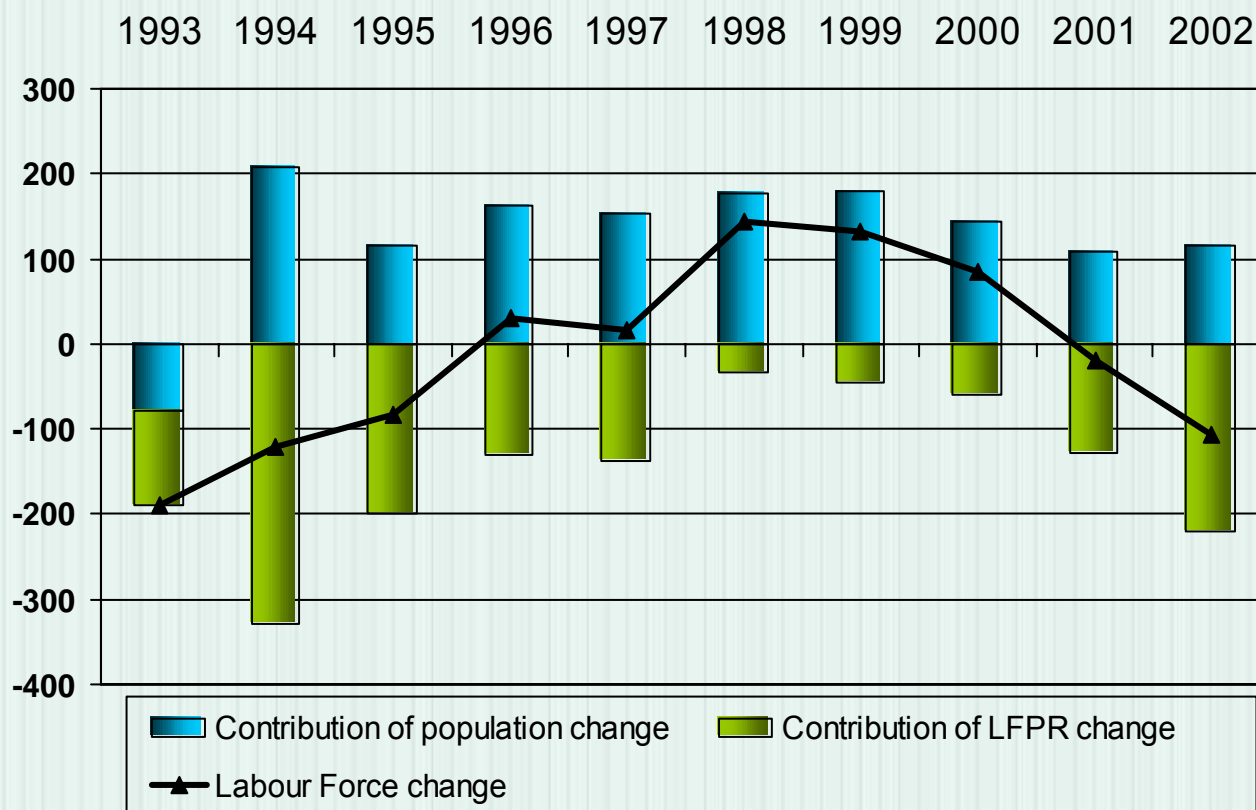


# **Employment determinants of economic growth in Poland**

Paweł Strzelecki  
Jacek Socha

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# Contribution of population and participation rates change to labour force\* change between 1993 and 2002

