EMERGING CAPITAL MARKETS

Lecture 14: The 2008 Crisis in Kazakhstan

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January 2012

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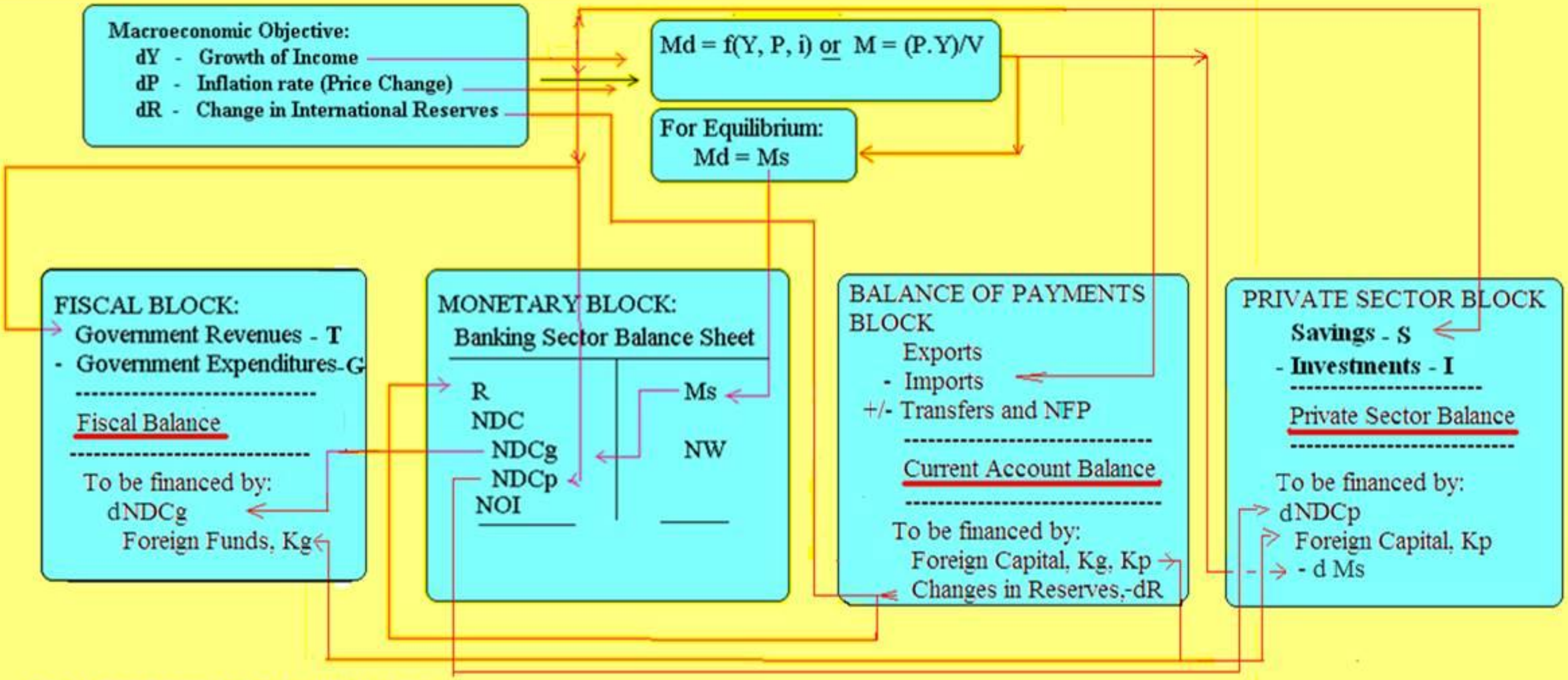
Kazakhstan Vulnerabilities

Kazakhstan became an early victim of the international liquidity crisis due to its vulnerabilities: large foreign debt and high current account deficits.

1. Before the crisis, the country incurred high external debt (mainly private debt) reaching almost 98% 0f GDP in 2009.
2. Very rapidly expanding banking system, based on cheap foreign wholesale funding, led to high non-performing loans.
3. Private credits provided by banks expanded at 70% pa from 1999 to 2007, one of the fastest growths in the world.
4. With limited ‘real’ investment opportunities, most funds went to real estate, generating a price bubble and non-performing loans.
5. A second vulnerability was that Kazakhstan continued to be a commodity-based and undiversified emerging market, relying on few commodities for export earnings.
6. Unsupportive commodity prices in 2007 and 2009 contributed to current account deficits in those years.

If foreign capital increases (Kp), it will be converted in foreign currency and money supply (Ms) will increase (chart below). Ms then will exceed Md and this will lead to inflation, the development of price bubbles (real estate), and CA deficits.



For the economy to be in equilibrium:

1. **Money supply should not exceed money demand. Otherwise the inflation rate will be higher than dP**
2. **The Fiscal Deficit can not exceed the amount financed by NDCg and Kg**
3. **The Private Sector Deficit can not exceed the amount financed by NDCp, Kp and dMs**
4. **The Current Account Deficit can not exceed amounts financed by K and dR**

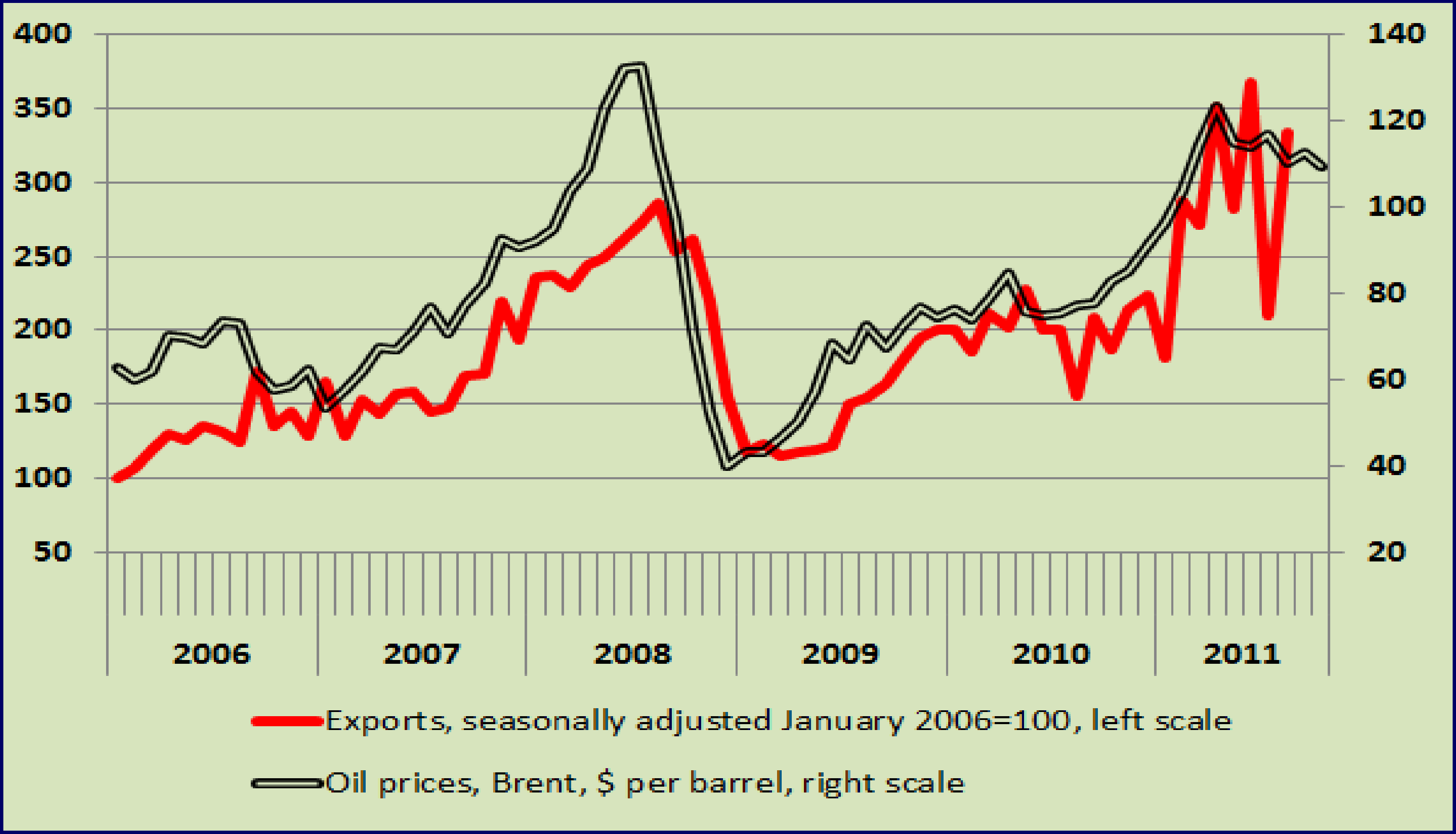
These four relations implies that the national identities hold: AD= AS= Y= C+I+G+X-J= C+S+T-TR ; $\Rightarrow$

The IMF Performance criteria include: (i) Maximum size of the fiscal deficit;
(ii) Ceiling on public sector borrowings;
(iii) Minimun international reserves of three months of imports

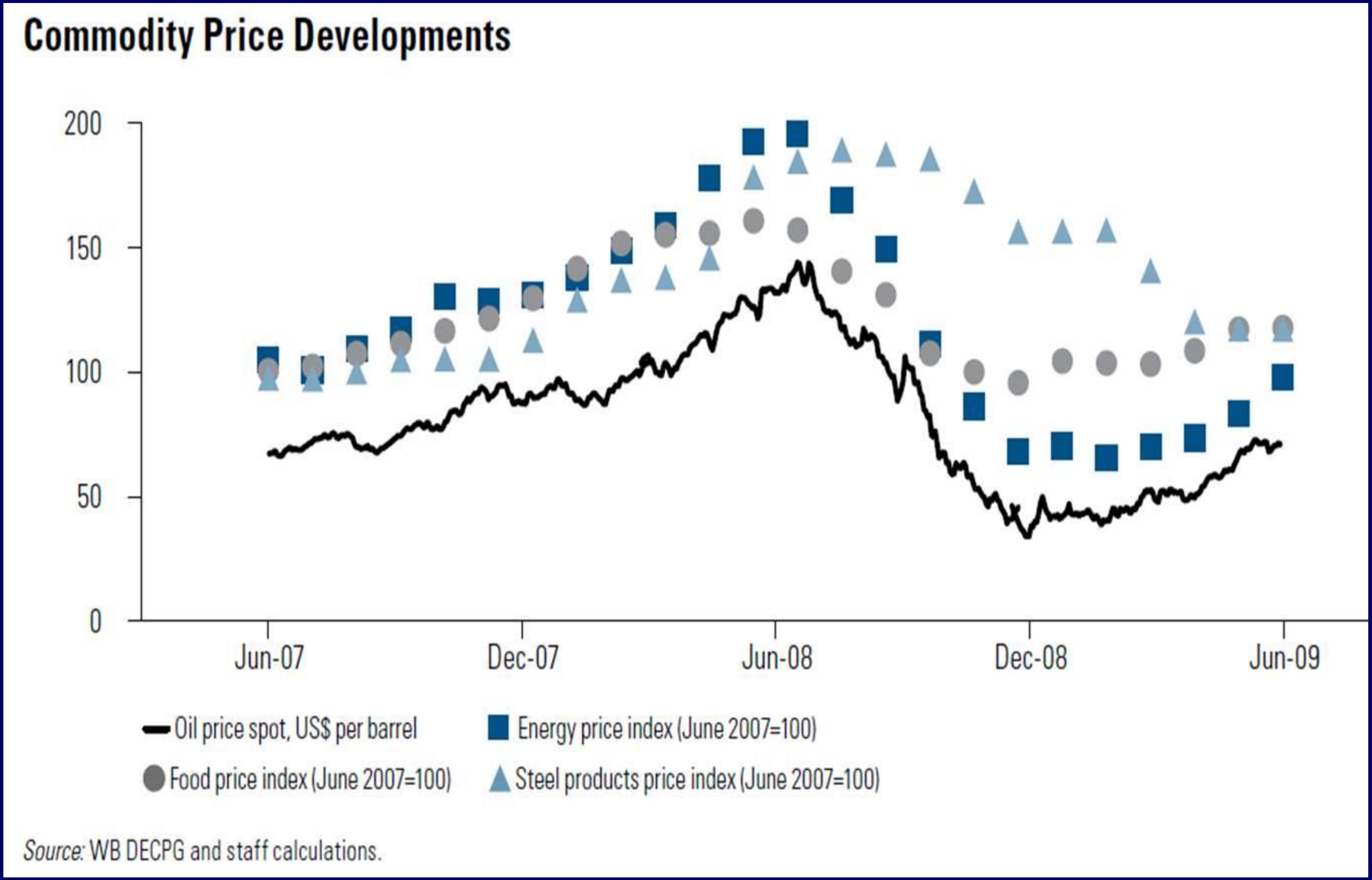
(X - J + TR) = (S - I) + (T - G)
CAB = PSB + FBB
(Kg+Kp-dR)= (dNDCp+Kp-dMs)+(dNDCg+Kg)
dMs = dNDC + dR

