The emerging aversion to inequality.

Evidence from Poland 1992-2005

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Motivation

- Common observation: changing mood of the public opinion ('reform fatigue')
  in Central and Eastern Europe

  Successes of transformation: democracy, market institutions, GDP growth,
  increasing prosperity but

  - ✓ *The rise of populist parties*

  - ✓ *Distrust of political elites and government viewed as corrupt and self-interested*

  - ✓ *Risk of a populist backlash (e.g. reprivatization) (Desai et Olofsgärd, 2006; Krastev, 2007; Kornai, 2006, Denisova et al., 2008)*

- What happened?

Subjective well-being

- What happened? We explore this question using frequent surveys of the Polish population reflecting the evolution of subjective well-being

- For a long time well-being was analyzed in terms of 'objective' measures
  - ✓ *GDP per capita*
  - ✓ *Life expectancy*
  - ✓ *Education*

- Recently, the use of different measures of subjective well-being (SWB) became quite common and largely accepted in the economic profession. Typically, the question asked is: « How satisfied are you with your life? »

Plan

- Literature: at the intersection of two strands
- Evolution of political attitudes in Poland
- The data
- Empirical strategy : identifying a turning point
- Inequality and satisfaction: the results
- Robustness checks
- Conclusions

Two strands of the literature (1)

- Political economy of development (income inequality accompanying growth fuels social discontent and instability):

  - ✓ *growth* ➔ *the widening of income gaps* ➔*increased demand for redistribution*➔*obstacle to economic growth (Alesina and Rodrik, 1994; Persson and Tabellini, 1994; Alesina and Perotti, 1993)*

  - ✓ *Acemoglu and Robinson (2000, 2002): nineteen century's Europe : industrialization* ➔*rising inequality*➔*social discontent* ➔ *extension of voting rights* ➔ *unprecedented redistributive programs (=a strategy of the elite to avoid political unrest).*

Two strands of the literature (2)

- **Inequality and subjective well-being**

  The degree of inequality aversion depends on the perception of income mobility: People dislike inequality of outcomes when they interpret it as the fruit of unequal opportunities; the experience or expectation of upward mobility reduces people's support for redistribution.

  Alesina, Glaeser and Sacerdote (2001); Fong (2001); Alesina and la Ferrara (2005): Alesina and Angeletos (2005).

  - ✓ *contrasting Europe and the United-States (Alesina, Di Tella, and MacCulloch (2004)*
  - ✓ *the Old Europe versus the New Europe and the United States (Senik, 2005).*

- A dynamic relation between inequality and well-being
  - ✓ *Hirschman and Rothschild (1973) …*

The main inspiration:
Hirschman and Rothschild's (QJE, 1973)

- The changing tolerance for inequality :

  - ✓ *Initial stage: tolerance for higher inequality interpreted as greater opportunities; basis for expectations*

  - ✓ *Second stage: if expectations are not met – disappointment; supporters may become enemies*

  - ✓ *After such a "turning point", the side-effects of development, in particular the increase in inequality, may overcompensate subjective benefits of growth.*

  - →*This description evokes what is happening in Central and Eastern Europe*

- We are going to test the existence of such reversal in the relationship between inequality and growth from the "internal" subjective point of view of citizens. This is another way of approaching the political economy of transition.

Summary of the political situation in Poland

- Initially, high expectations and massive support from the population.

- In the middle of the 1990s - radicalization of public discourse:

  - ✓ *corruption*

  - ✓ *deficit of accountability*

  - ✓ *high price paid by the losers of transition*

Political attitudes in Poland

- The evolution of public opinion is reflected to an extent in the results of parliamentary elections :

  - ✓ *growing influence of Left-wing parties up to 2001 (the defeat of the Left in 2005 was the price paid for the budgetary discipline imposed in the process of accession; the outbreak of corruption scandals)*

  - ✓ *declining support for liberal pro-reform parties with a particular inflexion of voting behaviour after 1997 (this coïncides with the announcement of a wave of second-generation welfare-state reforms (health, pension and education)*

  - ✓ *PiS wins in 2005 addressing its electoral campaign to the losers of transition and underlining the contrast between « Poland of Solidarity» (Polska solidarna) and «liberal Poland » (Polska liberalna)*

Parliamentary election scores in Poland, 1991-2005

	1991	1993	1997	2001	2005
Left-wing parties	11.99	27.69	31.87	41.04	15.31
Liberal parties	19.81	14.58	13.37	15.78	26.59
AWS	-	-	33.83	5.60	-
Agrarian parties	14.14	17.77	7.31	8.98	6.96
Samoobrona	-	2.78	0.08	10.20	11.41
PC/PiS	8.71	4.42	-	9.50	26.99
Other right**	21.98	11.18	5.56	7.87	7.97

Left wing partice include SLD, Unia Pracy and SdPl. Agrarian parties include PSL and PSL Porozumienie Ludowe. Liberal parties include UD/UW/PD, KLD and PO.

