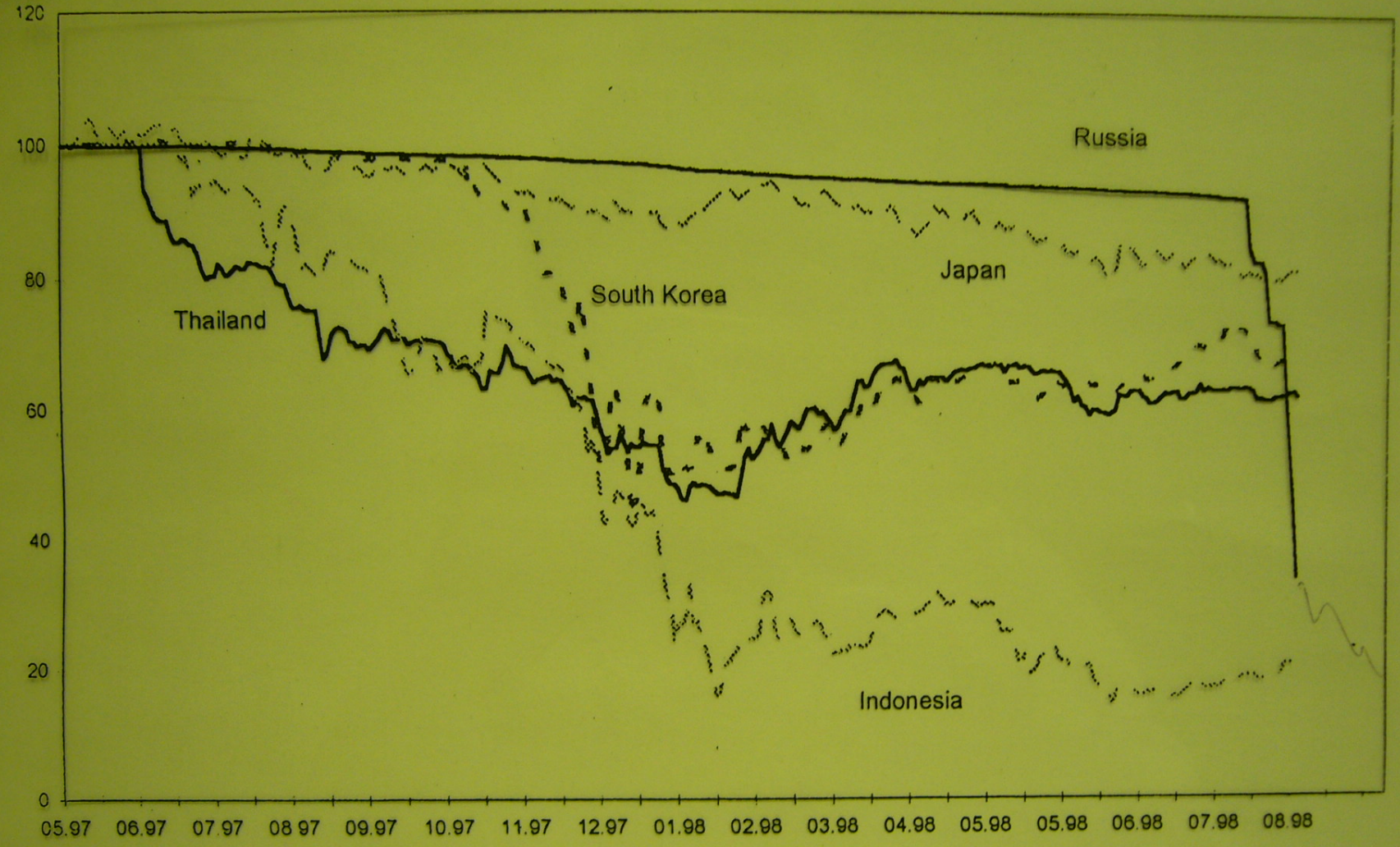
Notes: Data for some countries here are latest available from the CIA World Factbook; not all data are 2001. Some other countries issue domestic notes and coins but grant a foreign currency status as a parallel legal tender. GDP is in terms of purchasing power parity.

Currency boards and currency board-like systems as of June 2002				
Country	**Population**	**GDP (US$)**	**Began**	**Exchange rate / remarks**
Bermuda [UK]	63,000	$2 billion	1915	Bermuda $1 = US$1 / Loose capital controls
Bosnia	3.8 million	$6.2 billion	1997	1.95583 convertible marks = 1 euro / Currency board-like
Brunei	336,000	$5.6 billion	1952	Brunei $1 = Singapore $1 / Currency board-like
Bulgaria	7.8 million	$35 billion	1997	1.95583 leva = 1 euro / Currency board-like
Cayman Islands [UK]	35,000	$930 million	1972	Cayman $1 = US$1.20
Djibouti	450,000	$550 million	1949	177.72 Djibouti francs = US$1 / Currency board-like
Estonia	1.4 million	$7.9 billion	1992	8 kroons = 0.51129 euro / Currency board-like
Falkland Islands [UK]	2,800	unavailable	1899	Falklands £1 = UK£1
Faroe Islands [Denmark]	45,000	$700 million	1940	1 Faroese krone = 1 Danish krone
Gibraltar [UK]	29,000	$500 million	1927	Gibraltar £1 = UK£1
Hong Kong [China]	7.1 million	$158 billion	1983	Hong Kong $7.80 = US$1 / More orthodox since 1998
Lithuania	3.6 million	$17 billion	1994	3.4528 litai = 1 euro / Currency board-like
Source of population and GDP data: CIA World Factbook 2001.				

Russia's 1998 financial collapse

- In a matter of days the exchange lost over 60% of its value
  - more than in all most Latin American and Southeast Asian countries (except for Indonesia)
- Prices increased by nearly 50% in only 2 months after the crisis
  - as compared to less than 6% annual inflation July 1998 to July 1997 before the crisis
- Real output fell by about 6% in 1998
  - after registering a small increase of 0.6% in 1997 for the first time since 1989, it fell in January - September 1998, i.e. mostly before the August 1998 crisis

Figure 3: Asian Contagion: currency collapses



Source: Goldman Sachs, Moscow Times

The drop in the oil price

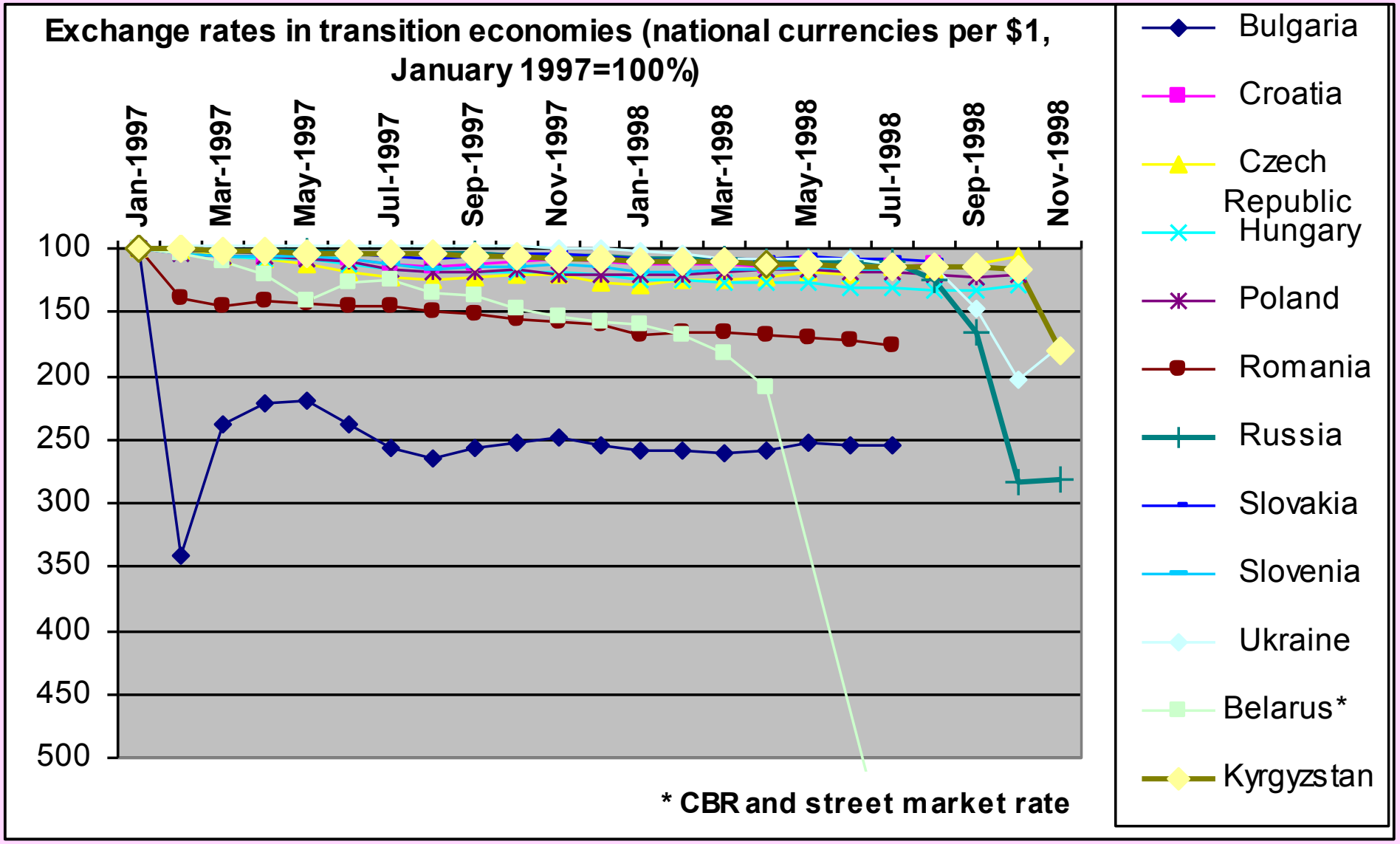
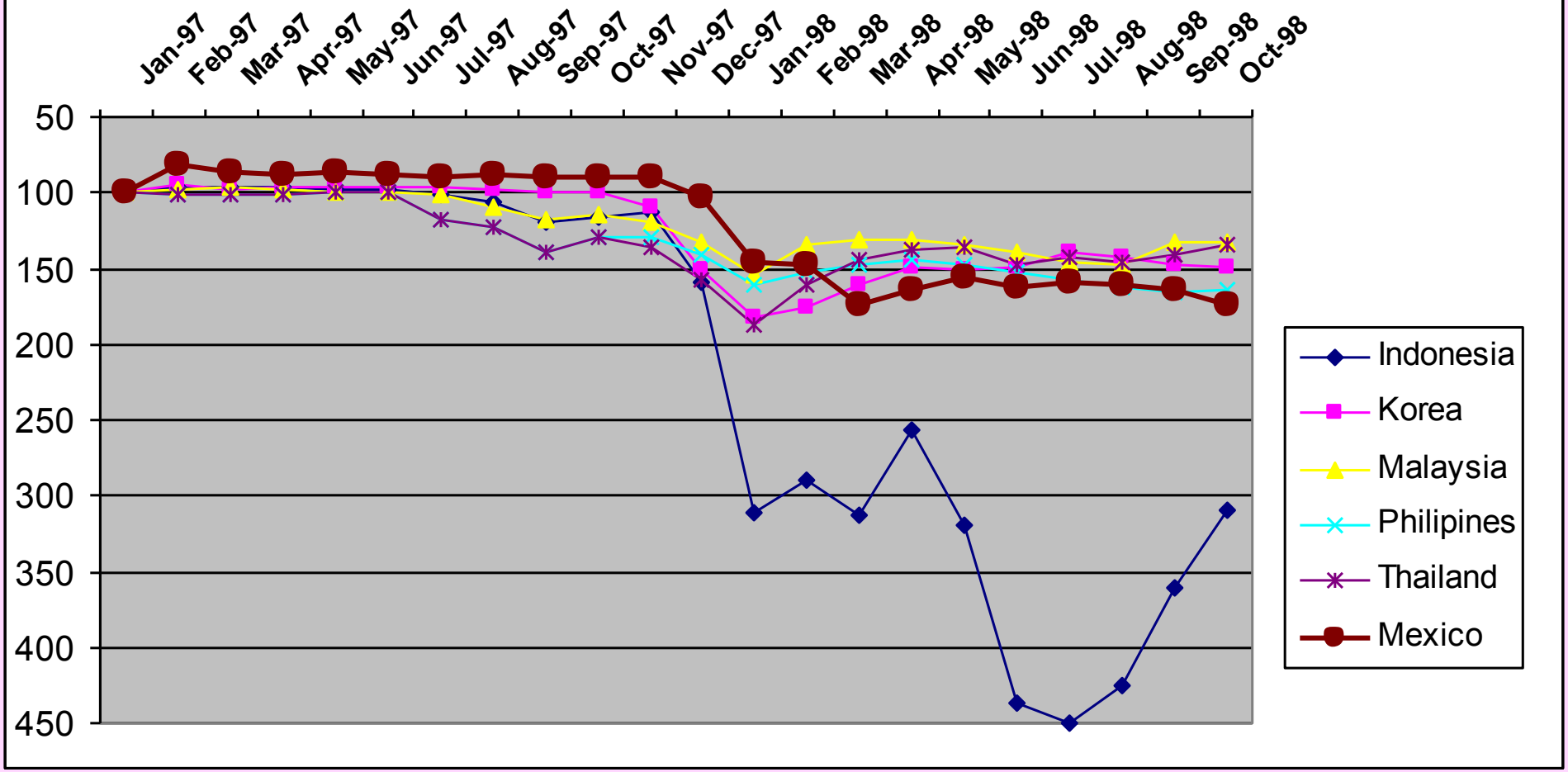

Exchange rates in transition economies (national currencies per $1, January 1997=100%)
Jan-1997
Mar-1997
May-1997
Jul-1997
Sep-1997
Nov-1997
Jan-1998
Mar-1998
May-1998
Jul-1998
Sep-1998
Nov-1998
100
150
200
250
300
350
400
450
500
* CBR and street market rate
Bulgaria
Croatia
Czech Republic
Hungary
Poland
Romania
Russia
Slovakia
Slovenia
Ukraine
Belarus*
Kyrgyzstan

Figure 2. Exchange rates in South East Asia (national currencies per $1, Jan. 1997 =100%) and in Mexico (Jan.1994 =100%)



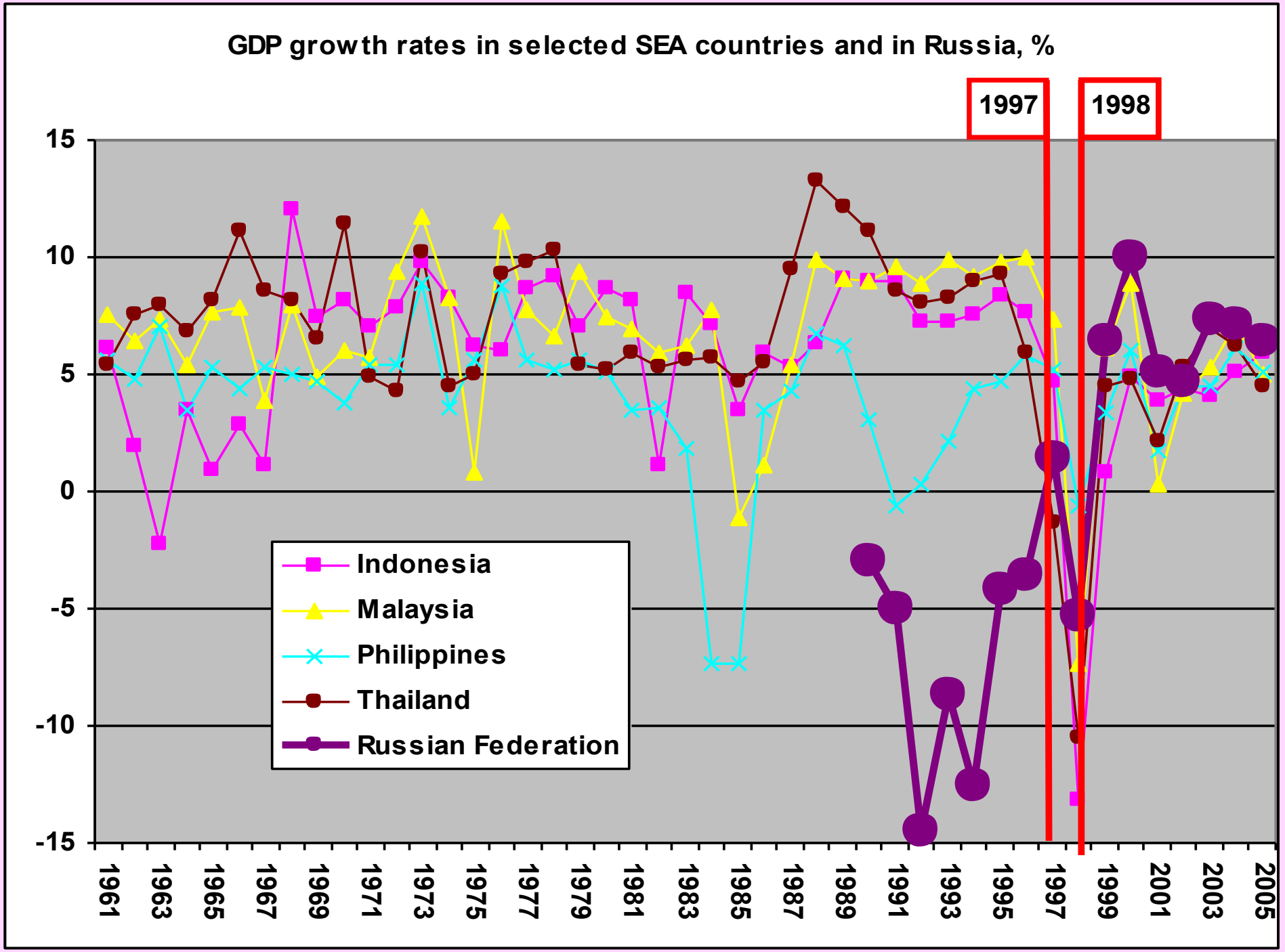
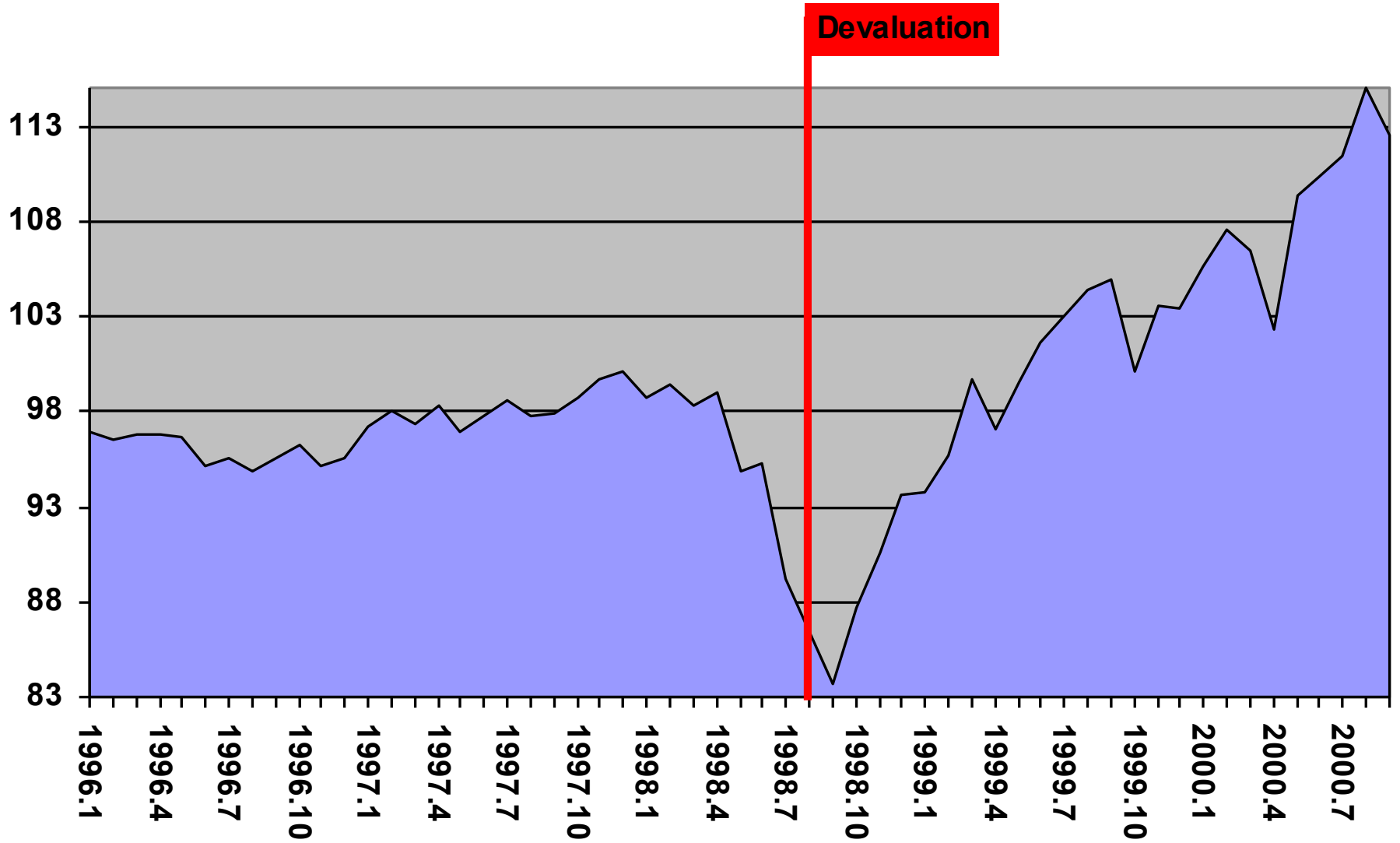
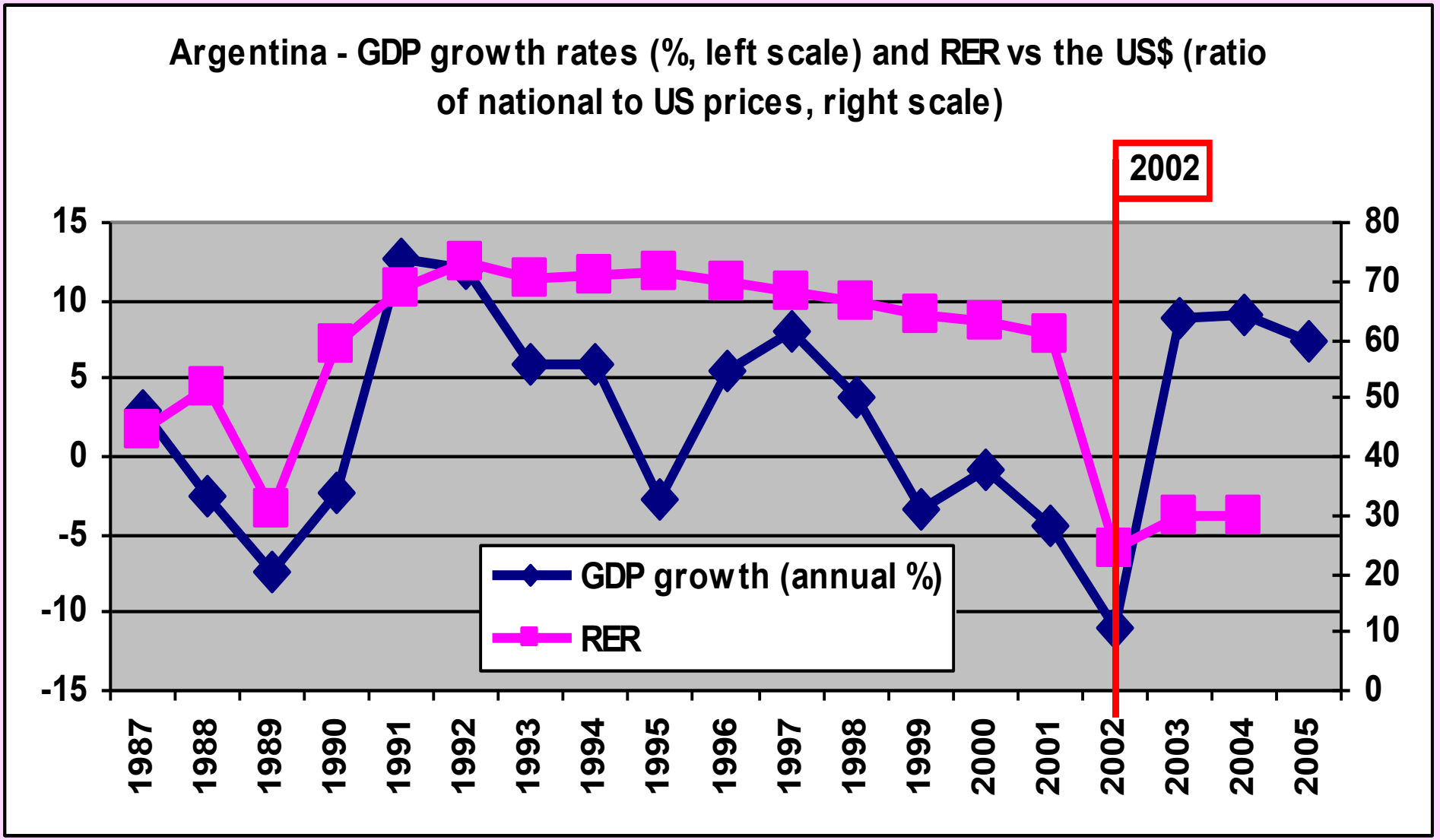
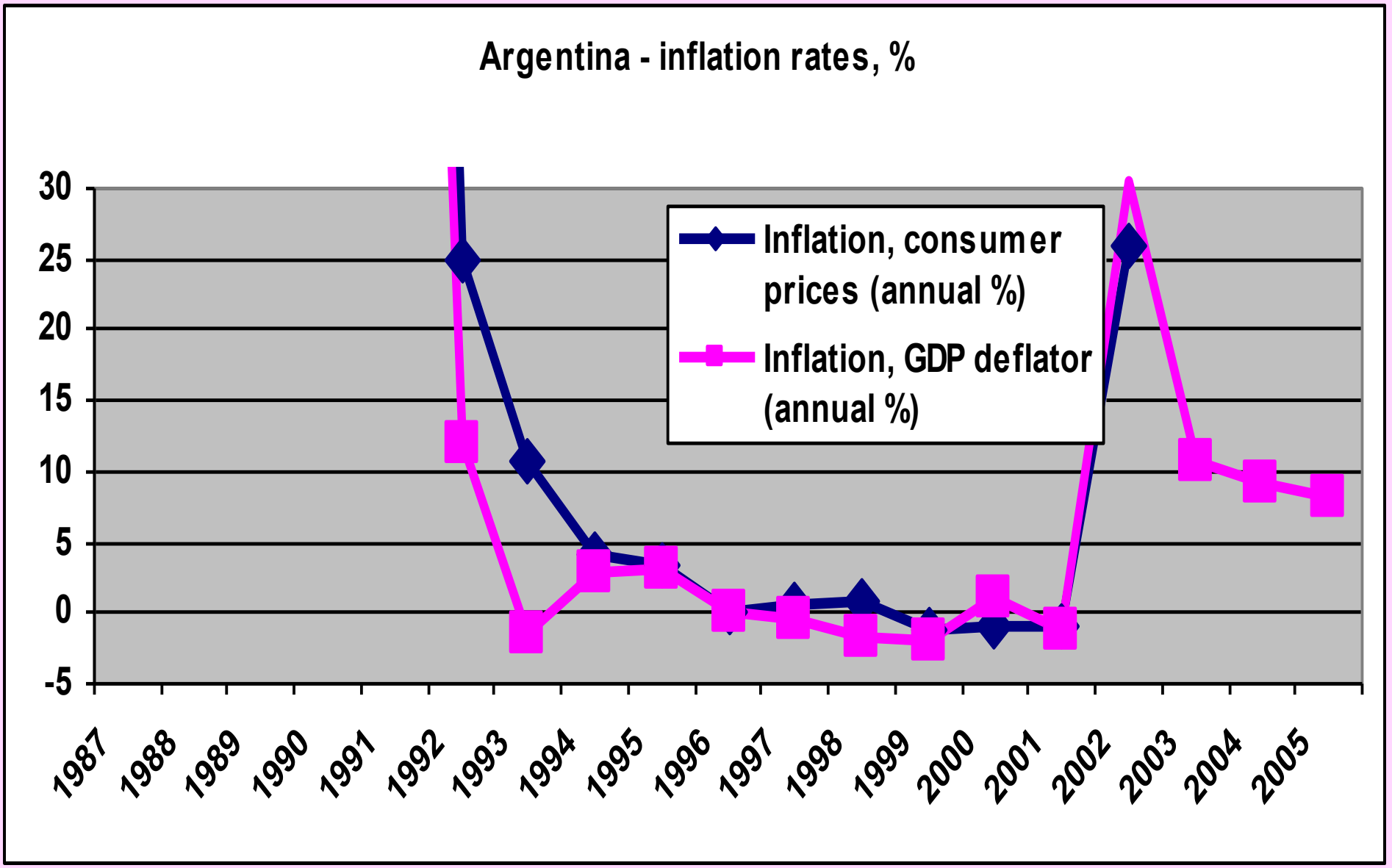

