



REPUBLIC OF KAZAKHSTAN
JSC “Economic Research Institute”
Center for macroeconomical analysis and forecasting
Department of Short-term Forecasting

THE KAZSTEM MACROECONOMICAL FORECASTING MODEL OF KAZAKHSTAN

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The content of the presentation

- I. The main macroeconomical indicators and the influence of the world financial crisis to the economy of Kazakhstan
- II. The state planning and forecasting system in Kazakhstan
- III. The Kazakhstan KazSTEM short-term and medium-term forecasting macroeconomical model in the econometric G7 package
- IV. The forecasting blocks of the model and the forecasts of the main macroeconomical indicators of Kazakhstan for 2010-2014
- V. “The short-term quarterly based forecast of the macroeconomical indicators of Kazakhstan for 2009” quarterly bulletin
- VI. III Astana Economic Forum

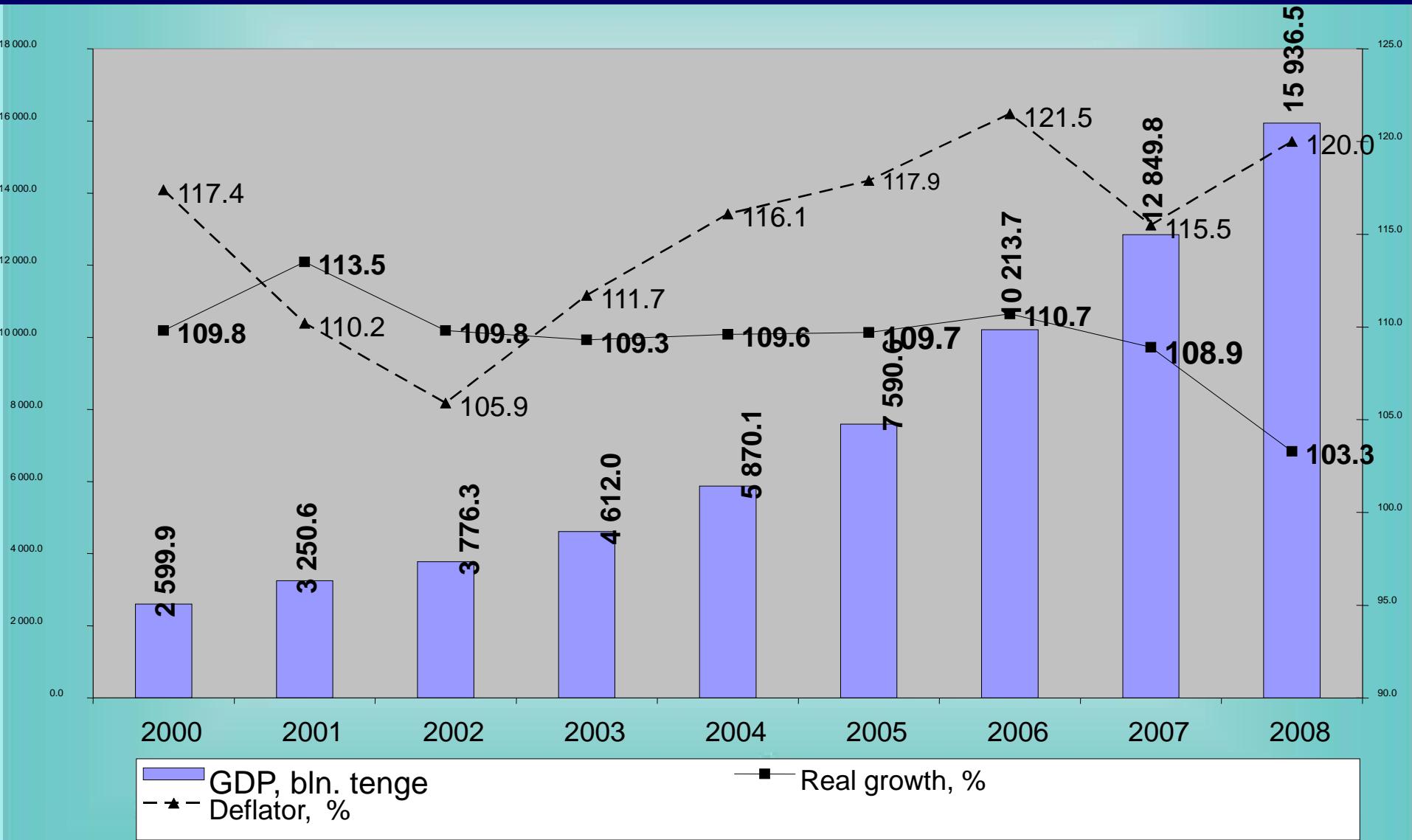


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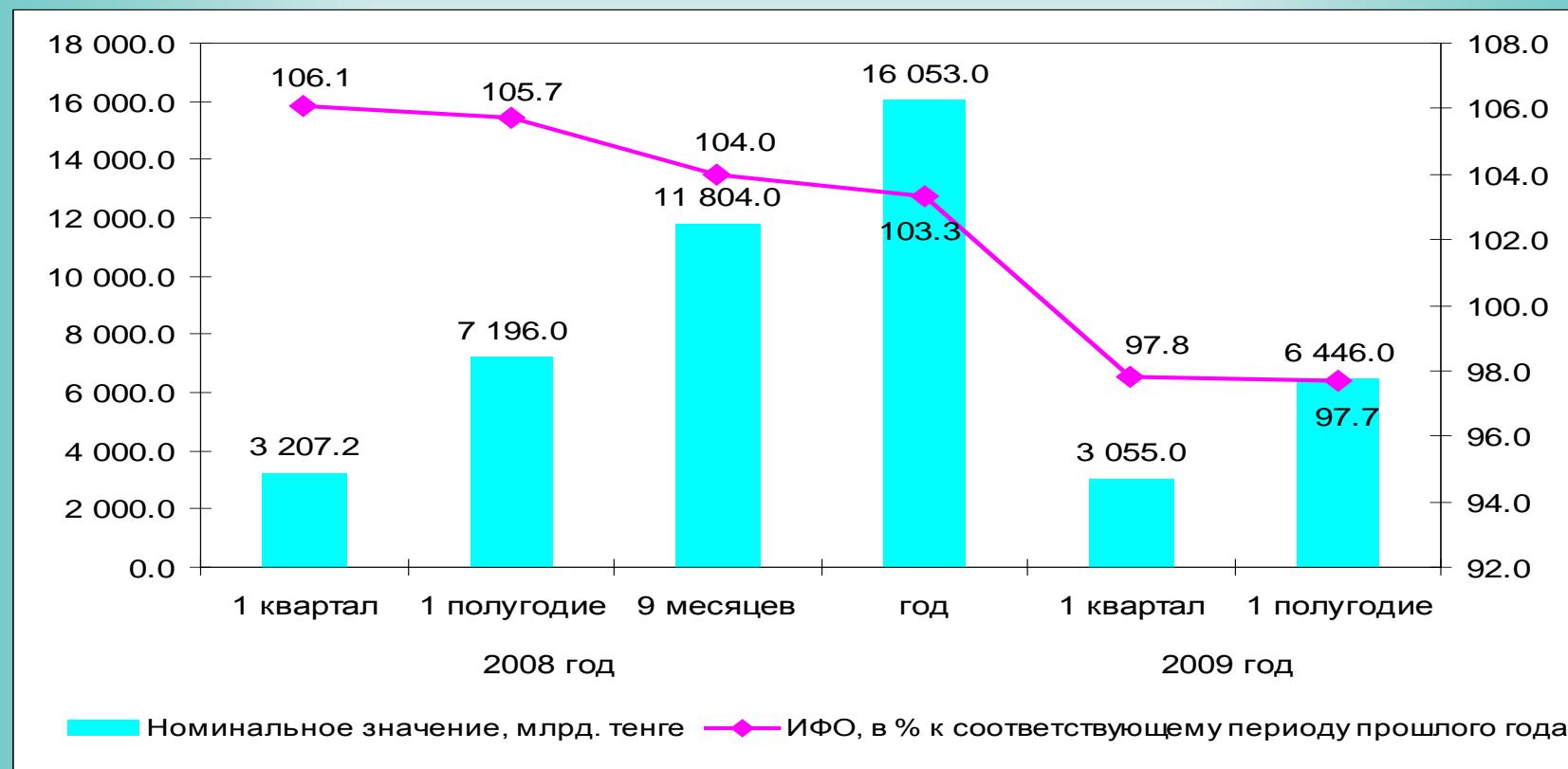
**I. The main macroeconomical indicators
and the influence of the world financial
crisis to the economy of Kazakhstan**



The Dynamics of GDP of the Kazakhstan 2000-2008



The Dynamics of GDP of the Kazakhstan 2008-2009



The main tendencies in the economy of Kazakhstan in 2008:

✓ The crisis that the economy of Kazakhstan has come up with, consists of 3 parts: a) the deep turn-down in overheated sectors of the economy (house building, crediting and banking); b) the influence of the external markets squeezing (export sector, investment activity); c) the consequences of squeezing in a short-term crediting – a turn-down in manufacturing, a growth slow-down in other industries during 2008;

