

Mironova Elena

The analyze and employment forecasting in economic activities structure

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The main foundation of block in Quarter model (QUMMIR)

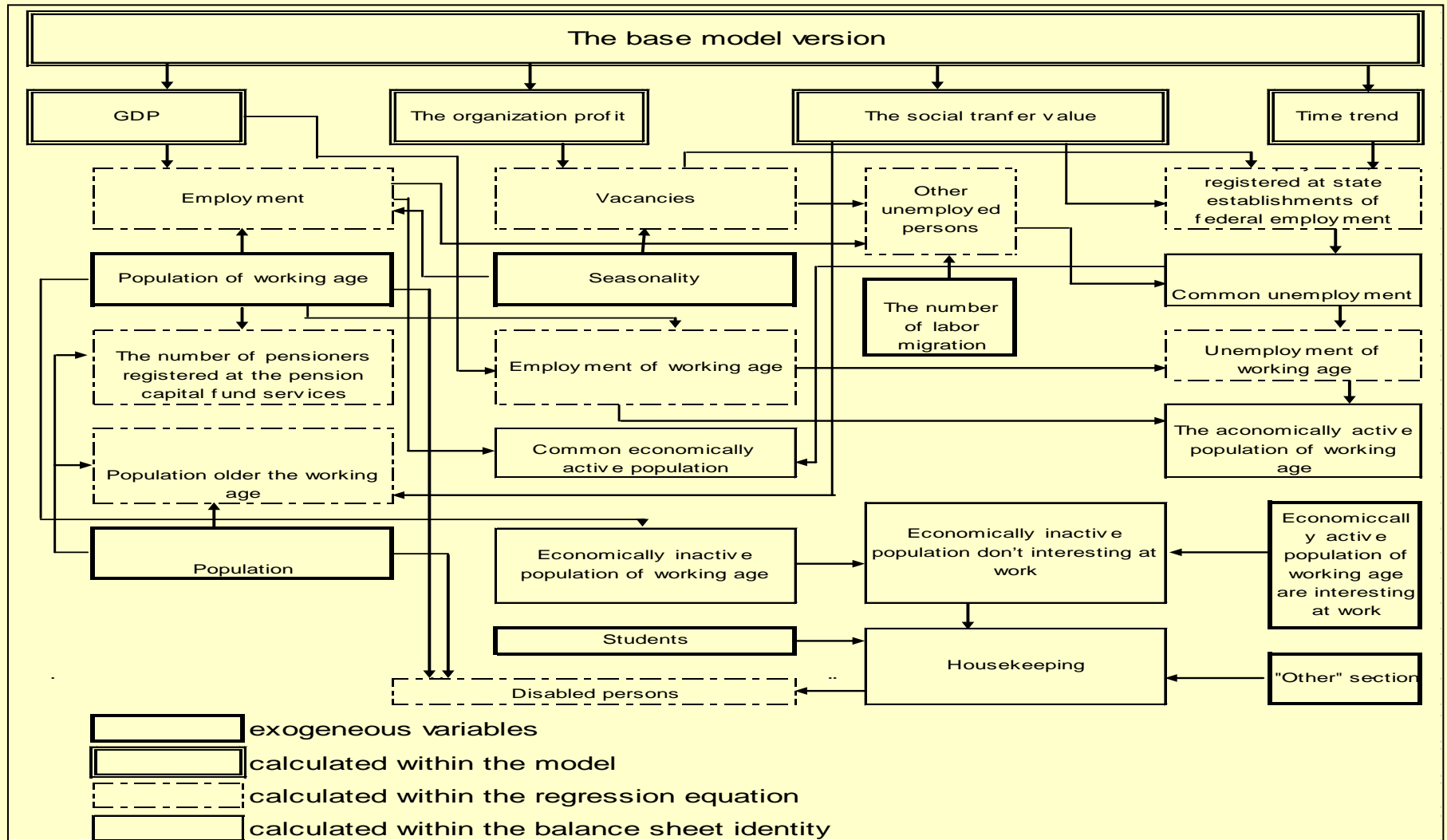
The simulation approaches:

- **Macroeconomic approach (based upon the budget of labor)**
- **Industrial approach (the approach of labor demand)**

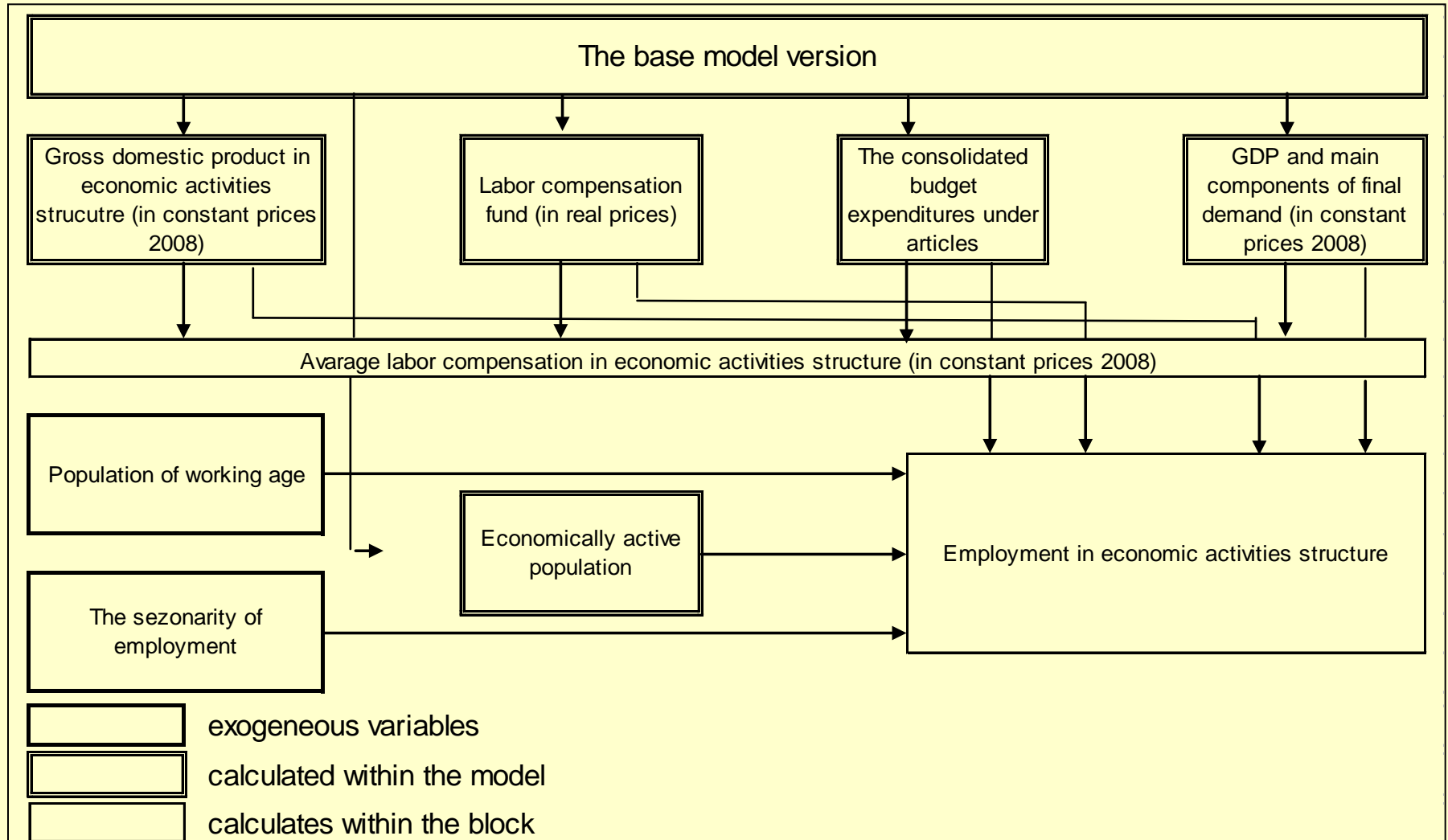
The set of data for industrial approach simulation:

- **The series of production account for 15 economic activities structure since 2004**
- **The series of monthly average labor compensation for 15 economic activities structure since 2004**
- **The main macro variables of the model in constant prices**
- **The series of employment in economic activities structure since 2000**

Scheme of macroeconomic approach for employment calculation



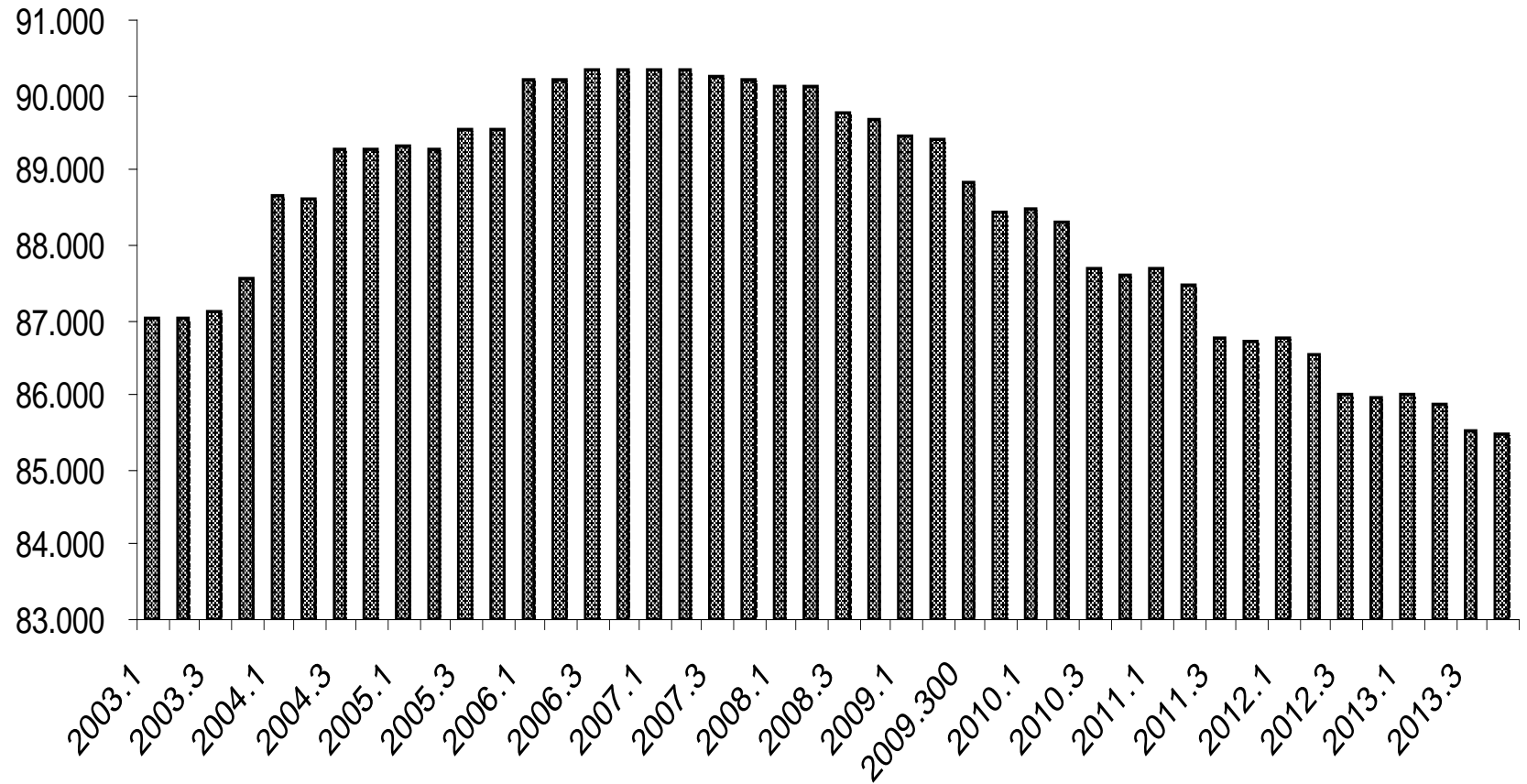
Scheme of industrial approach for employment calculation