GDP growth rates in selected SEA countries and in Russia, %
1997
1998
15
10
5
0
-5
-10
-15
1961
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
Indonesia
Malaysia
Philippines
Thailand
Russian Federation

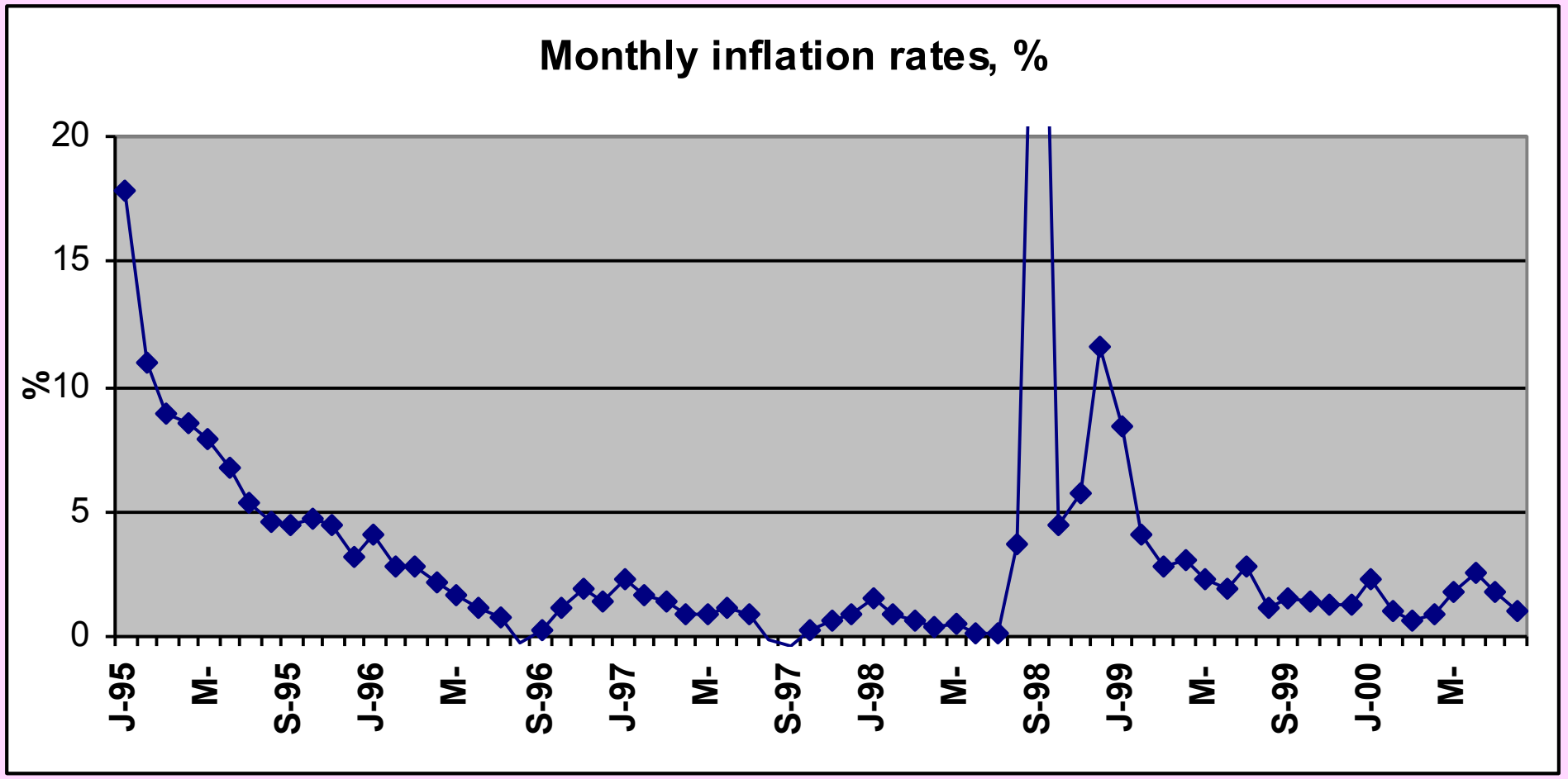
Fig. 12. Index of industrial output, seasonally adjusted, 1995 = 100%



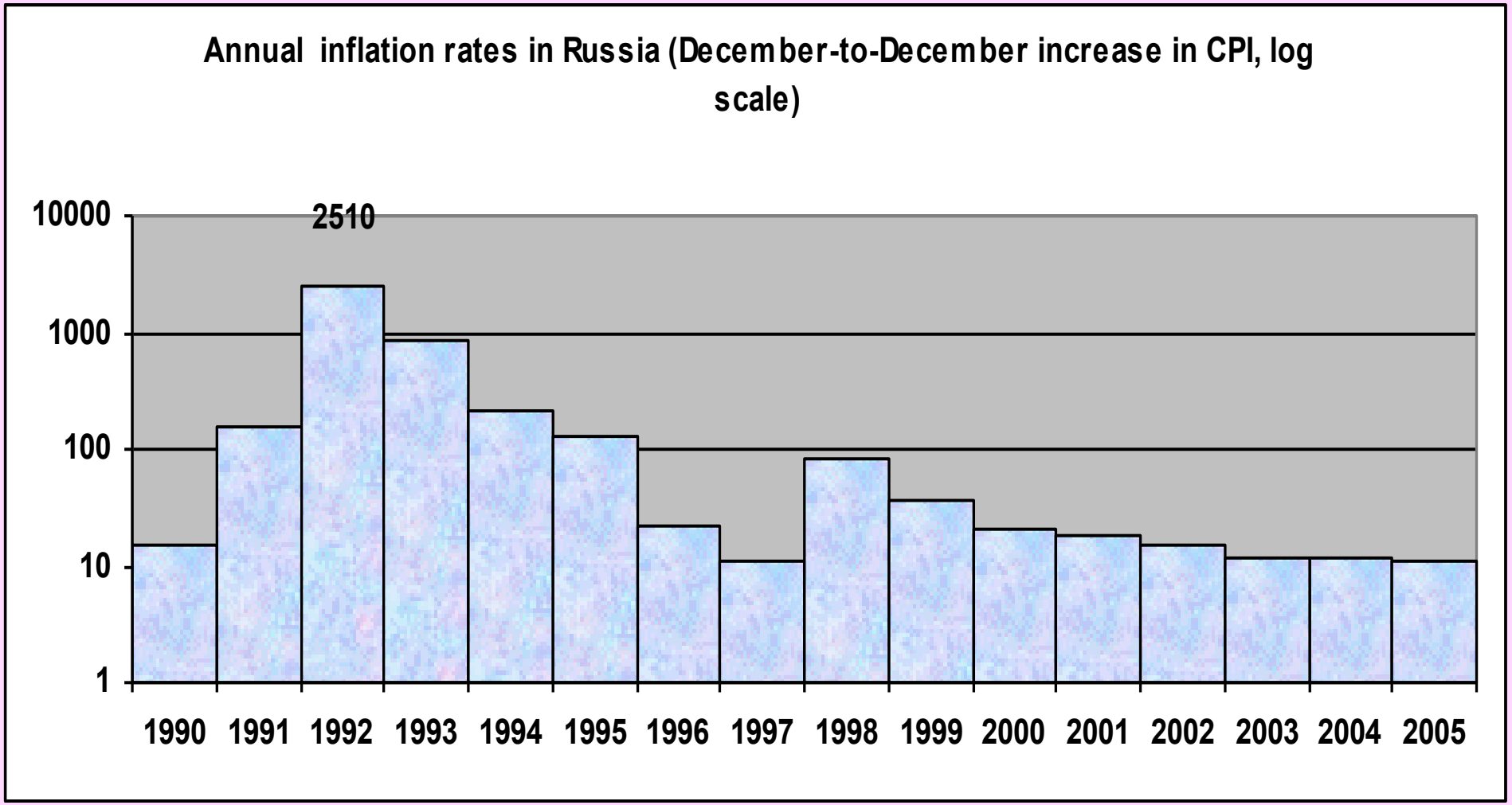
In Argentina, like in Russia, and unlike in SEA, output fell before devaluation (2002), not after




Argentina - inflation rates, %
30
25
20
15
10
5
0
-5
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
Inflation, consumer prices (annual %)
Inflation, GDP deflator (annual %)


Monthly inflation rates, %
20
15
10
5
0
%
J-95
M-
S-95
J-96
M-
S-96
J-97
M-
S-97
J-98
M-
S-98
J-99
M-
S-99
J-00
M-

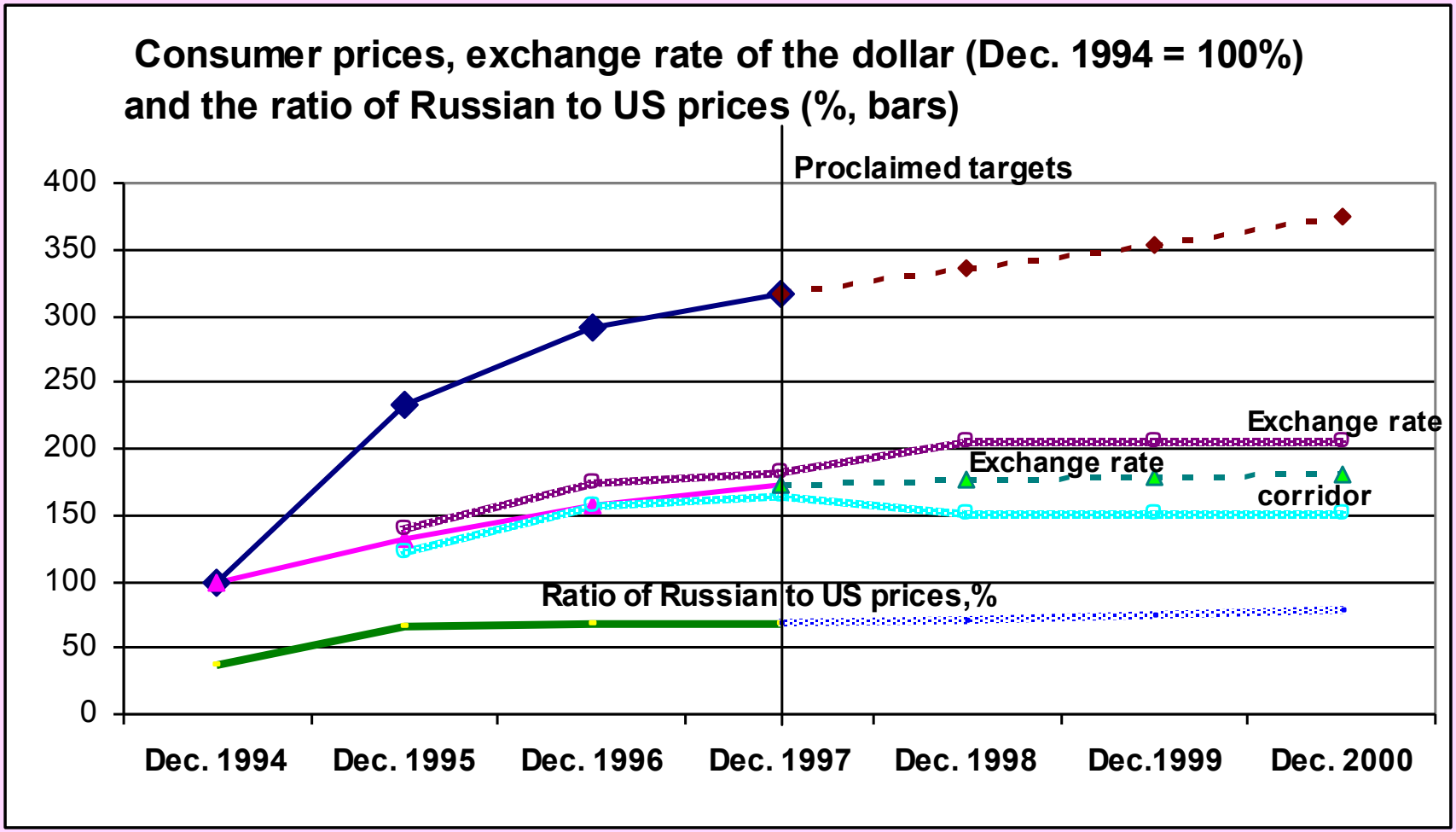
Inflation in Russia 1990-2005




GDP growth rates in Russia, %, 1990-2004
10
5
0
-5
-10
-15
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005

Macroeconomic stabilisation of 1995-98

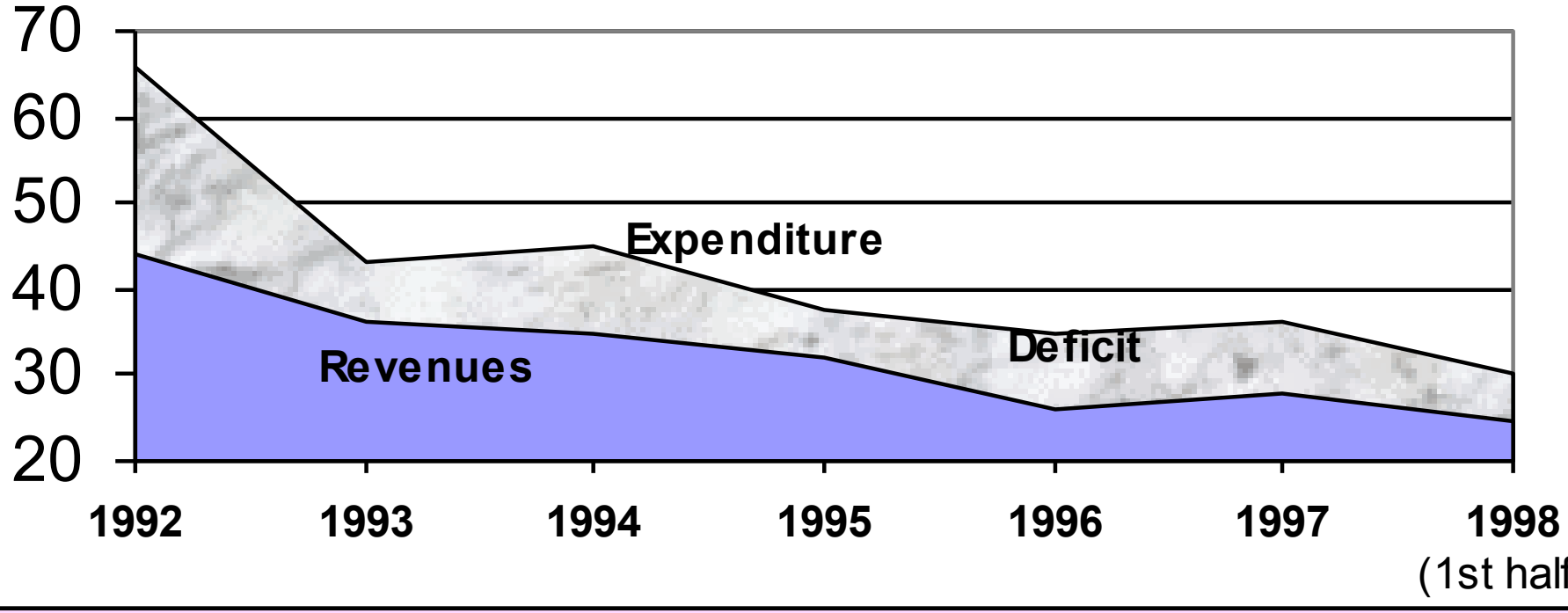
- High inflation of several hundred and more percent a year in 1992-94
  - during the period immediately following the deregulation of prices on January 2, 1992
- In mid 1995 the Central Bank of Russia (CBR) introduced a system of the crawling peg
  - an exchange rate corridor with initially pretty narrow boundaries
- The program of exchange rate based stabilization: to peg the exchange rate to the dollar and to use it as a nominal anchor for stabilization (prudent monetary policy)
- Pre-conditions: to contain within reasonable limits the government budget deficit and to find non-inflationary ways of its financing


Consumer prices, exchange rate of the dollar (Dec. 1994 = 100%)
and the ratio of Russian to US prices (%, bars)
Proclaimed targets
400
350
300
250
200
150
100
50
0
Exchange rate
Exchange rate
corridor
Ratio of Russian to US prices,%
Dec. 1994
Dec. 1995
Dec. 1996
Dec. 1997
Dec. 1998
Dec.1999
Dec. 2000

Macroeconomic stabilisation of 1995-98

- The government stood up to its promises for three long years:
- No increase in the budget deficit
  - Even though this required drastic expenditure cuts, since the budget revenues, despite all efforts to improve tax collection, continued to fall
- Finance the deficit mostly through borrowings
  - Selling short-term ruble denominated treasury bills (GKO)
  - Borrowing abroad in hard currency from international financial institutions, Western governments and banks and at the Eurobond market

Consolidated government revenues and expenditure, % of GDP



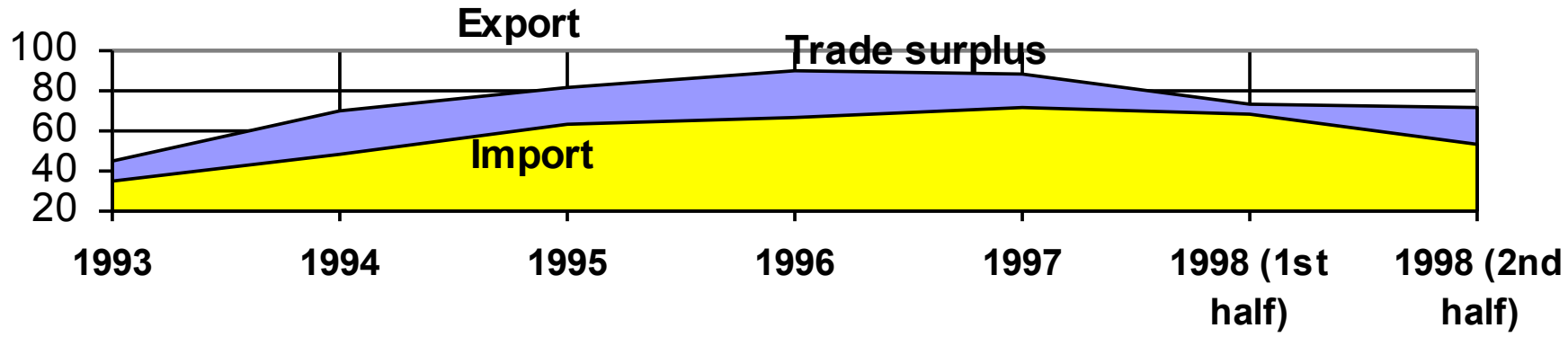
Weak foundations of 1995-98 exchange rate based stabilization

- Macroeconomic stabilisation was based on the overvalued exchange rate of the ruble
- No devaluation of the nominal rate in line with the ongoing inflation to keep the real exchange rate (RER) stable
- "Dutch disease" developed in Russia
  - In 1995 the exchange rate of the ruble approached some 70% of the PPP and stayed at this level until the 1998 currency crisis (whereas in 1992-94 it was 10-40%)