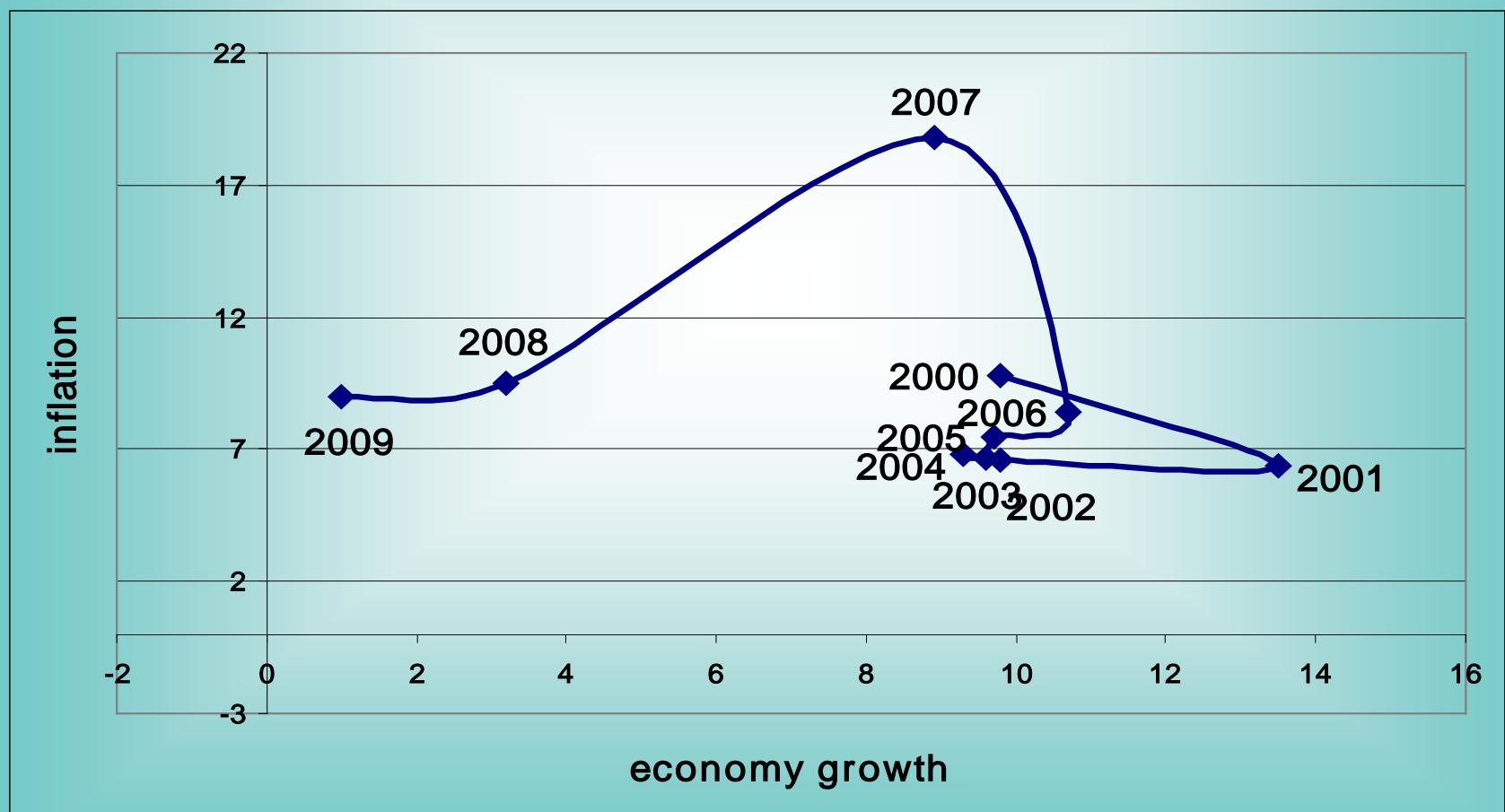
✓ The enterprises adapts to the crisis primarily due to investments squeezing, then due to salary squeezing , then due to release of employed workers;

✓ The drop of the world commodity prices and the capital outflow have led to decreasing of the gold-value reserves at the end of 2008 and to tenge weakening.



Economy is turning to the low inflation and growth pattern

The main result of the 2007-2008 food crisis for Kazakhstan was the highest in a decade inflation of 18,8 % in 2007. The most affected by this increase in prices were the low-income groups of population, whose consumption basket is composed mainly of foodstuff.

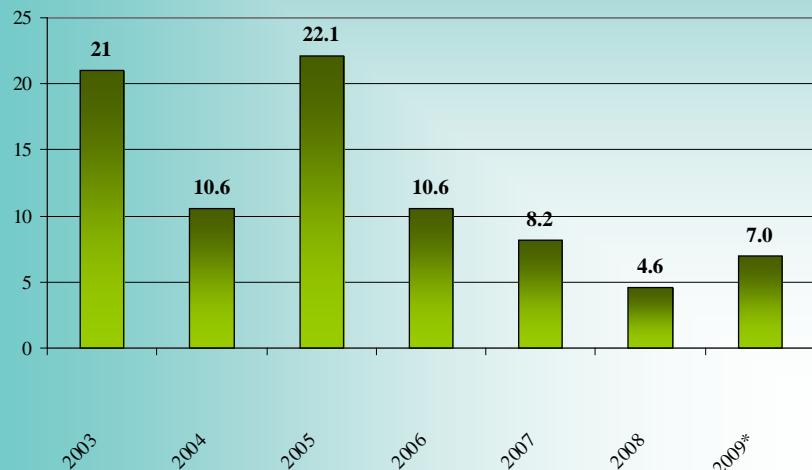


*2009 forecasts



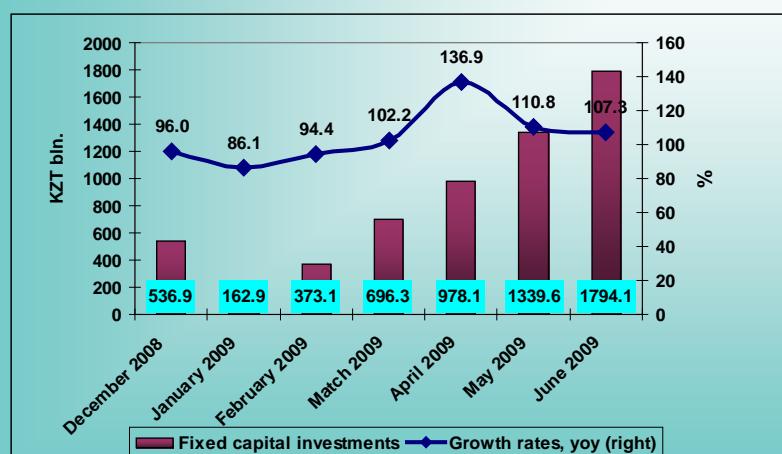
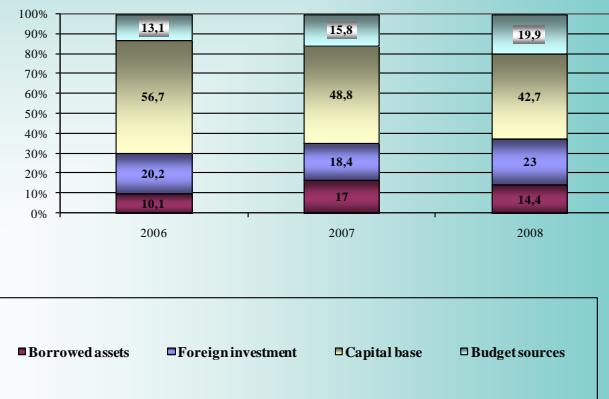
Economic dynamics in the Republic of Kazakhstan: investment activity

Investment dynamics to capital stock (growth rate, %)



* 7 months of 2009

Structure of investment into capital stock by finance resources (%)

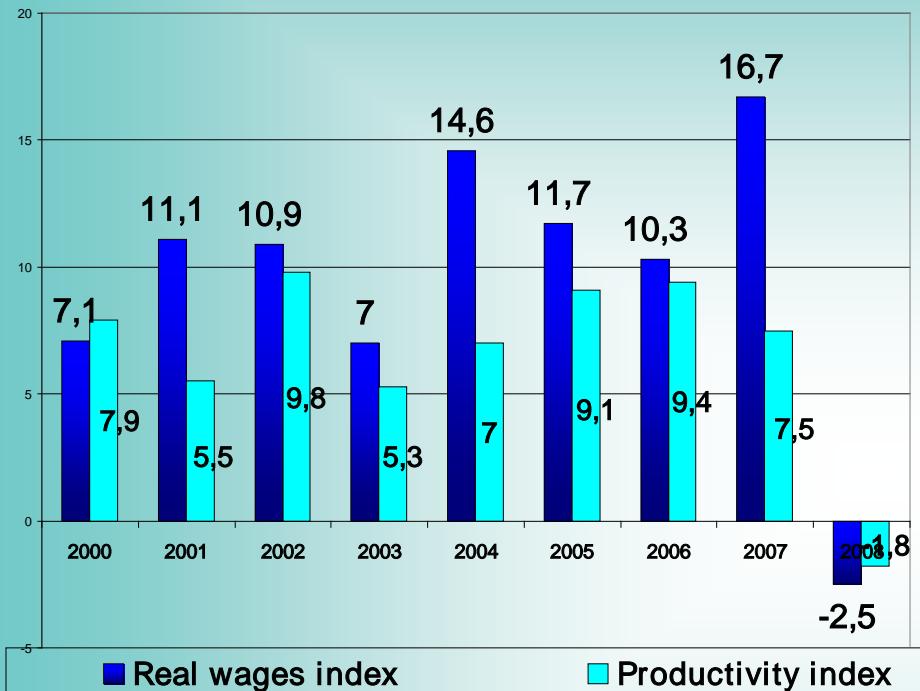


As shown in the picture, a share of capital base in structure of investment decreases, a share of borrowed assets increases in 2007 and decreases in 2008, while the shares of foreign investments and budget sources increases.