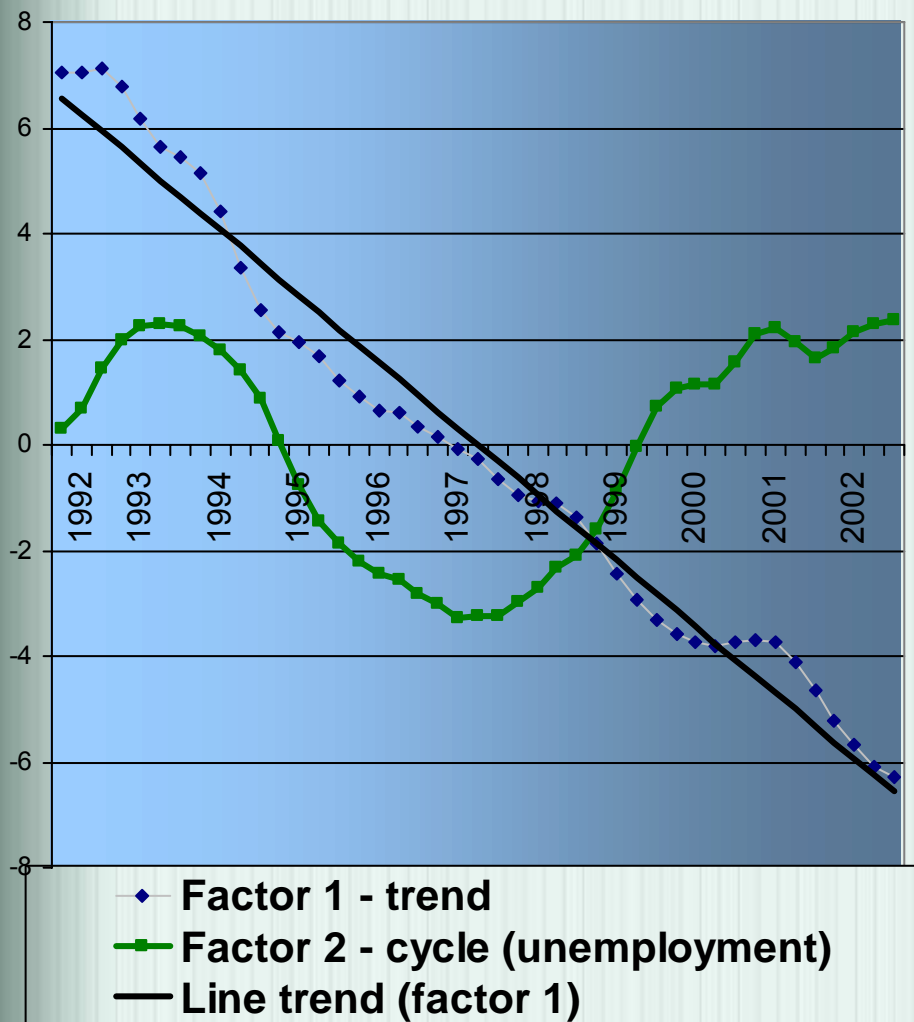


\*labour force in working age (15-60/64)

## **Factors behind participation rate changes**

- Social factors: changes in family formation, effects of structural unemployment etc.
  - Economic cycle: discouraged worker effect, added worker effect.
  - Social security system: (early retirement, government policy)
-