Dependence on Oil

- Kazakhstan's exports are highly dependent on oil prices.

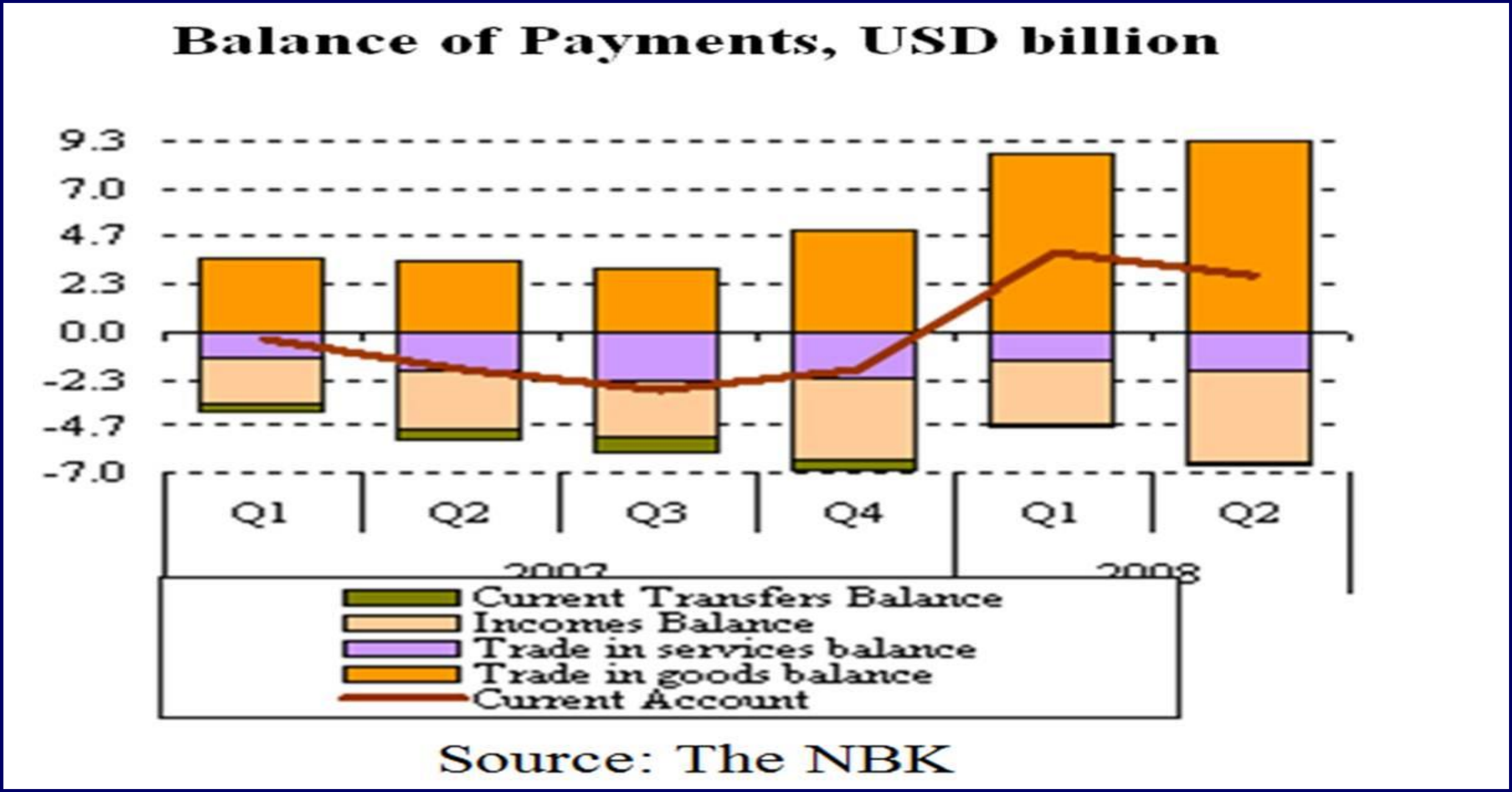


- Oil prices will also influence prices of steel and food.

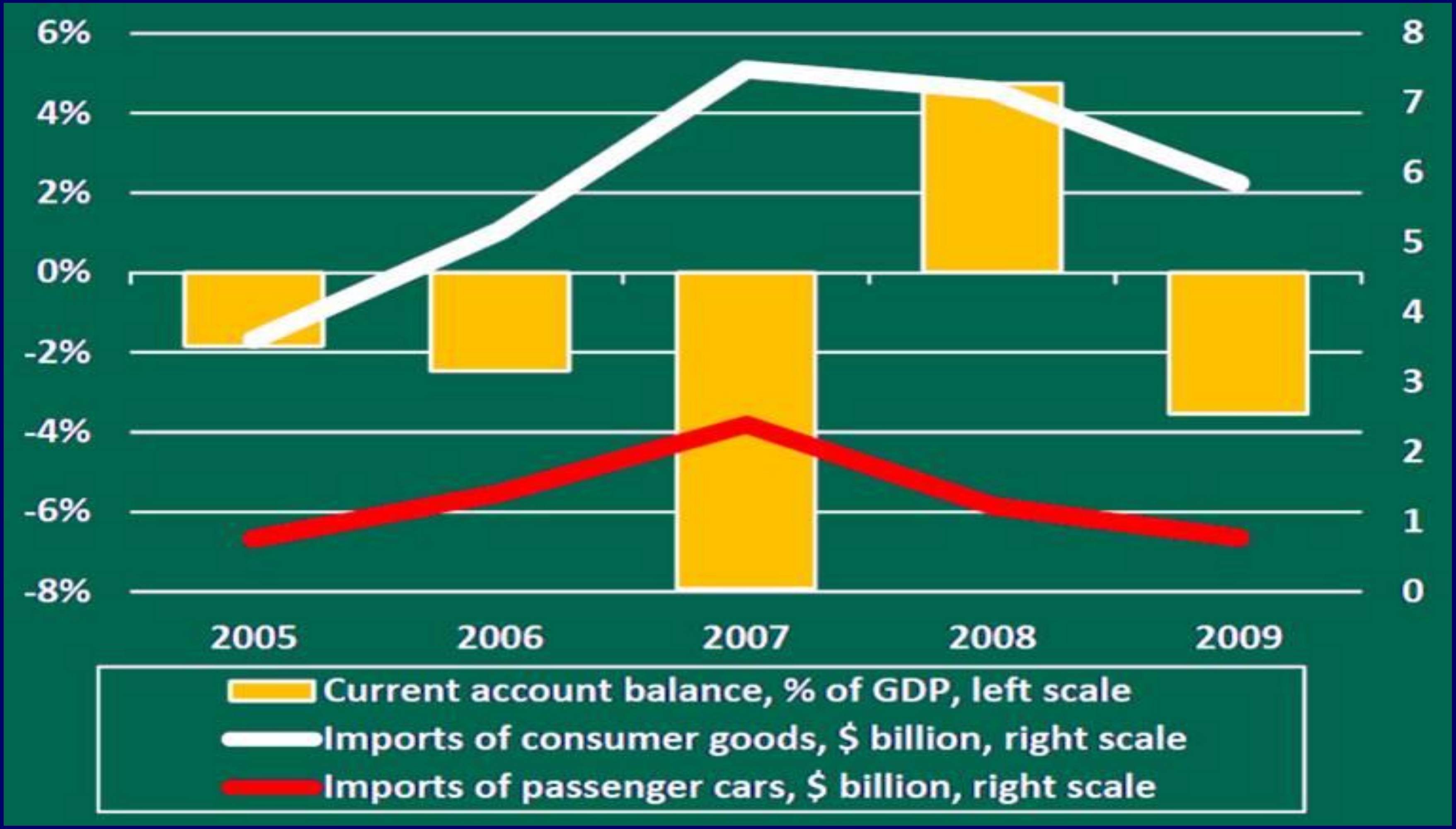


Large Current Account Deficit in 2007

- The crisis affected oil prices and exports in 2007: although there was a surplus in the trade of goods account, this surplus was not sufficient to cover Factor Income to Investors and Transfers.
- The Current Account deficit in 2007 reached 8% of GDP