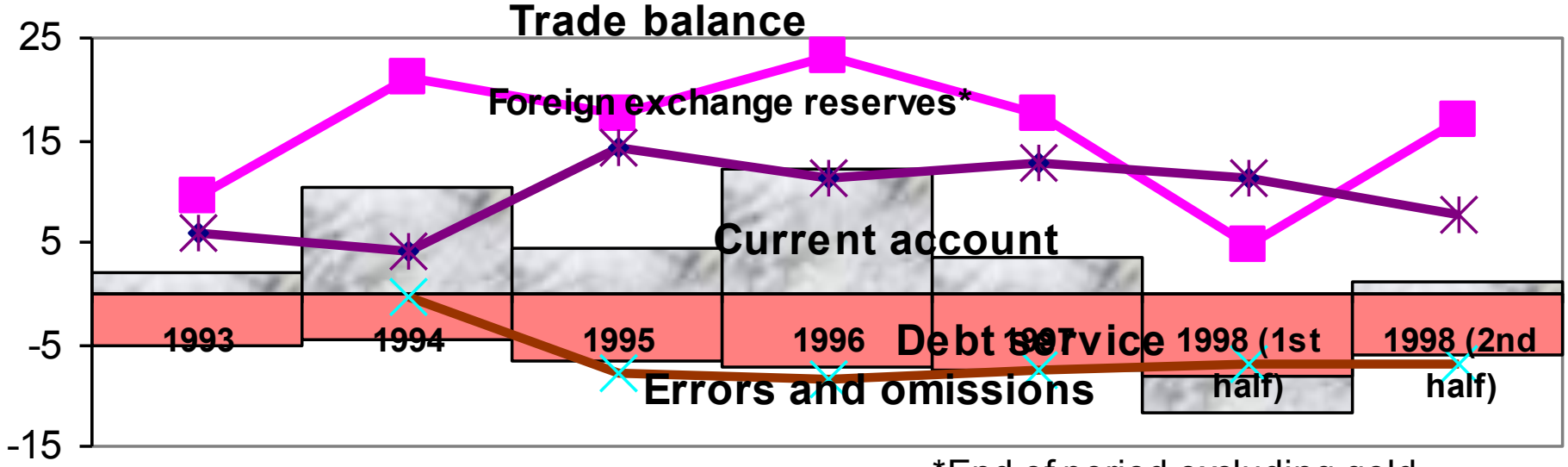
Weak foundations of 1995-98 exchange rate based stabilization

- Export growth rates slowed down substantially
  - from 20% in 1995 to 8% in 1996 - for total exports, and from 25% to 9% respectively - for exports to non-CIS states
  - In 1997 total exports fell for the first time since 1992
- The reduction of export accelerated in the first half of 1998 due to decrease in the oil prices in 1997-98
- The current account turned into negative in the first half of 1998
  - Given the need to service the debt and the continuation of the capital flight the negative current account was the sure recipe for disaster

Russia's foreign trade, billion dollars

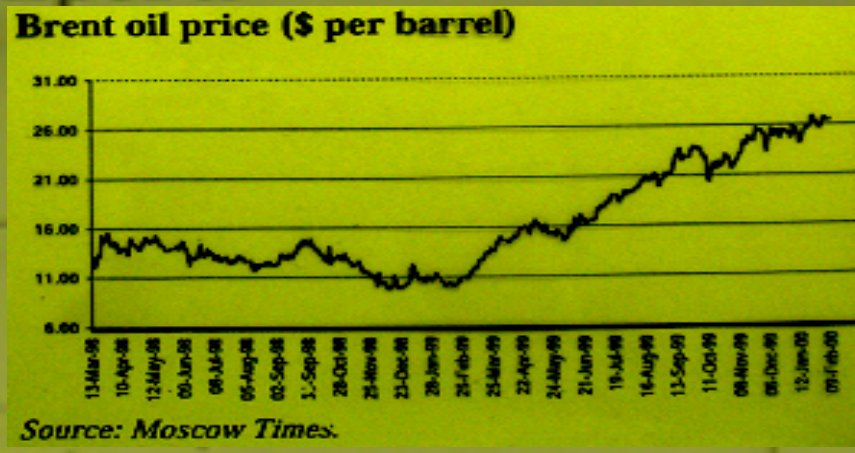


Russia's balance of payments and foreign exchange reserves*, billion dollars



*End of period,excluding gold

Merchandise exports and imports ($ bln, seasonally adjusted)



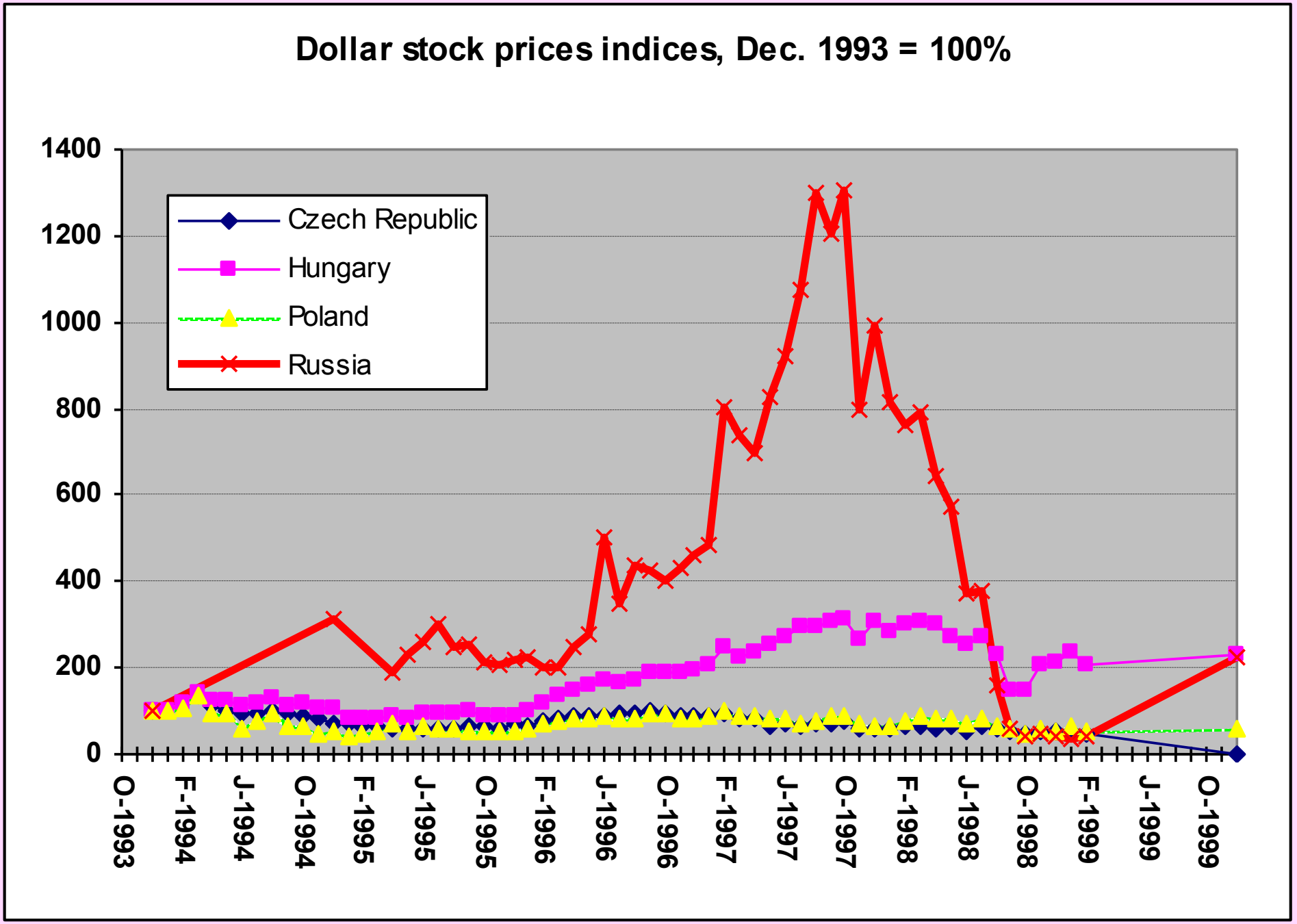
Source: Goskomstat.

Vulnerability of the ruble with respect to short-term capital flows

- Foreign investment into ruble denominated government treasury bills quickly increased to nearly 1/3 of $50 billion market for government treasury bills in 1997
- From February 1998 the total amount of T-bills held by the non residents started to exceed the value of the country's foreign exchange reserves
    - just like in Mexico since June 1994 the value of dollar denominated Tesobonos exceeded total reserves (but Tesobonos, unlike GKOs were denominated in dollars)

Vulnerability of the rouble with respect to short-term capital flows

- Foreign investors also started to withdraw from the Russian stock market
- They were estimated to control no less than 10% of the shares in the Russian stock market in the fall 1997
- In just about 9 months the stock prices in dollar terms fell by over 80% to the lowest level since 1994


Dollar stock prices indices, Dec. 1993 = 100%
1400
1200
1000
800
600
400
200
0
Czech Republic
Hungary
Poland
Russia
O-1993
F-1994
J-1994
O-1994
F-1995
J-1995
O-1995
F-1996
J-1996
O-1996
F-1997
J-1997
O-1997
F-1998
J-1998
O-1998
F-1999
J-1999
O-1999

At the eve of the crisis

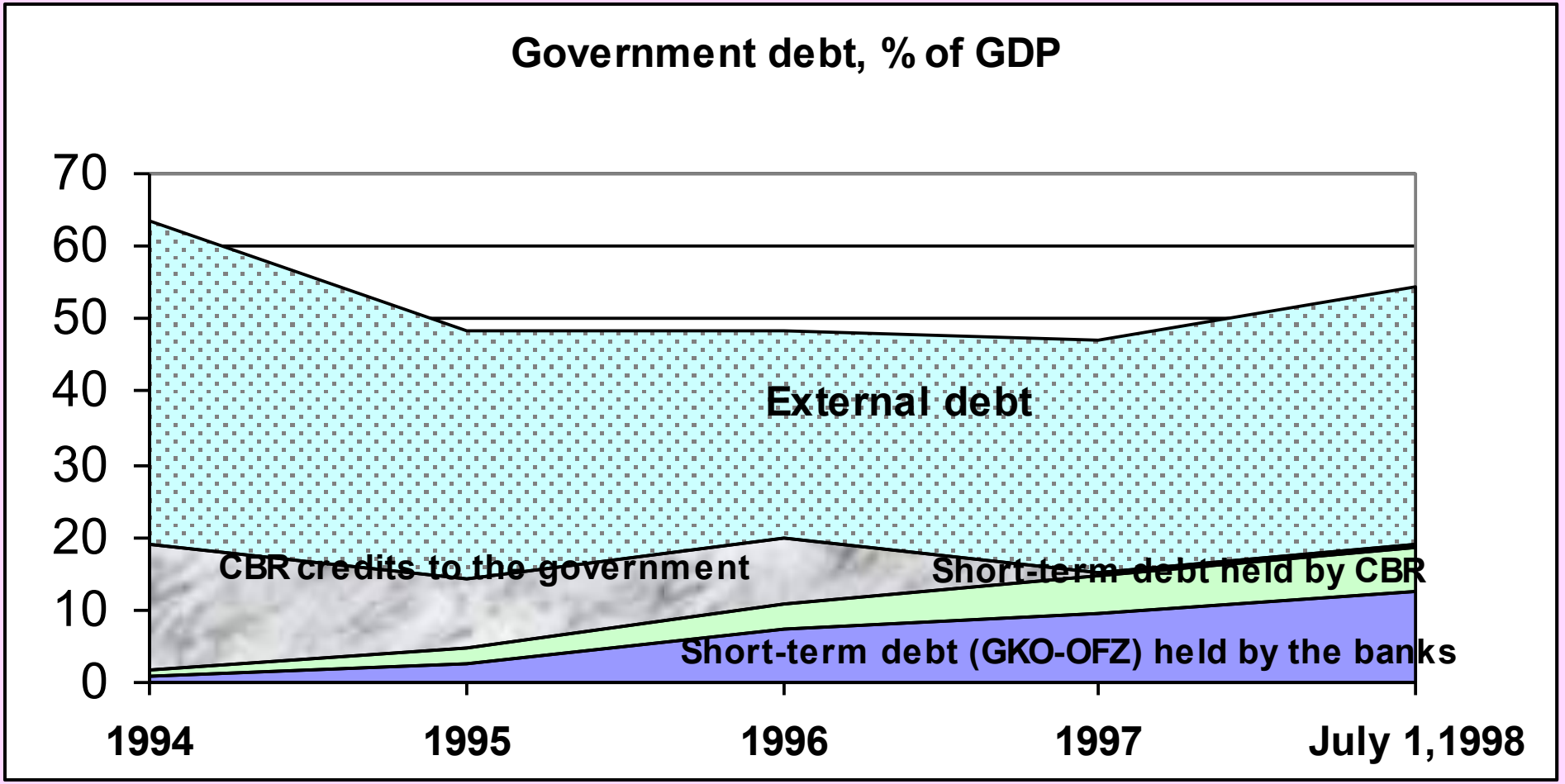
- Slight expansion of the width of the exchange rate band in the beginning of 1998 did not provide enough room for maneuver
- Yields on government securities remained at a level of nearly 50% in real terms and then again increased to over 100% in August
- Maintaining high interest rates eliminated all prospects for economic recovery
- In July 1998 the IMF provided the first instalment ($4 billion) of the $20 billion dollar package that went directly to the CBR to replenish vanishing foreign exchange reserves

Managing the August 1998 crisis

- It was not so difficult to predict the crisis
  - Quite a number of scholars did so several months ahead of time. Even J. Sachs proposed devaluation in May
- What virtually nobody was able to predict, is the way the Russian government handled the devaluation
  - i.e. by declaring the default on domestic debt and part of the international debt held by banks and companies

There was no debt crisis

- Indebtedness of the Russian government in pre-crisis years was growing, but not that significantly as compared to GDP
- Total government debt by mid 1998 has not even reached the threshold of 60% of GDP
- Absolute value of the outstanding short term debt held by the foreigners was by no means substantial - only $15-20 billion.



Source: Russian Economy. The Month in Review. No. 1, 1998. Bank of Finland, Institute for Economies in Transition; Goskomstat.

The markets anticipated devaluation, not default

- **Country risk:** the risk associated with the default by the government of this particular country
  - The difference between the rates at which the Russian government borrowed abroad in hard currency (returns on Eurobonds were around 15%) and the rates offered to the prime borrowers (3-5%)
- **Currency risk:** the risk associated with the devaluation
  - The gap between returns on ruble denominated bonds (about 100% in real terms) and Eurobonds (15%)
- Country risk was much lower than currency risk (country risk was roughly the same as for emerging markets - Argentina, Mexico, Thailand)

Banking crisis

- Banks were badly hurt by the devaluation
- And also by the default
  - They held a considerable portion of their assets in short-term government securities, on which the government defaulted
  - Lost opportunities for external financing after the government imposed a 90 days moratorium on servicing their external debts
- The CBR in early September introduced a scheme to guarantee personal deposits in commercial banks, which implied losses for the depositors, especially for the holders of dollar accounts at private banks
- Developing paralysis of the banking system - in September 1998 banks were hardly processing any payments

After the crisis

- Boom in industry
- After devaluation domestic producers are taking advantage of new export opportunities and the shift in demand from foreign to Russian made goods
- Devaluation of the previously overvalued currency restored the previously lost competitiveness
- Output was falling in the beginning of 1998, but started to grow in October (unlike in East Asia, where output fell after the currency crises)

Fig. 12. Index of industrial output, seasonally adjusted, 1995 = 100%

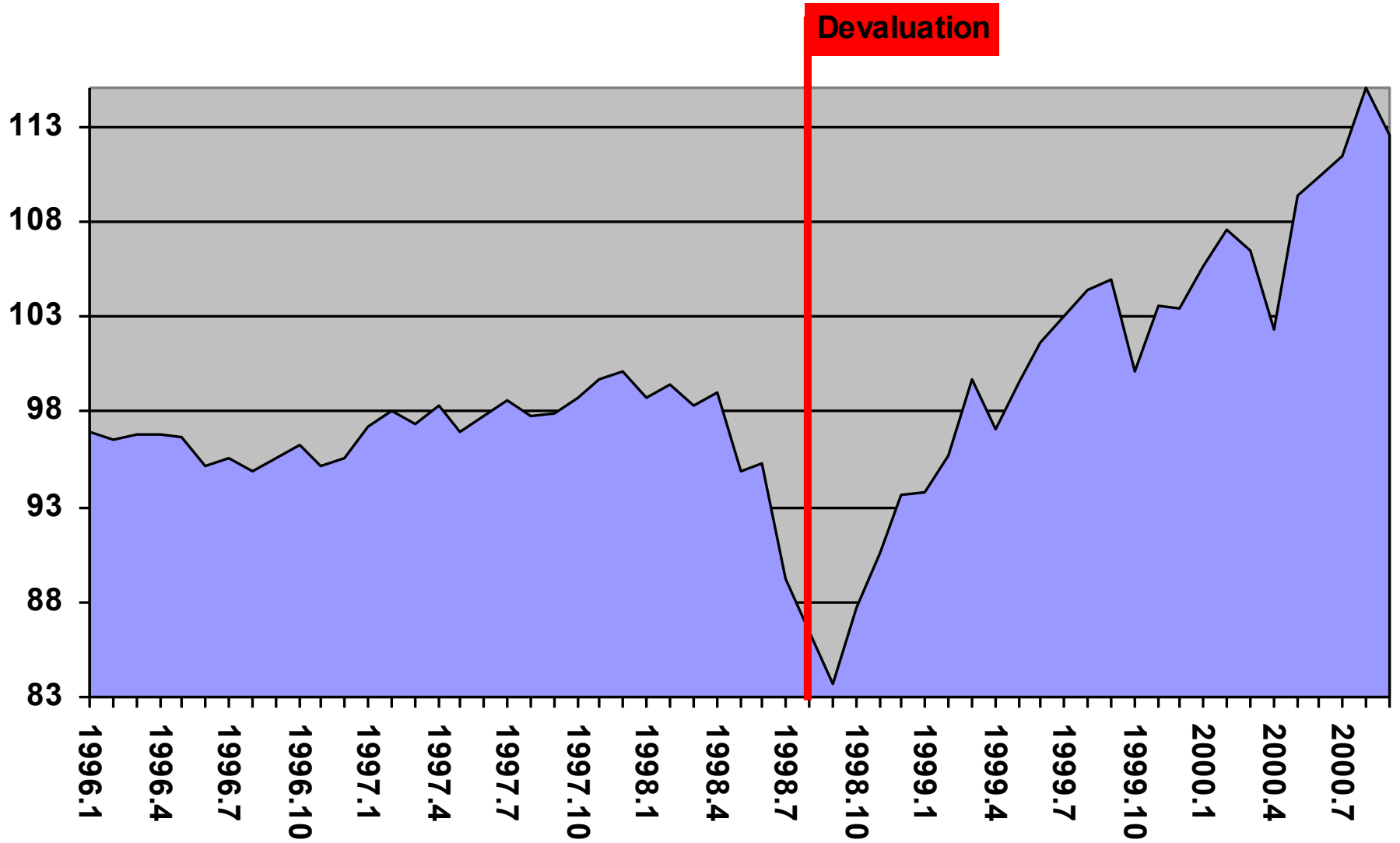
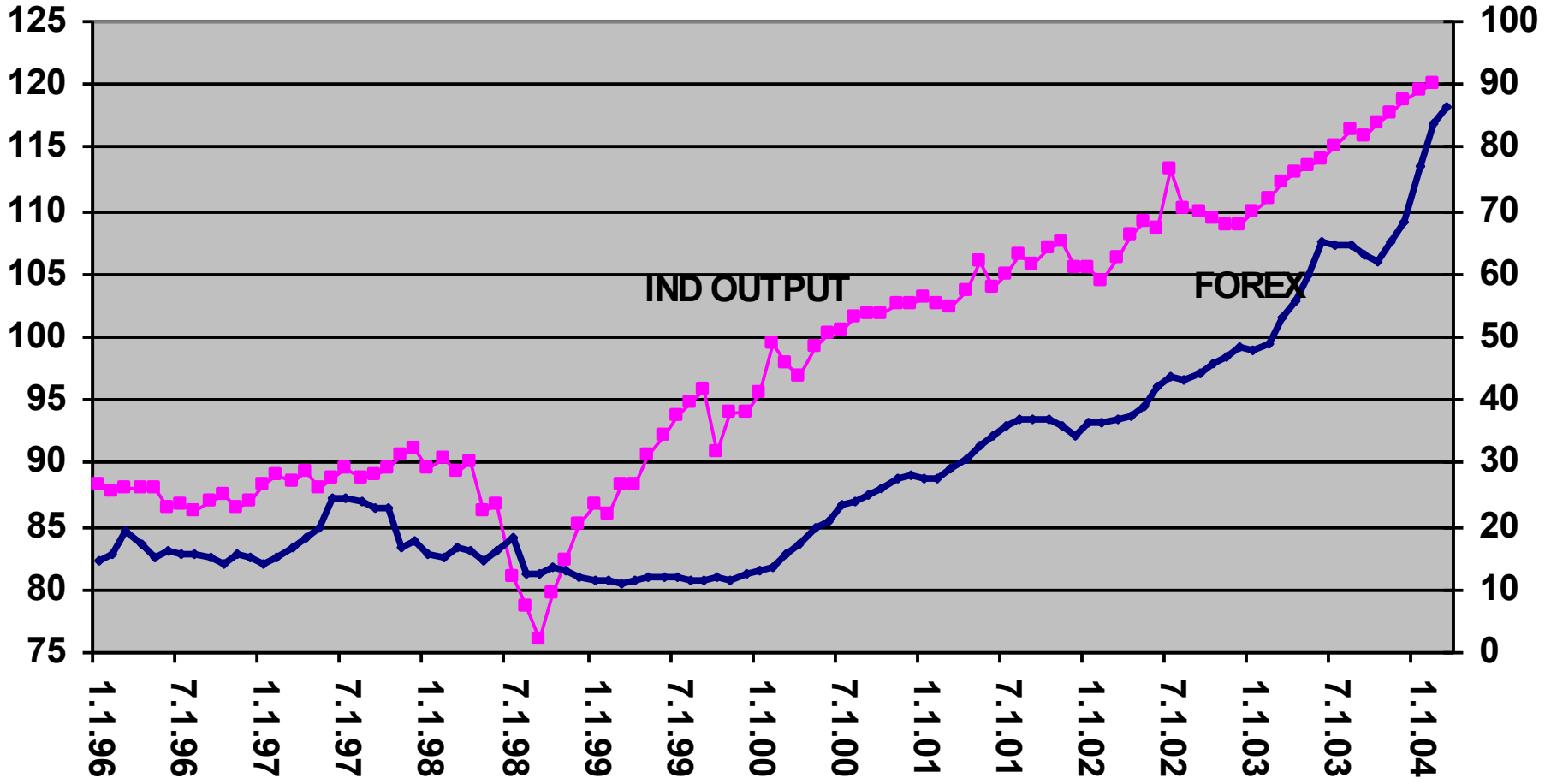
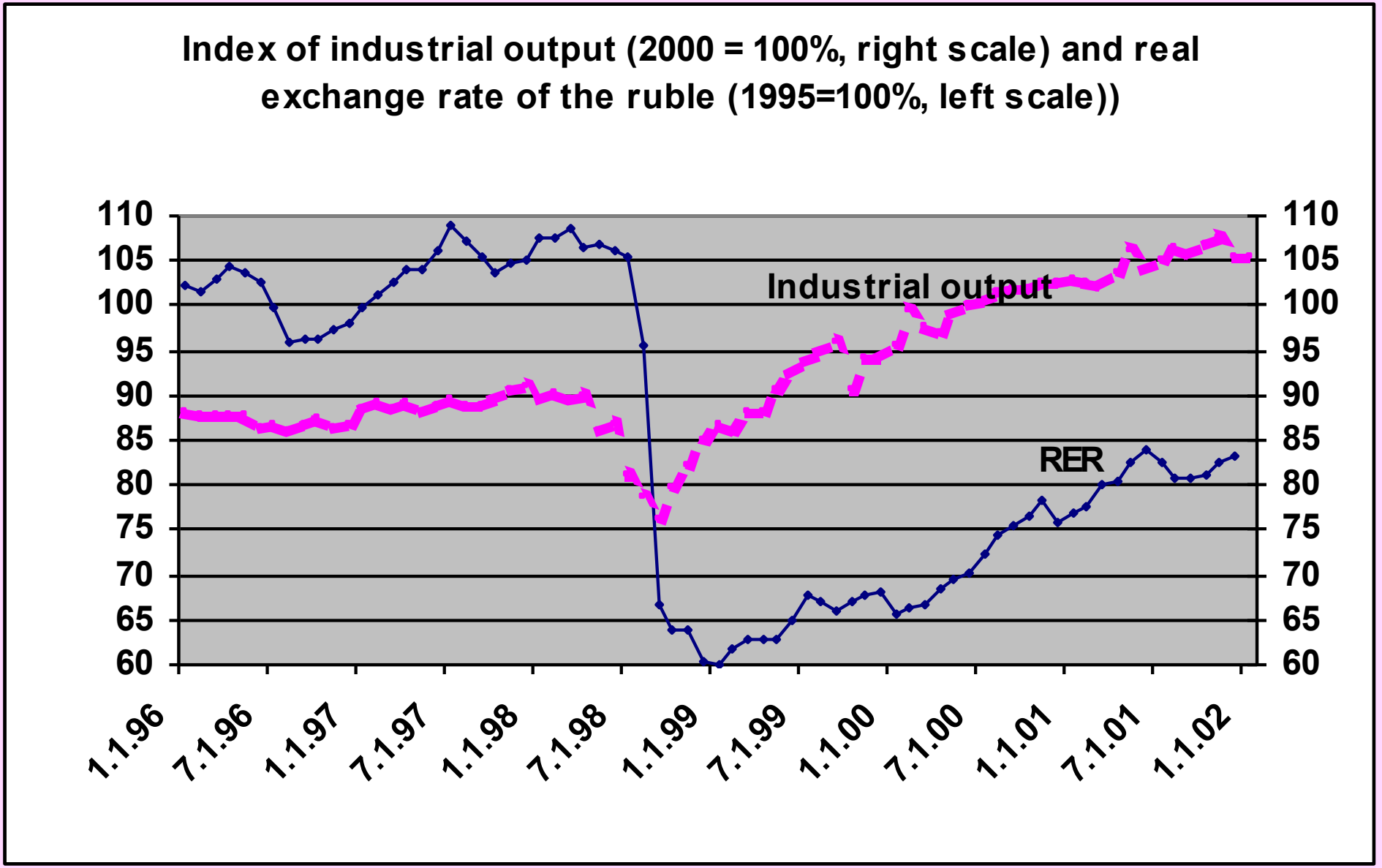