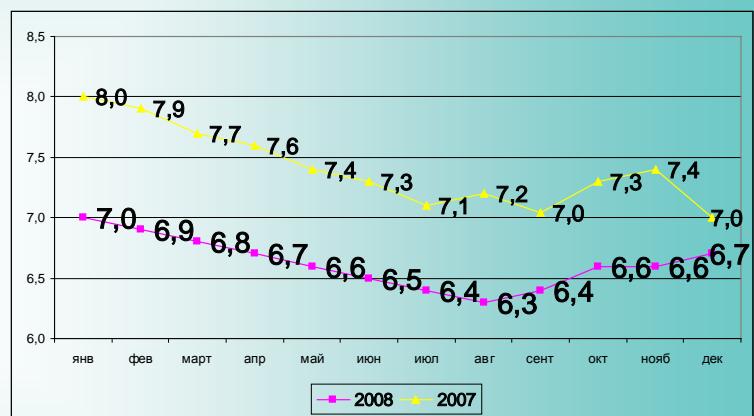


Labor market: results of the overheat

Labor productivity dynamics and real wage (growth rate, %)



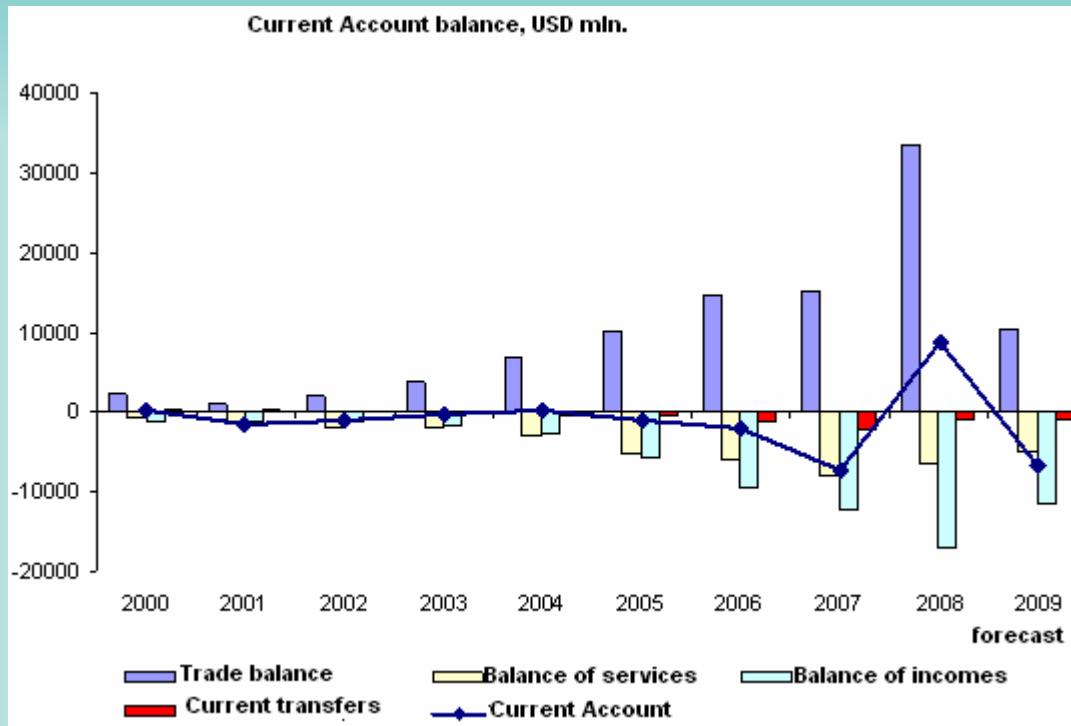
Unemployment level dynamics (in % to quantity of economic active population)



One of main factors of Kazakh economic overheating in previous period was the gap between real wage and labor productivity that supported inflow into economy of “oil” incomes and quick remuneration of labor and investment boom. In connection with the global financial crisis that influenced to Kazakh economy in 2008, sharp decrease in wage growth from 16,7% to -2,5% is observed. Unemployment rate during 2007 – 2008 varied from 6,3% to 8,0% and was 6,7% in 2008.



General picture of Kazakh economy: the current account

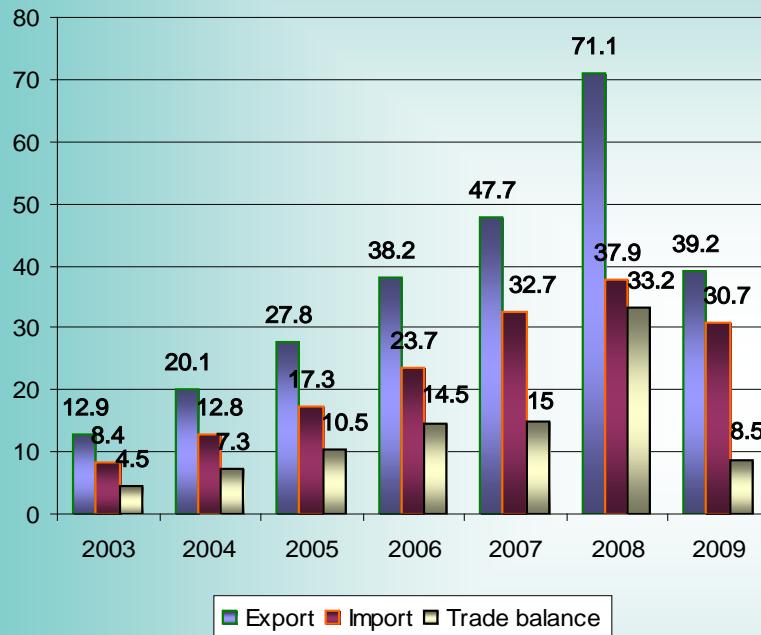


As it is clear from this figure, main current account components of the previous year except for the trade balance, show negative dynamics.

Significant improvement of balance of current operations in 2008 was guaranteed by export growth and surge in oil price. Taking into account that oil prices sharply declined, the current account in 2009 is expected to be negative (prognosis was done on basis of scenarios of \$50 per barrel of Brent). Devaluation of tenge should promote some improvement of current account deficit.

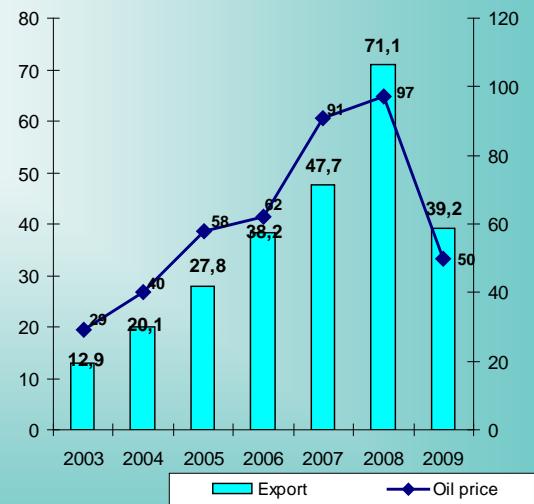
Economic dynamics: the foreign trade

Foreign trade indicators dynamics (billion dollars)



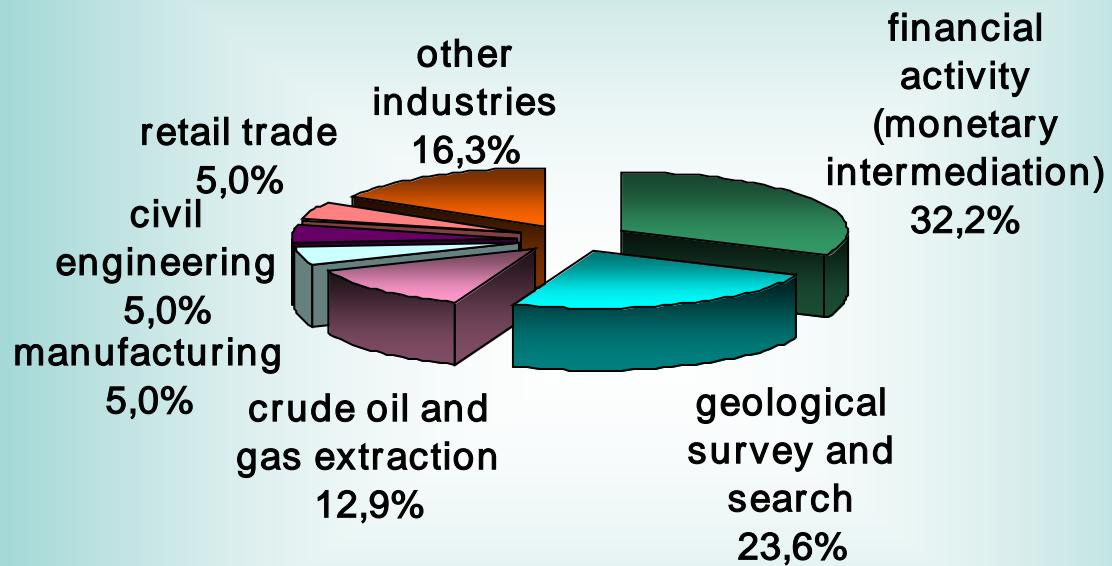
The essential decrease of both commodity prices and physical volumes of export can lead to a significant decrease of the trade balance.

Export of goods and Brent oil price





Foreign investment inclined primarily to the oil & gas sector



The analysis of the foreign investment structure in Kazakhstan shows that the most attractive sectors are: financial activity (monetary intermediation) – 32.2% of total foreign investment (FDI and portfolio), geological survey and search – 23.6%, crude oil and gas extraction – 12.9%, manufacturing, civil engineering, retail trade – 5% each.



SUMMARY OF ECONOMIC PROBLEMS IN KAZAKHSTAN

- 1. High dependence on mining industries – issue of economy diversification.**
- 2. Deteriorating Balance of Payments situation.**
- 3. There are phenomena of the Dutch Disease**
- 4. The country does not fully enjoy its comparative advantages.**
- 5. Foreign investment prefers oil and gas, reviving the diversification problem.**
- 6. The mounting external debt deters the development.**
- 7. The banks are not fully supporting the economy due to high external obligations, liquidity shortage, loan quality, and asset deterioration.**
- 8. Lack of technological breakthrough contains the development**

II. The state planning and forecasting system in Kazakhstan



A state planning system of the Republic of Kazakhstan

A development strategy of Kazakhstan for 2030

A strategic plan of development of the Republic of Kazakhstan for 10 years. A forecasting schedule of the territory development of the country

State programs for 5-10 years

A forecast of social-economic development for 5 years

Territory development programs for 5 years

Strategic plans of the authorities for 5 years

Development strategies for 10 years and development plans of the national managing holdings, national holdings, national companies with state share in nominal capital

Industry programs

Republic (local) budget for 3 years



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III. The Kazakhstan KazSTEM short-term and medium-term forecasting macroeconomical model in the econometric G7 package



Macroeconomic forecasting model

- *Macroeconomic forecasting model is based on the econometric regressions stemming in the econometric G7 application*
- *KazSTEM macroeconomic model was designed by ERI on the base of Qummir macroeconomic model of the Institute of economic forecasting of the Russian academy of sciences (Moscow) and was adapted to Kazakhstan economy conditions*
- *The Economic Research Institute was the first to adjust the model to Kazakhstan's economy*
*
- *The adopted model is the quarterly macroeconomic econometric model depicting the interrelations of basis macroeconomic indicators in Kazakhstan*
- *The model is designed to create forecast calculations for the short- and medium-term perspectives*