The main explanatory variables

- Production and macro variables (endogenous)
 - Gross domestic product in economic activities structure
 - Average labor compensation
 - The main macro variables of the model (for ex. household consumption, the labor compensation fund, the investment in fixed capital etc. in constant prices)
- Demographic factors (exogenous)
 - Population of working age
 - Economically active population (labor force)

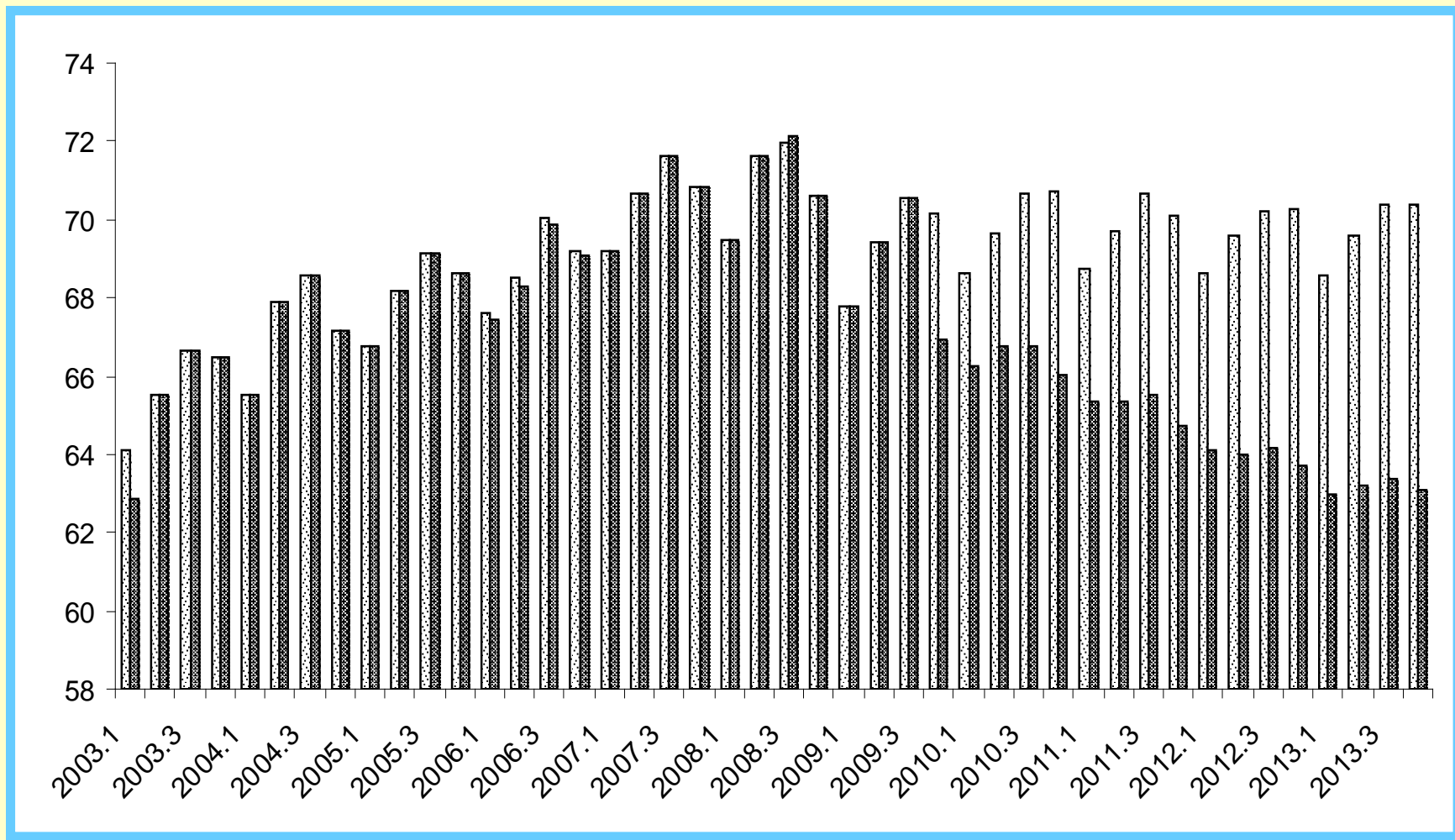
Population of working age, mln. people



The growth rates of GDP and main components of final demand, %

	2008	2009	2010	2011	2012	2013
Use of GDP (in constant prices 2008)						
GDP	5.6	-7.9	7.5	5.1	2.2	2.4
Household consumption	11.3	-8.1	5.7	7.8	6.3	5.3
Government consumption	2.3	1.9	-0.7	0.9	0.7	0.2
Gross fixed capital formation	10	-18.2	16.5	10.7	5.0	4.6
Export	0.1	-4.8	3.3	2.9	3.4	4.3
Import	14.7	-30.9	23.3	15.1	11.4	12.2
Production of GDP (in constant prices 2008)						
GDP	5.6	-7.9	7.8	5.1	3.0	3.9

Employment (calculated under the industrial and macroeconomic approaches), mln. people



Employment, mln. people

	2008	2009	2010	2011	2012	2013
Agriculture	6	5.8	5.7	5.4	5.3	5.1
Fishery	0.1	0.1	0.1	0.1	0.1	0.1
Extracting activities	1.3	1.4	1.3	1.3	1.3	1.3
Manufacturing activities	11.7	10.7	11.3	11.2	11.1	10.9
Electricity generation	2.1	2.2	2.2	2.2	2	1.9
Construction	5.4	5	5.2	5.2	5.3	5.5
Distributive trade	11.1	10.9	10.8	10.7	10.6	10.6
Hotel and restaurants	1.1	1.1	1.1	1.1	1.1	1.1