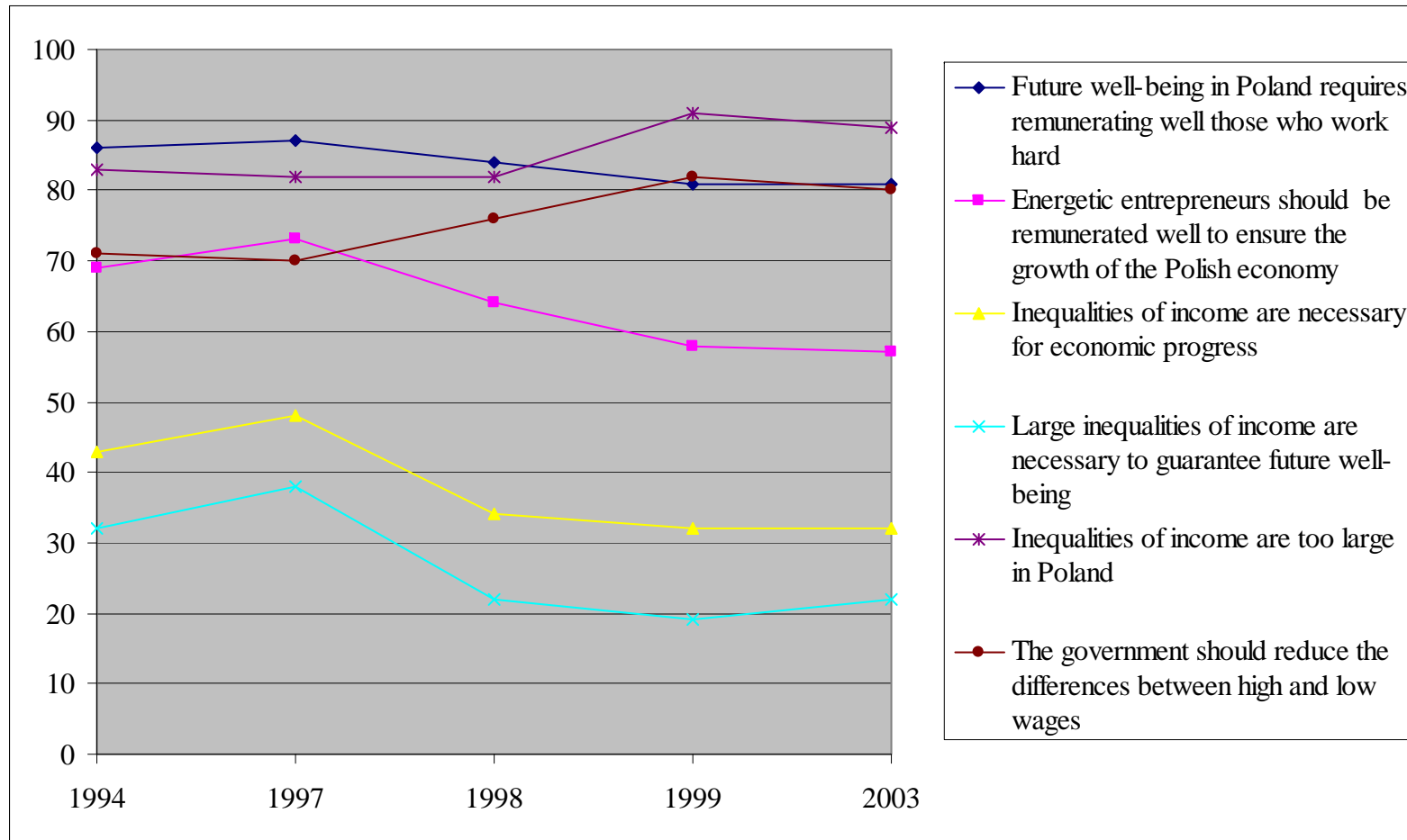# Evidence on the changing attitudes of the Polish population

- Several public opinion polls reveal significant change in attitudes concerning such problems as:

    ✓ *Corruption*
    ✓ *Income distribution*

→Try to assess empirically the role of income inequality in the changing attitudes of Polish citizens.

# The process of income generation comes into increasing suspicion

- The increase in income inequality goes hand in hand with

  ✓ *the declining belief that income inequality provides efficient incentives,*

  ✓ *(3) the increasing feeling that corruption is a major problem.*

- The perception of the population concerning the fairness and efficiency of the income distribution deteriorates, with a visible turning point around 1997.

Opinions concerning income inequality

100
90
80
70
60
50
40
30
20
10
0

1994   1997   1998   1999   2003

Legend:
- Future well-being in Poland requires remunerating well those who work hard
- Energetic entrepreneurs should be remunerated well to ensure the growth of the Polish economy
- Inequalities of income are necessary for economic progress
- Large inequalities of income are necessary to guarantee future well-being
- Inequalities of income are too large in Poland
- The government should reduce the differences between high and low wages

Percentage of people who agree with the statements indicated in the legend
Source: CBOS (2003).

