

Possibilities of the structural analysis of the  
Russian economy dynamics in 1991-2013 using the  
IO instrument

Riga 2017

# The main goal of the research is

- to estimate the influence of each element of the final demand on the gross output dynamics
- to estimate the influence of the A-matrix on the gross output dynamics
- How the impact of these factors has changed over time and what does it mean for the current Russian economy.

# Tools

- In these model, the A-matrix is formed as follows:

$$A = A^{t\_base} + \Delta A$$

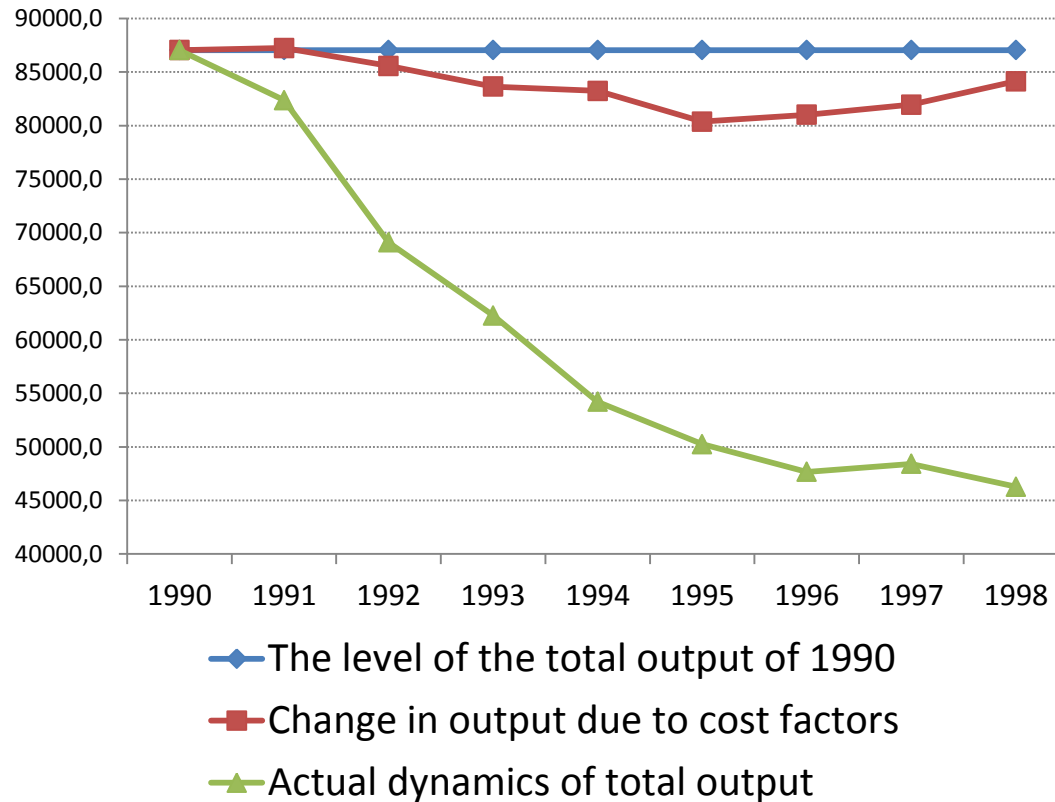
- $A^{t\_base}$  - A-matrix of the base year

- $\Delta A = A - A^{t\_base}$  - delta A

- The values of household consumption (and the values of other elements of final demand) is formed:

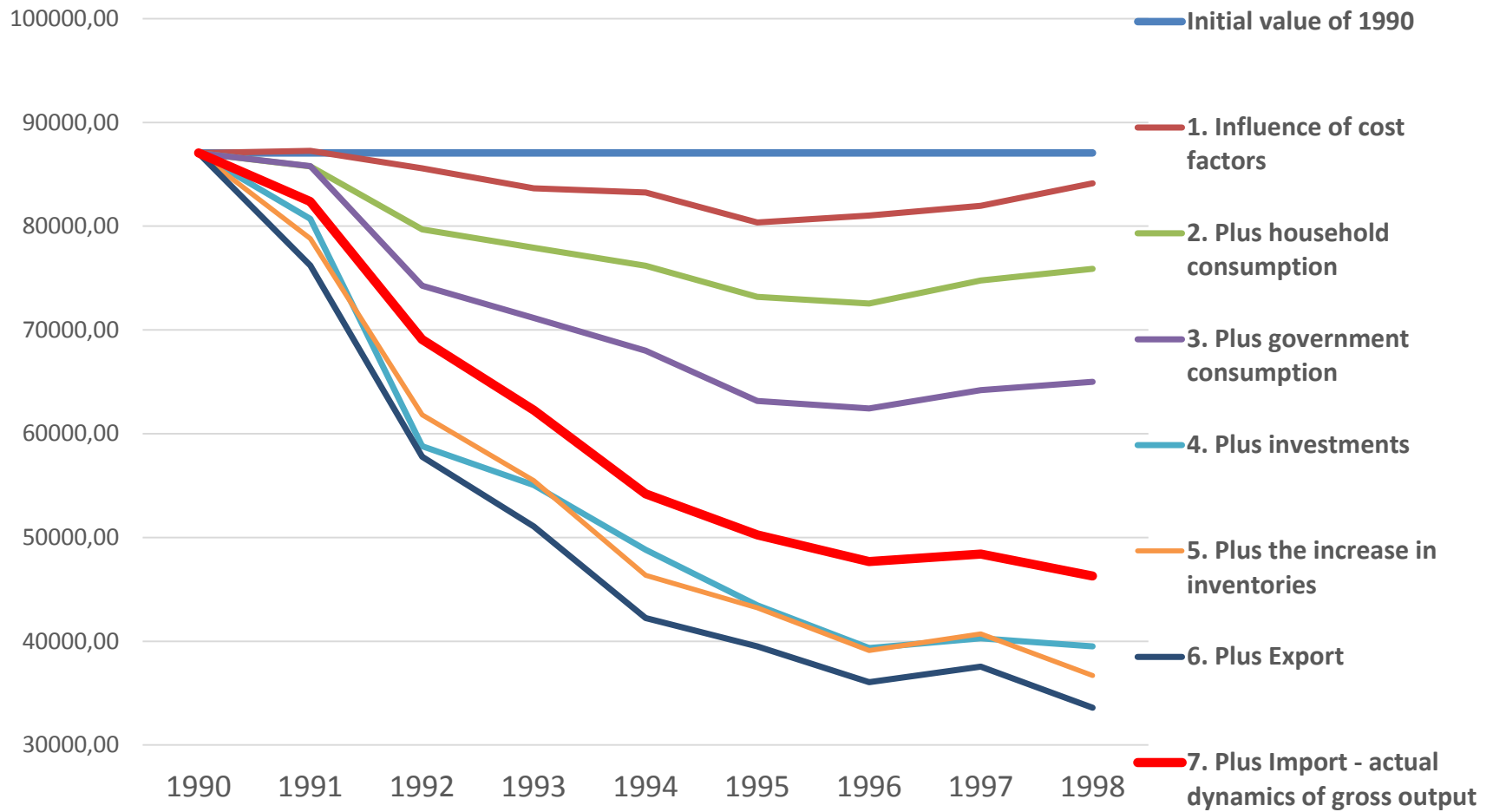
$$Pce = Pce^{t\_base} + \Delta Pce$$

# The 1990's gross output changes only due to the cost