Transport and telecommunication services	6.6	6.5	6.5	6.5	6.5	6.4
Financial activity	1	1	1	1	1	1
Real estate operations	4.8	4.7	4.7	4.8	4.7	4.8
Government administration	5.4	5.4	5.2	5.3	5.3	5.4
Education	6.4	6.4	6.3	6.4	6.4	6.4
Health services	5.2	5.4	5.3	5.3	5.3	5.3
Public and social services	2.6	2.6	2.6	2.6	2.6	2.6
Economy in whole						
Under the industrial approach	70.9	69.4	69.4	69.1	68.7	68.5
Under the macroeconomic approach	70.9	69.5	69.8	69.0	69.7	69.7

The structure of employment, %

	2007	2008	2009	2010	2011	2012	2013
Agriculture	8.8	8.5	8.3	8.3	7.9	7.7	7.4
Fishery	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Extracting activities	1.9	1.9	2	1.9	1.9	1.9	1.9
Manufacturing activities	17.5	16.4	15.5	16.3	16.2	16.2	15.9
Electricity generation	2.9	3	3.2	3.2	3.1	2.9	2.8
Construction	7	7.6	7.2	7.3	7.5	7.8	8
Distributive trade	16	15.6	15.7	15.5	15.5	15.4	15.5
Hotel and restaurants	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Transport and telecommunication services	9.3	9.2	9.4	9.4	9.5	9.4	9.4
Financial activity	1.4	1.4	1.4	1.4	1.4	1.4	1.5
Real estate operations	6.6	6.7	6.8	6.8	6.9	6.9	7
Government administration	6.9	7.6	7.8	7.5	7.6	7.8	7.9
Education	9.1	9.1	9.2	9.1	9.3	9.3	9.4
Health services	7.3	7.4	7.9	7.7	7.7	7.7	7.7
Public and social services	3.5	3.7	3.8	3.7	3.7	3.8	3.9
Agriculture and fishery	9	8.6	8.5	8.4	8.1	7.9	7.6
Production sector	22.2	21.3	20.6	21.5	21.2	21	20.6
Construction	7	7.6	7.2	7.3	7.5	7.8	8
Service sector (including trade)	61.8	62.4	63.7	62.7	63.2	63.4	63.8