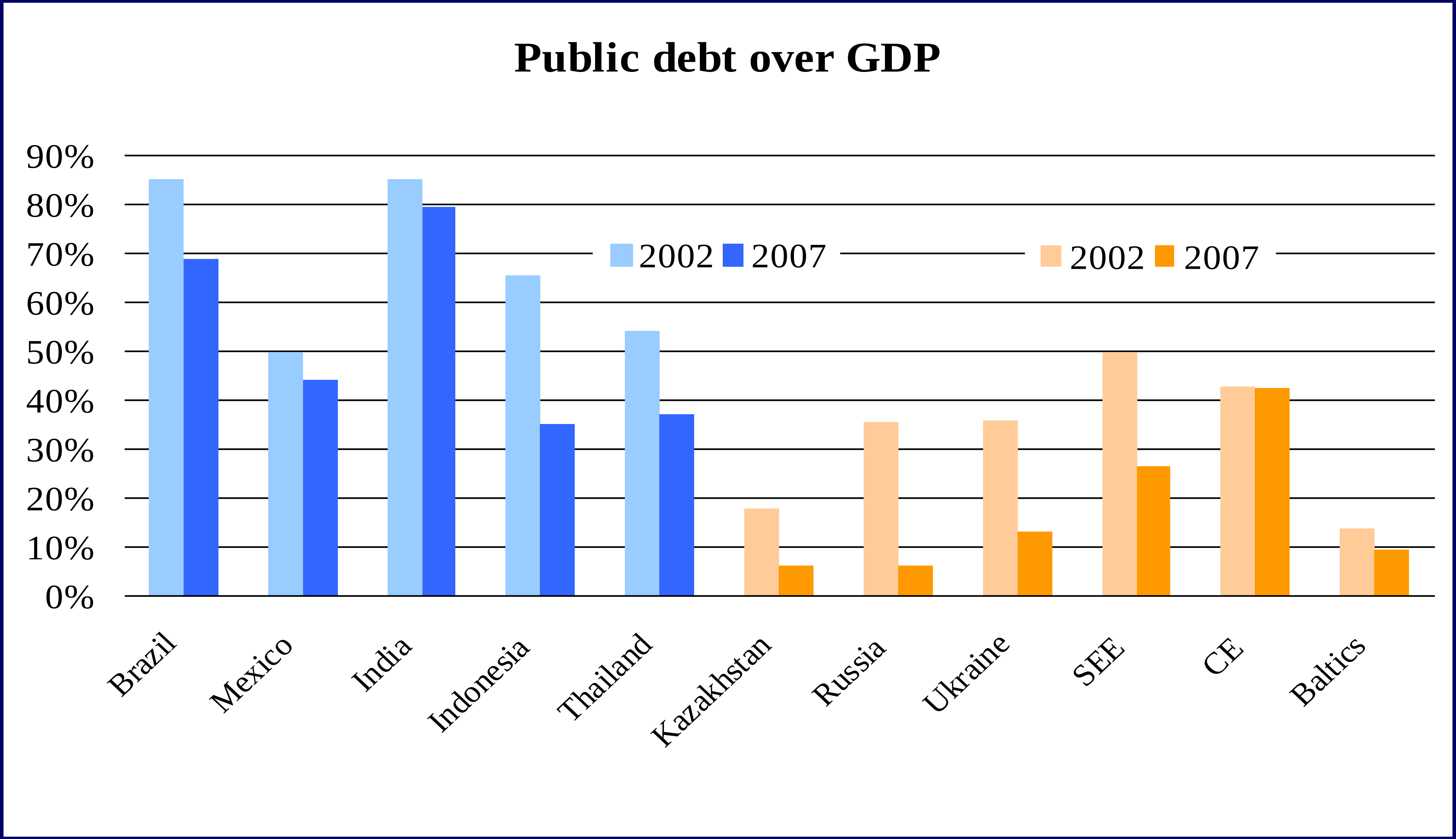
- In 2009, the Current Account also had a deficit (4% of GDP.)
- Imports of consumer goods, cars, as well as construction related services pushed the current account deficits.



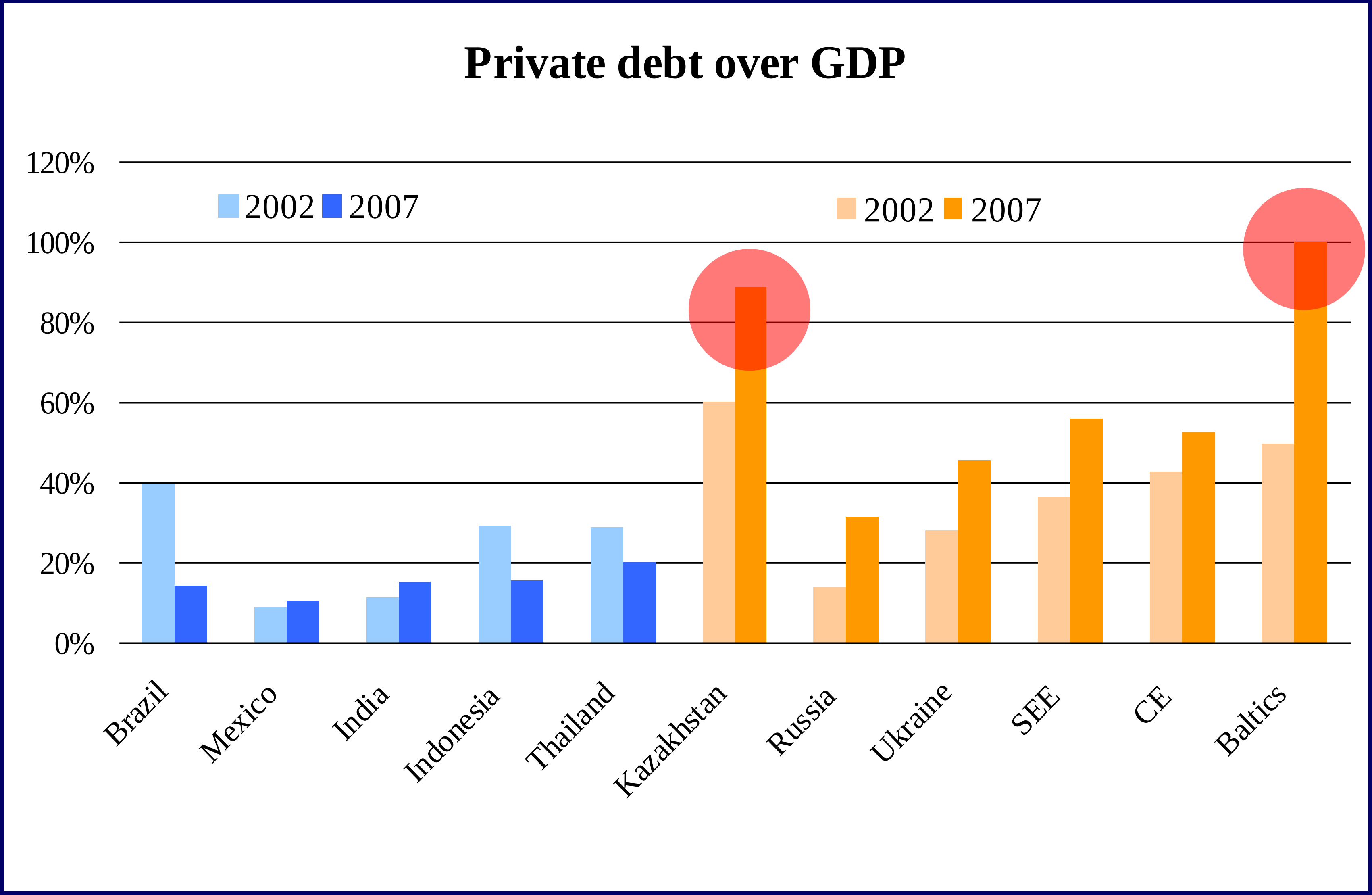
Source: ASRK

Large External Debt

Kazakhstan public debt was low, and decreasing…



… but private debt was high & increasing….



Total External Debt (Public and Private) to GDP & Exports, 2009

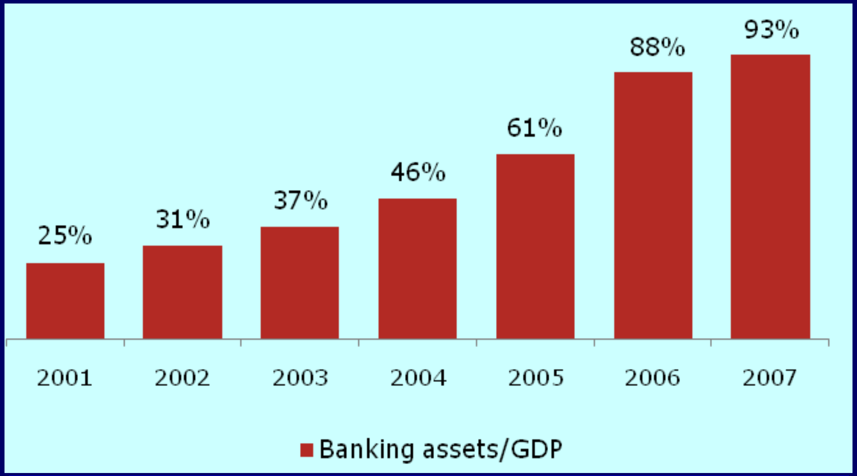
By 2009, Kazakhstan had become of the highest indebted EMs.

Country	ED/GDP	ED/Exp	Country	ED/GDP	ED/Exp
Hungary	128	143	Malaysia	32	35
Bulgaria	110	159	Indonesia	28	123
Kazakhstan	**99**	**257**	Peru	28	126
Ukraine	92	204	Ecuador	25	95
Poland	58	125	South Africa	25	81
Korea	45	83	Thailand	24	35
Turkey	44	176	Colombia	21	130
Argentina	42	182	India	18	86
Czech Rep	41	56	Mexico	18	62
Philippines	40	121	Venezuela	16	100
Russia	38	125	Brazil	14	122
Pakistan	36	322	China	8	33
Chile	35	82	**MEAN**	**35**	**120**

The Banking Sector became quite vulnerable due to high debt:

Banking penetration

(% and USDm)



Loans and deposits/GDP, 2007

	2001	2002	2003	2004	2005	2006	2007
Loans	4,208	5,949	8,725	14,543	24,875	47,213	73,351
Deposits	4,008	5,934	8,106	9,861	13,967	26,492	32,652

Source: NBK, EIU

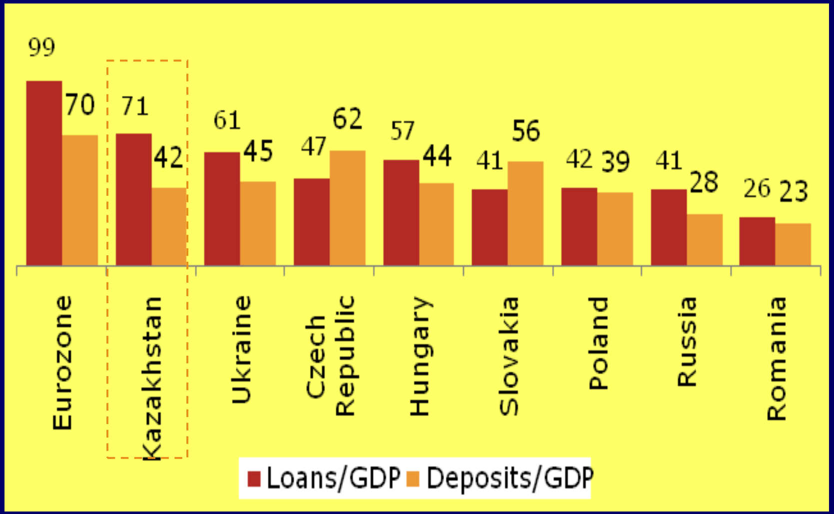
Source: EIU, local central banks, FMSA

Note: Represents loans and deposits to individuals and non-financial corporations

Deposit s include SPV's deposits

Loans and deposits/GDP, 2007

(%)