"In your opinion, how important is the corruption problem in Poland?"
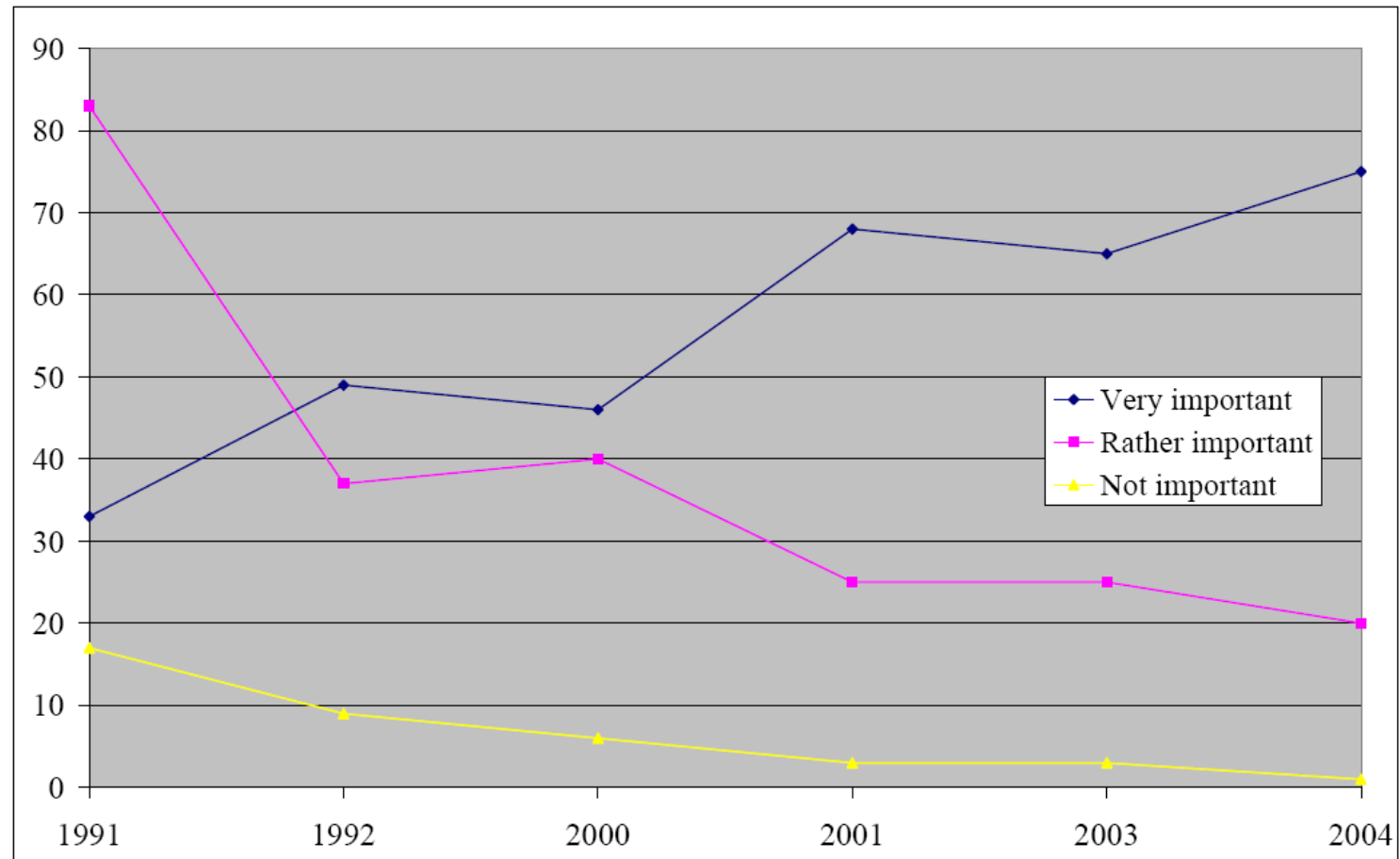
Source: CBOS (2004)

Data

- Individual level monthly surveys implemented by the Public Opinion Research Center (CBOS).

- Randomly chosen representative samples of the Polish population: 1000-1300 interviews

- We use 84 surveys covering the period 1992-2005.

  ✓ *on average 6 surveys per year*

Three attitudinal questions

- Country satisfaction: *How do you evaluate the economic situation in Poland?*

  ✓ Very good / good / neither good nor bad / bad / very bad.

- Life satisfaction: *How are your life and your family's life?*

  ✓ Very good / good / neither good nor bad / bad / very bad.

- Private expectations: *Do you think that in the coming year, you and your family will live:*

  ✓ Much better than now / a little bit better / the same as now / a little bit worse/ much worse.

# Explanatory variables, individual level

- Socio-economic variables: age, gender, education, labor market status, occupation (employees, qualified and unqualified workers, self-employed, , higher occupations etc), residential location (rural area, small city, large city), region.

- Net total monthly household income per capita, declared by individuals
  - ✓ *includes all of the revenues from the individual's main job (including bonuses, rewards, various additional remuneration), revenues from other jobs, disability and old-age pensions, other transfers, etc.*
  - ✓ *We use this notion of income and deflate it using monthly consumer price index.*

- We match individual data with macro data:
  - ✓ *from official sources: yearly GDP, the monthly CPI, the yearly GDP deflator, and the monthly unemployment rate*
  - ✓ *We compute Gini coefficient of income inequality using the successive cross-sections of successive surveys*

