

Sviluppi del modello MIND

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Parma, 15 Aprile 2005

MIND project

Micro Italy National Dynamics

It's a **dynamic microsimulation** model, able to:

- microsimulate the Italian demographic and socio-economic structure, considering different geographical areas;
- evaluate the consequences and the **redistributive effects** of:
 - economic policies and
 - fiscal and pensions reforms' paths.
- The current version allows to examine the long term effects of the SSS as well as to assess the short run impact of the personal income tax system.
- It can measure inequality and poverty trends inside the population or among different generations.

Recent applications

Microsimulating the Evolution of Italian Pension Benefits: the Role of Retirement Choices and Lowest Pensions Indexing, *Labour*, 17, 2003.

Reforming the Italian Pension System in the XXI Century: the Issue of Seniority Pensions Once Again, *Advances in Complex Systems*, 2004.

Demographic Evolution and Inequalities among Families of Pensioners in Italy: Microsimulating Regional Dynamics, *Genus*, LX, 2, 2004.

Effetti redistributivi dell'intervento pubblico. Esperimenti di microsimulazione per l'Italia, *Giappichelli*, 2004.

The structure of the model MIND

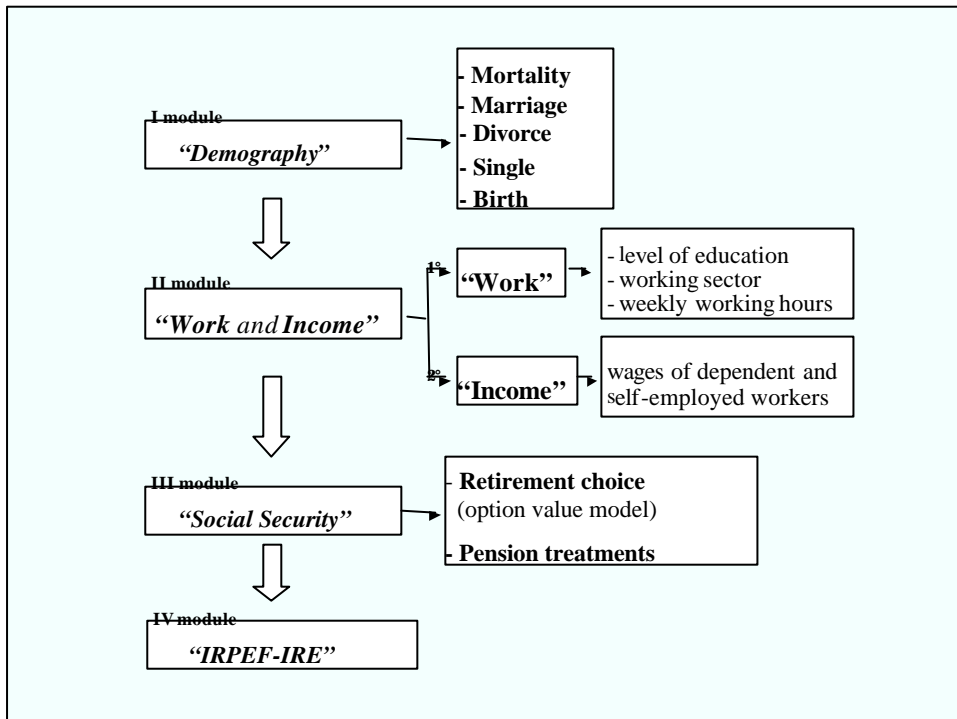
The model is organised in 4 modules:

1. "demography"
2. "work and income"
3. "social security"
4. "personal income tax (IRPEF-IRE)"



The model considers both the national socio-demographic dynamics and the different Italian geographical areas.