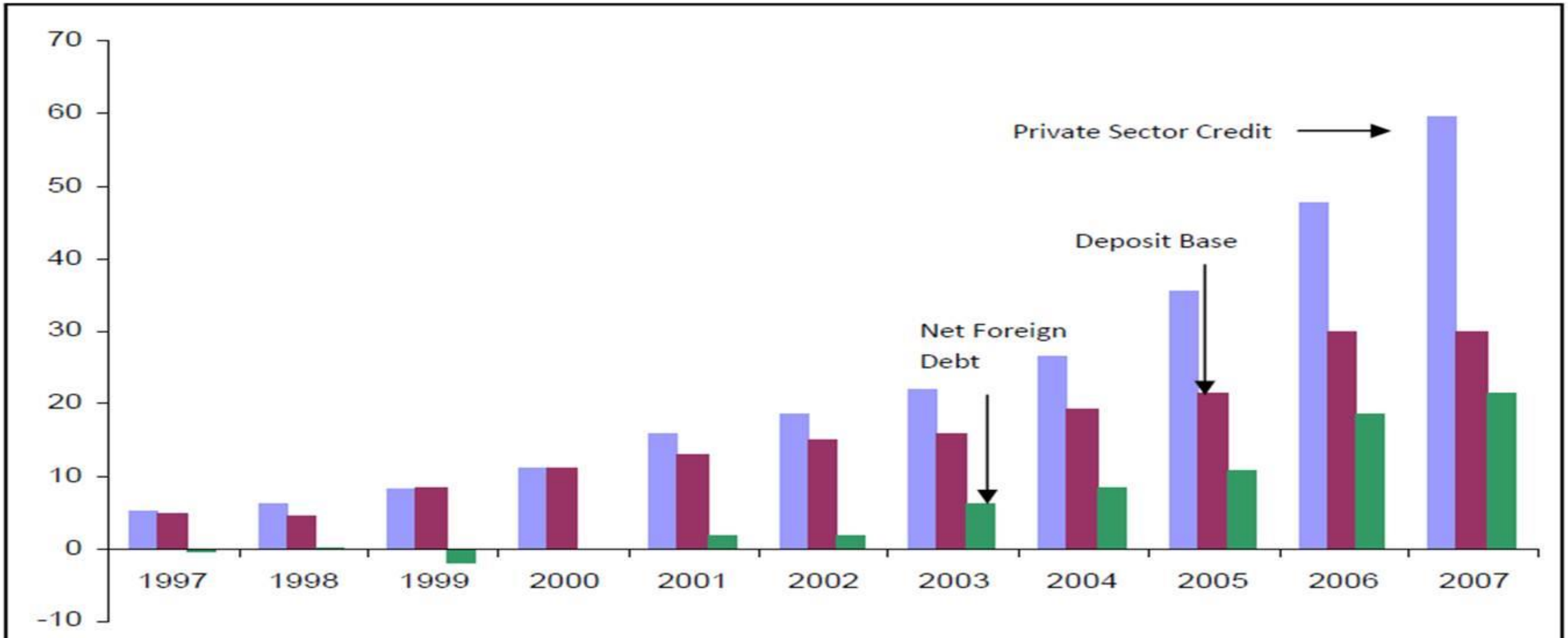


Comments

- The Banking Assets/GDP ratio more that tripled in a span of five years only
- Comparably low 42% ratio of deposit/GDP meant that a lot of the loans were financed by foreign credits

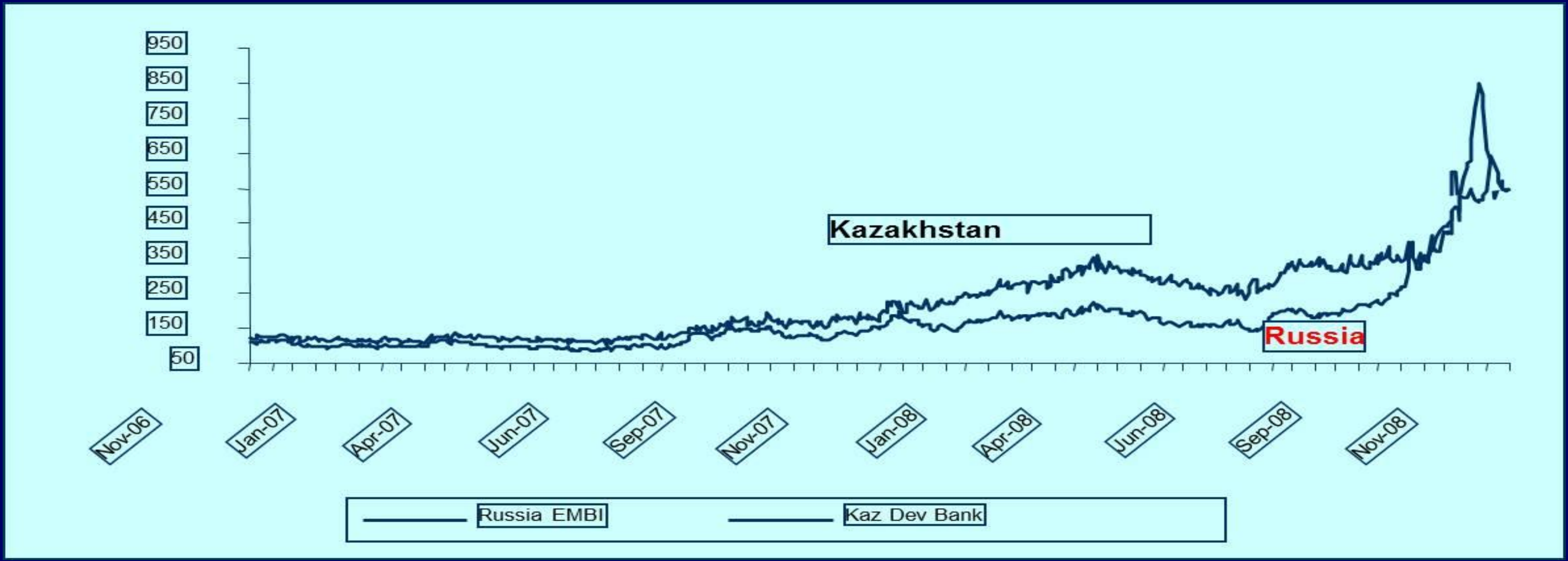
- Banking Credits to Deposits reached a high level of 198% in 2007, compared to 90% for Thailand and Malaysia or 57% for the USA.
- With large credit availability, from 2005 to 2007, construction and finance services generated close to 40% of total economic growth, while representing less than 14% of all economic activities.
- Housing prices and imports surged on booming household borrowing.

Chart 2: Private Sector Credit and Main Sources of Funding, 1997-2007 (% of GDP)



Source: International Monetary Fund.

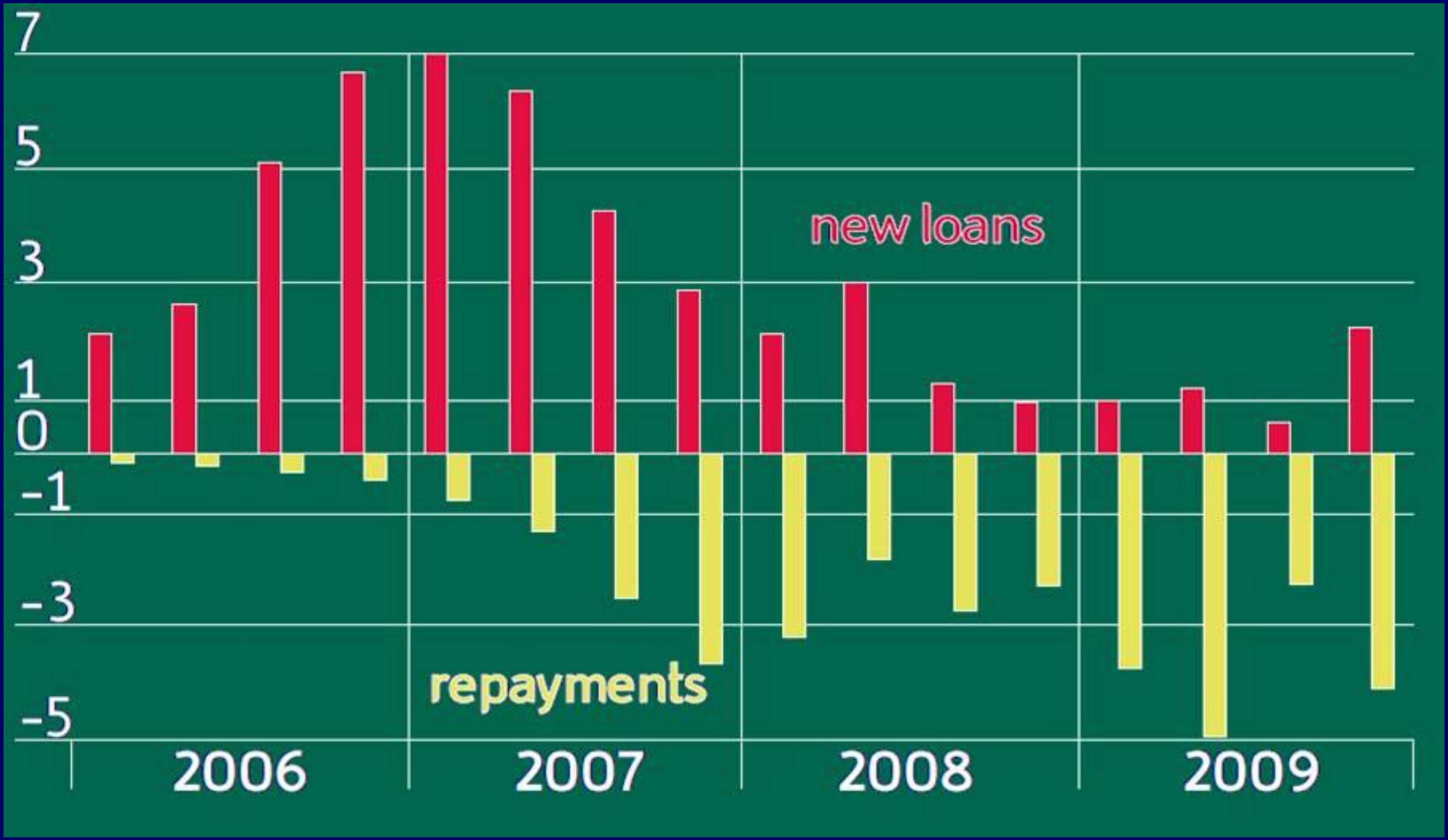
Banks' large borrowings made Kazakhstan an early victim of the international crisis



- In August 2007 the banks were cut off from Eurobonds and syndicated loans;
- In September 2008 there was a complete cut off of all funds
- Furthermore, oil/copper prices were no longer supporting the balance of payments
- Banks had to ration credit and increase lending rates. Bank funding became more expensive or unavailable for many Kazakh companies and households
- The Construction sector froze, the real estate bubble deflated
- Government announced a US$ 21 billion (16% GDP) Stabilisation Plan, and takes 25% equity stakes in 4 banks.

The Banks lost access to foreign credit markets…

flows of long-term foreign loans to Kazakh banking sector, $ billion



Source: NBK

As a result, Bank Lending Collapsed…..