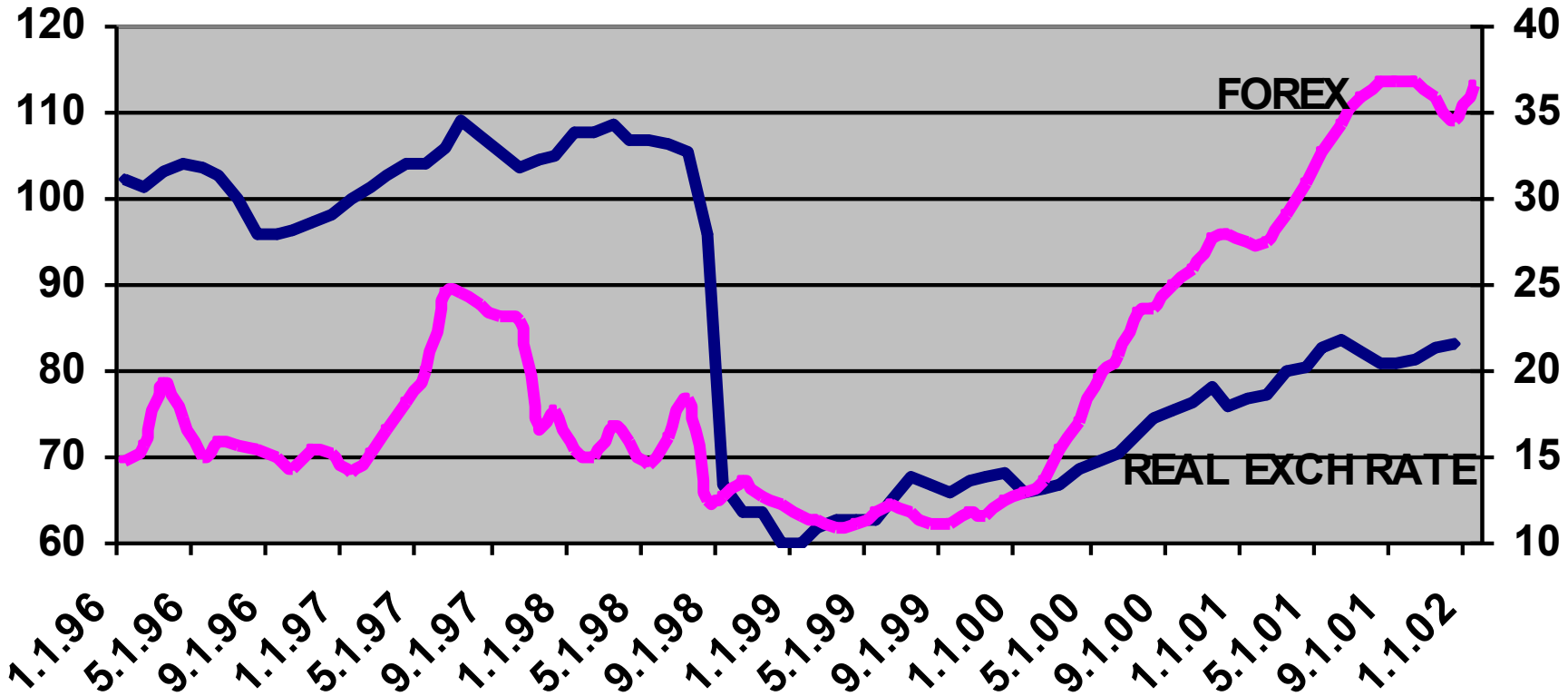
Fig. 2. Index of industrial output (2000 = 100%, left scale) and foreign exchange reserves, bln dollars (right scale)



Source: Russian Economic Trends, Goskomstat, CBR.


Index of industrial output (2000 = 100%, right scale) and real exchange rate of the ruble (1995=100%, left scale))
110
105
100
95
90
85
80
75
70
65
60
Industrial output
RER
1.1.96
7.1.96
1.1.97
7.1.97
1.1.98
7.1.98
1.1.99
7.1.99
1.1.00
7.1.00
1.1.01
7.1.01
1.1.02

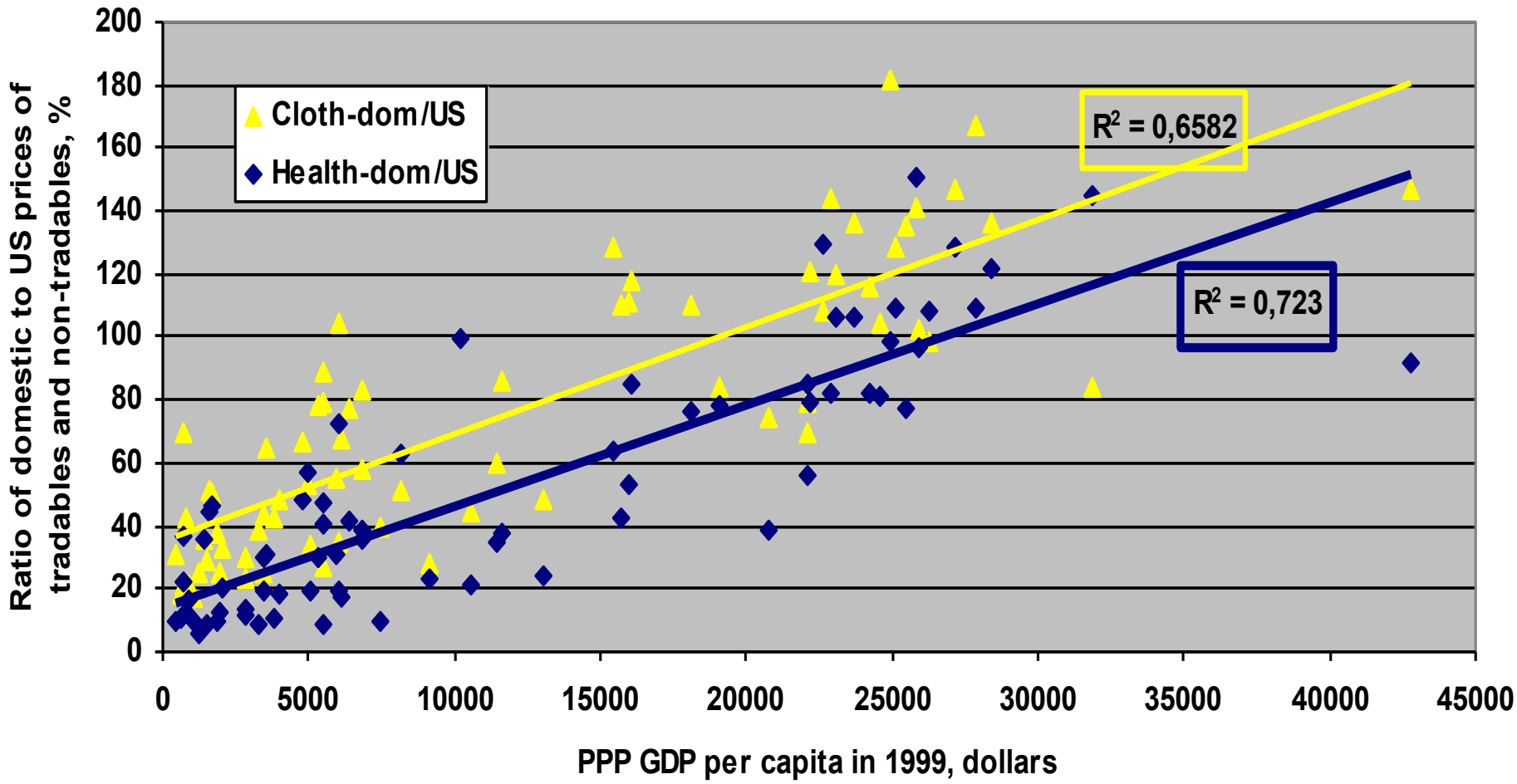
Foreign exchange reserves and real exchange rate of the ruble (1995=100%)



Alternative explanations of the Russian crisis

- Unfortunate coincidence of events (Asian virus, a drop in oil prices, political instability, etc.)
- Balassa-Samuelson effect
- Budgetary problems –“the GKO pyramid”
- Crony and criminal nature of the Russian capitalism

Is there a Balassa-Samuelson effect?



Is there a Balassa-Samuelson effect?

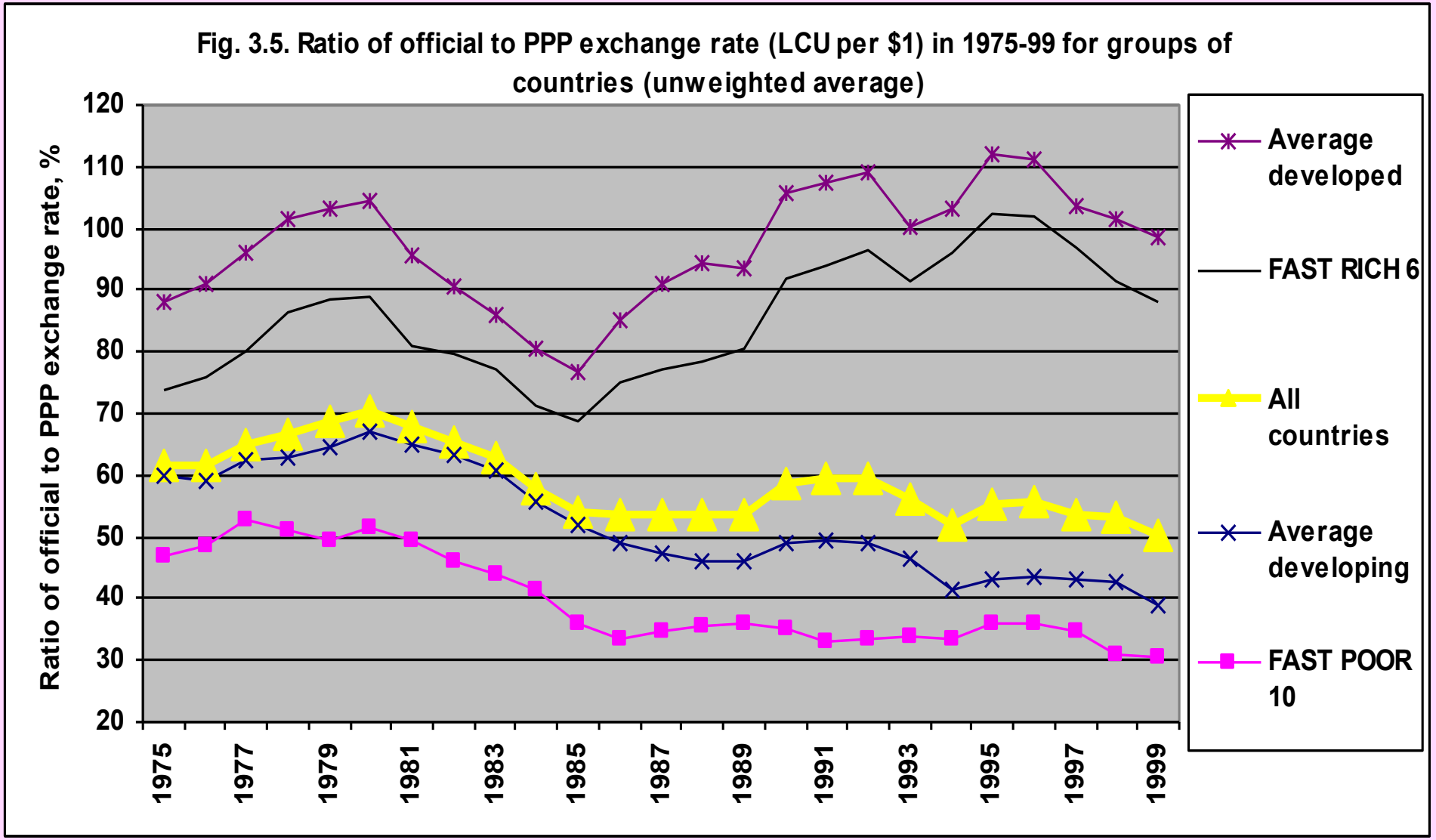


Table. Ratio of the actual exchange rate to the PPP rate of the dollar for selected economies in transition (range of monthly averages)

Country /Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Slovenia	0.9-1.4	1.0-1.7	1.4-1.6	1.4-1.6	1.3-1.6	1.1-1.3	1.3-1.3	1.4-1.5	1.3-1.5	1.3-1.5
Hungary	1.9-2.4	1.9-2.0	1.7-1.8	1.6-1.8	1.6-1.8	1.5-1.6	1.7-1.8	1.6-1.8	1.7-1.8	1.7-1.8
Poland	2.1-3.9	1.6-1.9	1.8-2.0	1.8-2.0	2.1-2.3	1.8-2.0	1.8-1.8	1.8-2.1	1.8-2.0	1.9-2.1
Czech Republic	2.5-3.8	3.5-3.1	2.7-3.1	2.5-2.6	2.2-2.5	2.0-2.2	1.9-2.0	2.0-2.3	1.8-2.3	1.9-2.3
Slovak Republic	2.9-3.9	3.0-3.6	2.9-3.0	2.6-2.8	2.4-2.7	2.1-2.3	2.1-2.2	2.3-2.4	2.2-2.4	2.3-2.7
Croatia								1.7-1.9	1.7-1.9	1.8-2.0
Lithuania	-	-	-	-	2.4-3.2	1.8-2.3	1.7-1.8	1.5-1.6	-	-
Romania	1.8-2.6	1.6-5.0	2.8-4.2	2.2-3.1	2.1-2.6	2.1-2.5	2.4-2.6	2.0-3.3	1.7-2.0	2.0-2.3
Bulgaria	3.3-5.1	2.9-10.9	3.0-4.7	2.3-2.8	2.3-3.1	1.8-2.2	1.9-2.8	1.7-3.2	1.6-1.8	1.6-1.9
Ukraine	-	-	-	-	-	1.8-2.5	1.3-1.7	1.3-1.4	1.3-2.1	2.0-2.7
RUSSIA	-	33.0-131.(	10.2-45.7	2.5-8.0	2.4-2.8	1.4-2.4	1.4-1.5	1.4-1.5	1.5-2.8	2.7-2.9

Source: PlanEcon.

Currency crises: theory and evidence

- ***Balance of payments (currency) crisis***
  - ***results from inconsistency of macroeconomic policy objectives***
- ***The government debt crisis (over-accumulation of government debt)***
- ***Debt crisis of the private sector (overaccumulation of private sector debt)***
- ***How the three types of the currency crises interact***

Balance of payments (currency) crisis

- Precondition: peg of the exchange rate by the central bank or the attempts to maintain the flexible rate at an unsustainable level (dirty float)
- Due to the expansionary monetary policy or due to inflexibility of prices, domestic prices increase faster than foreign (RER appreciates =>

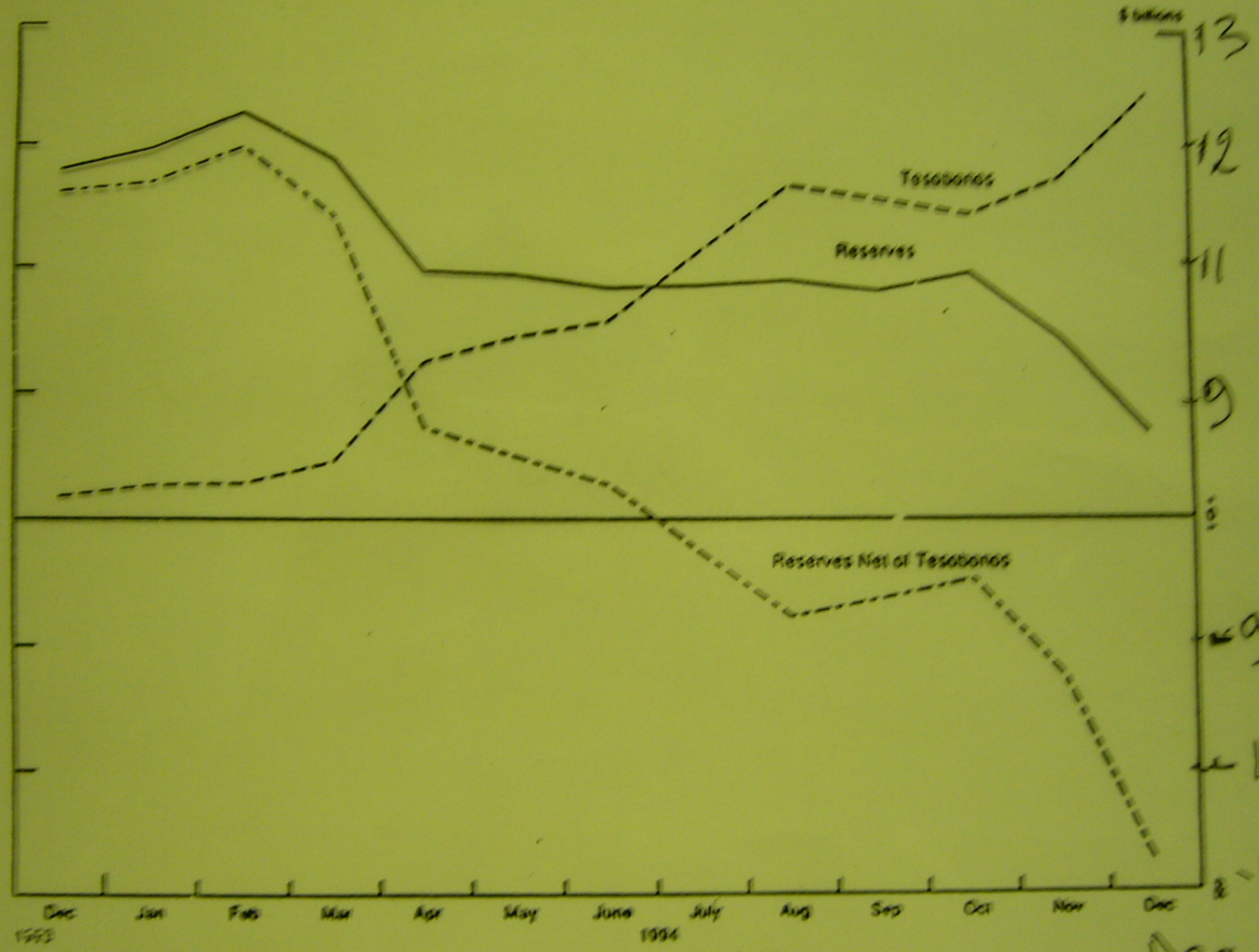
  =>current account deteriorates (and capital account also, if monetary policy is expansionary) => the demand for foreign exchange exceeds supply, FOREX fall =>

  => the downward pressure on the currency emerges and subsequently leads to devaluation

The government debt crisis

- Increase in the government debt leading to inability of the government to honour its' debt obligations
- If the debts are denominated in foreign currency, the outflow of capital in the expectation of the default and/or devaluation follows, leads to the reserve depletion and triggers devaluation
- If the obligations are denominated in domestic currency, investors are afraid of the inflationary financing of the public deficits (leading to inflation and devaluation) and switch to foreign exchange

CHART 7: MEXICAN INTERNATIONAL RESERVES AND TESOBONOS OUTSTANDING



Russian roulette

Russian treasury bills and reserves

$bn

Source: Brunswick Warburg

Debt crisis of the private sector

- Occurs due to over-accumulation of private debt (of banks and companies), even if macroeconomic fundamentals are sound (low budget deficit and government debt, low inflation, low RER)
- Lawson doctrine - the government should look after its own fundamentals, whereas the private sector will internalize the costs of risky borrowing and lending
- Occurred in 1997-98 in East Asia
- Outflow of private capital, decrease in FOREX, currency crisis, even if RER is not overvalued
- Such currency crisis is more a symptom than a cause of this underlying real disease - inability of the private sector to ensure prudent lending and borrowing

The new - “Soros type” - currency crisis: inability of the national governments and international financial institutions to withstand the pressure of currency speculators

- Malaysian prime minister accused G. Soros of undermining the national currency
- Whether he was right or wrong, we do not know, but “Quantum funds” with assets of over $100 billion had an opportunity to do it because Malaysian reserves before the crisis were only several dozen billion dollars
- The need for the new international financial architecture: the regulatory capacity of national governments and IFIs is currently not sufficient to control the volatility resulting from huge international capital flows

Exchange rate policy for transition and developing economies

- Substantial appreciation of the real exchange rate in transition economies after deregulation of prices
- In most countries real appreciation by the mid 1990s slowed down
- in 1996-98 8 post-communist countries have witnessed the collapse of their currencies
    - Bulgaria, Romania, Belarus, Ukraine, Russia, Kyrghyzstan, Georgia and Kazakhstan - in chronological order
- Overappreciation of exchange rates should be held responsible for those crises

Ratio of the actual exchange rate to the PPP rate of the dollar for selected economies in transition (range of monthly averages)

Country /Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Slovenia	0.9-1.4	1.0-1.7	1.4-1.6	1.4-1.6	1.3-1.6	1.1-1.3	1.3-1.3	1.4-1.5	1.3-1.5	1.3-1.5
Hungary	1.9-2.4	1.9-2.0	1.7-1.8	1.6-1.8	1.6-1.8	1.5-1.6	1.7-1.8	1.6-1.8	1.7-1.8	1.7-1.8
Poland	2.1-3.9	1.6-1.9	1.8-2.0	1.8-2.0	2.1-2.3	1.8-2.0	1.8-1.8	1.8-2.1	1.8-2.0	1.9-2.1
Czech Republic	2.5-3.8	3.5-3.1	2.7-3.1	2.5-2.6	2.2-2.5	2.0-2.2	1.9-2.0	2.0-2.3	1.8-2.3	1.9-2.3
Slovak Republic	2.9-3.9	3.0-3.6	2.9-3.0	2.6-2.8	2.4-2.7	2.1-2.3	2.1-2.2	2.3-2.4	2.2-2.4	2.3-2.7
Croatia								1.7-1.9	1.7-1.9	1.8-2.0
Lithuania	-	-	-	-	2.4-3.2	1.8-2.3	1.7-1.8	1.5-1.6	-	-
Romania	1.8-2.6	1.6-5.0	2.8-4.2	2.2-3.1	2.1-2.6	2.1-2.5	2.4-2.6	2.0-3.3	1.7-2.0	2.0-2.3
Bulgaria	3.3-5.1	2.9-10.9	3.0-4.7	2.3-2.8	2.3-3.1	1.8-2.2	1.9-2.8	1.7-3.2	1.6-1.8	1.6-1.9
Ukraine	-	-	-	-	-	1.8-2.5	1.3-1.7	1.3-1.4	1.3-2.1	2.0-2.7
RUSSIA	-	33.0-131.0	10.2-45.7	2.5-8.0	2.4-2.8	1.4-2.4	1.4-1.5	1.4-1.5	1.5-2.8	2.7-2.9

Source: PlanEcon.