- Over the 1992-2005 period, the economy grew at an average rate of 4.4 percent. More precisely, GDP growth rate was at 5.3 % in 1992-1997, and 3.7% percent in1997-2005. Income inequality increased: the Gini coefficient grew from 0.32 at the beginning of 1992, to 0.38 by the end of 2005.
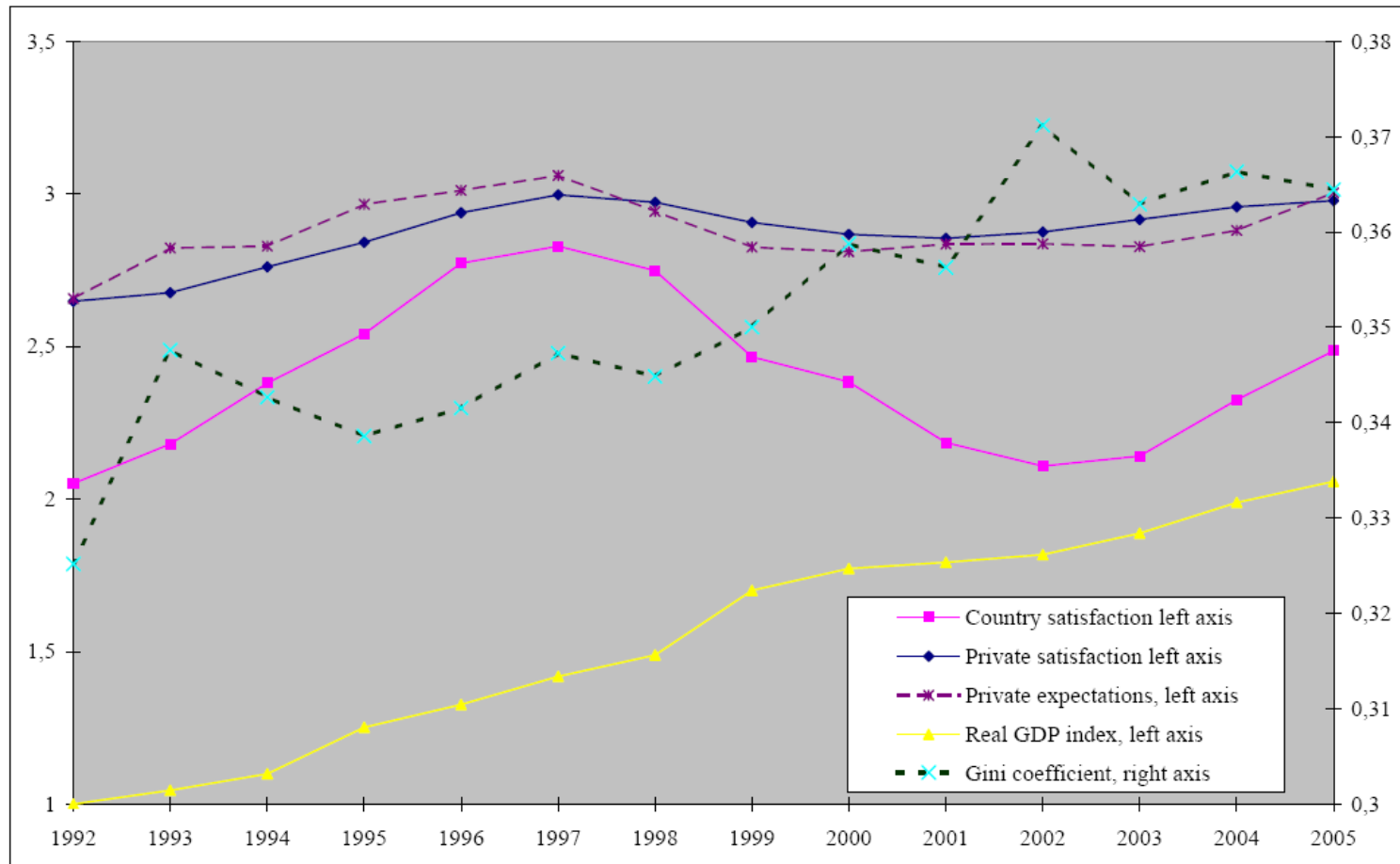
Gini coefficient and country satisfaction, CBOS bi-monthly data
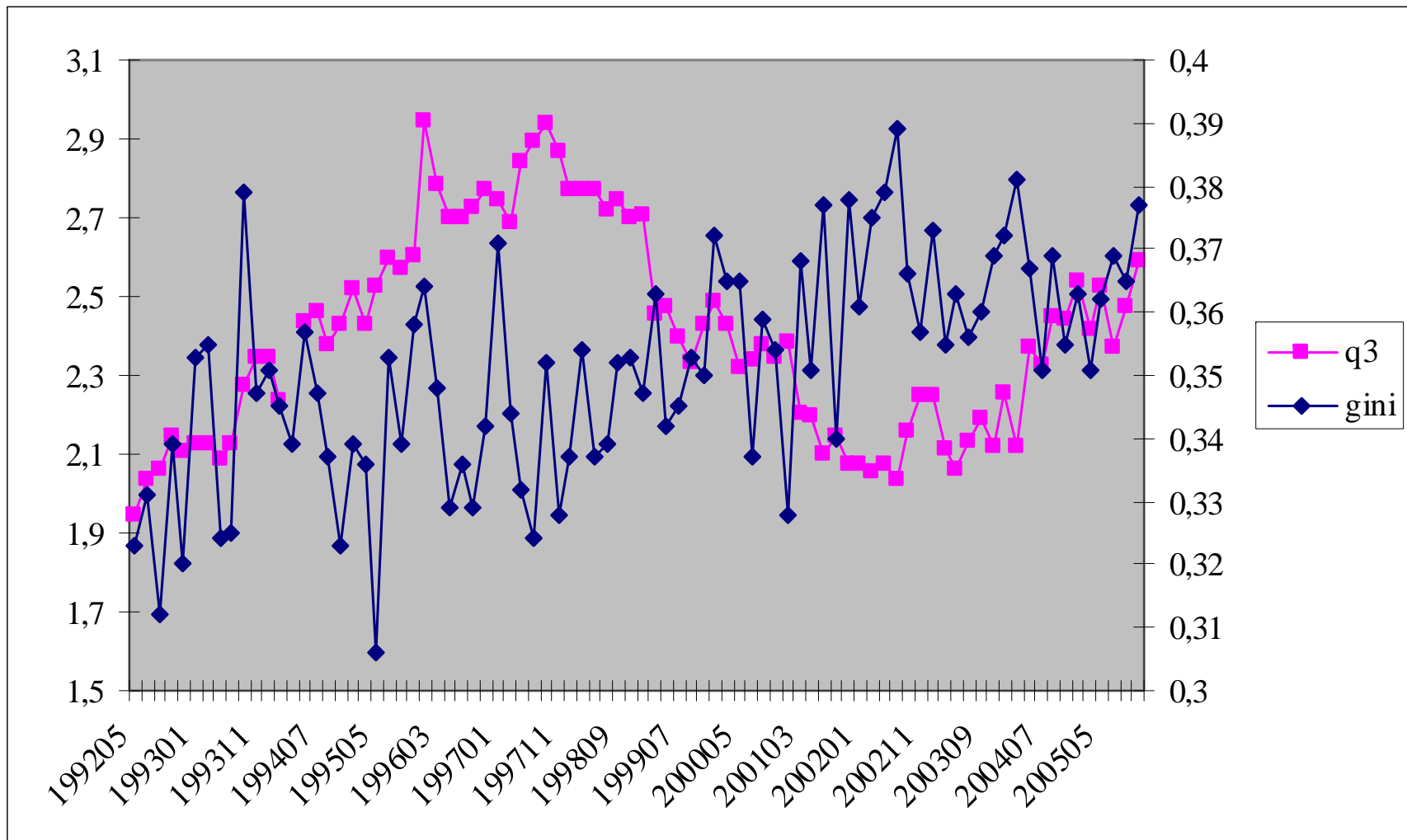
Empirical strategy