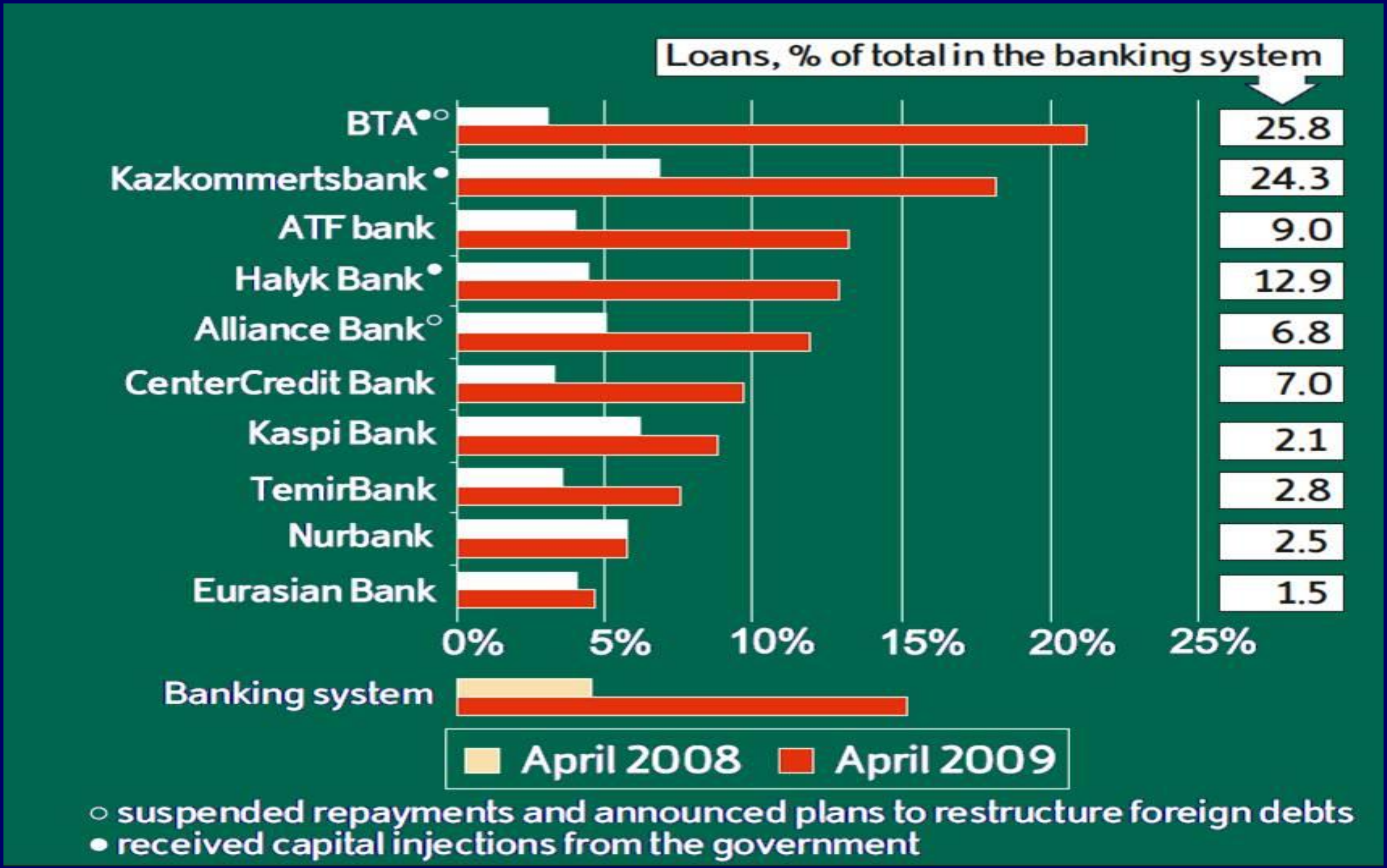
Home Prices Nosedived…..

existing home price index, January 2006 = 100

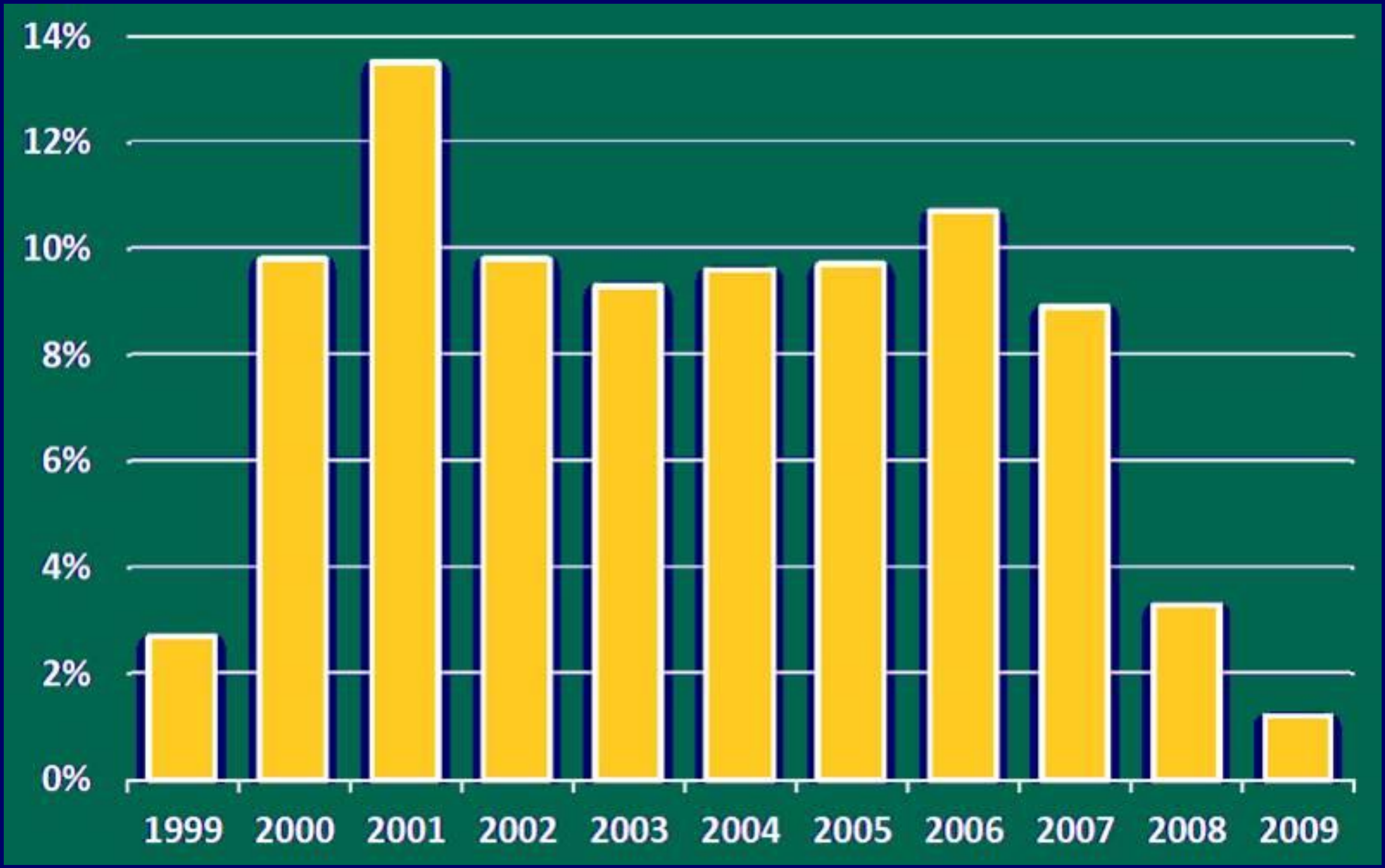
Source: ASRK

The Housing situation deteriorated the quality of bank loans …...
Big banks started to default on foreign liabilities