The growth rate of the sector labor productivity, %

	2008	2009	2010	2011	2012	2013	Average 2009-2013
Agriculture	112.9	100.3	112.1	99.1	108.3	105.3	106.7
Fishery	105.7	104.3	95.7	106.7	108.8	105.6	103.3
Extracting activities	96.5	95.7	105.4	102.2	102	99.9	101.9
Manufacturing activities	106.9	93.5	108.7	107.4	105.8	105.2	105.5
Electricity generation	95.8	92.5	102.4	105.4	110.3	104.4	104.4
Construction	104.3	89.2	116.8	105.9	101.6	102.5	105.2
Distributive trade	110.3	95.5	112	107.6	106.4	106.4	106.4
Hotel and restaurants	111.9	87.2	111.7	106.8	107.2	106.1	108.1
Transport and telecommunication services	107.2	95.3	105.7	103.8	104.8	103.4	103.5
Financial activity	104.7	96	106.7	105.3	105.1	103.6	104.1
Real estate operations	109.1	90.3	111.5	108.2	105.8	104.7	106
Government administration	94	100.9	101.8	99.8	99.8	99.8	100.2
Education	100.3	98.3	103.4	99.3	99.3	99.6	100.3
Health services	99.3	93.1	105.1	100.6	101.5	100.8	101.6
Public and social services	97.5	84.2	112.5	105	102.9	102.6	106.1
Economy in whole							
Under the industrial approach	105.0	94.8	109.1	105.4	104.7	104.3	104.7
Under the macroeconomic approach	105.0	94.9	107.3	105.1	102.4	102.4	103.5

Average labor compensation in economic activities structure against the average labor compensation, times

	2008	2009	2010	2011	2012	2013
Agriculture	0.47	0.5	0.47	0.47	0.48	0.49
Fishery	1.13	1.24	1.31	1.32	1.31	1.27
Extracting activities	1.92	1.85	1.87	1.9	1.91	1.92
Manufacturing activities	0.92	0.89	0.91	0.93	0.97	0.96
Electricity generation	1.11	1.15	1.16	1.18	1.18	1.14
Construction	1.06	0.97	1.07	1.1	1.11	1.09
Distributive trade	0.85	0.85	0.9	0.96	1.01	1.03
Hotel and restaurants	0.67	0.68	0.7	0.72	0.75	0.76
Transport and telecommunication services	1.2	1.2	1.33	1.4	1.41	1.39
Financial activity	2.43	2.25	2.27	2.32	2.32	2.35
Real estate operations	1.26	1.24	1.28	1.31	1.33	1.33
Government administration	1.24	1.26	1.27	1.3	1.32	1.32
Education	0.66	0.72	0.73	0.75	0.78	0.8
Health services	0.75	0.8	0.76	0.79	0.8	0.85
Public and social services	0.79	0.83	0.73	0.8	0.81	0.82

RESUME

- **The labor force constrains should be the first key of Russian future economic strategy. However the economic development of 2008-2009 shows that the population of working age decreasing is not the essential problem until the economy has the reserve of possibilities for labor productivity increasing (including the quantity and quality of available labor force).**
- **The present-day model of Russian labor market, using such labor relations forms as secondary and latent employment, the expansion of part-time employment, the application of the forced vacations practice and the labor compensation debts increasing, allows to smooth the labor market tension but simultaneously prevents to transfer for effective employment structure and as consequence for effective structure of production.**
- **Such state of things leads to latent unemployment increasing, to rise the informal and shadow employment, the labor compensation increasing etc. Under the circumstances of labor supply reducing the such problems solving became the overriding task.**
- **The conducted calculation cycle approves the relevance of structural and industrial factors for common employment modeling in Russia. The accounting such factors influence allows to decrease the labor demand assessment by 1.2 mln. people in medium-term perspective, showed up the quality of the whole quarterly model operating.**

Thank you for your attention