coefficients



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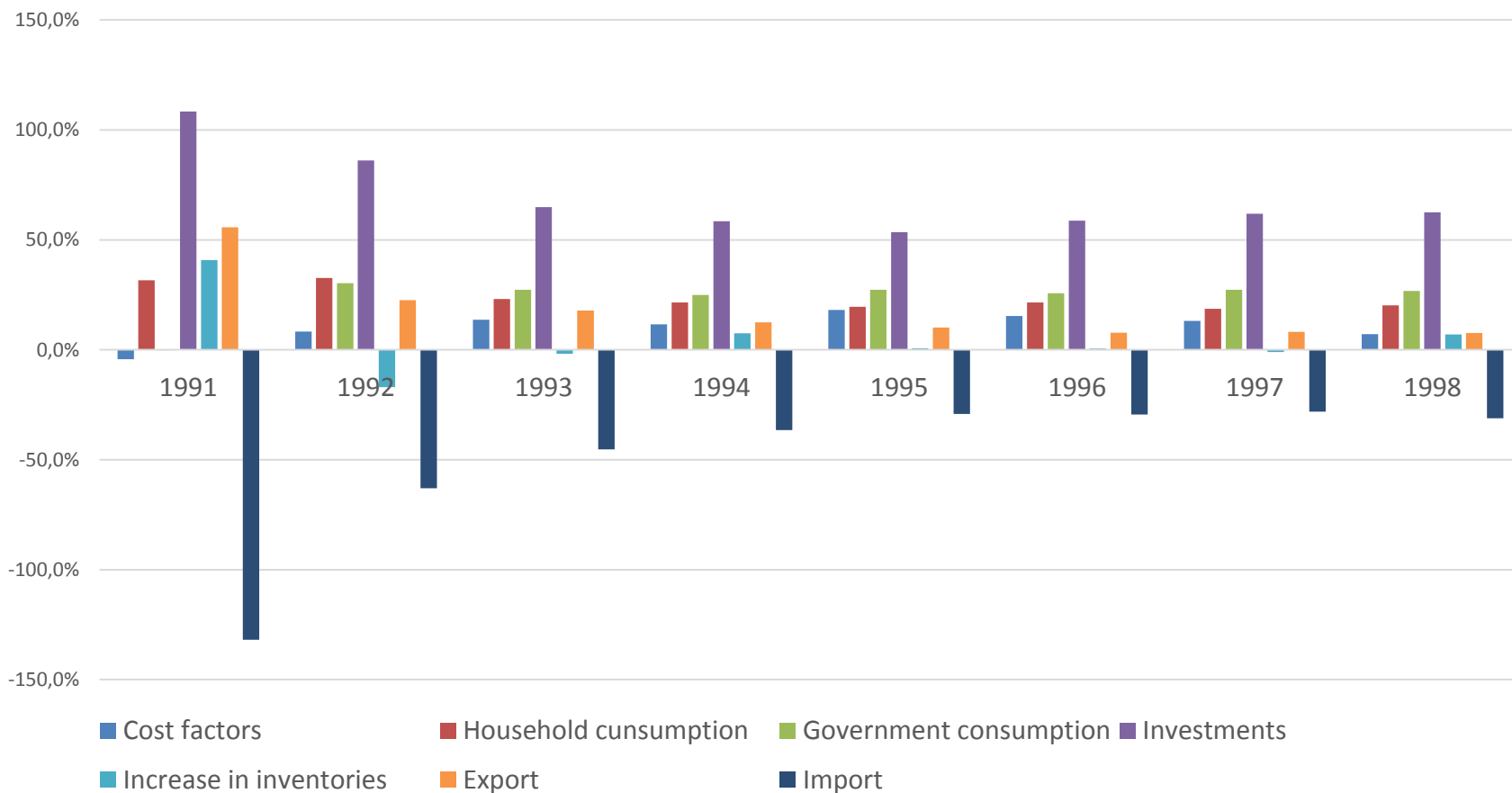
# The period of recession