- We want to estimate the relationship between satisfaction and inequality (taking into account various individual socio-demographic characteristics)

The basic relationship we want to estimate:

- $S_{it} = a_T$ inequality $_t + b_1 X_{it} + b_2$ year dummies $+ b_3$ region dummies $+ b_4$ time trend $+ e_{it}$

  ✓ *S_{it} is the satisfaction of individual i in month t*
  ✓ *X_{it} stands for individual (i) level characteristics in date t: age, age-squared, gender, education, occupation, labor market status, household income per capita, and residential location*
  ✓ *Yearly dummies are meant to capture the general macroeconomic and other circumstances that affect all individuals in a given year*
  ✓ *Region dummies control for region specific development*
  ✓ *Time trend included to neutralize possible co-variations of all magnitudes*

Main determinants of satisfaction

- Men are happier than women (a frequent observation in Central and Eastern Europe and in Latin America, as opposed to Western Europe and the United States)

- There is a U shaped relationship between age and satisfaction, and a positive correlation with income, education, and higher occupations.

- People who live in rural areas are more satisfied and optimistic about their future but they view the situation of the country in a more pessimistic way; people who live in large cities are less satisfied but they perceive in a more optimistic way the economic situation of their country .

	Country satisfaction	Private expectations	Private satisfaction
Gender	-0.061***	-0.119***	-0.097***
	[0.021]	[0.017]	[0.014]
Age	-0.031***	-0.076***	-0.090***
	[0.003]	[0.005]	[0.005]
Age-squared	0.000***	0.001***	0.001***
	[0.000]	[0.000]	[0.000]
Log household income	0.334***	0.336***	1.277***
	[0.016]	[0.019]	[0.018]
Education	0.117***	0.051***	0.293***
	[0.024]	[0.019]	[0.017]
Rural	-0.152***	0.076***	0.236***
	[0.022]	[0.022]	[0.021]
Large city	-0.022	-0.041*	-0.196***
	[0.025]	[0.025]	[0.022]

Inequality and satisfaction : testing the existence of a break

- We test the hypothesis that the impact of inequality on satisfaction does not change over the entire period (parameter on the Gini (a_T) is the same)

H0: $a_T = a^*$ for all T

H1: $a_T = a1$ for $T = 1992$, …, T^B

  $a_T = a2$ for $T = T^B + 1,…, 2005$

- If the H0 is rejected, we want to locate the break point.

- We consider successively different sub-periods [1992, T] and [T+1, 2005] and compute the Wald statistic over all possible breakpoints and compare the sup-Wald statistic with the critical value (Andrews, 1993).

Inequality and satisfaction: a structural break

- We find a discontinuity in the relation between inequality and subjective well-being: the breakpoint is identified at the beginning of 1997

- Consequently, we divide the sample into two parts at the the identified breakpoint and estimate equation (1) separately for each sub-sample

A break in 1997

- The impact of the Gini coefficient on the evaluation of the country's situation is significantly positive before 1997 and significantly negative afterwards.

- Gini is significantly positively correlated with expectations up to 1997, but uncorrelated with it thereafter. This suggests that inequality is initially interpreted as an opening of new opportunities, but then, in the later stages of transition, loses this signification in the eyes of the population.

