MULTIPLE SHOCKS AND CHANGES IN THE DEVELOPMENT GRADIENT OF CROATIA'S REGIONS
Paper written for Unidea/LEED seminar
Regional diversity and local Development in Central and Eastern Europe
Warsaw 10 November 2006
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The Croatian economy has been exposed to multiple shocks

- Transformation 1989-ongoing?

- Independence 1991

- Homeland war 1991-1995

- EU integration 2003-?

The shocks

- overlap (never only one)

- include social engineering and intended results

- involve unintended results (often pathologies)

- exogenous and endogenous (including conditionality)

Shocks should have had a major spatial impact
each by itself

- transformation and 40 year socialist legacy

- independence and new border regions

- war and displaced persons, refugees war zones

- integration and new rules or redistribution

- together due to interdependencies effects increased (rarely counteract each other)

Difficult to unbundle regional influence

- Overlapping

- due to interdependence

- lack of data

How did the shocks influence

- spatial inequality
- internal development gradient
- Croatian on the European development gradient

Stylized fact:
1. major increase and divergence
2. increased lags

Measuring change: time period

- 32 year period 1971-2003

- two fifteen year period
  - 1 socialist regional development, 1971-1998
  - 2 effects of shocks, 1998-2003

- three year averages 1971-1973, 1996-1998 and 2001-2003

Measuring change: data problems

- changing boundaries, recalculating all data to fit current county boundaries (21 points)

- variable 1 regional social product and gross national income

- variable 2: regional social product p/c and gross national income p/c

- More complex indices may be better but cannot be constructed for whole period

Results of measurement 1:

	Three year average 1971-1973	Three year average 1986-1988	Three year average 2001-2003
Table 7: Changes in regional inequality during 40 years of socialist development in Croatia Inequality measures of regional disparities			
Gini per capita social product, unweighted	0,375898931	0,433173389	0,46455404
Gini per capita social product, weighted by share of population	0,204787973	0,153710048	0,145262374
Range of per capita social product (min as % of max)	0,224676426	0,240697183	0,327795077
Normalized range of per capita social product (	1,682126983	1,241809517	1,35567826
Inequality index			
Source: own calculation from statistical Yearbook of Croatia, various years			

The data:

- continuous increase of inequality of the gross income distribution

- continuous decrease of inequality of per capita income

- changes during First Period larger than during Second Period

- during second period small changes contrary to stylized fact

Results of measurement 3: Croatia's lag

Table 11: Croatian per capita income as percent of Slovenian and Austrian						
	1956-1960 average*	1966-1970 average*	1976-1980 average*	1986-1990 average*	1998-2002 average***	Latest value
As % of Slovenian	66.4	66.4	62.5	62.9*	45.2	
As % of Austrian	n.a.	n.a.	n.a.	42,2(1990)#	32,9#	
* Ratios of per capita Social product (Gross Material Product) in constant 1972 dinars, source: *Jugoslavija 1918-1988, statistički godišnjak*, Savezni Zavod za statistiku, Belgrade 1989 ** Ratios of per capita GDP in current Euro prices, *Countries in transition 2003 WIIW Handbook of Statistics*, WIIW, Vienna, 2003 # Human Development Indicators, World Bank 2004						

The data:

- continuous deterioration during whole period

- slow deterioration during First Period

- major increase of lag during Second Period

Interpreting changes
(No reliable research results available)

- transformation induced restructuring

- postponed restructuring, slow reformer

- war effects, post war reconsutruction

- no policy effects (no regional policy 1991-2002)

- extensive migration, internal and external

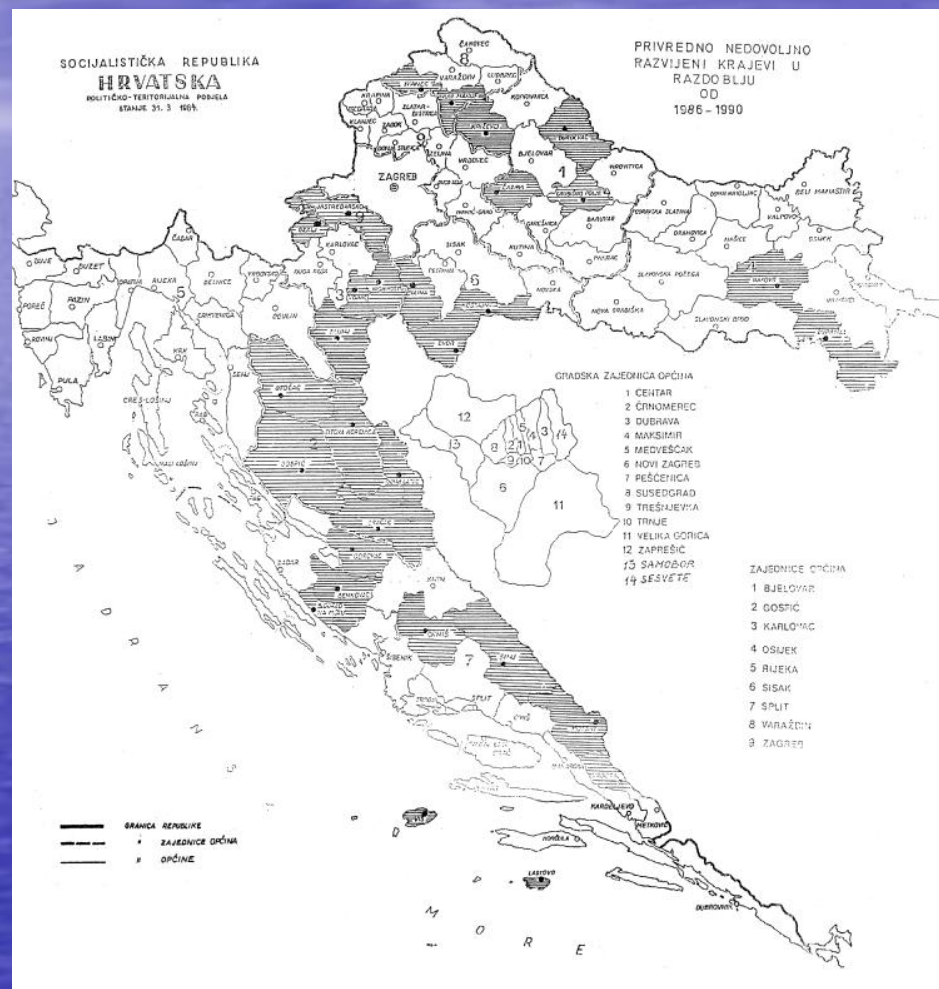# Redistribution of income from developed to less developed