nonperforming loans, % of total

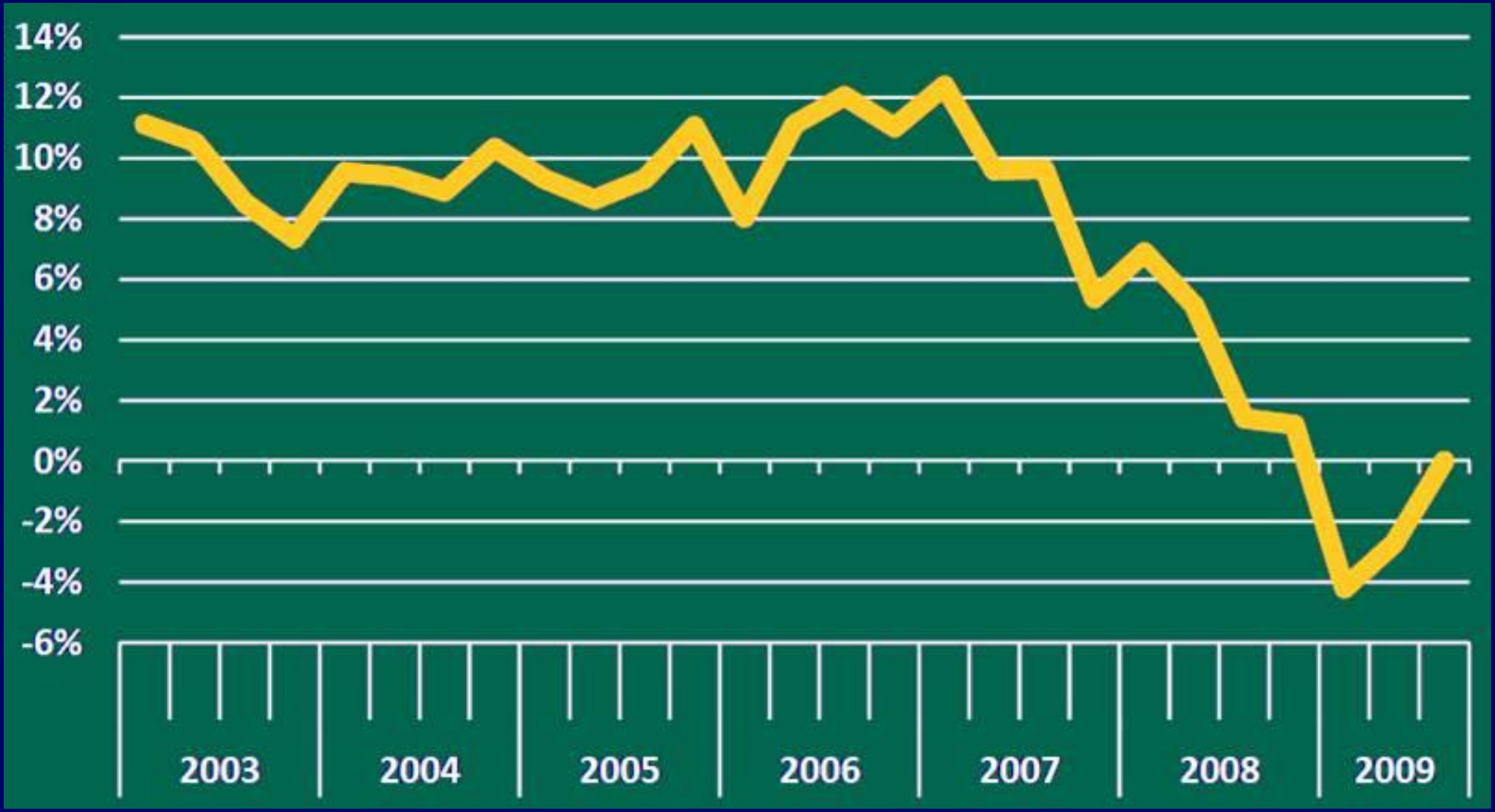


Kazakh GDP Growth Tumbled…



GDP growth was negative for three consecutive quarters…

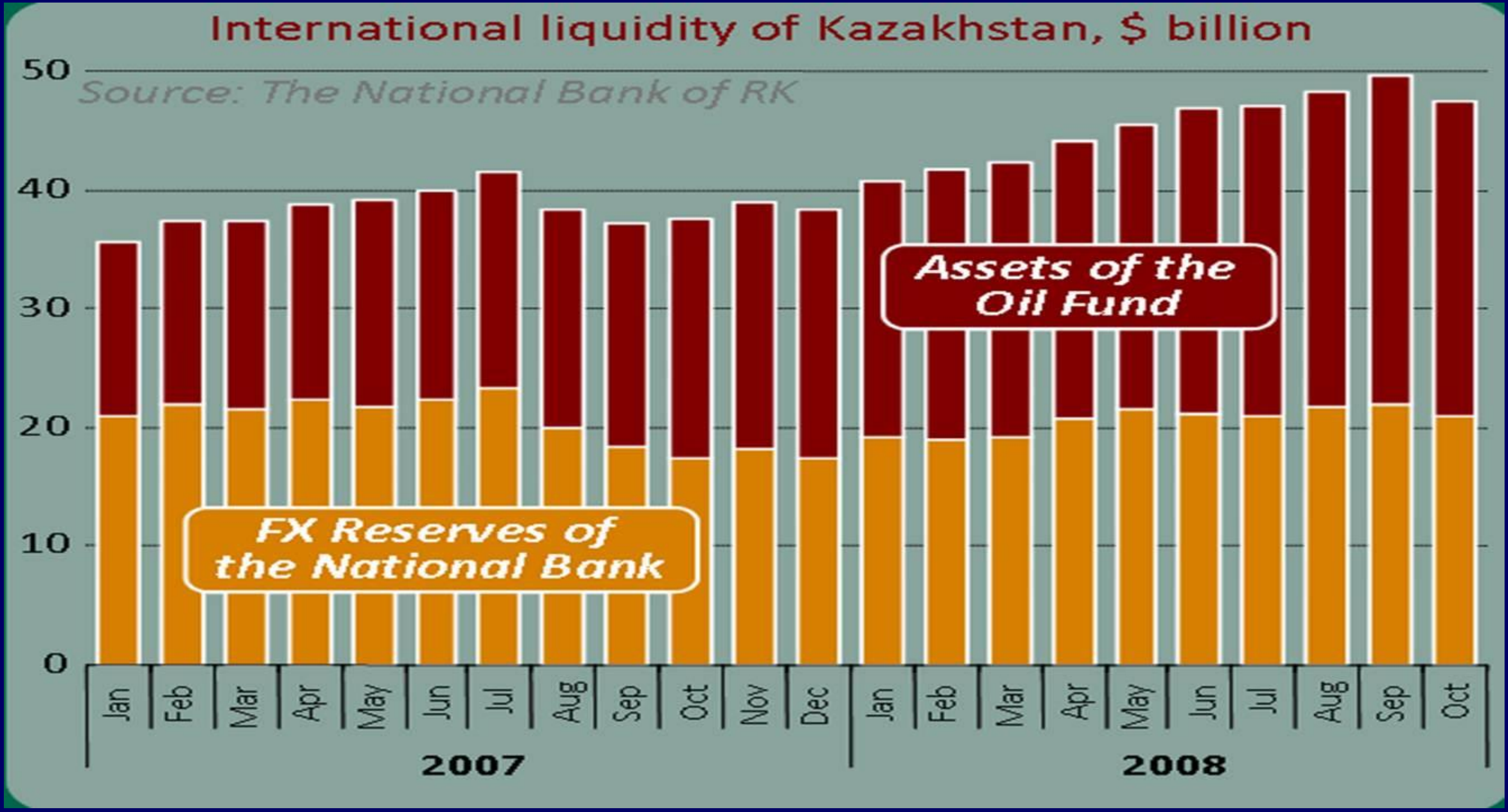
seasonally adjusted % annual change



Source: ASRK

Dealing with the Crisis

The government was able to fund rescue operations because high commodity prices and prudent fiscal policies before the Crisis led to large government liquidity that could be used during the Crisis



Policy Response

1. The country's mix of fiscal, monetary, and exchange rate polices enabled Kazakhstan to engineer a timely and proper response to the global financial turmoil
2. The government provided significant fiscal resources to banks for their recapitalization and the National Bank injected liquidity to banks.
3. The National Bank postponed interest rate increases and effectively neutralized devaluation pressures on the exchange rate.
4. The state budget remained in surplus as new taxes on oil companies and lower growth of government spending helped counterbalance the shortfalls in budget revenue associated with slower economic growth.
5. The government allocated $4 billion ($1 billion in 2007 and $3 billion in 2008) to support ongoing construction projects.
6. In 2008, a $5bn Oil Fund grant was transferred to the economy.
7. In 2009, $5bn were transferred from the Oil Fund in exchange for securities issued by state entity Samruk-Kazyna.

8. The banks' shareholders and creditors also shared on the burden of resolving the crisis.
   – The BTA Bank was the biggest problem and its restructuring was completed in September 2010: instead of getting a state guarantee, the majority of the creditors of BTA Bank shared the pain. Even senior bondholders were hit.
   – Most BTA creditors were offered a menu of options which included a haircut on their assets, various combinations of senior and subordinated debt, and a small stake in the bank's equity.
   – The government faced down those who warned that, if senior bondholders and trade creditors were included, the market would ostracize Kazakhstan for years.
   – Nevertheless, despite the restructuring, BTA Bank is still in trouble due to its high level of non-performing loans.
   – Around $12 billion of bonds and commercial debt was reduced to $4 billion. The external debt of the Kazakh banking sector, which was 26% of GDP when the crisis struck, has been roughly halved.

Kazakhstan – Economic Stabilization Program

- The government spent $18.1 billion to stabilize the economy:

Kazakhstan's Economic Stabilization Program, 2009-2010		
	$ billion	% of projected 2008 GDP
Banking Sector	**10.9**	**8.70%**
Bank recapitalization program	4	3.20%
Acquisition of common stock	*1*	*0.80%*
Subordinated debt and preferred shares	*3*	*2.40%*
Distressed Assets Fund	1	0.80%
Residential Mortgage Lending	3	2.40%
Liquidity support	2.9	2.30%
Sector specific programs	**3**	**2.40%**
SME	1	0.80%
Agriculture	1	0.80%
Industry, infrastructure	1	0.80%
Tax stimulus	**4.2**	**3.40%**
TOTAL	**18.1**	**14.50%**

Source: The Government of Kazakhstan, The Bleyzer Foundation

Fiscal Budget

% of GDP			
	2008	2009	2010
State budget revenues	25.1%	20.6%	20.0%
State budget expenditure	21.1%	22.0%	20.7%
Net budget credit	0.3%	0.2%	0.1%
Balance on operations with financial assets	5.8%	1.3%	1.6%
Deficit	-2.1%	-2.9%	-2.5%
	2008	2009	2010
I. State budget revenues	25.1%	20.6%	20.0%
Tax Revenues	17.5%	13.1%	13.6%
- corporate income tax	*5.7%*	*3.8%*	*3.9%*
- personal income tax	*1.7%*	*1.6%*	*1.5%*
- social tax	*1.6%*	*1.4%*	*1.2%*
- VAT	*4.0%*	*3.0%*	*3.1%*
- excises	*0.4%*	*0.3%*	*0.3%*
Transfers from the National Oil Fund	6.7%	6.5%	5.6%
II. State budget expenditure	21.1%	22.0%	20.7%
III. Net budget credit	0.3%	0.2%	0.1%
Loans from the budget	0.3%	0.2%	0.5%
Repaid loans	0.0%	0.0%	0.4%
IV. Balance on operations with financial ass	5.8%	1.3%	1.6%
Purchases of financial assets	5.8%	1.3%	1.6%
Sale of financial assets	0.0%	0.0%	0.0%
State budget balance = I-(II+III+IV)	-2.1%	-2.9%	-2.5%
Sources of deficit financing			
domestic	*2.0%*	*2.4%*	*1.5%*
external	*0.0%*	*0.5%*	*1.0%*

Fiscal Budget Expenditures

II. State budget expenditure	**21.1%**	**22.0%**	**20.7%**
Public governance	**1.4%**	**1.0%**	**1.0%**
Defense	**1.2%**	**1.1%**	**1.0%**
Public safety and order	**1.7%**	**1.9%**	**1.7%**
Education	**3.6%**	**3.9%**	**3.5%**
Healthcare	**2.3%**	**2.7%**	**2.6%**
Social assistance (state pensions etc.)	**3.9%**	**4.5%**	**4.2%**
Housing sector	**1.5%**	**1.8%**	**1.6%**
Culture, sport, tourism, IT	**1.0%**	**1.0%**	**1.1%**
Energy and mining	**0.4%**	**0.3%**	**0.4%**
Agriculture	**1.1%**	**1.0%**	**1.0%**
Industry and construction	**0.2%**	**0.2%**	**0.1%**
Transport and communications	**2.1%**	**2.0%**	**1.8%**
Debt service	**0.4%**	**0.4%**	**0.4%**

External Debt

	2004	2005	2006	2007	2008	2009	2010	H1 2011
Public and publicly guaranteed external debt, $ bill	**3.1**	**2.2**	**3.1**	**2.1**	**2.2**	**3.7**	**5.1**	**6.8**
% of GDP	**7%**	**4%**	**4%**	**2%**	**2%**	**3%**	**3%**	**4%**
External debt, not publicly guaranteed, $ billion	**29.6**	**41.3**	**70.9**	**94.8**	**105.8**	**109.1**	**113.0**	**117.3**
% of GDP	**68.5%**	**72.2%**	**87.5%**	**90.4%**	**79.2%**	**95.0%**	**76.4%**	**72.7%**
Total external debt, $ billion	**32.7**	**43.4**	**74.0**	**96.9**	**107.9**	**112.8**	**118.2**	**124.1**
% of GDP	**75.7%**	**76.0%**	**91.4%**	**92.4%**	**80.9%**	**98.2%**	**79.8%**	**77.0%**
full year GDP, $ billion	**43.2**	**57.1**	**81.0**	**104.9**	**133.5**	**114.8**	**148.0**	**161.2**
by borrower								
Government, $ billion	**2.5**	**1.5**	**1.5**	**1.5**	**1.6**	**2.2**	**3.8**	**4.0**
% of GDP	**5.8%**	**2.6%**	**1.8%**	**1.4%**	**1.2%**	**1.9%**	**2.6%**	**2.5%**
Central Bank, $ billion	**0.0**	**0.1**	**1.1**	**0.1**	**0.0**	**1.0**	**1.0**	**2.5**
% of GDP	**0.0%**	**0.2%**	**1.3%**	**0.1%**	**0.0%**	**0.9%**	**0.7%**	**1.6%**
Commercial Banks, $ billion	**7.7**	**15.3**	**33.3**	**45.9**	**39.2**	**30.2**	**19.9**	**18.6**
% of GDP	**17.8%**	**26.8%**	**41.1%**	**43.8%**	**29.4%**	**26.3%**	**13.5%**	**11.6%**
Other sectors, $ billion	**22.5**	**26.5**	**38.1**	**49.3**	**67.1**	**79.4**	**93.4**	**99.0**
% of GDP	**52.2%**	**46.4%**	**47.1%**	**47.1%**	**50.2%**	**69.1%**	**63.1%**	**61.4%**
Intercompany lending, $ billion	***16.7***	***19.2***	***25.5***	***30.1***	***40.2***	***49.6***	***52.3***	***56.2***
% of GDP	***38.6%***	***33.7%***	***31.5%***	***28.7%***	***30.1%***	***43.2%***	***35.3%***	***34.9%***