Exchange rate policy for transition and developing economies

- Undervaluation of domestic currency is a common feature for most developing and transition countries
  - **Balassa-Samuelson effect**
  - **poor countries usually need to earn a trade surplus to finance debt service payments and capital flight**
  - **Some prices are controlled in developing countries**
  - **Investment climate is worth, the provision of public goods per capita is lower**
  - **Many developing countries pursue the conscious policy of low exchange rate as part of their general export orientation strategy**
    - **This used to be the strategy of Japan, Korea, Taiwan and Singapore some time ago**
    - **This is currently the strategy of many new emerging market economies, especially that of China**

Exchange rate policy for transition and developing economies

- Two major reasons for relatively low level of real exchange rates
  - Objective: the generally lower level of development - low prices for non-tradables, the burden of capital flight and debt service payments, etc.
  - Policy-related: the governments'/central banks' conscious policy to underprice the exchange rate in order to use it as a instrument of export-oriented growth (policy factor)

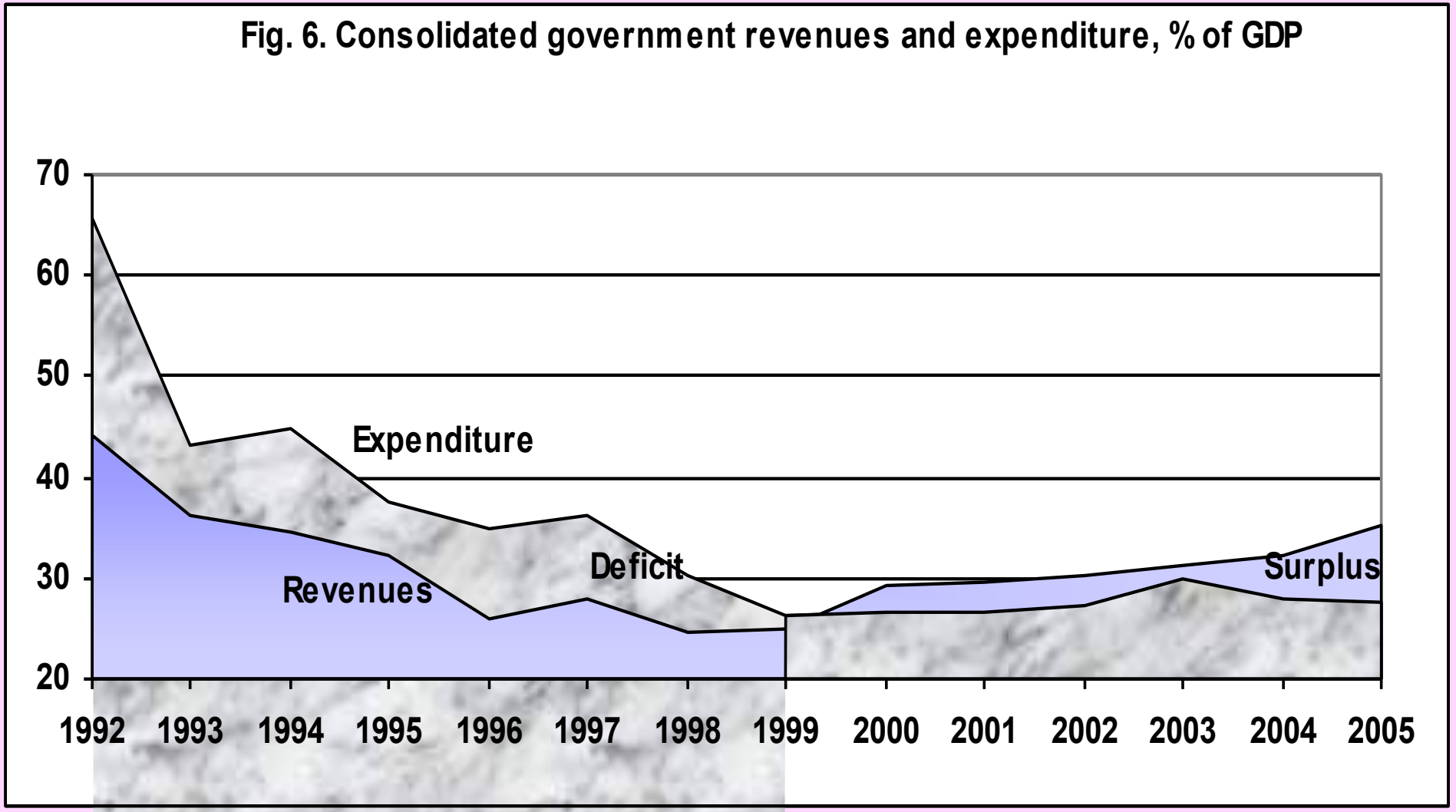
Exchange rate policy for transition and developing economies

- The policy of keeping the real exchange rate stable, instead of pegging the nominal rate, appears to appeal more to policy makers after the currency crises of 1996-98
- Money-based stabilisation has been successful in quite a number of countries (Albania, Slovenia, Croatia, FYR Macedonia)
- Political obstacles for adopting economically optimal policy - macroeconomic populism: high RER allows to increase imports and consumption
    - An exchange rate overvaluation occurred in Russia and other transition economies despite the experience of other (Latin American) countries and despite the understanding that such a policy may have ruinous consequences

Policy lessons for transition economies

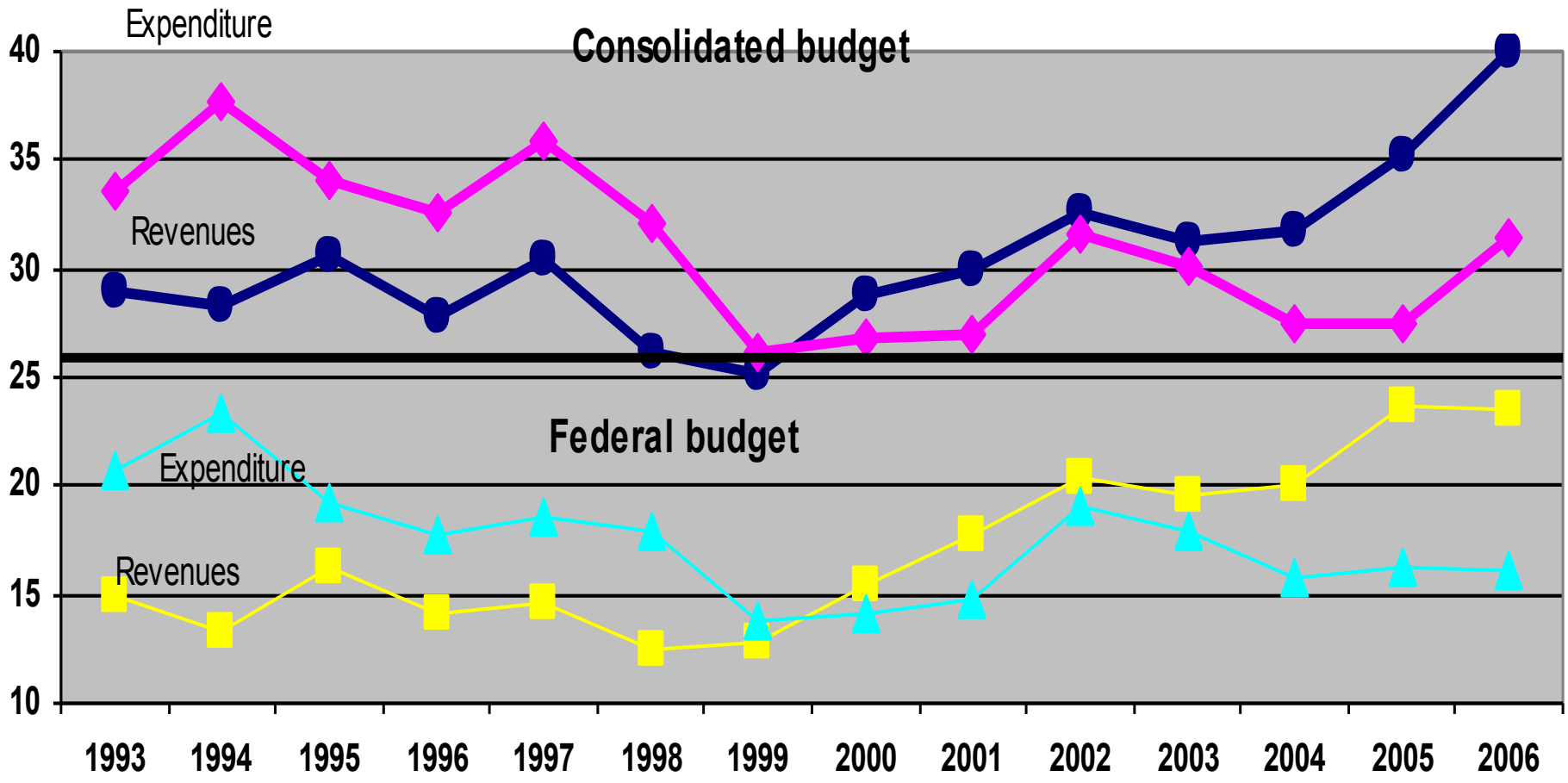
- Avoid real exchange rate appreciation that led to current currency crises
- Exchange rate based stabilization as an instrument of fighting inflation may be good for 1 year; afterwards it is prudent to switch to more flexible regime
- Avoid the increase in external indebtedness, that led to government debt crises in Latin American countries in early 1980s and in 1994
- Avoid the increase in private sector debt (Southeast Asia in 1997-98)
- Twin liberalizations: capital account convertibility and deregulation of domestic financial system may lead to currency crisis

Macroeconomic policy after the crisis



Russia missed the opportunity to use the windfall profits from oil and gas exports to repair the damage done to the public spending in the 1990s

Fig. 3. Government budget revenues and expenditure, % of GDP



Macroeconomic policy after the crisis

Fig. 5. Real effective exchange rate, Dec. 1995=100%(left scale), and year end gross foreign exchange reserves, including gold, bln. $ (right log scale)

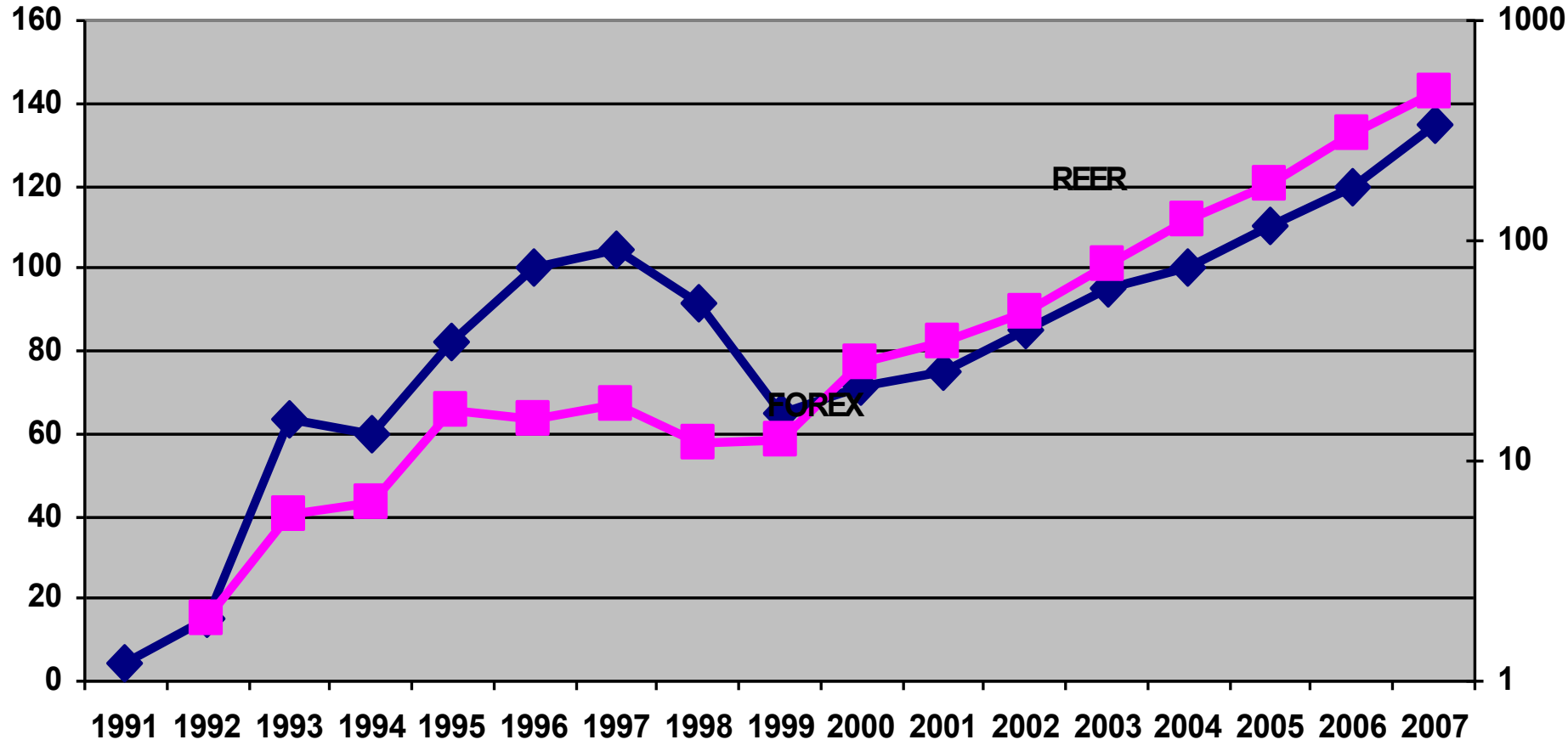
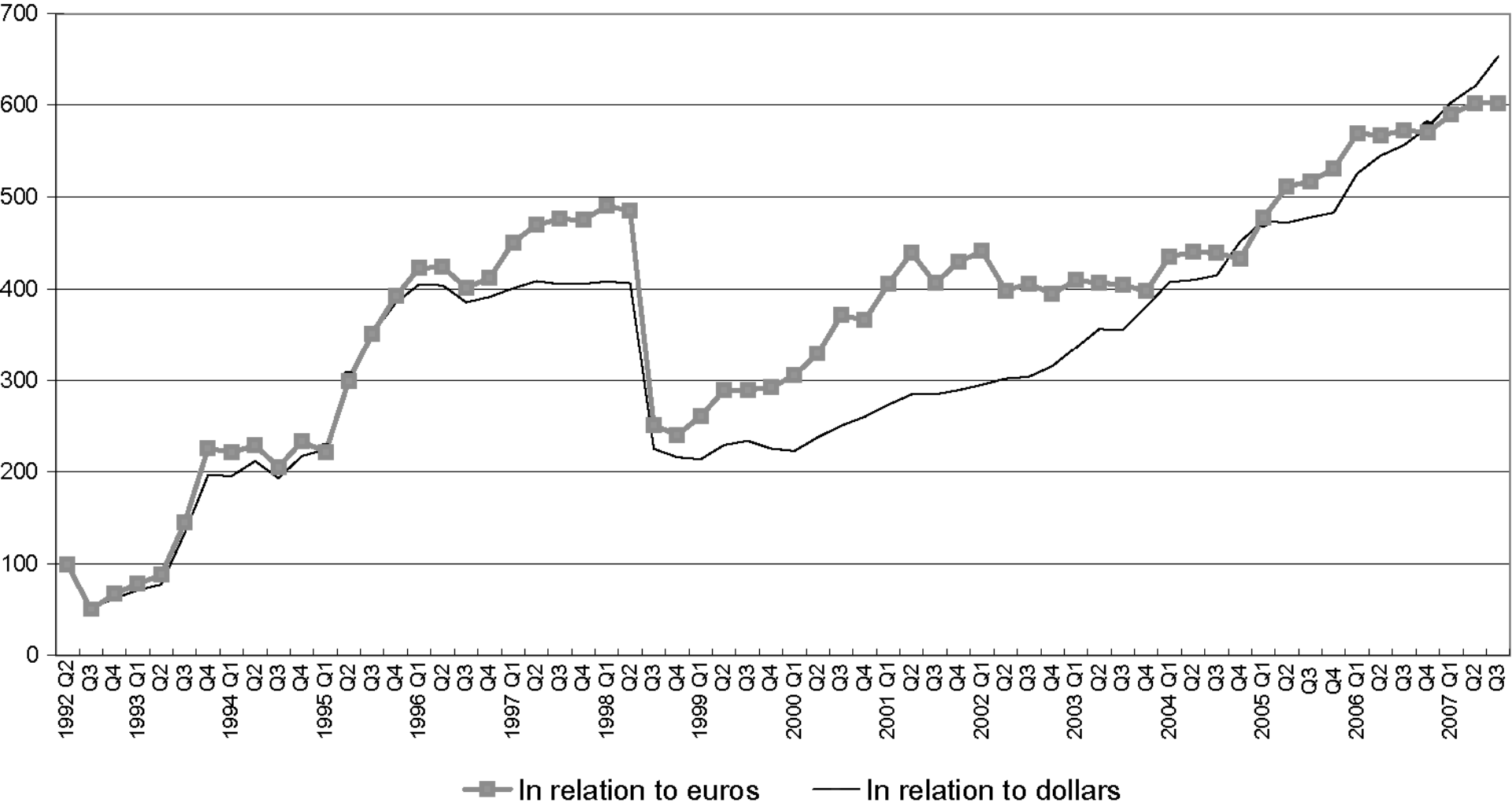
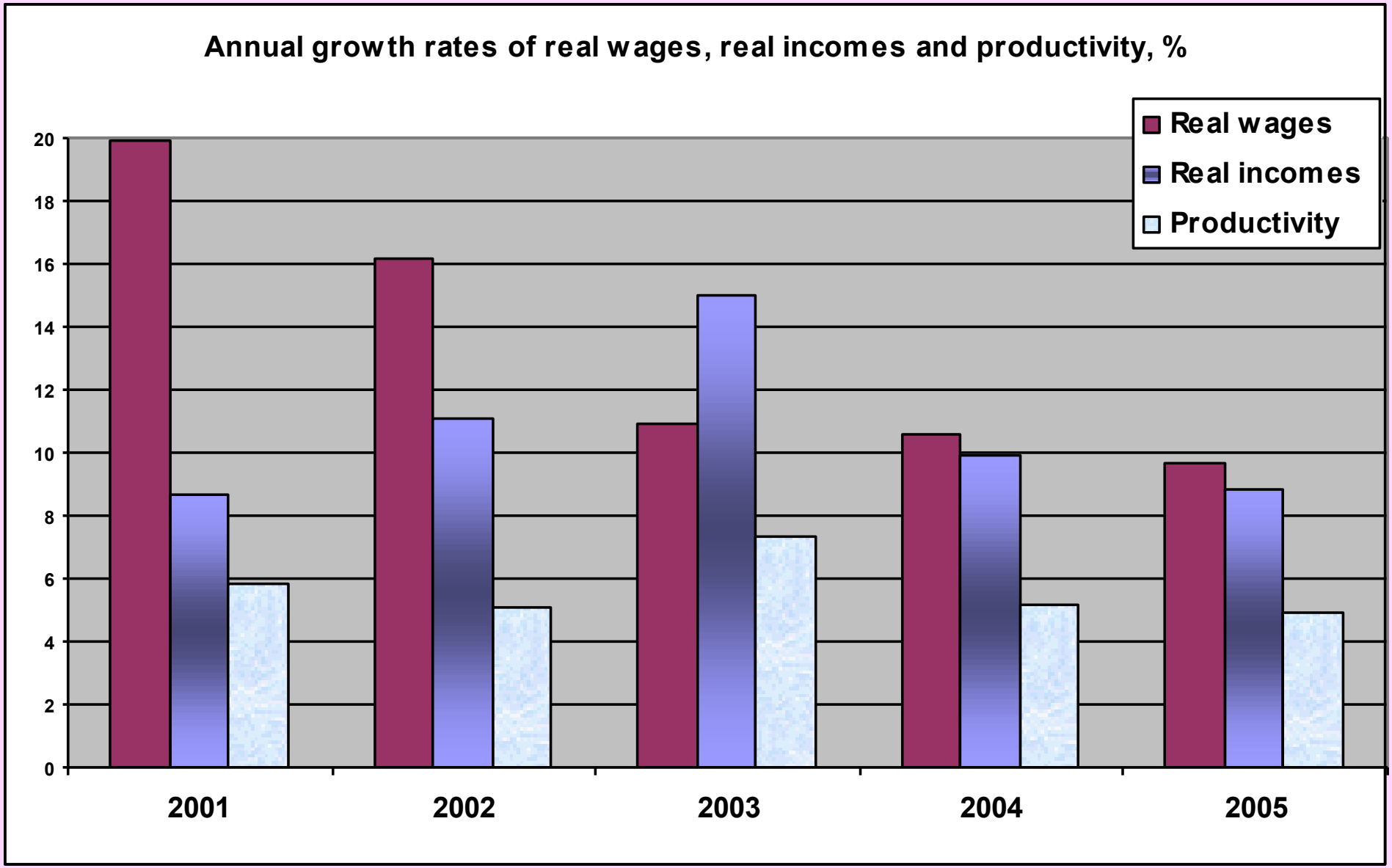


Fig. 1. Exchange rates of the ruble in real terms, 1992–2007, in percent of June 1992. Official exchange rates were deflated by the Consumer Price Index (CPI).