Designing the econometric macromodel of Kazakhstan

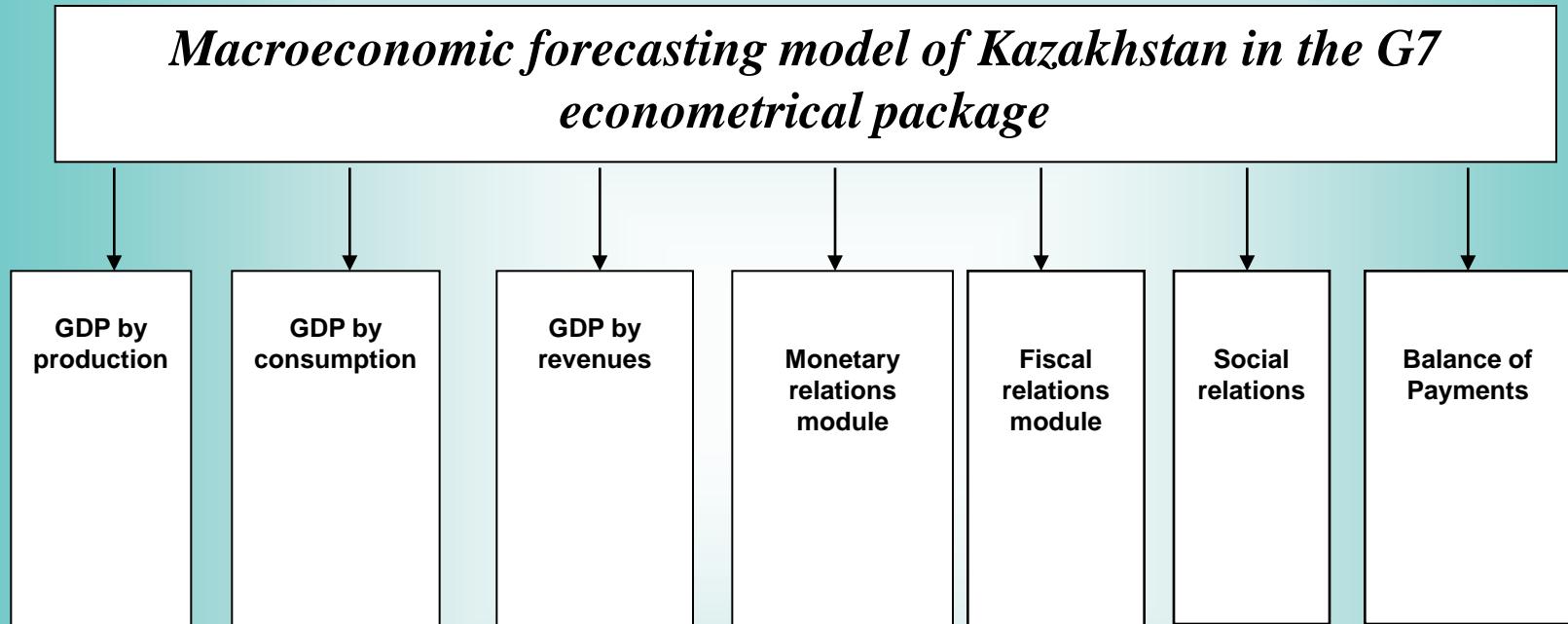


- ***More than 200 variables and around 80 regression equations are currently used in the model of Kazakhstan.***
- ***Development scenarios are created based on 30 exogenous parameters.***
- ***Statistical base is constantly updated as data from official sources such as RK Statistics Agency, National Bank of Kazakhstan, Ministry of Economy and Budget Planning, other ministries' web sites are available.***
- ***Current values of variables are transferred into constant ones to reveal the real rates of economy growth***
*
- ***For the endogenous variables of the model regression equations are built.***
- ***Scenario variants of the forecasts depend on the changes in exogenous variables.***



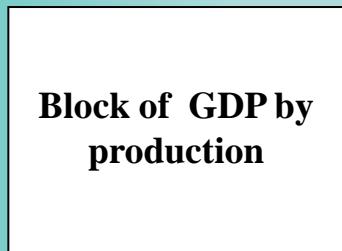
Modules of the forecasting model

Currently, the following forecasting modules are developed under the macroeconomic model of Kazakhstan:

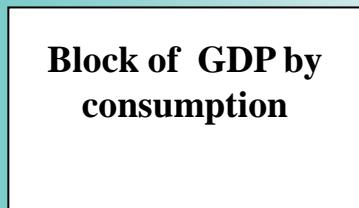




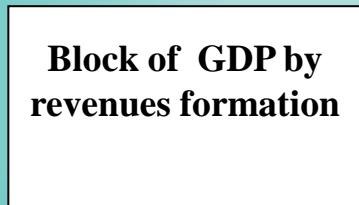
Forecasting of the GDP components



- Agriculture (nominal value, real growth, deflator)
- Industry (nominal value, real growth, deflator)
- Construction (nominal value, real growth, deflator)
- Internal Trade (nominal value, real growth, deflator)
- Hotels and Restaurants
- Transport (nominal value, real growth, deflator)
- Communications (nominal value, real growth, deflator)
- Financial activities (nominal value, real growth, deflator)
- Activities with real estate (nominal value, real growth, deflator)
- Public management (nominal value, real growth, deflator)
- Education (nominal value, real growth, deflator)
- Health care (nominal value, real growth, deflator)
- Household, social, and personal services (nominal value, real growth, deflator)
Household activities (nominal value, real growth, deflator)
- Financial intermediation taxes (nominal value, real growth, deflator)
- Net taxes (nominal value, real growth, deflator)

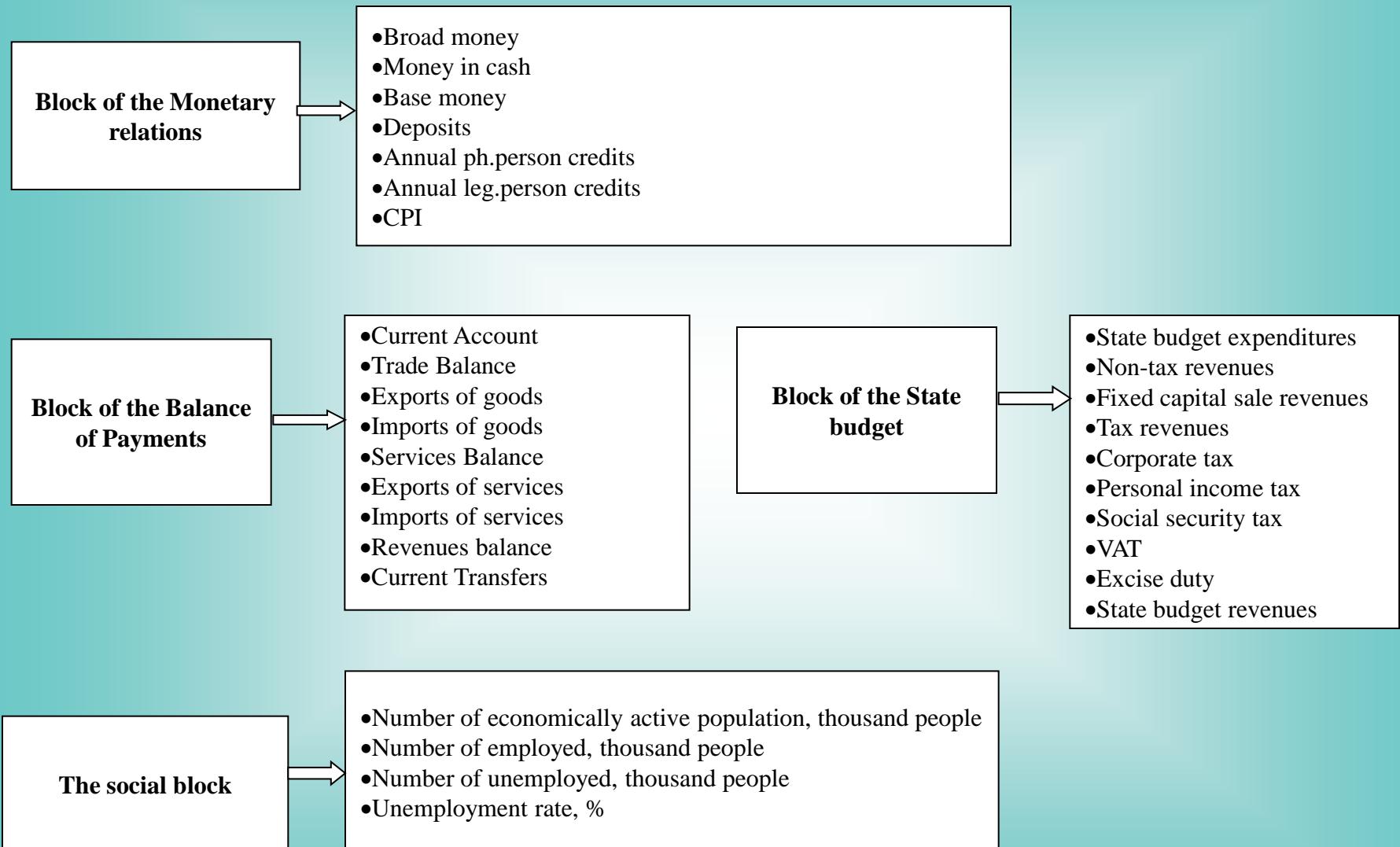


- Household consumption (nominal value, real growth, deflator)
- Public consumption (nominal value, real growth, deflator)
- Total savings (nominal value, real growth, deflator)
- Exports (nominal value, real growth, deflator)
- Imports (nominal value, real growth, deflator)



- Compensation of employees
- Other taxes on production
- Taxes on products and imports
- Consumption of fixed capital
- Net profits and net mixed revenues

Forecasting of the monetary, state budget, social and the Balance of Payments blocks





IV. The forecasting blocks of the model and the forecasts of the main macroeconomical indicators of Kazakhstan to 2010-2014 years