Key Economic Indicators

The resources injected by the government in the economy succeeded in containing the crisis:

	2006	2007	2008	2009	2010	2011f
GDP growth, % change yoy	10.7%	8.9%	3.3%	1.2%	7%	6.5%
GDP per capita, $	5262	6757	8398	6710	9100	9200
Industrial production, % change yoy	7.2%	5.0%	2.1%	1.5%	10%	5%
State budget deficit, % of GDP	0.8%	-1.7%	-2.1%	-2.9%	-2.5%	-2.0%
Governmet external debt (including NBK), % of GDP	2.9%	1.8%	1.6%	2.4%	2.6%	2.5%
Unemployment, end of period	7.8%	7.3%	6.6%	6.6%	5.8%	5.5%
Inflation, end of period	8.4%	18.8%	9.5%	6.2%	7.8%	9%
Retail sales, % change yoy	15.0%	10.7%	3.1%	-3.9%	12.3%	-
Gross forex reserves of the NBK, $ billion, end of period	19.1	17.6	19.9	23.2	28.3	-
Assets of the National Oil Fund, $ billion, end of period	14.1	21.0	27.5	24.4	30.6	-
Current Account Balance, $ billion	-2.0	-8.2	6.6	-4.2	4.9	3.0
External debt, $ billion	74.0	96.9	108.1	111.7	119.2	125.0
Exchange rate, tenge/$, annual average	126.1	122.6	120.3	147.5	147.4	147.0

Lessons Learned

- The crisis hit Kazakhstan hard principally because private local banks and corporations had excessive foreign borrowings.
- With limited investment opportunities, large bank borrowings were used for credits to real estate, which led to a real estate bubble
- Kazakhstan was able to cope successfully with the crisis because it had implemented prudent fiscal policies with funds saved in the National Oil Fund: 66% of oil revenues had been saved over 1999-2007
- The National Bank also had significant reserves.
- The private shareholders and creditors of banks shared the pain of debt restructuring, which allowed to contain fiscal costs of the banking crisis.
- The private sector still has large external debts, which make the country vulnerable to futures crisis if European banks were to cut lending due to their exposure to a Greek possible default.
- Privatization of state enterprises will help to build the government fund.
- Future policies should also aim at attracting FDI into the non-oil sectors to diversify the economy and accumulate larger international reserves.
- This policies will require major improvements in the investment climate.

Improving the Business Environment and FDIs

- SigmaBleyzer studies of over 100 countries have identified nine key “policy actions” or “drivers” that “induce” foreign investments (www.sigmableyzer.com) :
  1. Secure domestic and foreign Macroeconomic stability
  2. Liberalize and Deregulate Business Activities to facilitate the start of business and their operations and growth
  3. Provide a Stable and Predictable Legal Environment to protect investors’ property rights and enforce contacts
  4. Reform Public Administration, including Taxation
  5. Remove International Capital & Foreign Trade Restrictions
  6. Facilitate Financing of Businesses by the Financial Sector
  7. Prevent and Deal with Corruption
  8. Minimize Political Uncertainties and Risks
  9. Improve the Country’s International Image

IFC-World Bank Report: Doing Business 2012

KAZAKHSTAN		Eastern Europe & Central Asia		GNI per capita (US$)	7,440
Ease of doing business (rank)	47	Upper middle income		Population (m)	16.3
Starting a business (rank)	57	**Registering property** (rank)	29	**Trading across borders** (rank)	176
Procedures (number)	6	Procedures (number)	4	Documents to export (number)	9
Time (days)	19	Time (days)	40	Time to export (days)	76
Cost (% of income per capita)	0.8	Cost (% of property value)	0.1	Cost to export (US$ per container)	3,130
Minimum capital (% of income per capita)	0.0			Documents to import (number)	12
		Getting credit (rank)	78	Time to import (days)	62
Dealing with construction permits (rank)	147	Strength of legal rights index (0-10)	4	Cost to import (US$ per container)	3,290
Procedures (number)	32	Depth of credit information index (0-6)	5		
Time (days)	189	Public registry coverage (% of adults)	0.0	**Enforcing contracts** (rank)	27
Cost (% of income per capita)	93.2	Private bureau coverage (% of adults)	37.6	Procedures (number)	36
				Time (days)	390
Getting electricity (rank)	86	✔ **Protecting investors** (rank)	10	Cost (% of claim)	22.0
Procedures (number)	6	Extent of disclosure index (0-10)	9		
Time (days)	88	Extent of director liability index (0-10)	6	**Resolving insolvency** (rank)	54
Cost (% of income per capita)	88.4	Ease of shareholder suits index (0-10)	9	Time (years)	1.5
		Strength of investor protection index (0-10)	8.0	Cost (% of estate)	15
				Recovery rate (cents on the dollar)	42.7
		Paying taxes (rank)	13		
		Payments (number per year)	7		
		Time (hours per year)	188		
		Total tax rate (% of profit)	28.6		

REGION	Eastern Europe & Central Asia
INCOME CATEGORY	Upper middle income
POPULATION	16,316,050
GNI PER CAPITA (US$)	7,440.00

DOING BUSINESS 2012 RANK	DOING BUSINESS 2011 RANK	CHANGE IN RANK
47	58	11

TOPIC RANKINGS	DB 2012 Rank	DB 2011 Rank	Change in Rank
Starting a Business	57	49	-8
Dealing with Construction Permits	147	148	1
Getting Electricity	86	87	1
Registering Property	29	27	-2
Getting Credit	78	75	-3
Protecting Investors	10	44	34
Paying Taxes	13	26	13
Trading Across Borders	176	176	No change
Enforcing Contracts	27	26	-1
Resolving Insolvency	54	49	-5

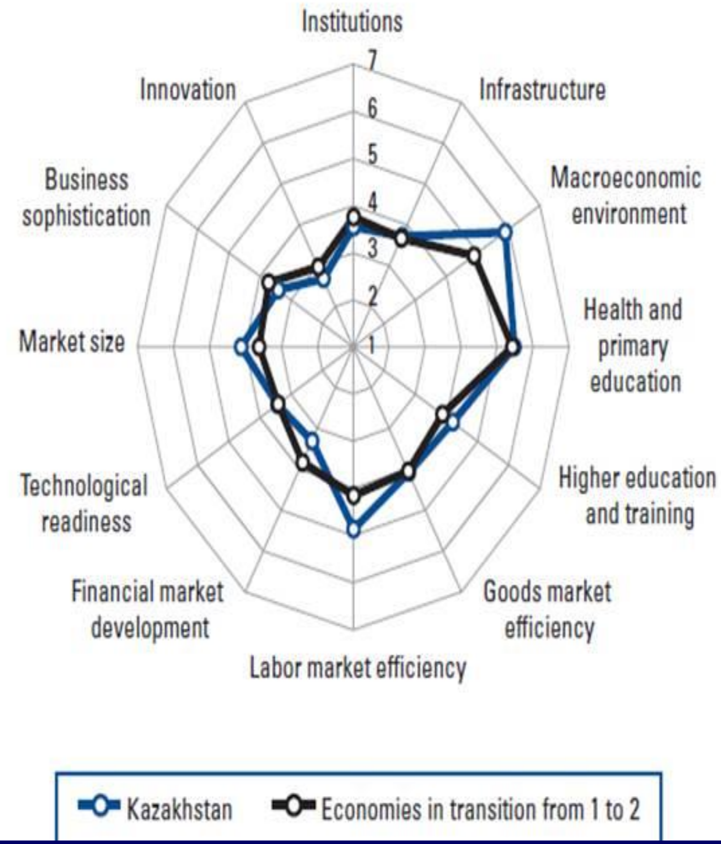
World Economic Forum: Global Competitiveness 2011-2012

Global Competitiveness Index

	Rank (out of 142)	Score (1–7)
GCI 2011–2012	**72**	**4.2**
GCI 2010–2011 (out of 139)	72	4.1
GCI 2009–2010 (out of 133)	67	4.1
Basic requirements (42.9%)	**62**	**4.6**
Institutions	94	3.5
Infrastructure	82	3.7
Macroeconomic environment	18	5.9
Health and primary education	85	5.5
Efficiency enhancers (47.8%)	**76**	**4.0**
Higher education and training	65	4.2
Goods market efficiency	87	4.1
Labor market efficiency	21	4.9
Financial market development	121	3.3
Technological readiness	87	3.4
Market size	55	4.1
Innovation and sophistication factors (9.3%)	**114**	**3.0**
Business sophistication	109	3.4
Innovation	116	2.7