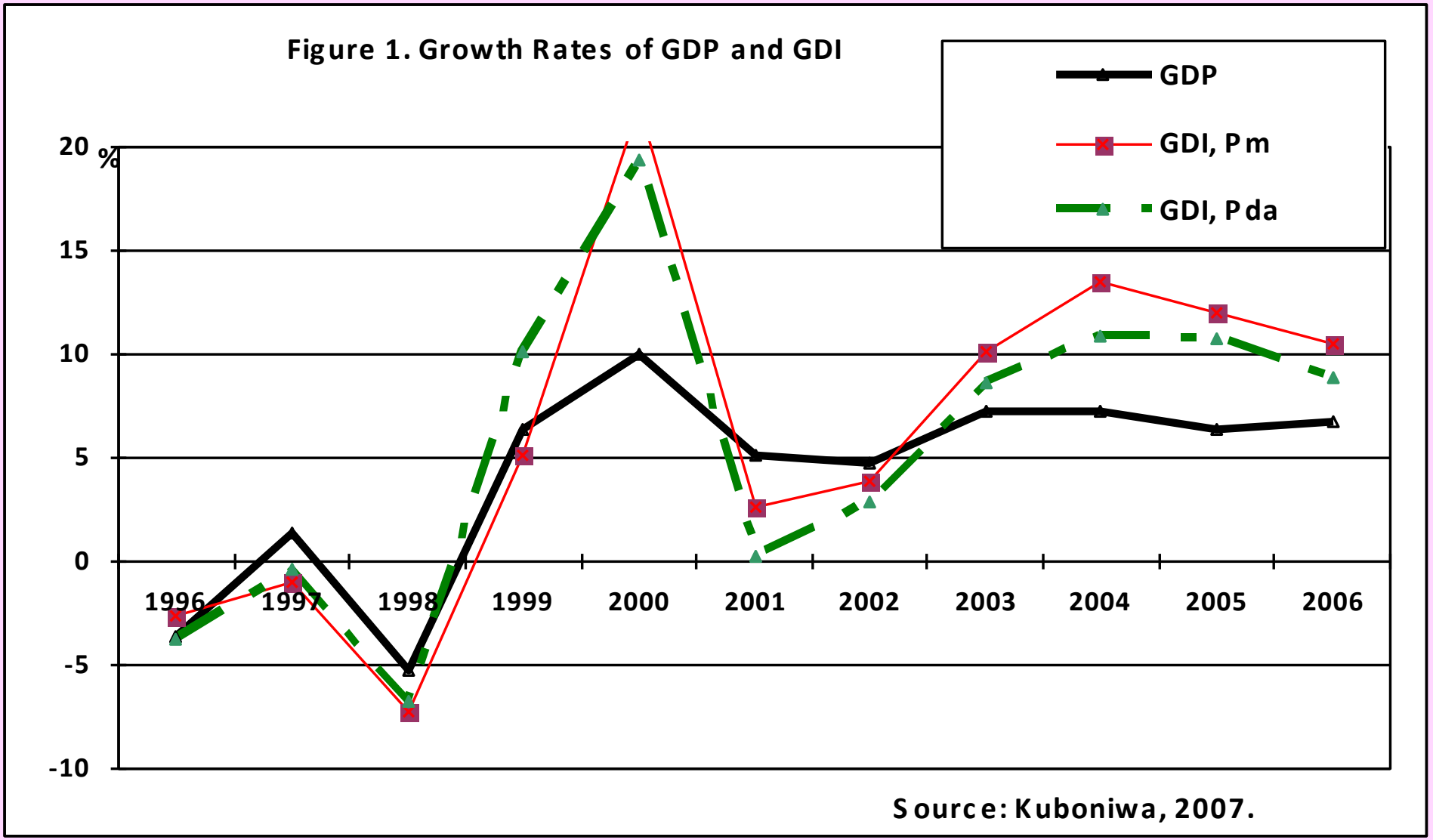


Sources*: Calculated by S. Tabata (The Russian Stabilization Fund and Its Successor: Implications for Inflation, *EURASIAN GEOGRAPHY AND ECONOMICS, 2008, No.1, p. 701).

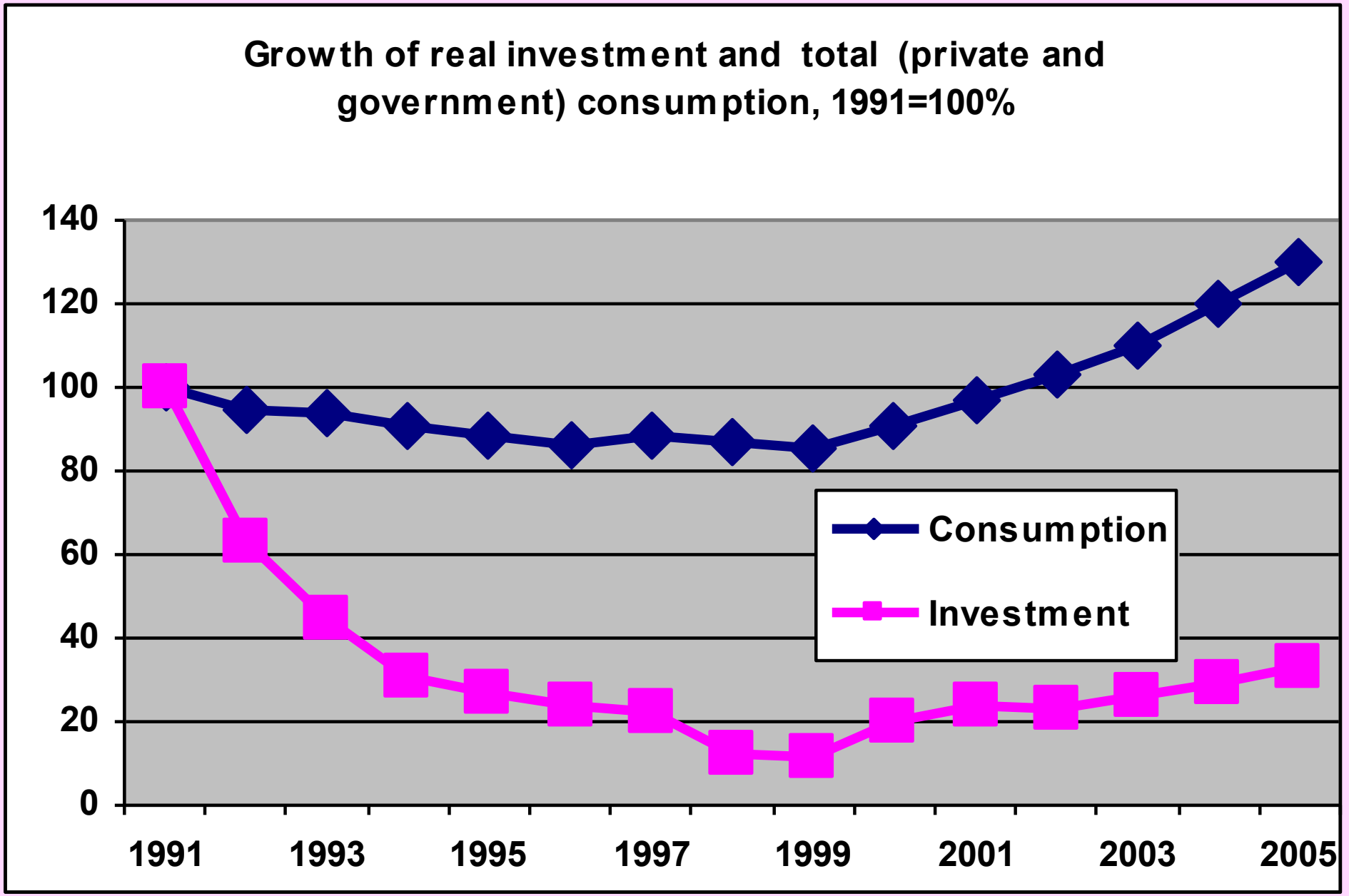
Macroeconomic policy after the crisis



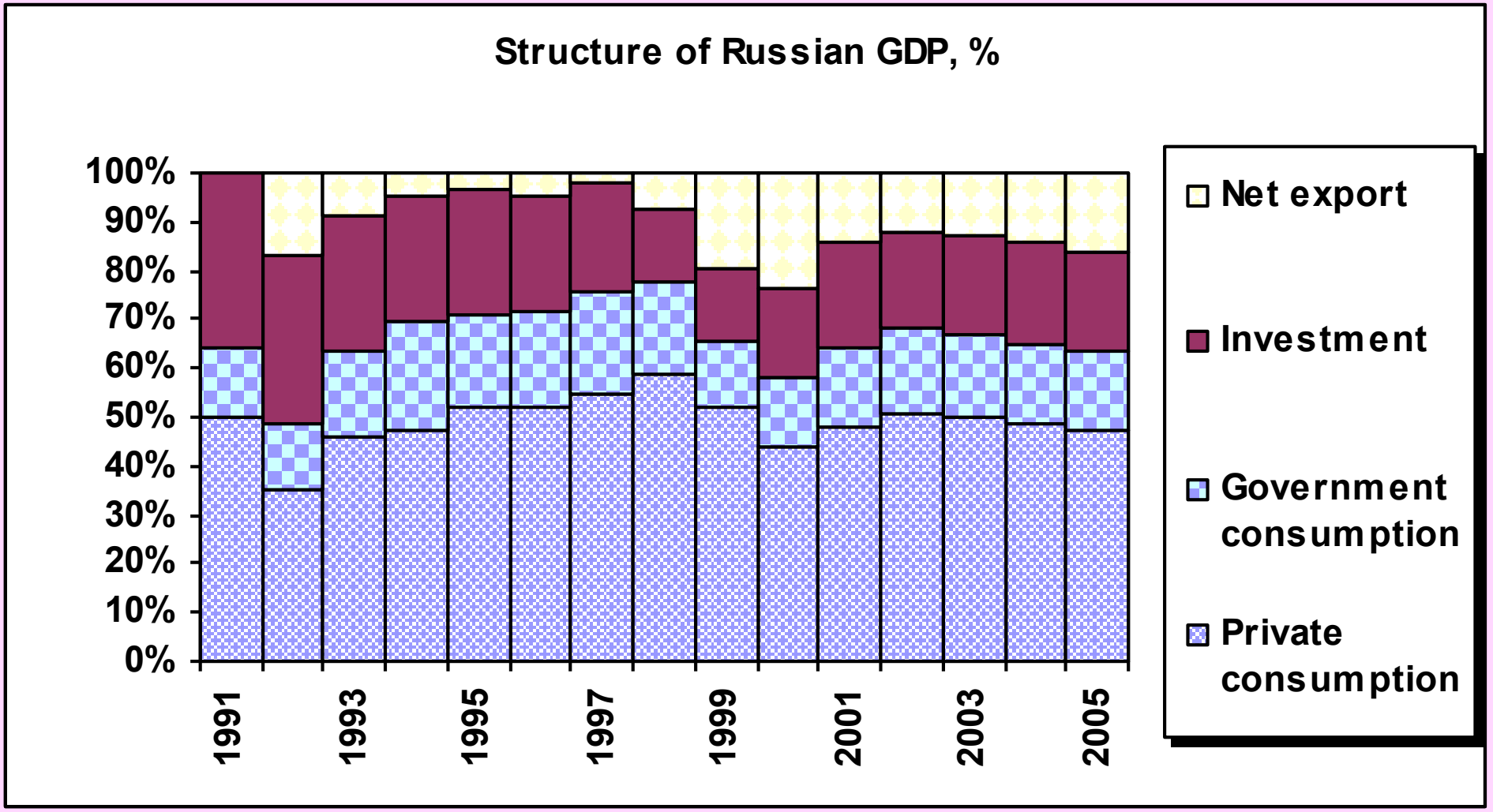
Why real incomes and wages grow faster than productivity?



Macroeconomic policy after the crisis



Macroeconomic policy after the crisis



Macroeconomic policy after the crisis

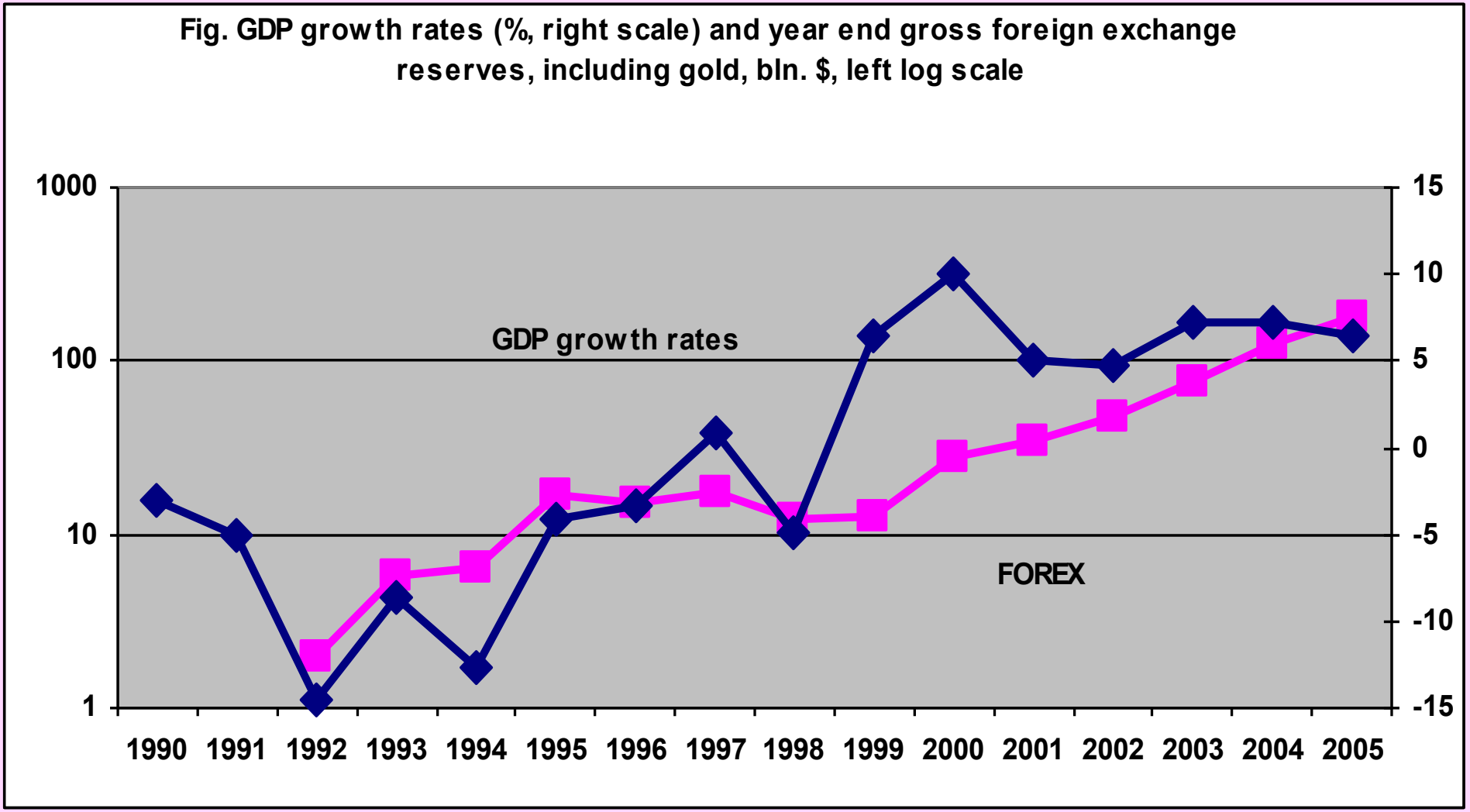


Fig. 3.1. Foreign exchange reserves as a % of GDP, average ratios for 1960-99

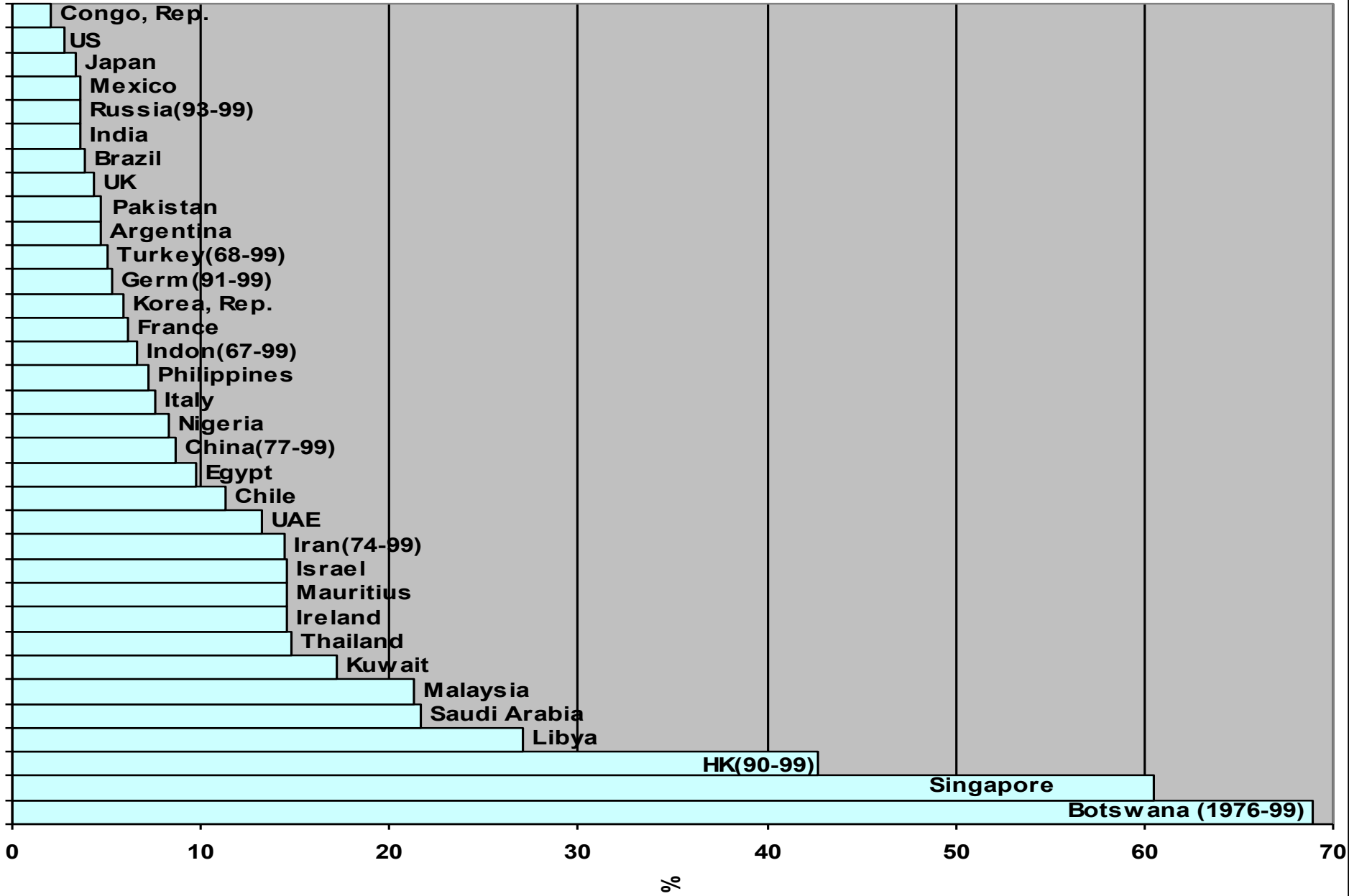
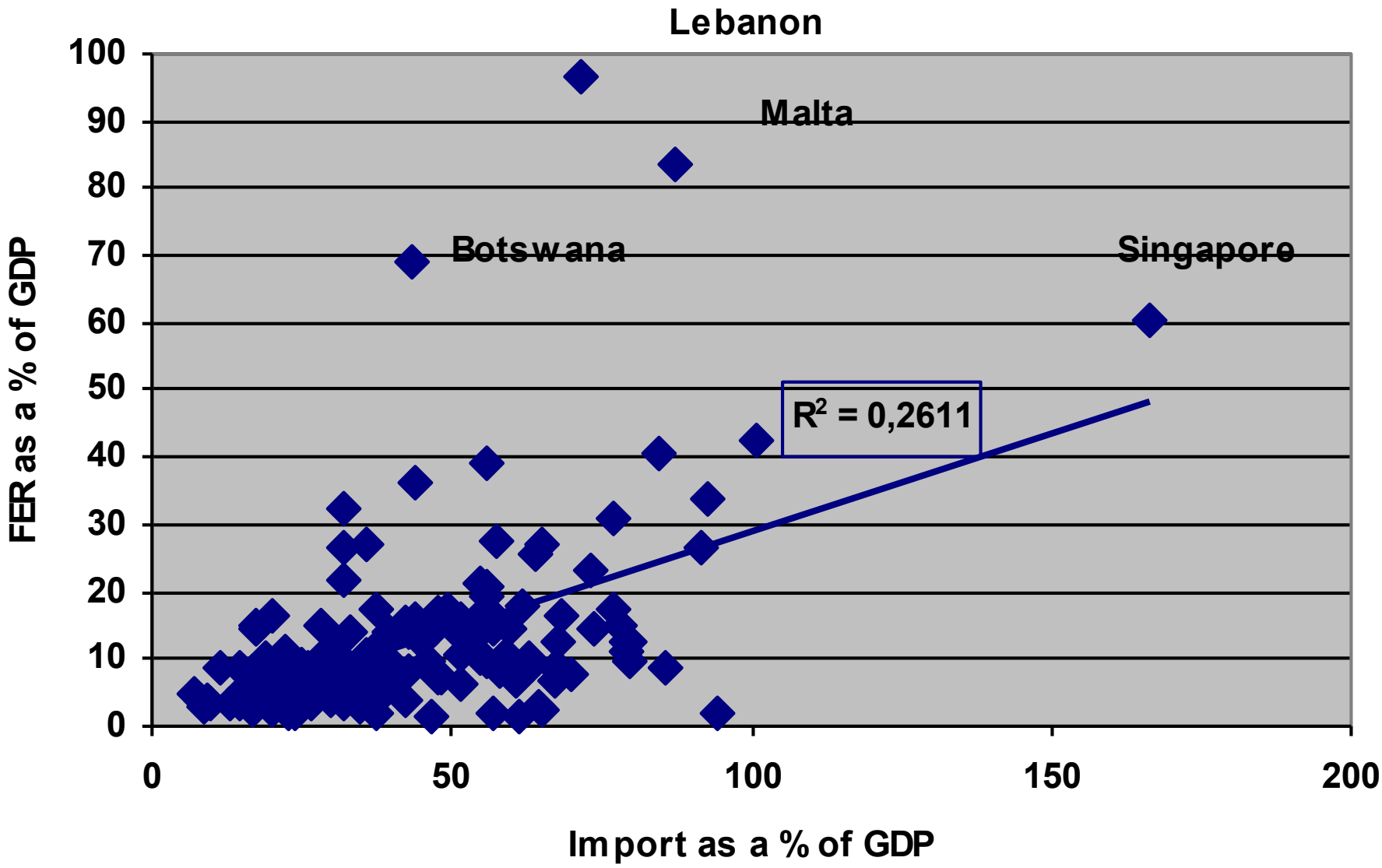
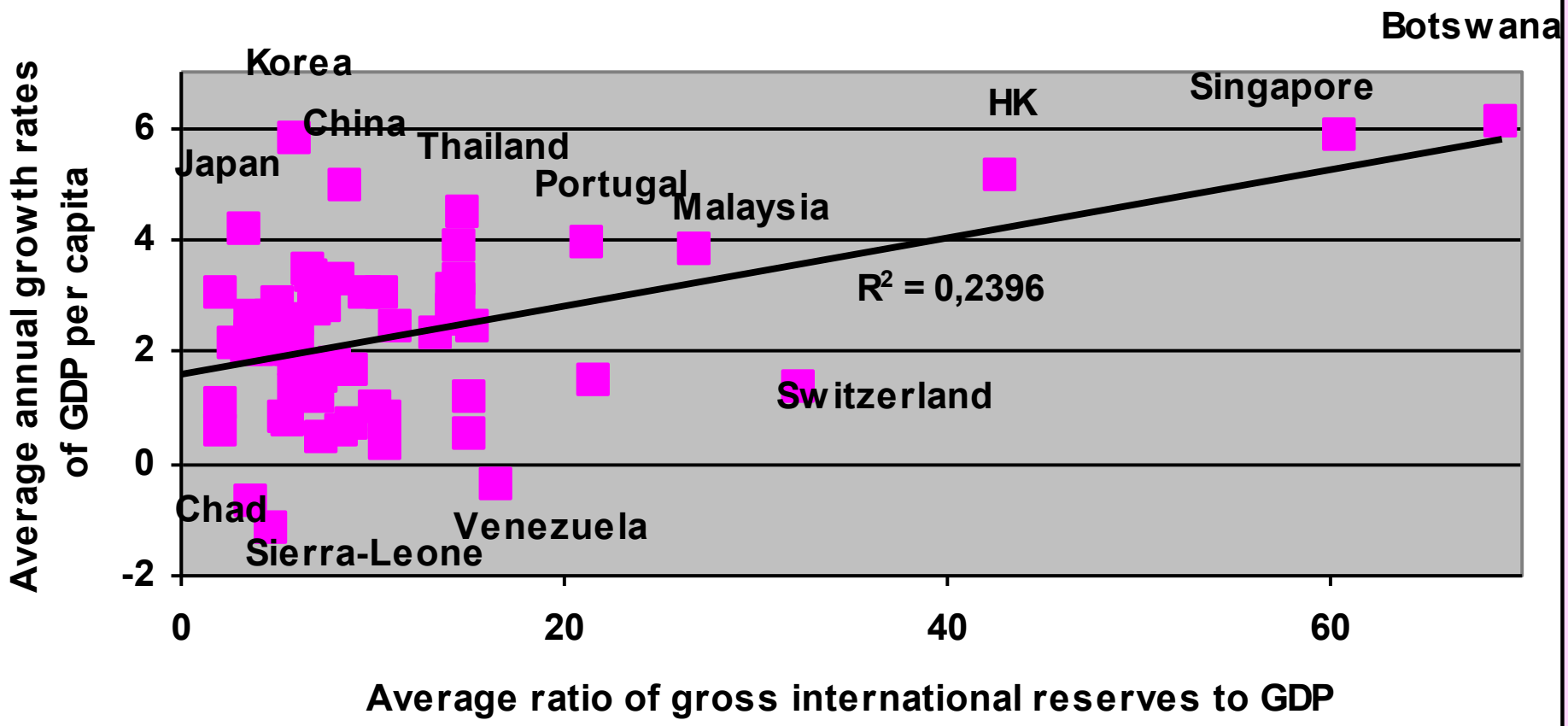