- Finally, private satisfaction is initially weakly influenced by inequality. In the second period, however, the coefficient on the Gini becomes significantly negative.

→ Obviously, the interpretation of income inequality has changed over the period under consideration, with a visible turning point in 1997.

Relationship between inequality and satisfaction: the break in 1997

	Country satisfaction		Private expectations		Private satisfaction	
	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005
Gini	6.402***	-6.199***	8.981***	0.258	0.627	-2.844**
	[2.100]	[2.170]	[2.156]	[1.352]	[0.898]	[1.397]
No. of observations	30520	43061	27115	40435	32357	45335
Chi2	3240601	9383	31416	41941	18861	26526
Pseudo R2	0.06	0.06	0.02	0.04	0.10	0.12
Log likelihood	-34891.44	-50214.02	-32677.07	-44364.70	-34828.81	-47973.66

Control: income, gender, age, age-squared, education, residential location, employment status, occupation, year dummies, region dummies. Cluster (cross-section)

Test of robustness

- 1) Alternative explanations: omitted variables

  ✓ *Seasonality*

  ✓ *Macroeconomic context: GDP growth, inflation, unemployment*

  →*controlling for these variables does not affect the main results*

- 2) Using alternative measures of inequality: local Gini, standard deviation of household income, reference income→the results remain unaffected

Robustness: controlling for seasonality

	1 1992- 1996	2 1997-2005
Gini	**4,788*****	**-5,862*****
	[0,825]	[1,187]
_Imonth_2		0,033
		[0,095]
_Imonth_3	-0,213**	-0,310***
	[0,101]	[0,101]
_Imonth_4	1,403***	
	[0,155]	
_Imonth_5	-0,097	-0,234***
	[0,112]	[0,085]
_Imonth_6	0,374**	
	[0,186]	
_Imonth_7	-0,054	-0,308***
	[0,119]	[0,086]
_Imonth_9	0,008	-0,199*
	[0,091]	[0,103]
_Imonth_10	0,217**	
	[0,107]	
_Imonth_11	0,241**	-0,191**
	[0,111]	[0,091]
_Imonth_12	0,201*	
	[0,108]	
Observations	43611	43242
chi2	160465	3651
Pseudo R2	0,07	0,06
log likelihood	-48581	-50446

Controls: income, gender, age, education, location, employment status, occupation, year dummies.   Cluster (cross-section)

	Country satisfaction	
	1992-1996	1997-2005
Panel A		
Gini	5.398**	-9.459***
	[2.298]	[2.655]
GDP growth	-0.009	0.189***
	[0.041]	[0.020]
No. of observations	30520	43061
Chi2	8831	2795
Pseudo R2	0.06	0.05
Log likelihood	-34911	-50670

# Satisfaction and inequality by residential location

	Country satisfaction		Private expectations		Private satisfaction	
	1992-1996	1997-2005	1992-1996	1997-2005	1992-1996	1997-2005
Local Gini	1.914***	-2.396***	3.545***	-0.793	0.288	-1.175**
	[0.736]	[0.892]	[1.071]	[0.630]	[0.452]	[0.511]
No. of observations	30520	43061	27115	40435	32357	45335
Pseudo R2	0.05	0.06	0.02	0.04	0.1	0.12

- Is the negative impact of the Gini coefficient on the country's satisfaction reflected in political attitudes?

- We explore another question included in the CBOS survey: "*Can you describe your political opinions? Please, use the scale 1 to 7, 1 meaning left and 7 meaning right*"

  ✓ *We expect that the percentage of the respondents who position themselves at the extreme left of the political scale approximately captures the rejection of liberal reforms.*

- This percentage follows the rise in the Gini coefficient up to 2001. It then drops until 2005 when PiS wins the election with the strongly pro-redistributive program.