Database of the Model G7

	agrC	indC	cnsC	trdC	htlC	trnC	conC	finC	immC	govC	eduC	medC	zkxC	homC	kfpC	taxC
100.1	13535	191548	13342	71278	2744	60270	7770	15792	58019	13150	20342	11816	11615	41	-5644	38521
100.2	28013	192396	22549	71641	3659	64064	10133	18826	71891	15471	28180	14510	14920	96	-5675	40040
100.3	120874	239012	44916	98883	4460	66718	9571	19665	67440	15485	25733	13524	12769	228	-6066	44989
100.4	48450	224603	53768	81665	3920	69120	10868	26396	83544	16633	21929	12617	9934	542	-6275	49133
101.1	17101	205792	24279	80939	4721	73711	10204	21072	94631	15092	20844	14722	13516	402	-8359	45955
101.2	35035	264680	49095	90808	5022	85715	11176	28971	102772	16641	27188	16762	15540	953	-9028	56994
101.3	154578	268976	58072	116820	4795	85306	13228	33497	91875	18580	32357	17496	20092	2263	-10331	67549
101.4	76895	257624	46306	104339	4383	70006	13206	27964	103148	15250	37838	19293	16365	5374	-9621	54129
102.1	21859	229645	27383	99852	5674	83687	11523	24500	117858	16836	28095	19178	19523	446	-13302	53536
102.2	45499	274710	56393	110604	6925	99037	14732	35804	128904	21796	33996	21163	19949	919	-15825	64977
102.3	158688	308244	64053	129812	6997	98237	15256	36548	109372	19338	33996	17605	25213	2543	-14015	82749
102.4	75902	300360	91531	119197	6243	99913	15387	33676	118000	16494	35336	19574	20485	5712	-12561	70520
103.1	19563	332241	30685	138313	8104	107035	12936	22277	144315	17422	28601	20309	21591	469	-9914	55632
103.2	40907	313958	71875	114494	8971	138418	16917	34849	186028	20449	33607	20188	24074	1052	-24761	59255
103.3	185589	313656	96370	136353	11368	144758	20309	44396	177035	24199	38969	19936	25728	2614	-19935	110298
103.4	116544	381627	77250	147780	10583	105960	24461	44326	155209	24340	58575	23202	27320	2185	-16722	87839
104.1	25891	417372	38364	187853	9694	128582	22291	36082	230515	27218	40039	27057	28431	439	-13634	64549
104.2	54458	432370	90184	156920	11055	167909	23858	41342	228848	34609	48024	27591	30721	924	-36066	68074
104.3	219803	415416	114436	187778	16798	170691	28773	47611	201197	37873	53883	28447	28981	2010	-30378	122986
104.4	117976	454214	112845	199050	14103	122783	26363	47188	240651	27925	76961	30404	28006	6010	-29923	97714
105.1	29003	561699	50492	235836	13126	154149	29300	49559	309091	36207	55841	32360	31936	362	-35522	96709
105.2	61401	577022	137625	197780	12600	194032	34249	47502	287401	40676	56991	34120	34420	712	-42043	109219
105.3	257705	491078	216118	220201	21966	239413	36207	69815	204610	43558	52463	30327	37047	1943	-44017	131218
105.4	135376	631404	190752	244102	20362	154318	55145	78900	341697	37411	98165	33030	32475	7362	-44119	130704
106.1	37694	685195	72307	283258	16533	174342	41067	64814	372539	44304	74039	43853	38692	760	-58180	149732
106.2	60643	767510	217604	275775	16073	232313	54350	97602	332969	58311	75956	44551	46130	1795	-63675	145901
106.3	291889	667481	317515	307982	34262	250842	49537	123126	315640	48679	75531	38413	41570	225	-84845	170756
106.4	171103	898358	393793	297726	17292	293908	82475	189984	494575	39599	96144	31957	44712	8638	-99334	199446
107.1	49779	837287	117511	358027	20573	199031	56489	135973	461267	55920	101657	52796	44956	1313	-111895	155553
107.2	79513	885085	379171	360772	22053	289791	75144	190065	428131	72537	89473	54898	52499	1798	-149345	227611
107.3	339761	873253	432848	378104	38566	319099	73519	210635	411490	71576	89188	51660	56727	815	-177156	230369
107.4	259047	985727	414769	408606	25990	301718	106299	259983	651274	53016	113794	44865	51134	10703	-182783	225960
108.1	65514	1088889	174715	432965	29172	207912	72538	182852	586054	63103	114542	61680	55961	1556	-178777	185337

The base, optimistic and pessimistic scenarios of the exogenous variables



Indicators	2009	2010	2011	2012	2013	2014
Brent oil price, USD for barrel	50	30	35	40	40	40
	50	50	60	60	60	60
	50	60	65	70	70	70
Tenge exchange rate, tenge for USD	150	155	160	160	160	160
	150	150	150	150	150	150
	150	145	140	135	130	130
Export of oil, thousand of tons	62846	62846	62846	64522	66198	67874
	62846	67053	67891	69566	69566	71244
	62846	68712	69550	71225	72063	73793
World GDP growth rate	-1,70%	1,30%	3,00%	4,00%	4,20%	4,00%
	-1,70%	1,90%	4,30%	4,80%	4,90%	4,80%
	-1,70%	2,50%	4,80%	5,20%	5,40%	5,20%
Crude oil production, million of tons	75	75	75	77	79	81
	75	80	81	83	83	85
	75	82	83	85	86	88
Crude oil production growth rate, % to the previous year	106,1	100,0	100,0	102,7	102,6	102,5
	106,1	106,7	101,3	102,5	100,0	102,4
	106,1	109,3	101,2	102,4	101,2	102,3

Block of GDP by production (at market and fixed prices)



agrC	mln.tenge	Agriculture (at market prices)	agr	mln.tenge	Agriculture (at fixed prices)
indC	mln.tenge	Industry (at market prices)	ind	mln.tenge	Industry (at fixed prices)
cnsC	mln.tenge	Construction (at market prices)	cns	mln.tenge	Construction (at fixed prices)
trdC	mln.tenge	Trade (at market prices)	trd	mln.tenge	Trade (at fixed prices)
htlC	mln.tenge	Hotels and restaurant (at market prices)	htl	mln.tenge	Hotels and restaurant (at fixed prices)
trnC	mln.tenge	Transport (at market prices)	trn	mln.tenge	Transport (at fixed prices)
conC	mln.tenge	Communication (at market prices)	con	mln.tenge	Communication (at fixed prices)
finC	mln.tenge	Financial activities (at market prices)	fin	mln.tenge	Financial activities (at fixed prices)
immC	mln.tenge	Real estate activities (at market prices)	imm	mln.tenge	Real estate activities (at fixed prices)
govC	mln.tenge	Government administration (at market prices)	gov	mln.tenge	Government administration (at fixed prices)
eduC	mln.tenge	Education (at market prices)	edu	mln.tenge	Education (at fixed prices)
medC	mln.tenge	Healthcare (at market prices)	med	mln.tenge	Healthcare (at fixed prices)
zkxC	mln.tenge	Other services (at market prices)	zkx	mln.tenge	Other services (at fixed prices)
kfpC	mln.tenge	FISIM (-) (at market prices)	kfp	mln.tenge	FISIM (-) (at fixed prices)
taxC	mln.tenge	Taxes on products and import (at market prices)	tax	mln.tenge	Taxes on products and import (at fixed prices)



Equations of the GDP by production block

- $r_{agr} = s_{agr}[2], agr[4], invnVT[1]$
- $r_{ind} = s_{ind}, exVT, ind[2], brent$
- $r_{cns} = !house, s_{cns}, cns[4], ratecredjur, trn$
- $r_{trd} = ratecredjur, s_{trd}, ind, cns$
- $r_{htl} = s_{htl}, wagesT/CPI, trd, htl[4]$
- $r_{trn} = s_{trn}, trn[1], imVT[1], inv_dir_in[1], trd$
- $r_{con} = s_{con}, con[4], wagesT/CPI, trd, ind$
- $r_{fin} = m3/dfin$
- $r_{imm} = s_{imm}, house[1], gov[2], popT$
- $r_{gov} = s_{gov}, pub_gl, ind$
- $r_{edu} = s_{edu}, ex_eduK/dpub, pubVT[1], gov[1], edu[4]$
- $r_{med} = s_{med}, med[3], ex_medK, gov[1], inv_dir_in[1]$
- $r_{zkx} = imm, zkx[4]$
- $r_{kfp} = fin, s_{kfp}, kfp[4]$
- $r_{tax} = s_{tax}, tax[1], trd, trn, cns$

Forecast of GDP by production (nominal value)

Base, optimistic, pessimistic scenarios



Indicators	2009	2010	2011	2012	2013	2014
Gross domestic product	14609.1	15254.0	15732.3	16875.6	18100.2	19378.1
	15054.2	16619.8	18306.2	20131.4	21958.0	23864.4
	15480.5	17535.2	19488.4	21663.0	23865.0	26166.4
Agriculture	925.7	904.4	930.5	958.4	1008.9	1060.9
	948.8	955.1	1017.3	1071.8	1147.0	1211.7
	1005.7	980.6	1045.4	1102.5	1182.2	1251.7
Industry	3446.9	3469.7	3352.9	3612.3	3853.8	4091.4
	3728.5	4165.9	4670.2	5116.0	5502.3	5900.7
	3935.7	4676.9	5269.4	5881.7	6378.9	6870.9
Construction	1275.9	1232.3	1277.0	1405.2	1571.4	1732.5
	1313.4	1382.5	1515.4	1708.1	1931.1	2151.0
	1343.6	1385.2	1535.3	1736.4	1971.3	2202.5
Trade	2051.0	2354.2	2538.6	2780.2	3053.5	3376.1
	2086.7	2524.6	2882.7	3292.9	3709.3	4184.9
	2129.4	2560.1	2957.1	3394.4	3853.2	4370.4
Hotels and restaurant	168.3	186.4	199.9	214.9	231.8	250.4
	170.0	193.8	221.3	251.3	283.6	318.3
	171.7	199.7	232.3	272.4	320.6	374.6
Transport	1259.0	1343.6	1372.0	1423.0	1475.8	1539.4
	1278.8	1459.3	1559.0	1669.1	1772.0	1891.6
	1297.5	1460.8	1576.9	1705.5	1828.8	1970.3
Communication	380.3	368.7	380.6	401.3	428.7	461.0
	384.0	399.8	439.6	485.7	535.6	590.2
	387.9	400.9	448.3	509.9	583.5	664.6
Financial activities	773.8	914.1	852.7	889.4	951.4	1012.4
	809.2	1047.5	1131.4	1264.3	1403.0	1528.5
	835.6	1060.4	1174.2	1322.3	1479.2	1617.7
Real estate activities	2713.4	2932.9	3119.5	3334.7	3558.1	3781.7
	2723.0	2949.1	3207.1	3503.8	3809.8	4119.6
	2739.5	3087.8	3402.8	3767.5	4175.1	4617.6
Government administration	315.2	339.8	375.9	410.0	441.2	471.2
	316.2	341.6	386.7	433.7	478.8	523.1
	317.2	388.5	443.3	499.8	555.0	610.0
Education	546.3	510.1	533.7	559.1	586.2	615.2
	548.1	511.7	537.4	564.5	593.3	623.9
	567.2	586.6	616.9	649.3	683.5	720.2
Healthcare	283.0	253.7	260.8	268.7	277.9	287.7
	283.2	255.8	264.6	273.4	283.5	294.0
	286.4	296.1	308.1	318.7	330.9	343.9