- during socialist period: Insufficiently Developed Areas

- after 2000 Areas of Special State Concern

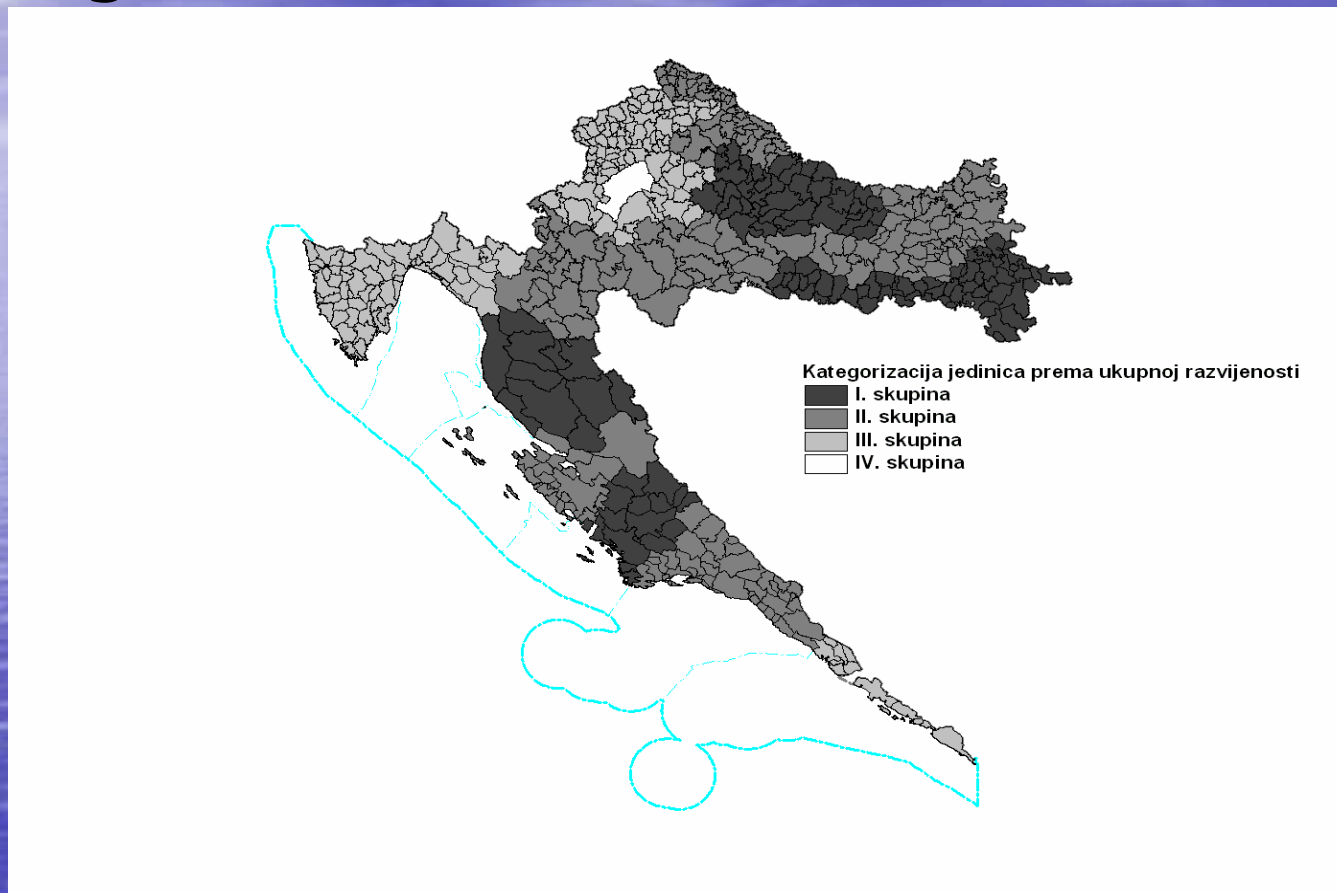# Table: Regions eligible for support

Table 10: Regional funds revenue		
	Share in Income	Share in general govt
1986/1990*	0.5% of social product	n.a.
2002**	0.28% of GDP	0.6%
Source: *Bogunović (1990) and **Ministry of finance (2004)		

Changes in areas:

Picture 3: Insufficiently developed areas 1986

Changes in areas

Picture 4: Areas of special state concern 2002

The real changes and perceived changes:

- Is the stylized fact correct?
- Have there been major changes in the gradient?
- Other aspects of the inequality issue:
- distribution of income (economic inequality)
- poverty and perceptions
- distribution of wealth
- Problems of equity