Income inequality
and political self-identification
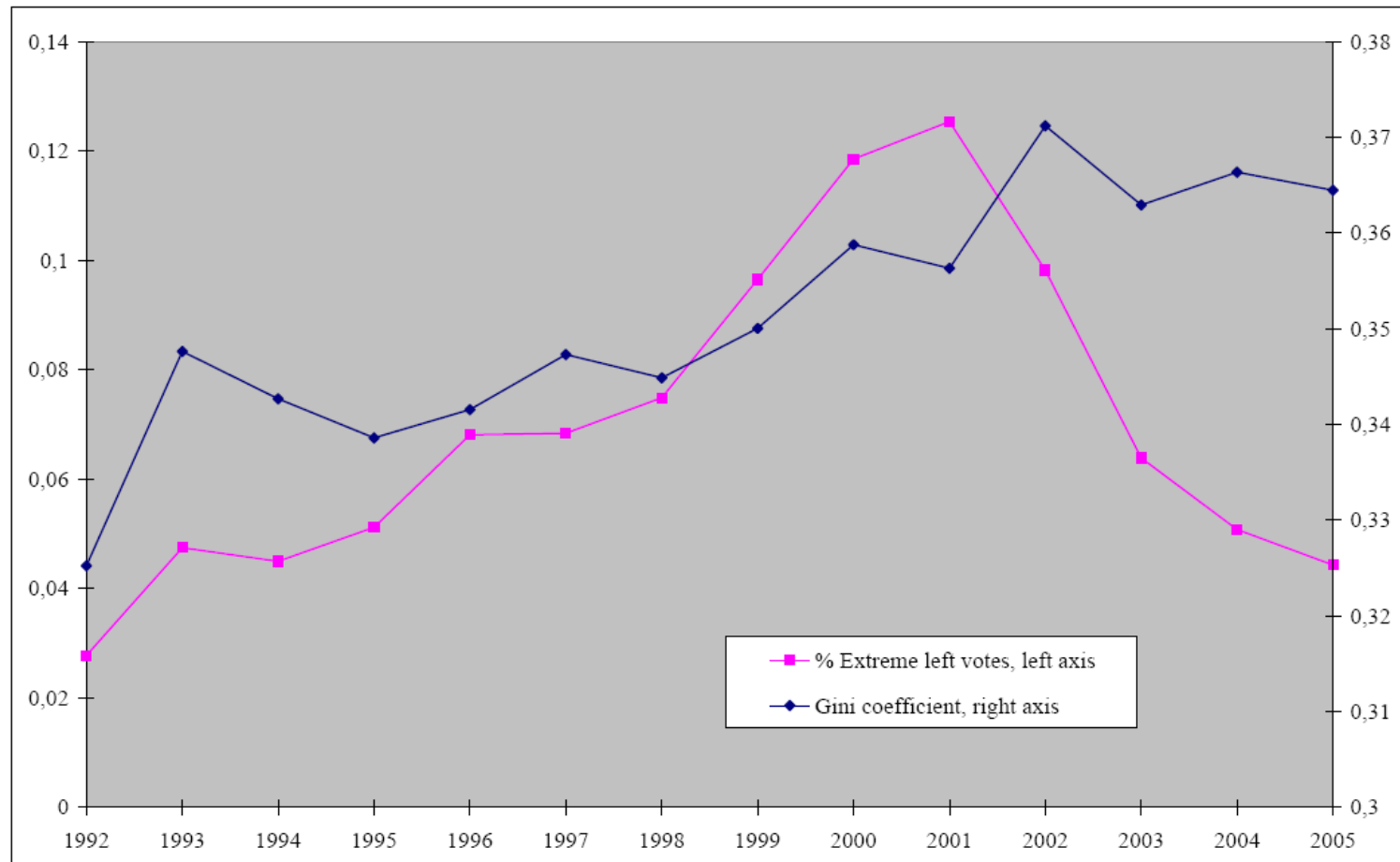
The question asked: « Can you describe your political opinions? Please, use the scale 1 to 7, 1 meaning left and 7 meaning right. »

Conclusions (1)

- We have explored the evolution of the subjective attitudes of Polish citizens during the initial and later stages of transition

- Our empirical analysis confirms the existence of a turning point, predicted by Hirschman, in the relationship between satisfaction and inequality : initially the rise in inequality is tolerated because it is interpreted as a signal of increased opportunities; but as time goes inequality becomes undermining satisfaction
  - ✓ *It comes with the sentiment that the process that generates income distribution is unfair.*

Conclusions (2):
Confirming Hirschman' conjecture

- According to Hirschman and Rotschild (1973), the turning point is not caused by a sudden shock: unfulfilled expectations and diminishing patience of citizens bring about a change in attitudes. It comes about "*purely as a result of the passage of time – no particular outward event sets off this dramatic turnaround*". "*The rulers are not necessarily given any advance notice about (...) the time at which they ought to be on the lookout for a drastically different climate of public and popular opinion; on the contrary, they are lulled into complacency by the easy early stage when everybody seems to be enjoying the very process that will later be vehemently denounced and damned as one consisting essentially in "the rich becoming richer"* (p. 552).

Conclusions (3)

- Policy implications:

  ✓ *Exploit rapidly the initial "window of opportunity" for reforms.*

  ✓ *Remember that the citizens may tolerate social strife for some years but democracy will become vulnerable unless policies address problems of inequality*

  ✓ *More generally: in developed economies it is important to ensure the social cohesion and make sure that the functioning of the market is perceived as fair and transparent.*

Annual macroeconomic aggregates source: Polish statistical office

Year	Nominal GDP	Real GDP growth	Unemployment rate	Gini coefficient (our data)	Gini coefficient UNICEF data
1992	114243	102.6	13.1	0.325	0.274
1993	155780	103.8	14.9	0.348	0.317
1994	210377	105.2	16.5	0.343	0.323
1995	306318	107.0	15.2	0.339	0.321
1996	385448	106.2	14.4	0.342	0.328
1997	469372	107.1	11.6	0.342	0.334
1998	549467	105.0	10.0	0.345	0.326
1999	665688	104.5	11.9	0.350	0.334
2000	744378	104.3	13.9	0.359	0.345
2001	779564	101.2	16.1	0.356	0.341
2002	808578	101.4	17.7	0.371	0.353
2003	843156	103.9	18.0	0.363	0.356
2004	924538	105.3	19.6	0.366	-
2005	982565	103.6	18.2	0.325	-