Forecast of GDP by production (real growth)

Indicators	2009	2010	2011	2012	2013	2014
Gross domestic product	98.3	100.1	101.8	103.9	104.3	104.2
	99.0	102.6	103.6	104.6	104.3	104.6
	99.8	104.0	104.2	104.9	105.0	105.1
Agriculture	103.5	103.4	103.3	103.2	103.2	103.1
	103.6	103.5	103.4	103.4	103.4	103.3
	103.7	103.5	103.4	103.4	103.5	103.5
Industry	96.8	100.6	102.8	104.7	104.8	104.7
	97.7	103.6	104.8	105.3	104.8	105.2
	98.7	105.2	105.2	105.8	105.5	105.6
Construction	92.6	99.8	101.7	104.5	106.3	105.3
	95.1	100.9	102.2	105.5	106.7	105.8
	97.0	101.7	103.3	105.6	106.9	105.9
Trade	95.3	99.8	102.6	104.6	104.7	105.4
	96.3	103.3	104.5	105.3	104.7	105.9
	97.6	105.3	105.1	105.7	105.4	106.3
Hotels and restaurant	106.6	105.5	104.5	104.5	104.6	104.8
	106.8	106.8	106.3	106.1	105.8	105.8
	107.2	107.6	107.0	107.0	107.0	107.0
Transport	91.2	99.5	101.4	103.1	103.3	104.1
	91.7	102.5	102.7	103.5	103.3	104.4
	92.5	104.6	103.1	103.6	103.5	104.6
Communication	102.5	98.3	98.2	101.5	103.5	104.5
	103.5	103.0	103.9	105.0	105.3	105.8
	104.4	105.8	105.5	108.0	109.1	109.0
Financial activities	105.8	98.0	98.5	107.2	107.4	106.2
	106.6	103.0	106.1	108.7	107.9	106.6
	107.4	105.4	107.4	108.8	108.4	106.8
Real estate activities	104.4	101.3	101.3	102.1	102.2	102.0
	104.5	102.1	102.0	102.7	102.6	102.2
	104.8	102.7	102.8	102.9	102.8	102.5
Government administration	105.0	102.9	102.7	102.8	102.5	102.2
	105.2	104.3	103.6	103.6	102.9	102.8
	105.4	105.1	104.3	104.0	103.4	103.2
Education	102.0	101.6	101.4	101.4	101.5	101.5
	102.2	101.8	101.7	101.7	101.7	101.7
	102.7	101.9	101.9	101.9	101.9	101.9
Healthcare	101.0	99.8	100.5	100.7	101.1	101.1
	102.1	101.2	101.2	101.0	101.3	101.3
	103.0	102.6	101.7	101.1	101.5	101.5



Block of GDP by consumption

pceVCT	mln.tenge	Consumption of households (in current prices)
pubVCT	mln.tenge	Public consumption (in current prices)
invnVCT	mln.tenge	Gross capital formation (in current prices)
exVCT	mln.tenge	Export (in current prices)
imVCT	mln.tenge	Import (in current prices)
pceVT	mln.tenge	Consumption of households (in constant prices)
pubVT	mln.tenge	Public consumption (in constant prices)
invnVT	mln.tenge	Gross capital formation (in constant prices)
exVT	mln.tenge	Export (in constant prices)
imVT	mln.tenge	Import (in constant prices)



Equations of the GDP by consumption block

- $r_{pceVT} = wagesT/dpce, sezpce$
- $r_{pubVT} = incK/dpub, sezpub$
- $r_{invnVT} = sezinvn, inv_dir_in*rate, fdVT, cred_jur/dinvn$
- $r_{exVT} = exoil_n, worldGDP$
- $r_{imVT} = wagesT/rate, sezim, cred_phis/rate$

Forecast of GDP by consumption (nominal value)

Base, optimistic, pessimistic scenarios



bln. tenge

Indicators	2009	2010	2011	2012	2013	2014
Gross domestic product	13935	14091	15051	16408	17387	18352
	14810	16229	18238	19809	21216	22712
	15428	17244	18669	20476	21899	23847
Final consumption expenditure of households	7435	8133	8543	8985	9391	9795
	7575	8499	9385	10207	10980	11735
	7675	8720	9705	10882	12192	13528
Final consumption expenditure of government administration	1885	2119	2276	2479	2673	2860
	1903	2214	2469	2720	2957	3197
	1920	2258	2512	2765	3016	3283
Gross capital formation	3913	4183	4151	4464	4769	4989
	4224	4784	5175	5653	6043	6382
	4428	5105	5415	5873	6240	6630
Export of goods and services	5509	3596	4102	5025	5384	5666
	6151	5736	7152	7753	8156	8633
	6586	6693	7504	8313	8555	9044
Imports of goods and services	4808	3941	4022	4547	4832	4958
	5043	5005	5944	6524	6921	7236
	5181	5533	6469	7359	8104	8639

Forecast of GDP by consumption (real growth)

Base, optimistic, pessimistic scenarios



Indicators	2009	2010	2011	2012	2013	2014
Gross domestic product	98.1	100.8	101.9	102.4	101.7	102.0
	99.7	102.8	102.1	103.0	102.2	103.0
	101.4	104.1	101.4	103.3	102.8	104.3
Final consumption expenditure of households	95.8	101.9	101.0	101.0	100.0	99.7
	97.4	104.4	103.6	102.8	101.9	101.7
	98.6	106.1	104.2	105.7	105.8	105.1
Final consumption expenditure of government administration	97.7	100.0	98.2	100.4	100.0	99.8
	98.6	104.1	100.9	100.4	99.8	99.9
	99.4	106.0	100.4	100.1	99.8	100.3
Gross capital formation	98.1	125.4	107.8	103.6	103.9	103.7
	101.4	123.8	103.5	105.3	105.7	105.2
	103.8	125.0	103.1	105.3	106.3	106.8
Export of goods and services	95.0	101.4	103.3	105.3	105.3	105.2
	95.8	104.5	105.1	106.0	105.2	105.9
	97.5	106.1	105.6	106.4	106.0	106.3
Imports of goods and services	89.7	113.5	103.5	103.6	103.8	102.5
	90.6	117.2	108.6	106.2	106.0	104.6
	91.2	120.1	111.7	110.5	111.5	107.4

Block of GDP by revenues formation (at market prices)



com_emp	Mln.tenge	Compensation of employees (at market prices)
tax_oth	Mln.tenge	Others taxes on production (at market prices)
taxC	Mln.tenge	Taxes on products and imports (at market prices)
confixcap	Mln.tenge	Consumption of fixed capital (at market prices)
netinc	Mln.tenge	Net operating surplus, net mixed income (at market prices)

- $r \text{ com_emp} = fdVT_prC, wagesT$
- $r \text{ tax_oth} = trn[1], NDS[4], ind, KPN[1]$
- $f \text{ taxC} = \text{tax} * dtax; r \text{ tax} = s_tax, tax[1], trd, trn, cns$
- $r \text{ confixcap} = fdVT_prC, invnVCT[3], confixcap[1]$
- $r \text{ netinc} = fdVT_prC, com_emp, exVT, netinc[3]$



Forecast of GDP by revenues formation

bln. tenge

Indicators	2009	2010	2011	2012	2013	2014
Compensation of employees	5651.0	5455.4	5540.3	5963.3	6433.9	6895.9
	5651.0	6125.4	6850.6	7631.4	8409.8	9169.8
	5651.0	6488.3	7267.4	8363.6	9468.3	10482.4
Others taxes on production	272.0	252.0	273.0	325.9	389.6	456.9
	272.0	290.0	349.1	423.6	498.6	582.3
	272.0	311.2	382.4	463.6	549.5	642.2
Taxes on products and imports	792.4	818.6	836.6	891.8	956.1	1022.0
	792.4	880.3	948.9	1032.3	1118.4	1207.9
	792.4	910.1	987.3	1080.1	1179.5	1280.3
Consumption of fixed capital	2292.0	2195.4	2366.1	2669.9	3002.0	3341.9
	2292.0	2517.7	2975.6	3457.3	3942.5	4449.4
	2292.0	2680.7	3153.7	3695.4	4226.2	4765.8
Net operating surplus, net mixed income	6523.8	6821.7	7376.7	7890.6	8515.2	9145.7
	6523.8	6708.0	7223.6	7810.9	8394.2	9072.5
	6523.8	6409.9	6707.6	7165.1	7692.3	8258.5
Gross domestic product	15531.2	15543.1	16392.7	17741.5	19296.8	20862.4
	15531.2	16521.4	18347.8	20355.5	22363.5	24481.9
	15531.2	16800.2	18498.4	20767.8	23115.8	25429.2