Stage of development

1	Transition 1–2	2	Transition 2–3	3
Factor driven		Efficiency driven		Innovation driven

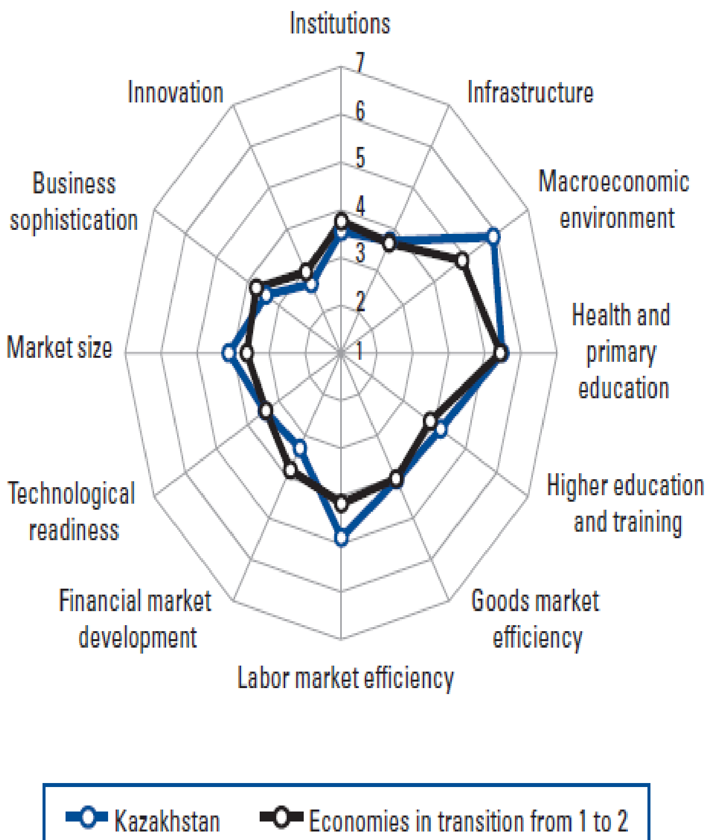


World Economic Forum: Global Competitiveness 2011-2012

Global Competitiveness Index

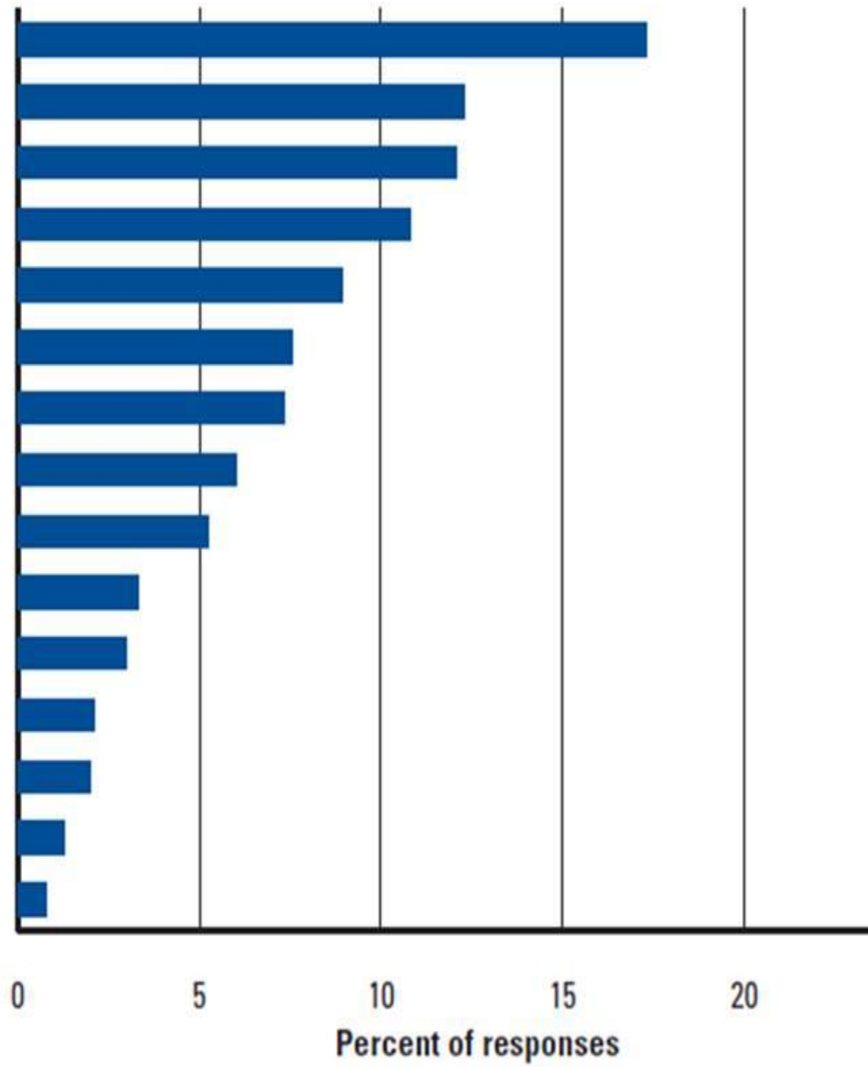
	Rank (out of 142)	Score (1–7)
GCI 2011–2012	**72**	**4.2**
GCI 2010–2011 (out of 139)	72	4.1
GCI 2009–2010 (out of 133)	67	4.1
Basic requirements (42.9%)	**62**	**4.6**
Institutions	94	3.5
Infrastructure	82	3.7
Macroeconomic environment	18	5.9
Health and primary education	85	5.5
Efficiency enhancers (47.8%)	**76**	**4.0**
Higher education and training	65	4.2
Goods market efficiency	87	4.1
Labor market efficiency	21	4.9
Financial market development	121	3.3
Technological readiness	87	3.4
Market size	55	4.1
Innovation and sophistication factors (9.3%)	**114**	**3.0**
Business sophistication	109	3.4
Innovation	116	2.7

Stage of development



The most problematic factors for doing business

Corruption	17.3
Inadequately educated workforce	12.3
Access to financing	12.1
Inefficient government bureaucracy	10.8
Tax regulations	8.9
Inflation	7.6
Tax rates	7.3
Poor work ethic in national labor force	6.0
Inadequate supply of infrastructure	5.3
Crime and theft	3.3
Foreign currency regulations	3.0
Restrictive labor regulations	2.1
Poor public health	2.0
Government instability/coups	1.3
Policy instability	0.8



The Global Competitiveness Index in detail

	INDICATOR	VALUE	RANK/142
	1st pillar: Institutions		
1.01	Property rights	3.6	107
1.02	Intellectual property protection	2.6	116
1.03	Diversion of public funds	2.8	98
1.04	Public trust of politicians	3.3	**46**
1.05	Irregular payments and bribes	3.4	99
1.06	Judicial independence	2.7	111
1.07	Favoritism in decisions of government officials	2.6	100
1.08	Wastefulness of government spending	3.5	**50**
1.09	Burden of government regulation	3.3	65
1.10	Efficiency of legal framework in settling disputes	3.4	87
1.11	Efficiency of legal framework in challenging regs.	3.1	91
1.12	Transparency of government policymaking	4.5	53
1.13	Business costs of terrorism	5.4	83
1.14	Business costs of crime and violence	4.5	87
1.15	Organized crime	4.4	104
1.16	Reliability of police services	3.3	111
1.17	Ethical behavior of firms	3.6	93
1.18	Strength of auditing and reporting standards	4.3	93
1.19	Efficacy of corporate boards	4.6	67
1.20	Protection of minority shareholders' interests	3.6	113
1.21	Strength of investor protection, 0–10 (best)*	6.0	**36**

2nd pillar: Infrastructure

2.01	Quality of overall infrastructure	3.8	85
2.02	Quality of roads	2.5	125
2.03	Quality of railroad infrastructure	3.9	**33**
2.04	Quality of port infrastructure	3.6	104
2.05	Quality of air transport infrastructure	3.9	103
2.06	Available airline seat kms/week, millions*	196.2	62
2.07	Quality of electricity supply	3.9	91
2.08	Fixed telephone lines/100 pop.*	25.0	**46**
2.09	Mobile telephone subscriptions/100 pop.*	123.3	**38**

3rd pillar: Macroeconomic environment

3.01	Government budget balance, % GDP*	1.5	**16**
3.02	Gross national savings, % GDP*	35.3	**12**
3.03	Inflation, annual % change*	7.4	117
3.04	Interest rate spread, %*	n/a	n/a
3.05	General government debt, % GDP*	11.4	**12**
3.06	Country credit rating, 0–100 (best)*	52.5	69

4th pillar: Health and primary education

4.01	Business impact of malaria	N/Appl.	**1**
4.02	Malaria cases/100,000 pop.*	(NE)	**1**
4.03	Business impact of tuberculosis	4.1	121
4.04	Tuberculosis incidence/100,000 pop.*	163.0	102
4.05	Business impact of HIV/AIDS	4.6	96
4.06	HIV prevalence, % adult pop.*	0.1	**21**
4.07	Infant mortality, deaths/1,000 live births*	25.6	91
4.08	Life expectancy, years*	68.4	101
4.09	Quality of primary education	3.6	77
4.10	Primary education enrollment, net %*	90.6	90

5th pillar: Higher education and training

5.01	Secondary education enrollment, gross %*	103.0	**18**
5.02	Tertiary education enrollment, gross %*	40.1	59
5.03	Quality of the educational system	3.0	112
5.04	Quality of math and science education	3.7	85
5.05	Quality of management schools	3.6	109
5.06	Internet access in schools	4.0	72
5.07	Availability of research and training services	3.9	80
5.08	Extent of staff training	3.6	96

	INDICATOR	VALUE	RANK/142
	6th pillar: Goods market efficiency		
6.01	Intensity of local competition	4.1	117
6.02	Extent of market dominance	3.4	93
6.03	Effectiveness of anti-monopoly policy	3.2	121
6.04	Extent and effect of taxation	3.8	**41**
6.05	Total tax rate, % profits*	29.6	**31**
6.06	No. procedures to start a business*	6	**34**
6.07	No. days to start a business*	19	74
6.08	Agricultural policy costs	4.1	**49**
6.09	Prevalence of trade barriers	4.0	112
6.10	Trade tariffs, % duty*	9.8	102
6.11	Prevalence of foreign ownership	4.1	111
6.12	Business impact of rules on FDI	4.3	93
6.13	Burden of customs procedures	3.5	102
6.14	Imports as a percentage of GDP*	28.9	116
6.15	Degree of customer orientation	3.9	117
6.16	Buyer sophistication	3.9	**40**
	7th pillar: Labor market efficiency		
7.01	Cooperation in labor-employer relations	4.2	78
7.02	Flexibility of wage determination	5.5	**31**
7.03	Rigidity of employment index, 0–100 (worst)*	17.0	**39**
7.04	Hiring and firing practices	4.4	**34**
7.05	Redundancy costs, weeks of salary*	9	**16**
7.06	Pay and productivity	4.7	**18**
7.07	Reliance on professional management	3.6	116
7.08	Brain drain	3.1	88
7.09	Women in labor force, ratio to men*	0.91	**19**

8th pillar: Financial market development

8.01	Availability of financial services	4.1	91
8.02	Affordability of financial services	3.6	103
8.03	Financing through local equity market	2.8	107
8.04	Ease of access to loans	2.1	120
8.05	Venture capital availability	2.3	92
8.06	Soundness of banks	3.9	131
8.07	Regulation of securities exchanges	3.6	112
8.08	Legal rights index, 0–10 (best)*	4.0	89

9th pillar: Technological readiness

9.01	Availability of latest technologies	4.4	103
9.02	Firm-level technology absorption	4.1	113
9.03	FDI and technology transfer	4.1	100
9.04	Internet users/100 pop.*	34.0	77
9.05	Broadband Internet subscriptions/100 pop.*	5.3	71
9.06	Internet bandwidth, kb/s/capita*	2.9	74

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	10th pillar: Market size		
10.01	Domestic market size index, 1–7 (best)*	3.9	56
10.02	Foreign market size index, 1–7 (best)*	4.8	**47**

	11th pillar: Business sophistication		
11.01	Local supplier quantity	4.0	124
11.02	Local supplier quality	3.9	105
11.03	State of cluster development	3.3	85
11.04	Nature of competitive advantage	2.5	129
11.05	Value chain breadth	3.0	115
11.06	Control of international distribution	3.6	108
11.07	Production process sophistication	3.3	84
11.08	Extent of marketing	3.8	85
11.09	Willingness to delegate authority	3.2	101

	12th pillar: Innovation		
12.01	Capacity for innovation	2.6	101
12.02	Quality of scientific research institutions	2.7	121
12.03	Company spending on R&D	2.6	107
12.04	University-industry collaboration in R&D	2.9	119
12.05	Gov't procurement of advanced tech products	3.4	93
12.06	Availability of scientists and engineers	3.4	106
12.07	Utility patents granted/million pop.*	0.1	81