Fig. 3.2A. Average ratio of imports to GDP and average ratio of reserves to GDP in 1960-99, %



Macroeconomic policy after the crisis

Fig. 3.3. Average ratio of gross international reserves to GDP and average annual growth rates of GDP per capita in 1960-99, %,



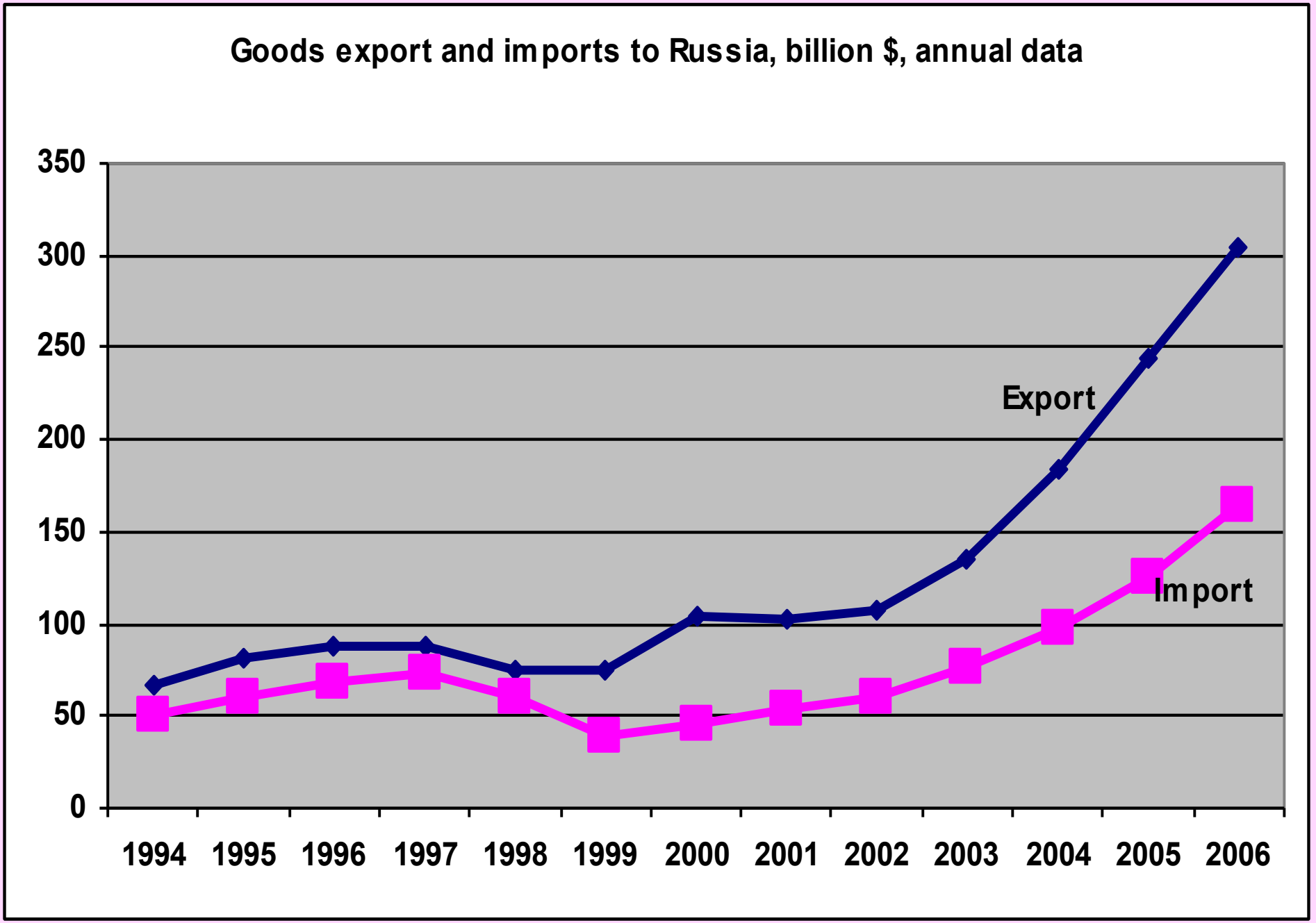

Goods export and imports to Russia, billion $, annual data
350
300
250
200
150
100
50
0
Export
Import
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006

Fig. 4. Goods export from and import to Russia, billion $, monthly data

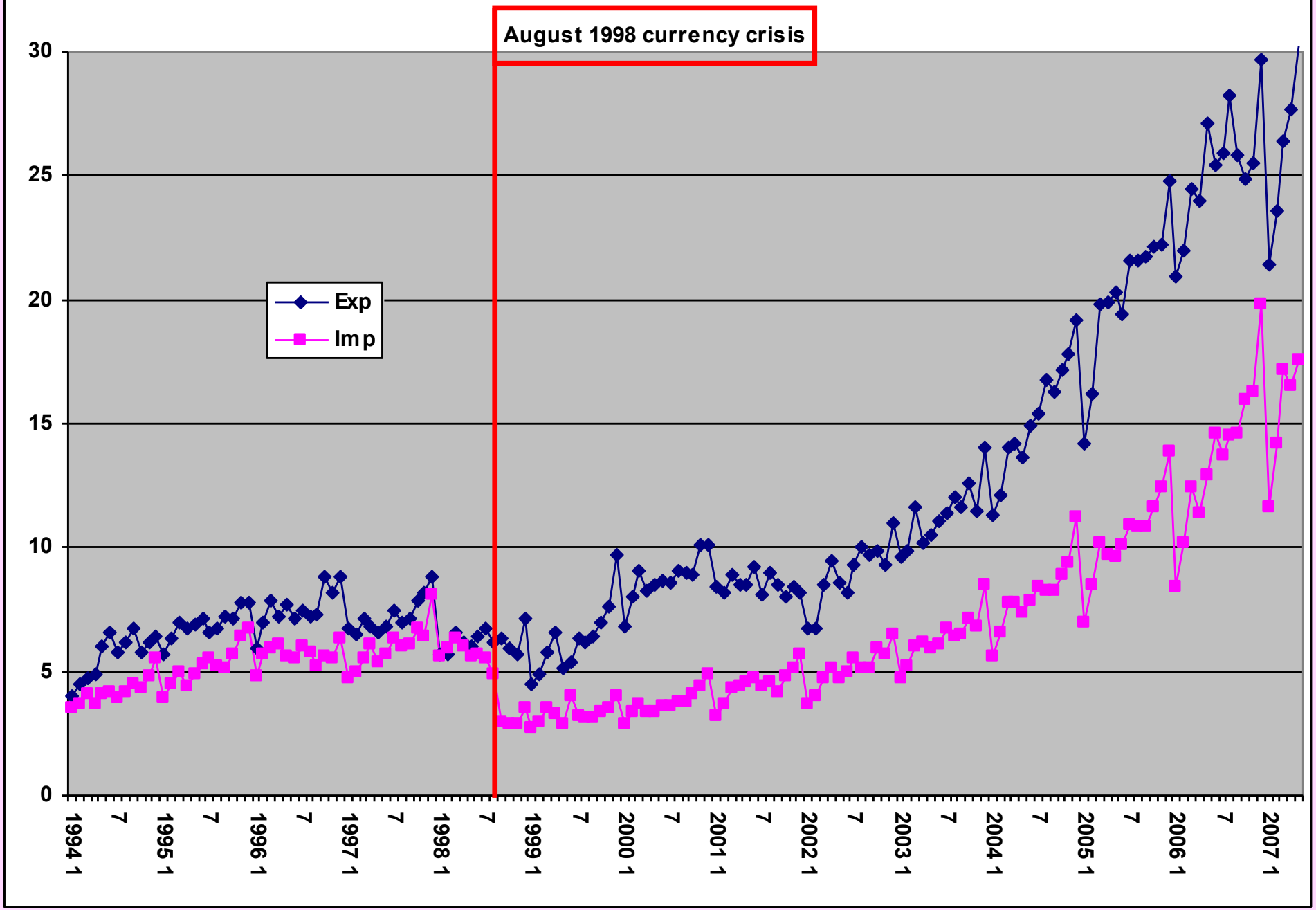
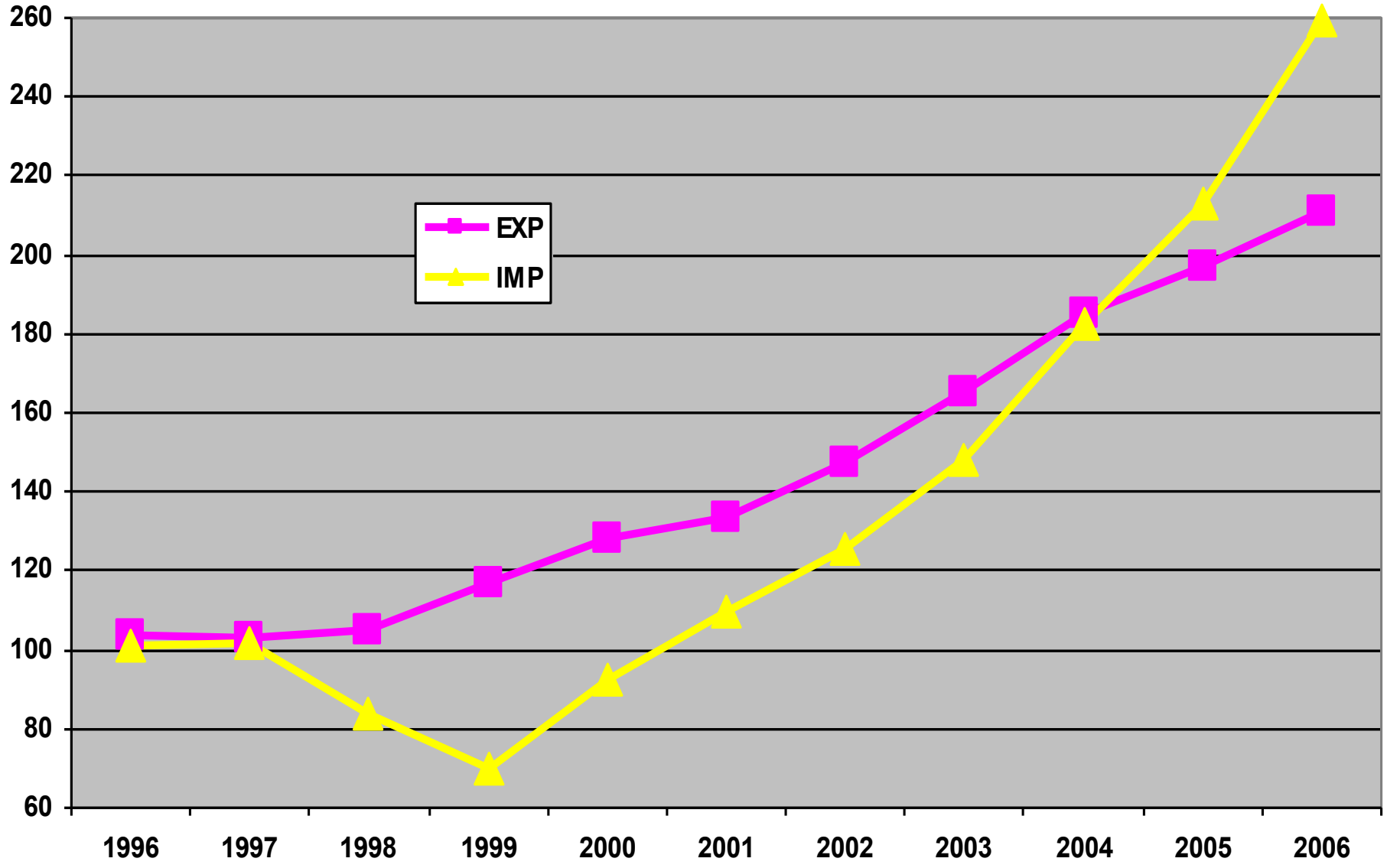
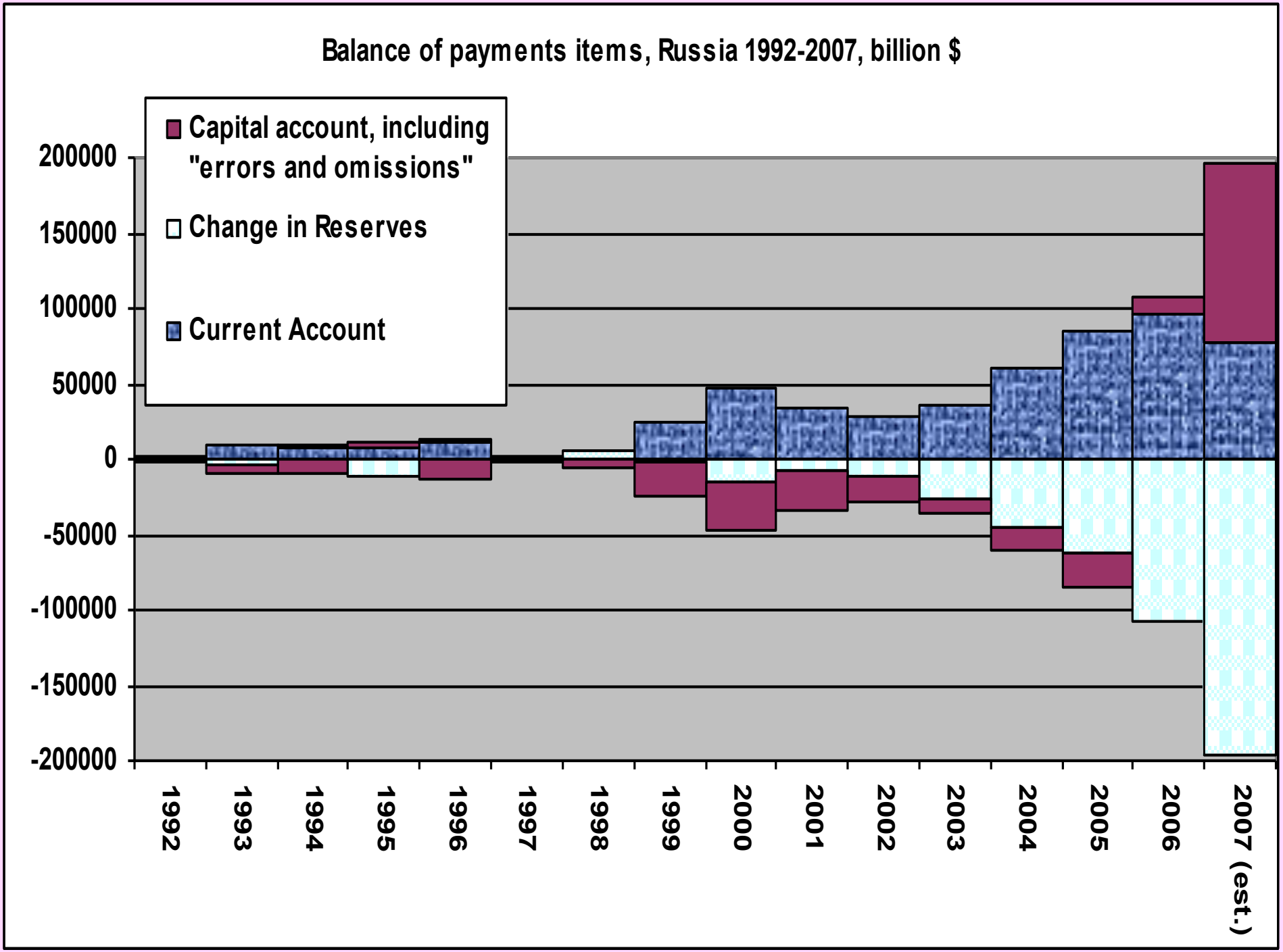
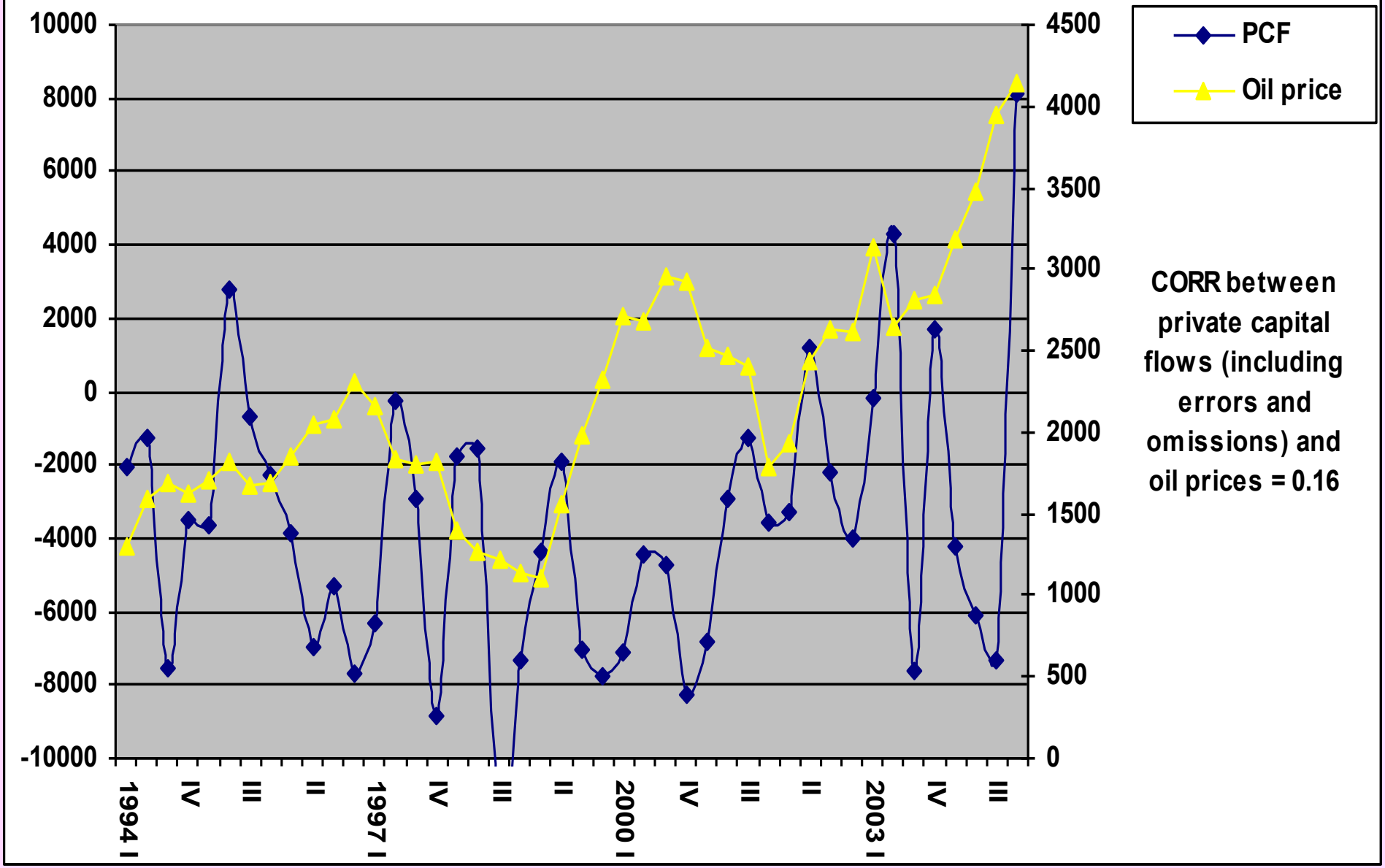


Fig. 5. Real exports and imports of goods and services, national accounts statistics, 1995=100%



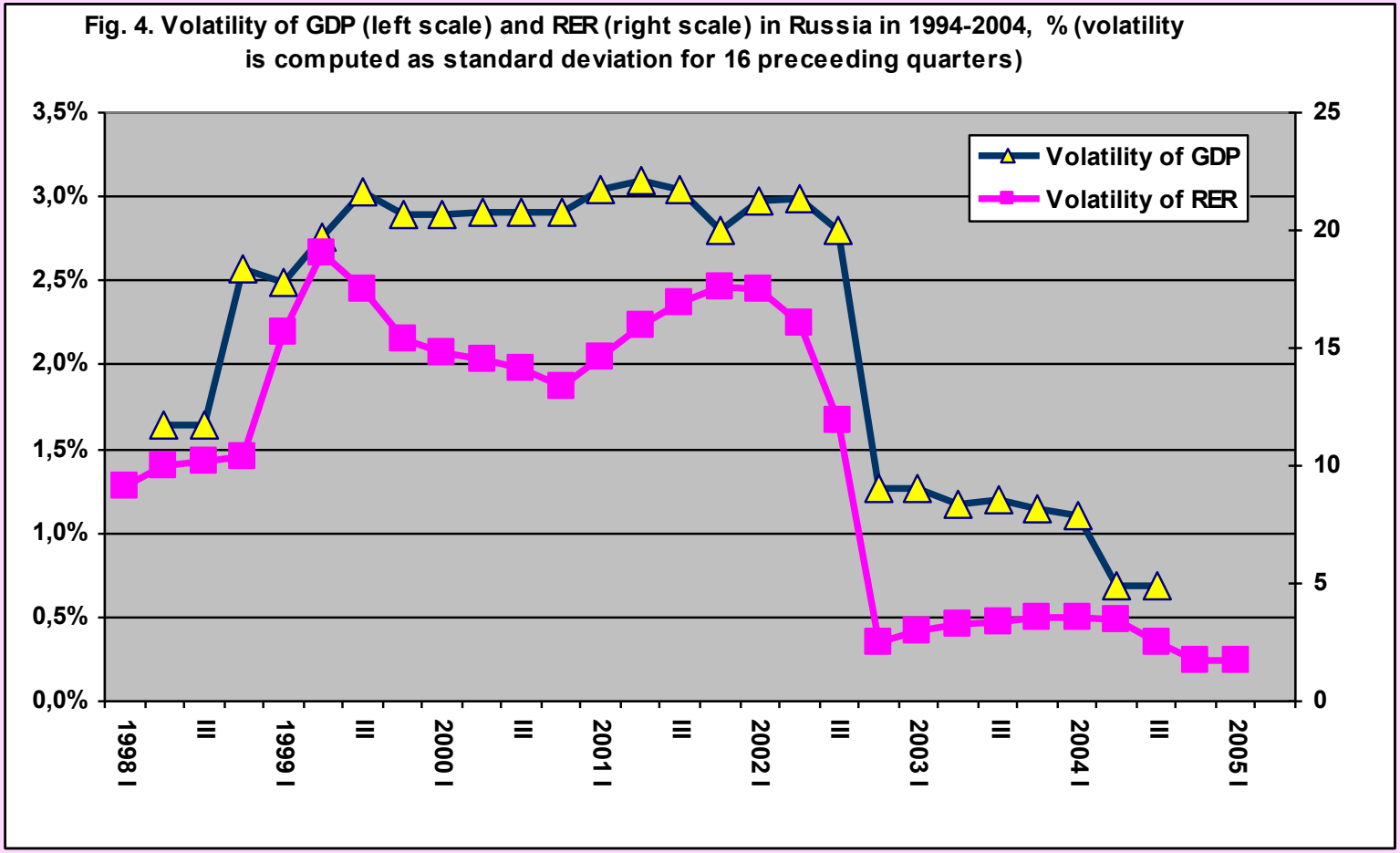

Balance of payments items, Russia 1992-2007, billion $
Capital account, including "errors and omissions"
Change in Reserves
Current Account
200000
150000
100000
50000
0
-50000
-100000
-150000
-200000
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007 (est.)