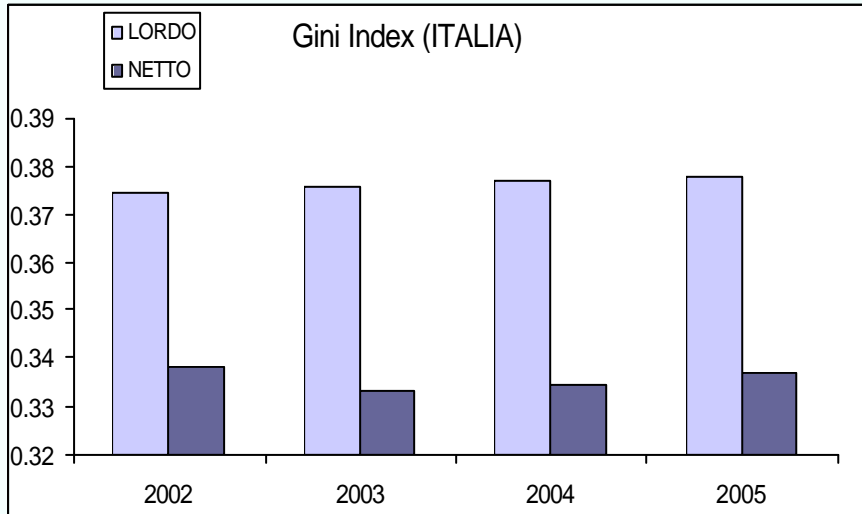
The demographic and socio-economic characteristics are updated yearly through individual transition probabilities (Monte Carlo method) and individual decisional processes.



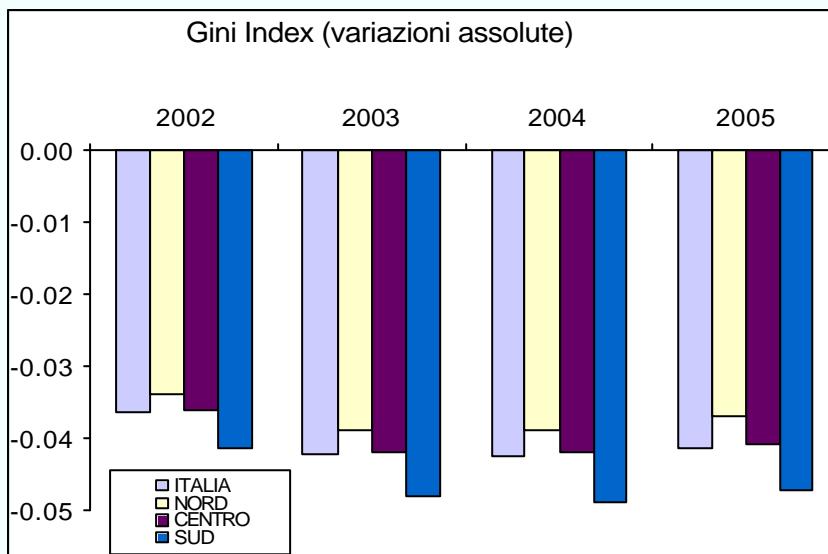
Income Concentration (1)

Indice di Gini								
	ITALIA		NORD		CENTRO		SUD	
anni	LORDO	NETTO	LORDO	NETTO	LORDO	NETTO	LORDO	NETTO
2002	0.375	0.338	0.346	0.312	0.350	0.314	0.399	0.358
2003	0.376	0.334	0.347	0.308	0.352	0.310	0.401	0.353
2004	0.377	0.335	0.348	0.309	0.353	0.311	0.403	0.354
2005	0.378	0.337	0.350	0.313	0.354	0.313	0.403	0.356
	ITALIA		NORD		CENTRO		SUD	
anni	D assol	D %	D assol	D %	D assol	D %	D assol	D %
2002	-0.036	-9.73%	-0.034	-9.79%	-0.036	-10.31%	-0.041	-10.38%
2003	-0.042	-11.24%	-0.039	-11.16%	-0.042	-11.91%	-0.048	-11.96%
2004	-0.043	-11.28%	-0.039	-11.12%	-0.042	-11.90%	-0.049	-12.09%
2005	-0.041	-10.88%	-0.037	-10.53%	-0.041	-11.54%	-0.047	-11.69%

Income Concentration (2)



Income Concentration (3)



Further Developments

- Income tax system (new design), considering the impact on tax progression and redistribution.
- Changing the “demographic module” considering the impact of socio-economic variables on family formation.
- How family influences individual choice (consumption, labour, etc...).