Block of the monetary relations

mb	million tenge	Monetary base (reserve money)
m0	million tenge	M0
m1	million tenge	M1
m2	million tenge	M2
m3	million tenge	M3
rate	tenge	Dollar exchange rate to tenge
cred_jur	million tenge	Credits of banks to legal bodies
cred_phis	million tenge	Credits of banks to physical persons
refrate	percent	The refinancing rate (on the period end)
VAT	percent	The VAT rate
credinv	million tenge	The credits which have been given out by banks on acquisition of a fixed capital (long-term)
ratecredjur	percent	The rate under credits to legal bodies
depoz	million tenge	Deposits
brent	\$ for barrel	The oil prices
copper	\$ for ton	The copper price



Equations of the monetary relations block

- $r \ m3 = depoz, m0, mb$
- $r m0 = wagesT, m0[1]$
- $r mb = exVCT$
- $r depoz = fdVCT$
- $r cred_jur = ratecredjur, depoz$
- $r cred_phis = credphisrate, cred_jur$
- $r CPI = HRW*rate, dim, CPI[1]$



Forecast of Monetary relations

Indicators	Unit of measure	2009	2010	2011	2012	2013	2014
Money mass	bln. tenge	6284	7527	8036	8663	9260	9856
		7111	8004	9068	10111	11116	12116
		7293	8248	9356	10620	11887	13231
Cash circulation	bln. tenge	781	1087	1131	1192	1240	1296
		827	1157	1281	1396	1505	1613
		839	1203	1336	1534	1733	1930
Monetary base	bln. tenge	1852	1031	1331	1635	1726	1820
		2494	1829	2354	2501	2635	2794
		2809	2193	2433	2698	2748	2925
Deposits	bln. tenge	5526	6517	6969	7522	8073	8617
		6293	6875	7794	8726	9627	10523
		6445	7051	8025	9089	10171	11325
Credits of physical personals	bln. tenge	552	2454	3028	3353	3786	4004
		584	2443	3226	3745	4335	4715
		631	2392	3238	3788	4457	4936
Credits of legal personals	bln. tenge	3844	9250	10670	11589	12641	13416
		4028	9406	11515	13073	14641	15938
		4603	9432	11748	13408	15236	16869
CPI	%	7.4	3.5	4.3	4.2	5	4.7
		8.4	6.8	6.8	5.9	5.7	5.1
		9.3	8.2	6.7	6.3	6.2	5.7



The social block

empT	thous. people	Number of the employed
unempT	thous. people	Number of the unemployed
activpopT	thous. people	Economically active population
wagesT	mln. tenge	Wagesund
averwag	tenge	Monthly average wages
popT	thous. people	The population
minwag	tenge	The minimal wages

- $r \ activpopT = popT, empT, minwag$
- $r \ empT = fdVT_prC, empT[1], vacant, sezvacant$
- $r \ unempT = empT, activpopT$



Forecast of the economically active population

Indicators	Unit	2009	2010	2011	2012	2013	2014
Economically active population	thous. people	8503.4	8480.8	8493.7	8527.3	8556.4	8598.5
		8503.4	8537.9	8620.1	8697.6	8768.4	8842.9
		8503.4	8596	8698.8	8918.9	9097.2	9242
Number of employed	thous. people	7893.4	7870.8	7889.9	7936.9	7969.9	8019.3
		7893.4	7929.7	8025.6	8114.6	8193.7	8278.1
		7893.4	7989.9	8116.3	8339.2	8526	8676.1
Number of unemployed	thous. people	610	605.8	582.2	579.3	570.8	563.6
		610	608.0	594.2	582.7	574.4	564.4
		610	609.7	603.5	600.2	586.2	578.9
Unemployment rate	%	7.2	7.0	6.7	6.5	6.3	6.1
		7.2	7.1	6.9	6.7	6.6	6.4
		7.2	7.2	7.1	7.0	6.9	6.7



State budget block

incom	million tenge	State budget revenues
nenalog	million tenge	Non-tax revenues
posncap	million tenge	Fixed capital sale revenues
nalog	million tenge	Tax revenues
KPN	million tenge	Corporate tax
IPN	million tenge	Personal income tax
SOC	million tenge	Social security tax
NDS	million tenge	VAT
Akcizi	million tenge	Excise duty
Expenditures	million tenge	State budget expenditures



Forecast of State budget

Indicators, bln. tenge	2009	2010	2011	2012	2013	2014
State budget expenditures	3 226	3 240	3 337	3 569	3 833	4 103
	3 432	3 518	3 862	4 235	4 608	4 997
	3 548	3 654	4 023	4 449	4 862	5 284
Non-tax receipts	105	140	179	230	280	307
	112	162	228	294	364	413
	116	171	234	305	386	433
Receipts from sales of fixed capital	23	65	74	77	78	77
	25	78	94	95	94	94
	26	84	99	102	103	102
Tax receipts	2 295	2 691	2 770	2 947	3 139	3 297
	2 420	2 890	3 196	3 524	3 855	4 144
	2 490	2 992	3 318	3 728	4 136	4 455
Corporate money income	758	591	579	614	657	691
	819	669	724	792	860	918
	853	706	757	836	905	968
Personal income tax	261	278	276	289	303	316
	269	306	333	362	391	417
	274	323	352	401	452	495
Social tax	224	274	273	283	293	302
	235	295	315	336	357	376
	241	307	329	365	402	433
Value added tax	516	738	823	934	1 050	1 144
	534	804	993	1 188	1 387	1 559
	545	839	1 047	1 277	1 511	1 679
Excise tax	54	77	85	94	103	110
	55	82	97	112	127	141
	56	84	99	116	133	146
State budget income	2 424	2 897	3 022	3 255	3 496	3 681
	2 557	3 130	3 517	3 913	4 313	4 651
	2 631	3 247	3 651	4 135	4 625	4 989



The current account of the balance of payments

cur_acc	Mln. dollars	The current account
Pexusd	Mln. dollars	Export
Pimusd	Mln. dollars	Import
cred_s	Mln. dollars	The services, the credit
im_s	Mln. dollars	The services, the debit
incomeT	Mln. dollars	Income
transf	Mln. dollars	Current transfers

- $f \text{ cur_acc} = \text{transf} + \text{incomeT} + \text{Pexusd} + \text{Pimusd} + \text{cred_s} + \text{im_s}$
- $r \text{ Pexusd} = \text{brent}, \text{exoil_n}, \text{sez_pex}, \text{Pimusd}[1]$
- $r \text{ Pimusd} = \text{rate}, \text{Pimsez}, \text{fdVCT}$
- $r \text{ cred_s} = \text{brent}, \text{cred_s}[3]$
- $r \text{ im_s} = \text{rate}, \text{Pimusd}, \text{fdVT_pr}, \text{imsez}$
- $r \text{ incomeT} = \text{brent}, \text{incomeT}[2]$
- $r \text{ transf} = \text{transf}[1], \text{dummy_transf}$



Forecast of the current account of the balance of payments

Indicators, mln.doll	2009	2010	2011	2012	2013	2014
The current account	-7 387	-3 306	-2 053	-1 291	-1 677	-2 335
	-6 831	-3 613	-2 362	-1 445	-1 966	-2 854
	-6 594	-3 865	-2 585	-1 586	-2 289	-3 432
Trading balance	6 046	13 622	13 475	14 413	13 499	13 097
	8 501	15 336	16 725	18 340	17 468	17 204
	9 766	16 739	19 076	21 928	21 906	21 766
Export of goods	34 635	46 275	45 972	49 192	51 022	53 651
	39 237	52 099	57 060	62 594	66 023	70 477
	41 709	56 864	65 084	74 841	82 797	89 164
Import of goods	-28 589	-32 653	-32 497	-34 779	-37 523	-40 555
	-30 736	-36 763	-40 335	-44 255	-48 555	-53 273
	-31 942	-40 125	-46 007	-52 913	-60 890	-67 398
Balance of services	-5 435	-5 254	-4 749	-4 051	-3 879	-4 132
	-5 910	-5 915	-5 895	-5 155	-5 020	-5 428
	-6 179	-6 456	-6 723	-6 163	-6 295	-6 867
Export of services	4 073	3 443	3 240	3 279	3 345	3 419
	4 175	3 876	4 022	4 172	4 329	4 491
	4 229	4 231	4 587	4 989	5 428	5 682
Import of services	-9 508	-8 697	-7 989	-7 330	-7 224	-7 551
	-10 084	-9 791	-9 916	-9 327	-9 348	-9 919
	-10 408	-10 687	-11 311	-11 152	-11 723	-12 549
Balance of incomes	-7 424	-10 812	-10 004	-10 928	-10 603	-10 622
	-8 847	-12 173	-12 416	-13 905	-13 720	-13 953
	-9 606	-13 286	-14 162	-16 625	-17 206	-17 653
Current transfers	-575	-861	-775	-725	-695	-677
	-575	-861	-775	-725	-695	-677
	-575	-861	-775	-725	-695	-677



JSC “Economic Research Institute”
Center for macroeconomical analysis and forecasting
Department of Short-term Forecasting

V. “The short-term quarterly based forecast of the macroeconomical indicators of Kazakhstan for 2009”
quarterly bulletin



“The short-term quarterly based forecast of the macroeconomical indicators of Kazakhstan for 2009” quarterly bulletin

- The Middle-term forecasting department of the Center of macroeconomical analysis and forecasting of the Economic research institute begins to publish «The short-term quarterly based forecast of the macroeconomical indicators of Kazakhstan to a 2009 year» quarterly bulletin since July the 1-st of 2009.
- At September the 1-st of 2009 the №2 publication of the quarterly bulletin has been published
- The structure of the bulletin includes the following sections:
 1. The scenario conditions and the key hypotheses
 2. The world economy
 3. The world commodity markets
 4. The results of forecasting and analytical calculations of the base blocks of KazSTEM model
 - 4.1. GDP by production method
 - 4.2. GDP by consumption method
 - 4.3. Inflation
 - 4.4. Monetary relations sector
 5. Appendix: accuracy estimation of the forecasts of the bulletin №1
- The Ministry of economy and budget planning of the Republic of Kazakhstan and other interested authorities get the quarterly bulletin.
- The development of the forecasting blocks of the quarterly bulletin is being further planned.