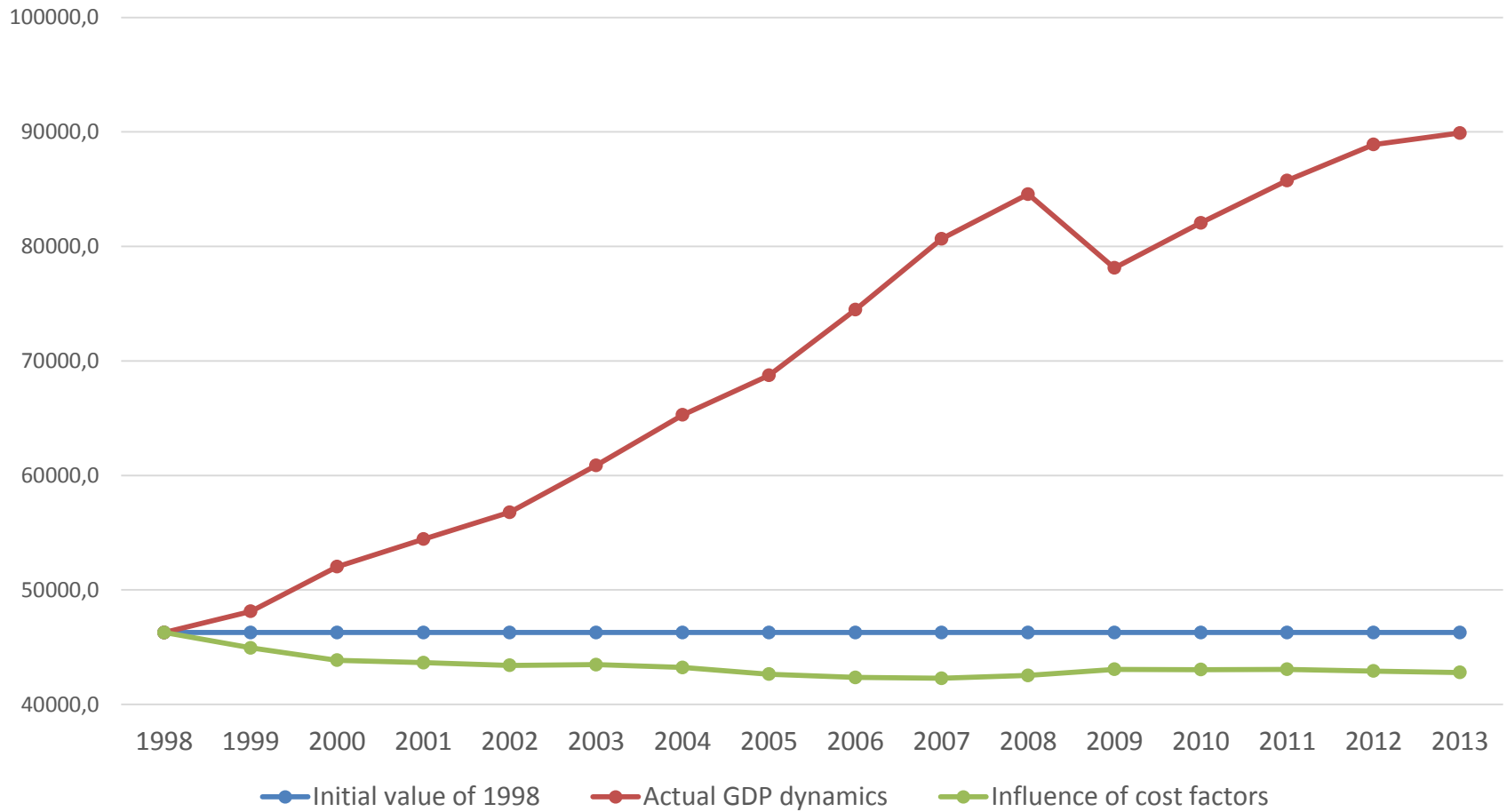
<b>The macrostructural factors influence on the output decline</b>								
	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Decrease in output relative to 1990	4679.9	17957.4	24785.6	32840.9	36797.9	39380.1	38640.3	40772.6
including due to:								
Cost coefficients changes	-199.8	1479.7	3401.1	3805.1	6684.5	6038.1	5097.1	2912.0
Household consumption	1477.5	5869.7	5727.3	7055.7	7179.2	8456.2	7191.7	8258.6
Government consumption	-8.7	5444.8	6777.4	8194.4	10043.5	10123.3	10557.2	10886.2
Investment	5070.1	15467.4	16094.9	19182.8	19673.6	23098.9	23910.8	25484.0
increment of reserves	1905.8	-3039.6	-438.1	2454.4	248.5	228.8	-409.1	2824.5
Export	2608.5	4054.4	4431.8	4117.7	3714.0	3052.1	3149.4	3090.5
Import	-6173.5	-11319.0	-11208.7	-11969.1	-10745.3	-11617.4	-10856.7	-12683.3