## Results of principal component decomposition of participation rates in groups separated by age and gender



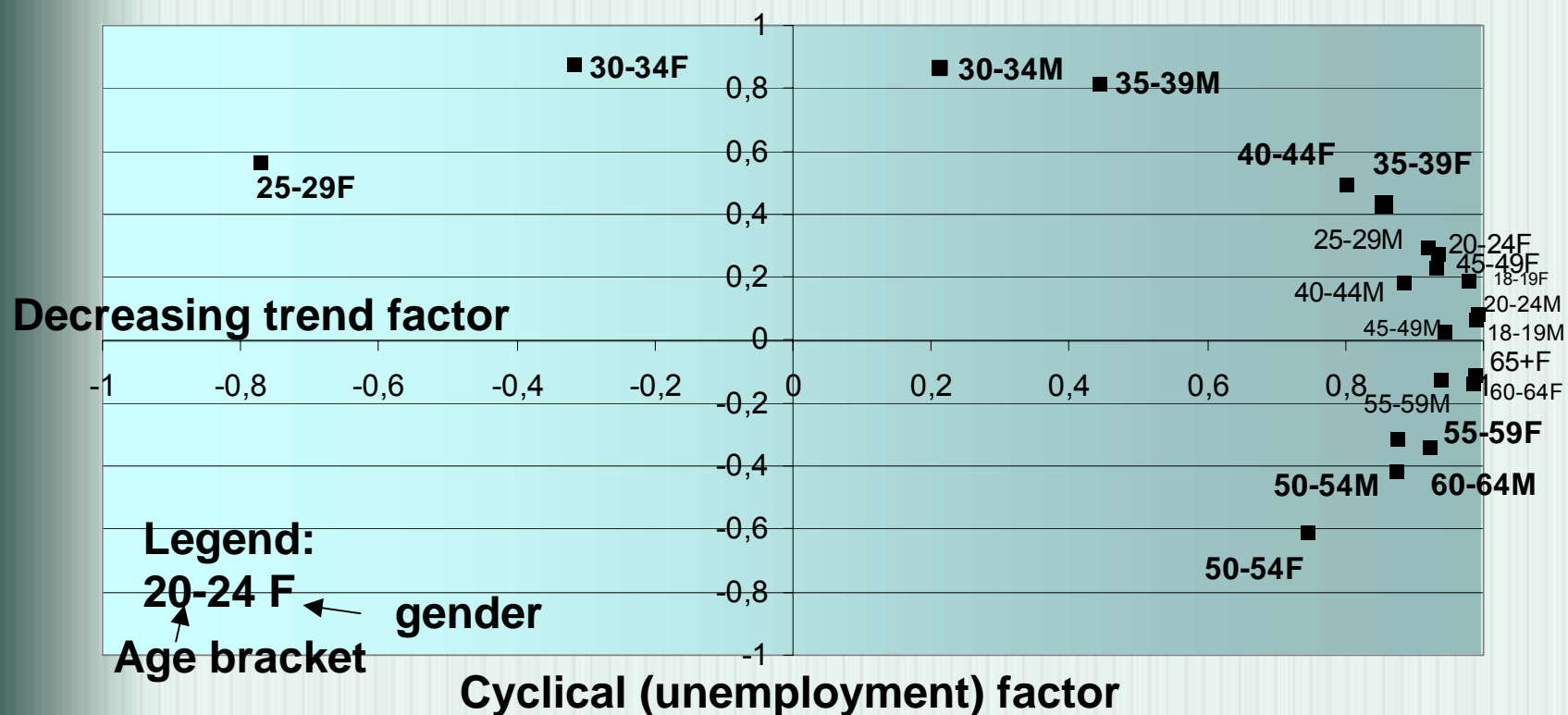
First two independent components explain 91% of total variation of the data set.

They are independent and can have interpretation:

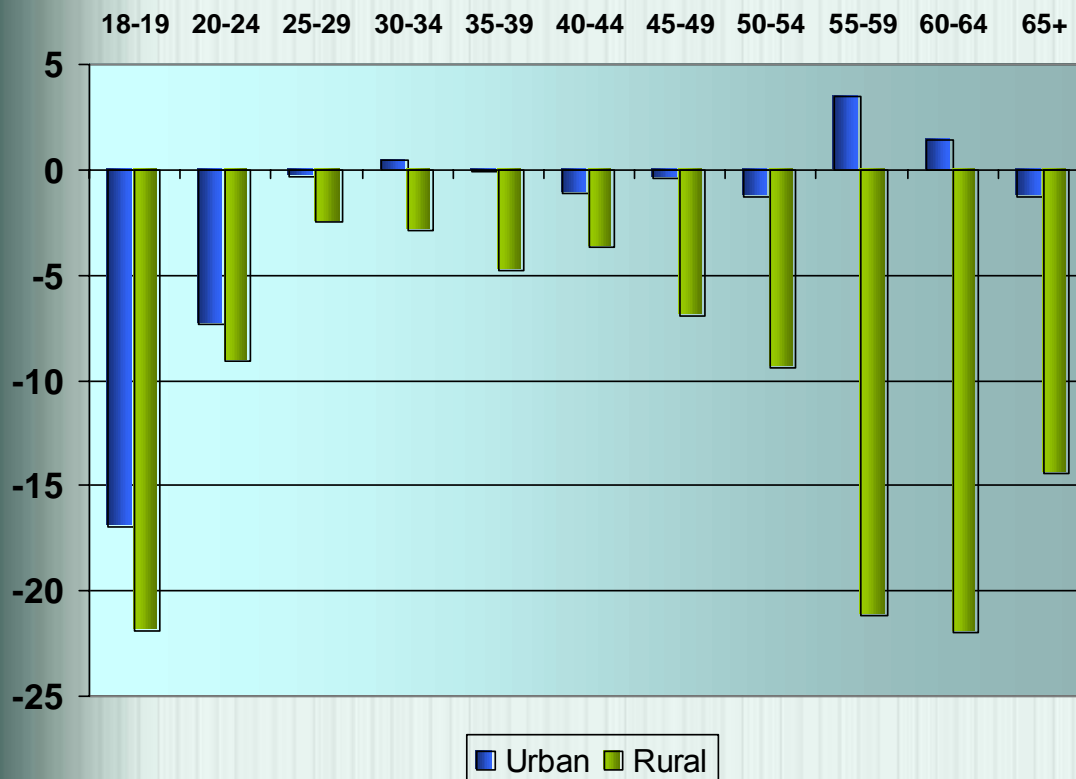
First factor – decreasing trend

Second factor – cycle similar to unemployment rate

# Correlations between observed values of participation rates and factors (factor loadings)



## Changes in participation rate\* by age and place of residence (urban/rural) between 1993 and 2002

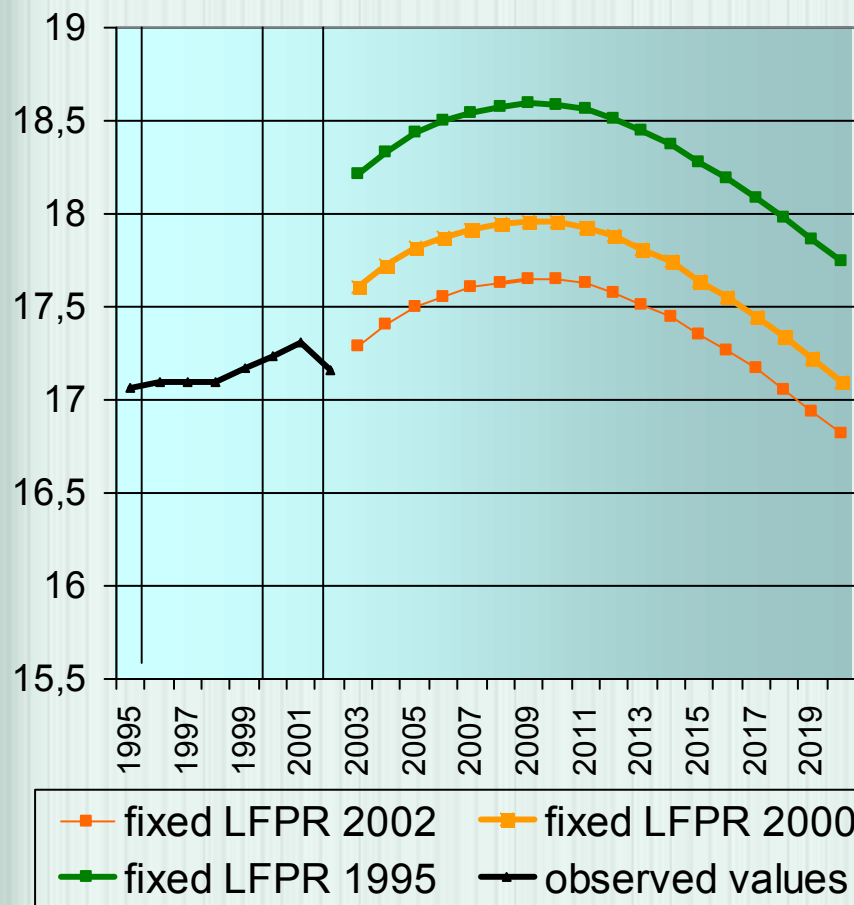


-Strong decrease in participation of populaton aged 15-24 (increase of enrolment rates)

-Strong decrease in participation of rural population over 55 (early retirements and excessive employment)