Scenarios for the exogenous variables for a 2009 year

Indicator	Unit	Actual		Base		Optimistic		Pessimistic	
				forecast	forecast	forecast	forecast	forecast	forecast
		I quarter	II quarter	III quarter	IV quarter	III quarter	IV quarter	III quarter	IV quarter
The world oil price	doll./ barr.	44.98	59.13	60	60	70	70	45	45
Tenge exchange rate	tenge	138.97	150.46	150	150	150	150	150	150
Export of oil	Thousand tons	15670	15750	15880	15620	17565	17500	14174	13744
The world wheat price	doll./ ton	231.6	250.5	200	200	240	240	180	180
Input of habitation	Thousand m ²	1390	1431	1400	1580	1568	1874	1000	1350
Direct foreign investments	mln. doll.	2389.4	2960	2400	3400	3000	3750	2000	2600

Quarterly forecast of GDP by production to a 2009 year



(to corresponding period of previous year)

Indicators	Unit	Actual data		Base		Optimistic		Pessimistic	
				forecast		forecast		forecast	
		1 quarter	half year	9 months	year	9 months	year	9 months	year
Gross domestic product	Billion tenge	3 055.3	6 446.3	10 716.8	15 054.2	10 932.3	15 480.5	10 509.6	14 609.1
	Real growth	97.8%	97.7%	98.8%	99.0%	99.3%	99.8%	98.4%	98.3%
Agriculture	Billion tenge	82.0	211.2	735.9	948.8	775.1	1 005.7	721.0	925.7
	Real growth	103.6%	102.5%	103.5%	103.6%	103.6%	103.7%	103.3%	103.5%
Industry	Billion tenge	876.9	1 845.9	2 738.0	3 728.5	2 833.2	3 935.7	2 608.8	3 446.9
	Real growth	95.2%	97.5%	98.4%	97.7%	98.9%	98.7%	98.0%	96.8%
Construction	Billion tenge	179.9	449.1	917.0	1 313.4	925.7	1 343.6	896.2	1 275.9
	Real growth	93.4%	90.2%	94.5%	95.1%	95.4%	97.0%	92.4%	92.6%
Trade	Billion tenge	445.0	909.3	1 479.2	2 086.7	1 497.5	2 129.4	1 468.9	2 051.0
	Real growth	94.7%	96.4%	97.3%	96.3%	98.3%	97.6%	96.7%	95.3%
Hotels and restaurant	Billion tenge	38.8	69.9	121.6	170.0	122.6	171.7	120.9	168.3
	Real growth	104.0%	103.3%	106.4%	106.8%	106.7%	107.2%	106.3%	106.6%
Transport	Billion tenge	238.6	529.8	902.6	1 278.8	912.2	1 297.5	893.0	1 259.0
	Real growth	95.0%	88.3%	89.1%	91.7%	89.6%	92.5%	88.8%	91.2%
Communication	Billion tenge	86.2	160.9	220.0	384.0	227.0	387.9	215.0	380.3
	Real growth	104.2%	103.6%	106.2%	103.5%	106.8%	104.4%	105.7%	102.5%
Financial activities	Billion tenge	188.4	361.2	581.3	809.2	584.2	835.6	578.8	773.8
	Real growth	107.1%	106.7%	107.6%	106.6%	108.1%	107.4%	107.1%	105.8%
Real estate activities	Billion tenge	648.4	1 224.4	1 925.4	2 723.0	1 939.8	2 739.5	1 920.2	2 713.4
	Real growth	103.8%	102.8%	104.3%	104.5%	104.8%	104.8%	104.2%	104.4%
Government administration	Billion tenge	70.2	174.5	240.1	316.2	240.4	317.2	239.7	315.2
	Real growth	109.3%	107.3%	104.5%	105.2%	104.6%	105.4%	104.4%	105.0%
Education	Billion tenge	132.6	241.1	373.1	548.1	382.7	567.2	372.2	546.3
	Real growth	101.9%	101.9%	102.1%	102.2%	102.3%	102.7%	101.9%	102.0%
Healthcare	Billion tenge	70.0	145.8	213.3	283.2	214.4	286.4	213.2	283.0
	Real growth	99.5%	103.8%	101.3%	102.1%	101.4%	103.0%	101.2%	101.0%
Other services	Billion tenge	61.4	137.1	231.0	340.3	233.5	343.4	230.9	340.0
	Real growth	103.1%	104.0%	102.7%	101.3%	102.8%	101.4%	102.6%	101.2%
FISIM	Billion tenge	-200.5	-347.7	-531.8	-668.4	-534.1	-687.3	-529.9	-643.0
	Real growth	107.7%	108.4%	109.4%	107.3%	109.8%	107.9%	109.0%	106.6%
Taxes on products and import	Billion tenge	137.4	333.9	570.1	792.4	578.1	807.0	560.7	773.3
	Real growth	96.4%	96.5%	96.2%	96.9%	96.3%	97.0%	96.1%	96.7%



Quarterly forecast of GDP by consumption to a 2009 year

Indicators	unit	Actual data	estimation	Base forecast		Optimistic forecast		Pessimistic forecast	
		1 quarter	1 half	9 months	year	9 months	year	9 months	year
Gross domestic product	Billion tenge	3092	6768	10604	14810	10895	15428	10287	13935
	Real growth	100.3%	101.4%	100.5%	99.7%	101.8%	101.4%	99.8%	98.1%
Final consumption expenditure of households	Billion tenge	1629	3532	5467	7575	5514	7675	5415	7435
	Real growth	100.3%	100.5%	98.2%	97.4%	99.0%	98.6%	97.3%	95.8%
Final consumption expenditure of government administration	Billion tenge	396	882	1360	1903	1362	1920	1361	1885
	Real growth	95.3%	97.0%	99.7%	98.6%	99.9%	99.4%	99.9%	97.7%
Gross capital formation	Billion tenge	891	1901	2996	4224	3094	4428	2897	3913
	Real growth	138.4%	109.7%	104.4%	101.4%	106.6%	103.8%	102.8%	98.1%
Export of goods and services	Billion tenge	1268	2844	4471	6151	4666	6586	4225	5509
	Real growth	81.1%	91.2%	93.2%	95.8%	94.5%	97.5%	93.0%	95.0%
Imports of goods and services	Billion tenge	1138	2392	3692	5043	3741	5181	3613	4808
	Real growth	84.3%	87.4%	87.8%	90.6%	88.2%	91.2%	87.4%	89.7%

Quarterly forecast of monetary relations to a 2009 year



	Unit	Actual data		Base forecast		Optimistic forecast		Pessimistic forecast	
		1 quarter	2 quarter	3 quarter	4quarter	3 quarter	4 quarter	3 quarter	4 quarter
Money mass	Bln. tenge (at the of the period)	6 688	6 786	6 910	7 111	6 988	7 293	6 570	6 284
Cash circulation	Bln. Tenge (at the of the period)	718	819	823	827	832	839	790	781
Monetary base	Bln. tenge (at the of the period)	2 237	2 334	2 413	2 494	2 620	2 809	1 958	1 852
Deposits	Bln. tenge (at the of the period)	5 971	5 968	6 103	6 293	6 164	6 445	5 777	5 526
Credits of legal personals	Bln. tenge (for the period)	1 204	925	1 016	1 021	1 145	1 467	906	947
Credits of physical personals	Bln. tenge (for the period)	148	149	123	130	147	154	116	106
CPI	% to the end of the previous year	2.0	3.9	6.6	8.4	7.0	9.3	5.4	7.4



Control of the forecast of the bulletin №1

Indicators	Nominal value			Share, %			Real growth, %		
	Fact 13.08.09	Forecast 01.07. 09	Difference, mln.tenge	Fact 13.08.09	Forecast 01.07. 09	Difference	Fact 13.08.09	Forecast 01.07. 09	Difference, %
	mln. tenge			%			%		
GDP	6 446.3	6 945.5	-499.2	100.0	100.0	-	97.7	97.7	0.0
Production of goods	2 506.2	2 828.4	-322.2	39.0	40.7	-1.7	96.7	95.6	1.1
Agriculture	211.2	219.8	-8.6	3.3	3.2	0.1	102.5	103.5	-1.0
Indusrty	1 845.9	2 106.3	-260.4	28.7	30.3	-1.6	97.5	95.6	1.9
Construction	449.1	502.3	-53.2	7.0	7.2	-0.2	90.2	93.1	-2.9
Production of services	3 953.9	4 143.5	-189.6	61.3	59.7	1.6	99.7	99.6	0.1
FISIM	-347.7	-383.6	35.9	-5.4	-5.5	0.1	108.4	103.3	5.1
GVA	6 112.4	6 588.3	-475.9	94.9	94.9	0.0	97.8	97.7	0.1
Other tax	333.9	357.4	-23.5	5.1	5.1	0.0	96.5	99.7	-3.2



Basic scenario



	2008	2009 (estim)	2010 (forecast)
Nominal GDP, KZT trillion	16.0	15.1	16.7
<i>in US dollars</i>	132.8	100.4	110.8
GDP per capita, US dollars	8502.9	6322.8	6918.0
Real GDP growth, %	3.2	-1.0	2.6
Inflation, annual, %	9.5	8.4	6.8
Unemployment rate, %	6.6	7.2	7.1
Trade balance, US dollars	33.5	8.5	7.8
Exports of goods, USD billion	72.0	39.2	49.6
Imports of goods, USD billion	38.5	30.7	41.7
Current Account, USD billion	7.0	-6.8	-4.7
Refinancing rate, %	10.5	7.5	7.5
Exchange rate, annual average, KZT/USD	120.6	150.0	150.0



VI. III ASTANA ECONOMIC FORUM

July 5-7, 2010

Theme: «Crisis Lessons and Post-Crisis Model of Economic Development in Globalization Conditions».

The work of the Forum will be focused on the following themes:

- Anti-crisis governmental regulations of economy and the new models of post crisis development.
- Formation and development of innovative economy.
- Formation of new world financial architecture.
- Increasing competitiveness of countries.
- Development of public private partnerships under globalization.

The Award for the Best Research in the Field of Economics will be organized.

Internet-forum will be held at the web-site www.economyclub.info with the aim to unite the efforts of scientists-economists from all over the world for working-out of a post - crisis model of economic development in conditions of globalization during the period of **July 1, 2009 - May 1, 2010**.

The leading scientific research institutes, centers, international organizations, and scientists, politicians and representatives of the business community are invited to take part in the work of the
III Astana Economic Forum

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*Thank you for
attention!*