<b>Shares of final demand factors and cost coefficients in volume of the gross output decline accumulated since 1990,%</b>								
	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>
Cost coefficients changes	-4.3%	8.2%	13.7%	11.6%	18.2%	15.3%	13.2%	7.1%
Household consumption	31.6%	32.7%	23.1%	21.5%	19.5%	21.5%	18.6%	20.3%
Government consumption	-0.2%	30.3%	27.3%	25.0%	27.3%	25.7%	27.3%	26.7%
Investment	108.3%	86.1%	64.9%	58.4%	53.5%	58.7%	61.9%	62.5%
increment of reserves	40.7%	-16.9%	-1.8%	7.5%	0.7%	0.6%	-1.1%	6.9%
Export	55.7%	22.6%	17.9%	12.5%	10.1%	7.8%	8.2%	7.6%
Import	-131.9%	-63.0%	-45.2%	-36.4%	-29.2%	-29.5%	-28.1%	-31.1%
Contributions sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## Shares of final demand factors and cost coefficients in volume of the gross output decline accumulated since 1990,%

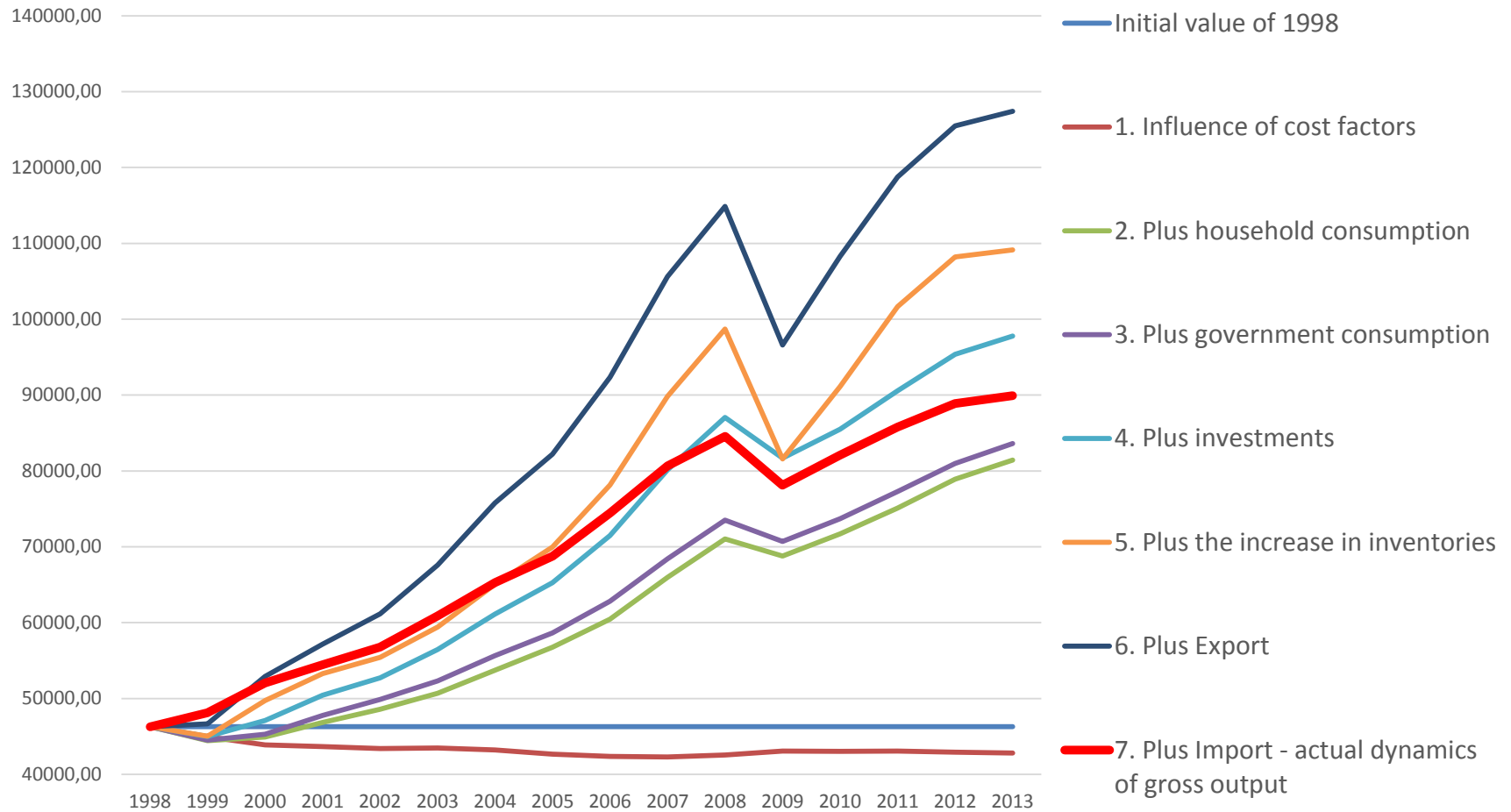


# The 1998's growth output changes only due to the cost coefficients





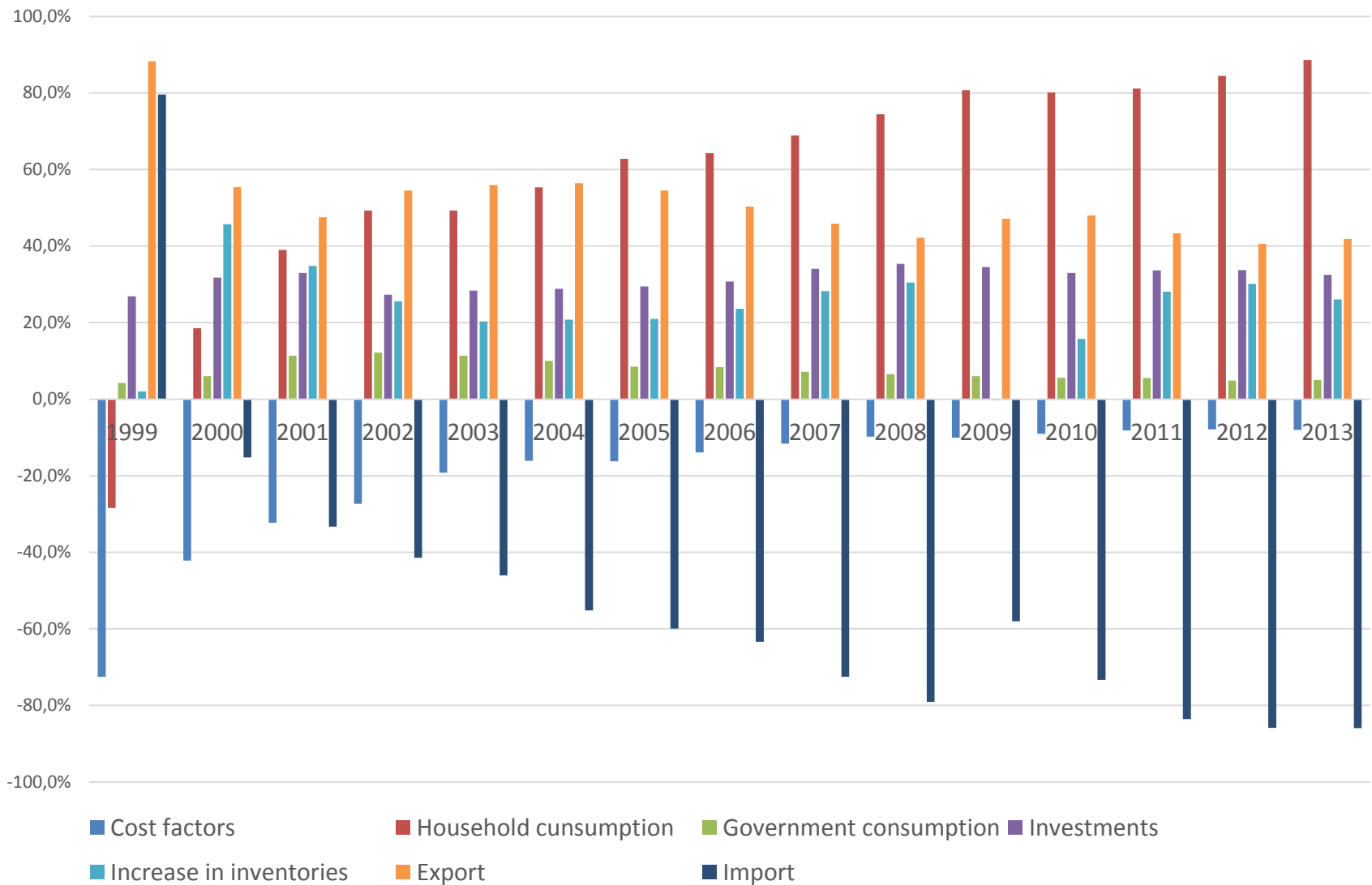
# Growth period (1998 – 2013)