Private capital flows (mln.$, left scale) and oil prices (cents a barrel - right scale) in 1994-2004, million $



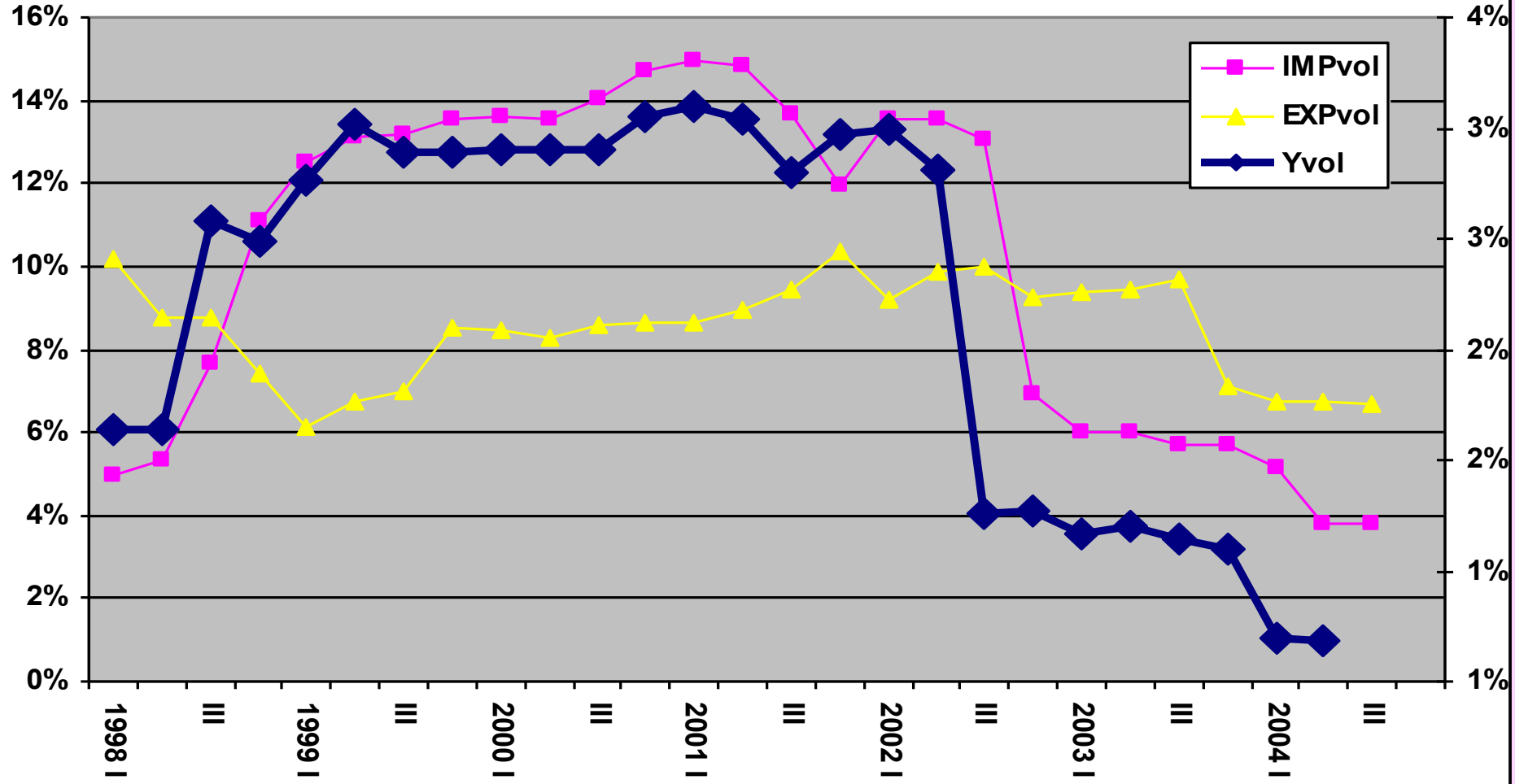
CORR between private capital flows (including errors and omissions) and oil prices = 0.16

Macroeconomic policy after the crisis



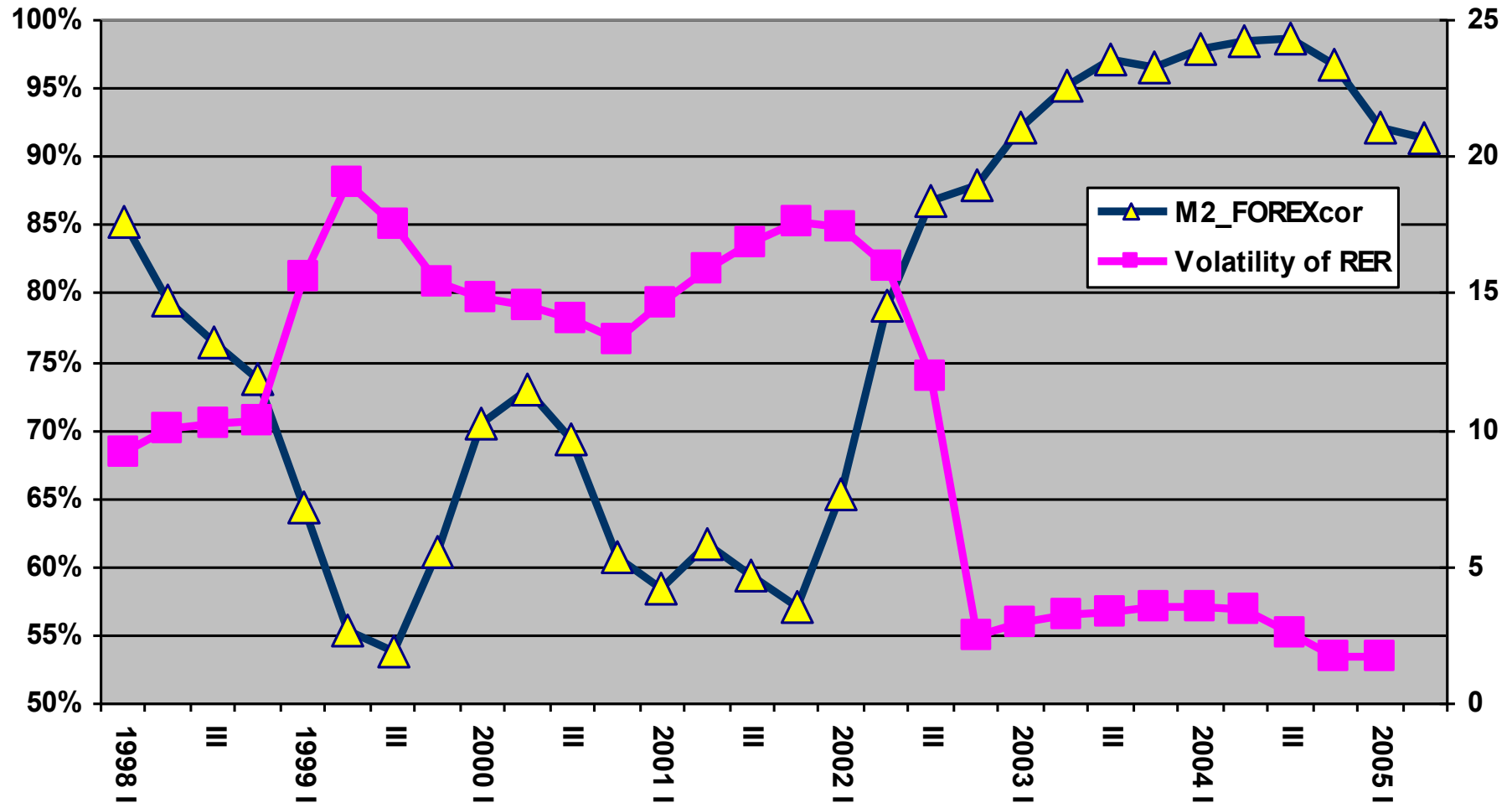
Macroeconomic policy after the crisis

Fig. 5. Volatility of growth rates of real GDP (right scale), nominal export and import (left scale) in Russia in 1994-2004 (volatility is computed as standard deviation for 16 preceding quarters), %



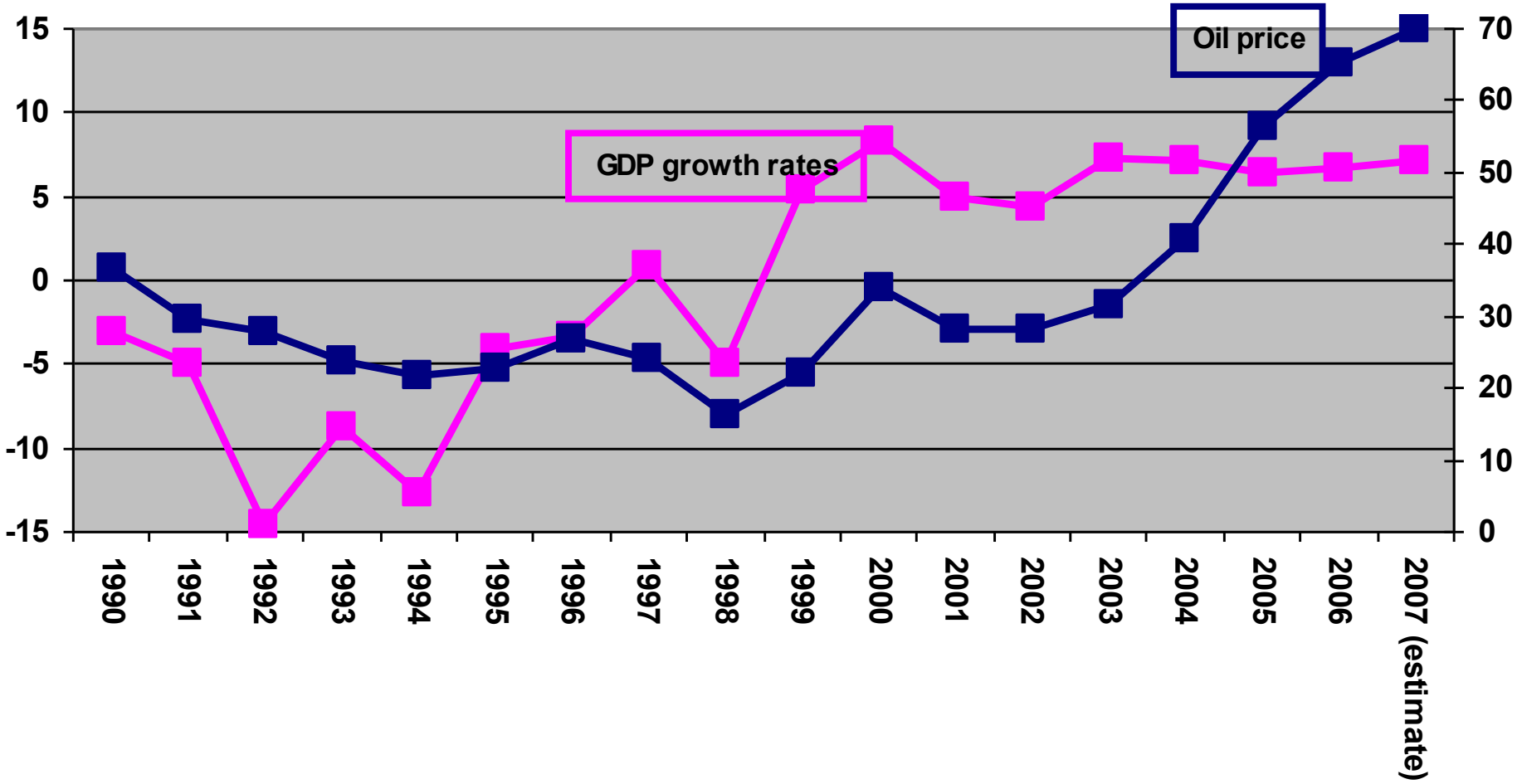
Macroeconomic policy after the crisis

Fig. 6. Volatility of RER (right scale) and correlation coefficient between M2 and FOREX in Russia in 1994-2004 (left scale), % (volatility is computed as standard deviation for 16 preceeding quarters)

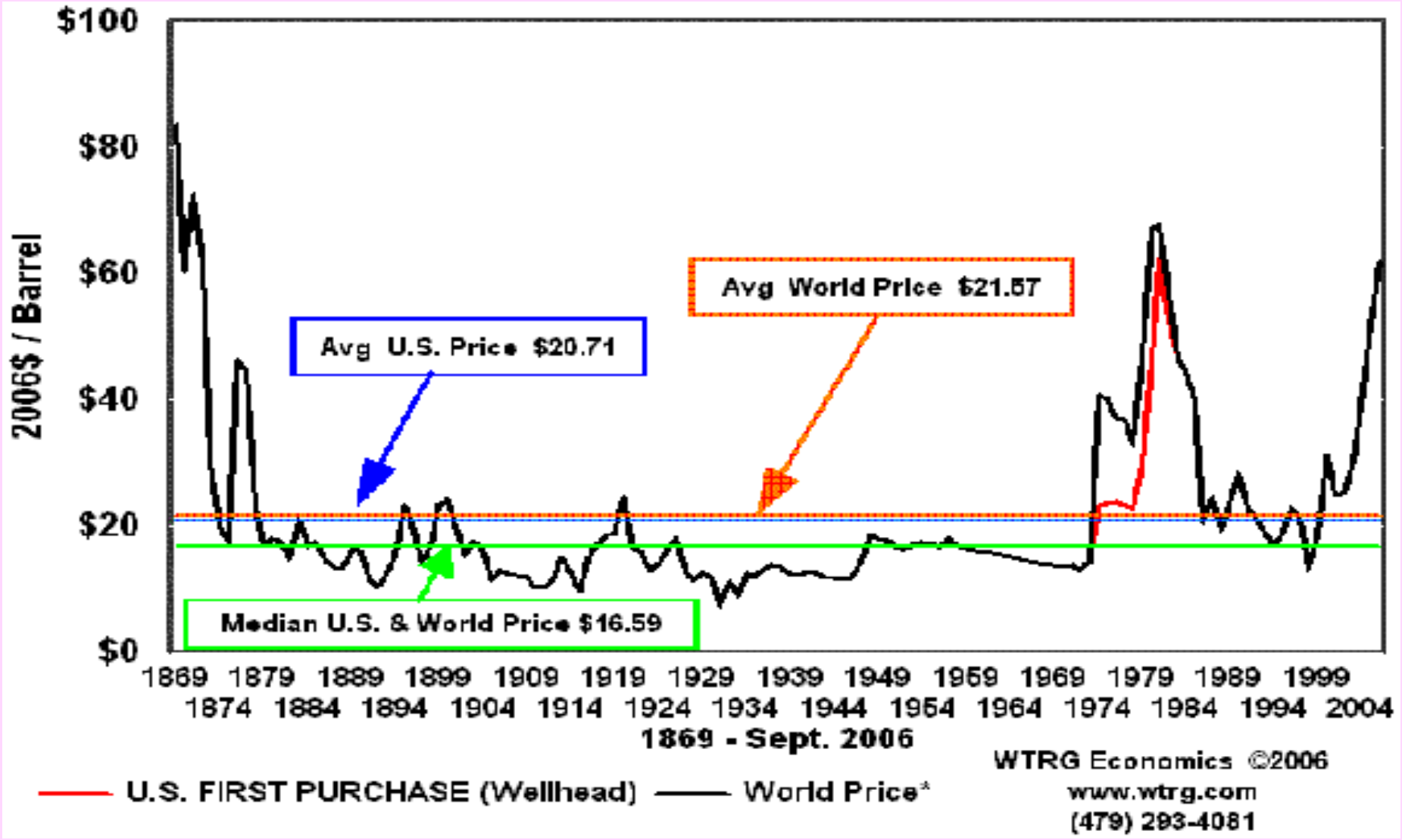


Oil prices grow, but GDP growth does not accelerate

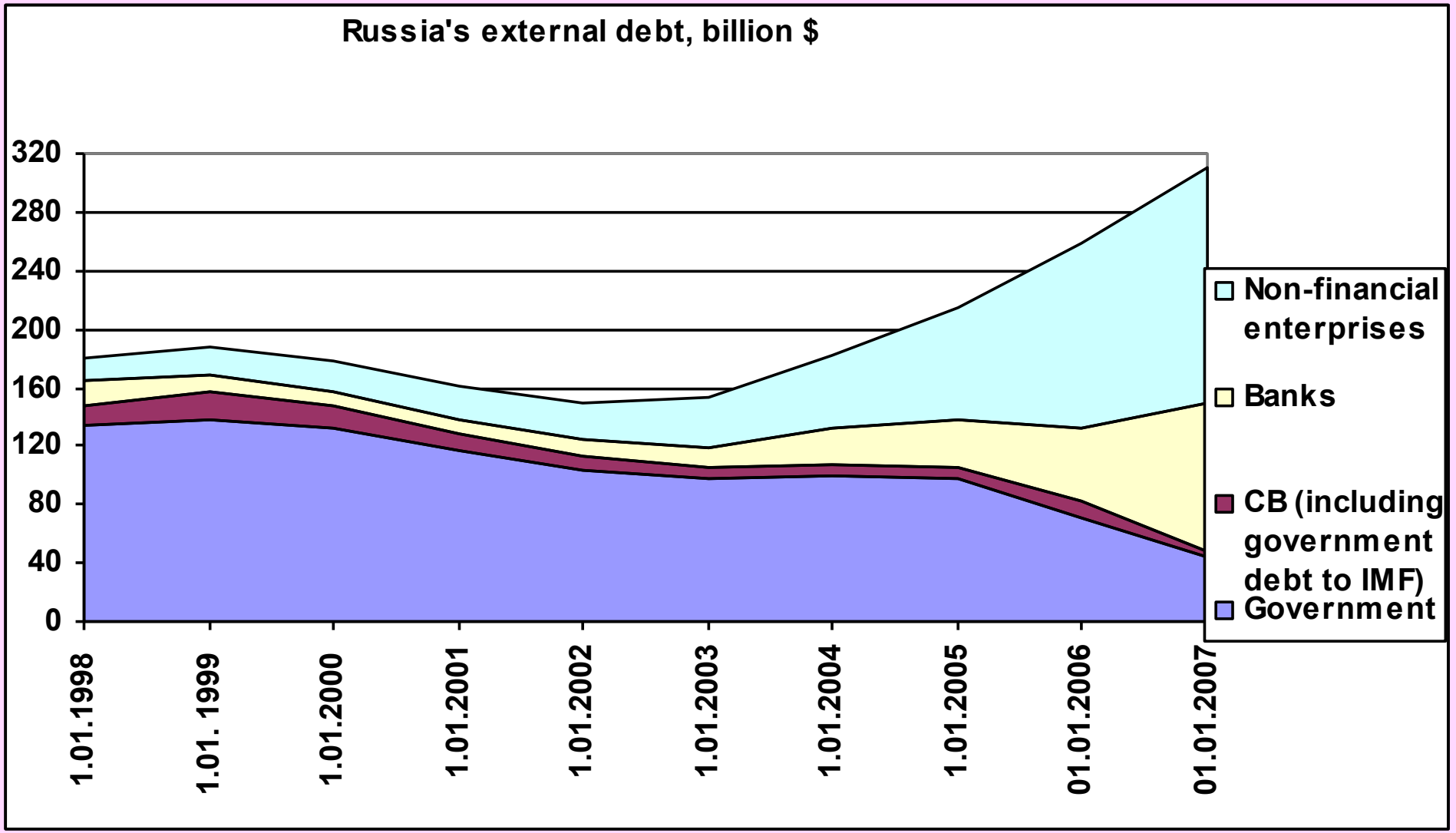
Fig. 6. Oil prices (2006 $ a barrel, right scale) and GDP growth rates in Russia (%, left scale), 1990-2007



Oil prices in 2006 $ per barrel(1869-2006)



Macroeconomic policy after the crisis



US government and public (including Social security Trust Fund) debt

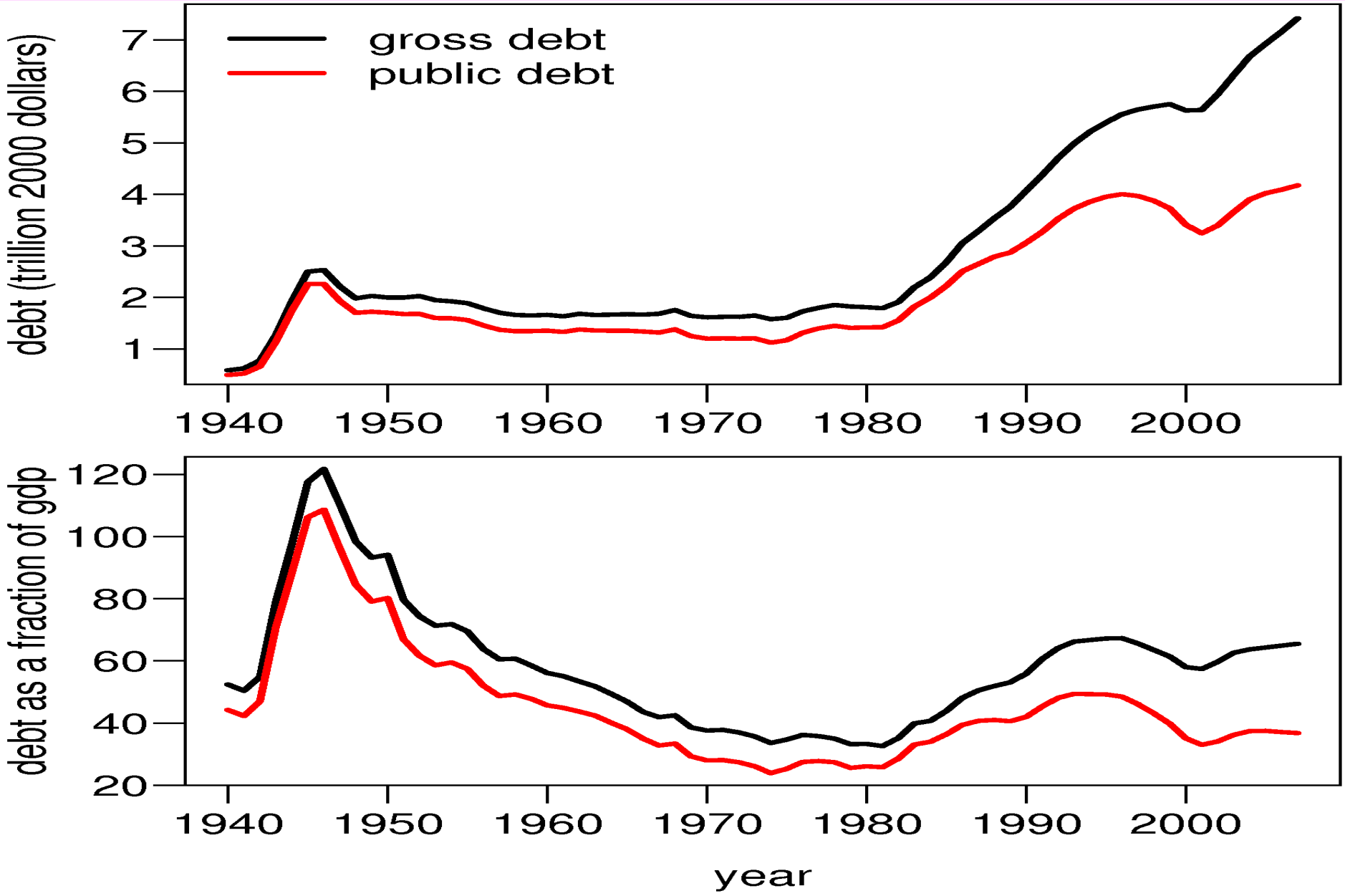


Chart 1. Net International Investment Position of the United States at Yearend, 1983–2006