\*in percentage points

## Labour force\* in the future – projections. Effects of LFPR and population change.



-Positive influence of age structure

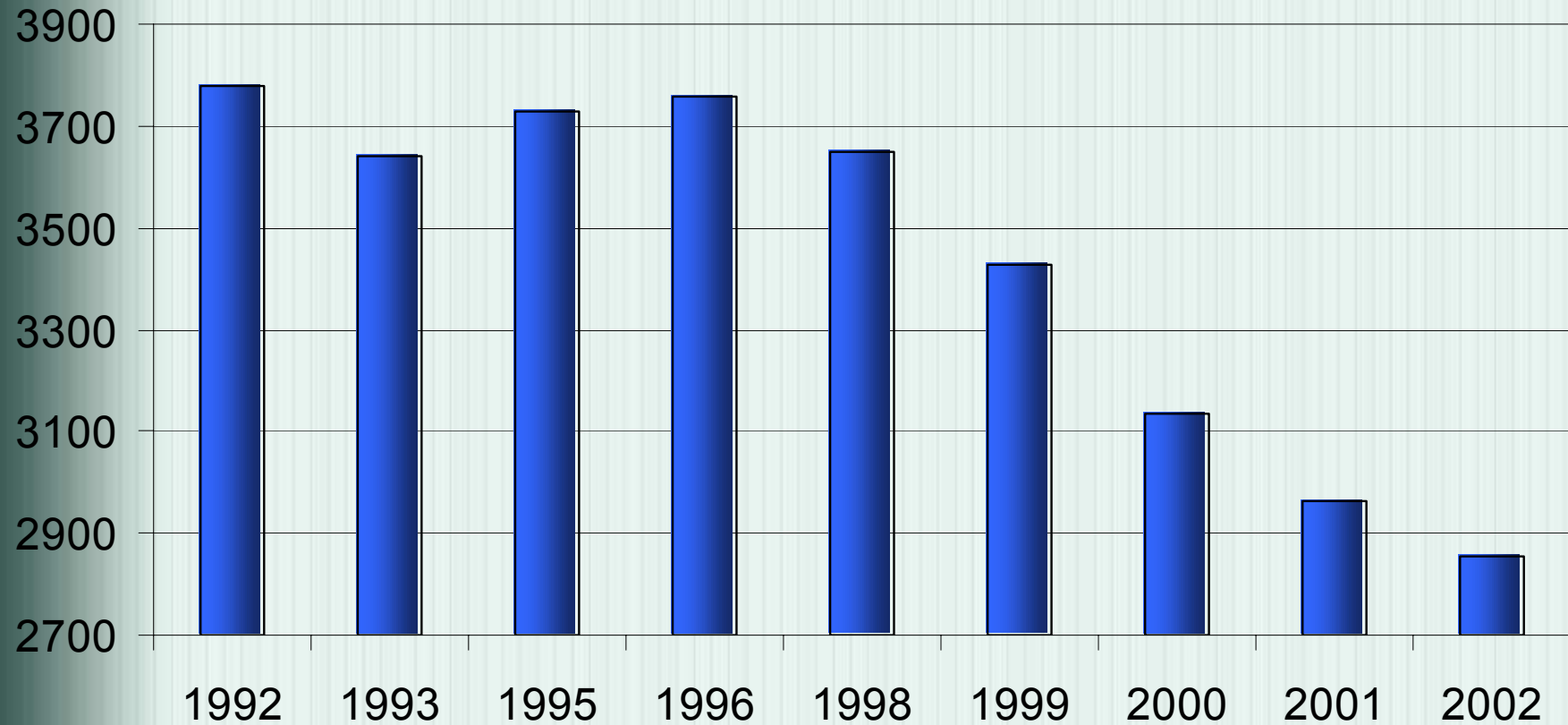
-Negative effects of recent LFPR changes

\*in millions

# **Labour demand function in Polish manufacturing sector**

*preliminary results*

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■ Employed in manufacturing

## **The research hypotheses:**

- Labour demand on micro level strongly depends on production and costs of labour force
  - The model assumes firms profit maximisation under demand constrains which is equivalent to costs minimisation
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## Data set

- Panel of over 5000 enterprises from Polish manufacturing covering the period 1998-2002
  - Dates are based on Central Statistical Office's F-01 reports
-

## Estimation results

- Elasticity of labour demand with respect to labour costs and to production have been increasing over time
  - These changes in enterprises behaviour can be explained by hardening of economical environment, what makes the companies labour demand more sensitive to changes of output demand and costs settings
-

## **Results are not satisfactory**

- The elasticities are not stable (excessive changes) within the sample period
- The heteroscedasticity problems occurred during the estimation process

## **There are some advantages**

- The coefficients are significant and their signs are economically appropriate
  - We obtained the same short run coefficients using two different models
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NBP

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**The end**

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