The demographic structure of the sample yearly averages

year	gender	age	Secondary education	rural areas	urban areas	large cities
1988	0.52	42.74	0.32	0.39	0.48	0.31
1989	0.52	43.05	0.31	0.39	0.49	0.31
1990	0.50	44.28	0.39	0.38	0.49	0.31
1991	0.52	44.44	0.35	0.40	0.51	0.29
1992	0.55	46.77	0.34	0.42	0.52	0.28
1993	0.55	47.93	0.35	0.42	0.52	0.28
1994	0.48	47.89	0.37	0.40	0.53	0.28
1995	0.55	48.24	0.37	0.40	0.51	0.29
1996	0.55	47.61	0.39	0.37	0.55	0.28
1997	0.57	47.53	0.41	0.37	0.52	0.31
1998	0.56	47.74	0.41	0.37	0.53	0.30
1999	0.56	48.17	0.43	0.37	0.52	0.30
2000	0.55	48.13	0.45	0.37	0.50	0.32
2001	0.56	47.86	0.44	0.36	0.49	0.32
2002	0.55	48.46	0.46	0.35	0.46	0.35
2003	0.55	47.82	0.46	0.37	0.47	0.33
2004	0.52	46.89	0.46	0.41	0.51	0.29
2005	0.53	46.73	0.44	0.37	0.51	0.30

The occupation structure of the sample yearly averages

Year	Unemployed	Pensioners	Farm	Not working	Unqualified workers	Qualified workers	Higher occupations	Self-employed	Employees
1988	0.00	0.18	0.12	0.08	0.03	0.18	0.05	0.01	0.29
1989	0.00	0.19	0.15	0.07	0.04	0.18	0.05	0.02	0.28
1990	0.01	0.20	0.15	0.11	0.03	0.16	0.06	0.03	0.22
1991	0.06	0.29	0.17	0.12	0.11	0.24	0.05	0.04	0.26
1992	0.08	0.34	0.11	0.07	0.06	0.14	0.06	0.03	0.15
1993	0.05	0.44	0.09	0.03	0.04	0.10	0.06	0.04	0.13
1994	0.04	0.45	0.09	0.02	0.04	0.10	0.06	0.04	0.13
1995	0.06	0.43	0.08	0.04	0.04	0.10	0.06	0.04	0.12
1996	0.08	0.37	0.07	0.06	0.04	0.10	0.07	0.04	0.15
1997	0.08	0.35	0.06	0.06	0.04	0.10	0.08	0.04	0.16
1998	0.07	0.37	0.06	0.05	0.04	0.09	0.07	0.04	0.16
1999	0.08	0.37	0.06	0.05	0.04	0.09	0.07	0.04	0.16
2000	0.09	0.37	0.06	0.05	0.03	0.08	0.07	0.04	0.16
2001	0.12	0.37	0.05	0.05	0.03	0.08	0.06	0.04	0.16
2002	0.13	0.37	0.05	0.04	0.03	0.07	0.07	0.04	0.16
2003	0.12	0.35	0.05	0.05	0.03	0.07	0.07	0.04	0.16
2004	0.12	0.34	0.06	0.05	0.03	0.07	0.07	0.04	0.16
2005	0.11	0.33	0.05	0.05	0.04	0.08	0.05	0.03	0.17

	1	2	3	4	5	6
	Country		Expectations		Life satisfaction	
	1992 - 1996	1997 - 2005	1992 - 1996	1997 - 2005	1992 - 1996	1997 - 2005
Log Reference Income	**5.774*****	**-4.709*****	**2,786*****	**0,398**	**-0,196**	**-1,161*****
	[1.796]	**[1.574]**	**[0,660]**	**[0,414]**	**[0,242]**	**[0,315]**
Log real household income per capita	0,338***	0,350***	0,311***	0,372***	1,247***	1,291***
	[0,023]	[0,021]	[0,033]	[0,021]	[0,034]	[0,019]
Observations	30942	43242	27498	40609	32791	45526
chi2	4270	3223	1479	3263	9174	19008
Pseudo R2	0,05	0,06	0,02	0,04	0,1	0,12
log likelihood	-35434	-50512	-33186	-44613	-35379	-48228

Controls: income, gender, age, education, location, employment status, occupation, year dummies.   Cluster (cross-section)

A description of Polish political parties

- SLD (Sojusz Lewicy Demokratycznej), a social democratic party issued from the pre-1989 communist party PZPR. Initially using anticapitalistic arguments, and opposing privatization program, after 1997 put accent on economic reforms, on joining NATO and UE. In 2001 the results for SLD include Unia Pracy (UP). In 2005 the results for SLD include SdPl (Socjaldemokracja Polska) which obtained 3.89 % of votes.

- Samoobrona – a populist agrarian party, proposing a radical program of isolationism, protectionism, hostile to foreign investors, etc.

- UD/UW/PD (Unia Demokratyczna/Unia Wolnosci/Partia Demokratyczna) – three successive embodiments of a party of the centre: economically pro capitalistic, culturally and politically liberal

- KLD (Kongres Liberalno-Demokratyczny) – a liberal party: it joined UW in 1994, then left UW in 2001; Its leaders contributed to the formation of a new, more conservative party, Platforma Obywatelska (PO).

- PO (Platforma Obywatelska) was created in 2001 – a liberal-conservative party.

- AWS/AWS Prawicy (Akcja Wyborcza Solidarnosc) – large coalition of right-wing parties around Solidarity trade union.

- PC/PiS – a popular, nationalist, conservative party; since its formation PiS focused on the fight with the post-communist left and braving of corruption.

- Other right – includes mostly right wing catholic parties, and some radically anticommunist and populist parties. They usually reject liberalism; defend Catholic Church and family values, and want to protect national interests against globalization, foreign capital, and the European Union.