<b>The macrostructural factors influence on the output increase</b>															
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
The output increase relative to 1998	1848.9	5746.3	8153.2	10505.7	14599.6	19000.4	22458.8	28185.5	34387.4	38285.6	31834.7	35772.8	39479.5	42608.9	43623.0
including due to:															
Cost coefficients changes	-1341.0	-2421.5	-2630.6	-2871.0	-2805.6	-3059.9	-3642.1	-3927.6	-3993.2	-3750.4	-3212.5	-3239.1	-3216.5	-3365.6	-3492.6
Household consumption	-525.6	1066.6	3178.7	5175.7	7195.4	10513.8	14101.9	18113.8	23673.1	28486.9	25705.8	28651.6	32042.1	35994.2	38648.0
Government consumption	78.4	344.5	924.4	1276.2	1657.2	1894.9	1907.1	2352.5	2453.6	2504.2	1910.8	1989.6	2181.5	2072.6	2168.7
Investment	496.4	1823.3	2687.0	2864.5	4144.0	5482.3	6605.1	8663.2	11706.0	13518.3	10984.1	11800.0	13278.4	14373.5	14177.6
increment of reserves	37.6	2626.1	2835.8	2684.7	2959.4	3939.6	4705.0	6660.3	9708.4	11670.0	-84.1	5635.7	11088.5	12843.3	11361.8
Export	1631.7	3182.4	3874.3	5728.0	8168.9	10710.4	12245.1	14178.0	15771.3	16146.8	15008.9	17175.2	17097.7	17265.7	18259.8
Import	1471.4	-875.2	-2716.5	-4352.4	-6719.7	-10480.8	-13463.3	-17854.8	-24931.9	-30290.2	-18478.2	-26240.2	-32992.2	-36574.9	-37500.3

<b>Shares of the final demand factors and cost coefficients in volume of the gross output increase accumulated since 1998,%</b>															
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Cost coefficients changes	-72.5%	-42.1%	-32.3%	-27.3%	-19.2%	-16.1%	-16.2%	-13.9%	-11.6%	-9.8%	-10.1%	-9.1%	-8.1%	-7.9%	-8.0%
Household consumption	-28.4%	18.6%	39.0%	49.3%	49.3%	55.3%	62.8%	64.3%	68.8%	74.4%	80.7%	80.1%	81.2%	84.5%	88.6%
Government consumption	4.2%	6.0%	11.3%	12.1%	11.4%	10.0%	8.5%	8.3%	7.1%	6.5%	6.0%	5.6%	5.5%	4.9%	5.0%
Investment	26.9%	31.7%	33.0%	27.3%	28.4%	28.9%	29.4%	30.7%	34.0%	35.3%	34.5%	33.0%	33.6%	33.7%	32.5%
increment of reserves	2.0%	45.7%	34.8%	25.6%	20.3%	20.7%	20.9%	23.6%	28.2%	30.5%	-0.3%	15.8%	28.1%	30.1%	26.0%
Export	88.3%	55.4%	47.5%	54.5%	56.0%	56.4%	54.5%	50.3%	45.9%	42.2%	47.1%	48.0%	43.3%	40.5%	41.9%
Import	79.6%	-15.2%	-33.3%	-41.4%	-46.0%	-55.2%	-59.9%	-63.3%	-72.5%	-79.1%	-58.0%	-73.4%	-83.6%	-85.8%	-86.0%
Contributions sum	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

## Shares of final demand factors and cost coefficients in volume of the gross output increase accumulated since 1998, %



# Thank you for your attention

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