NEW FEATURES OF THE INTIMO.

PROGRESS REPORT

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Summary

- The database
- The recovery of the identities
- Questions risen during the estimation of investment and labour productivity equations

The database

The cornerstone of the database is the set:

Conti economici nazionali (ISTAT)

This set includes:

- aggregate national accounts;
- supply and use tables;
- institutional accounts;
- details for a number of variables.

Basic time series

time series	period
Total output b.p.	(1970) 1992-2005
Personal Consumption	1992-2006
Investments	1970-2004
Capital stock	1980-2004
Employment	(1970) 1992-2006
Wages	(1970) 1992-2006
Social contributions	(1970) 1992-2006
Subsidies	(1970) 1992-2006
Indirect taxes	(1970) 1992-2006
Value added at b.p.	(1970) 1992-2006

Sectoral detail

➢ Total output b.p.	• 45 industries
➢ Personal Consumption	• 56 items
➢ Investments	• 29 investors
➢ Capital stock	• 29 industries
➢ Employment	• 45 industries
➢ Wages	• 45 industries
➢ Social contributions	• 45 industries
➢ Subsidies	• 45 industries
➢ Indirect taxes	• 45 industries
➢ Value added at b.p.	• 45 industries

Supply and Use tables

Matrices	years
➢ Supply b.p. (59x59)	• 1995-2003
➢ Use b.p.	• 1995-2003
➢ Use p.p.	• 1995-2003
➢ Margins	• 2000
➢ Excise tax	• 2000
➢ Vat (non-deductable)	• 2000
➢ Bridge for PCE	• 2000-2002
➢ Bridge for investments	• 2000

Time series from the matrices

Final demand vectors	time series
➢ Imports	1995-2003
➢ Exports	1995-2003
➢ Inventory changes	1995-2003
➢ Investments by producers	1995-2003
➢ Government expenditure	1995-2003
➢ Private collective consumption	1995-2003
➢ Investments in jewelry	1995-2003

Available deflators

Deflators are available for:

- Output;
- Personal consumption expenditure;
- Investment;
- Capital stock.

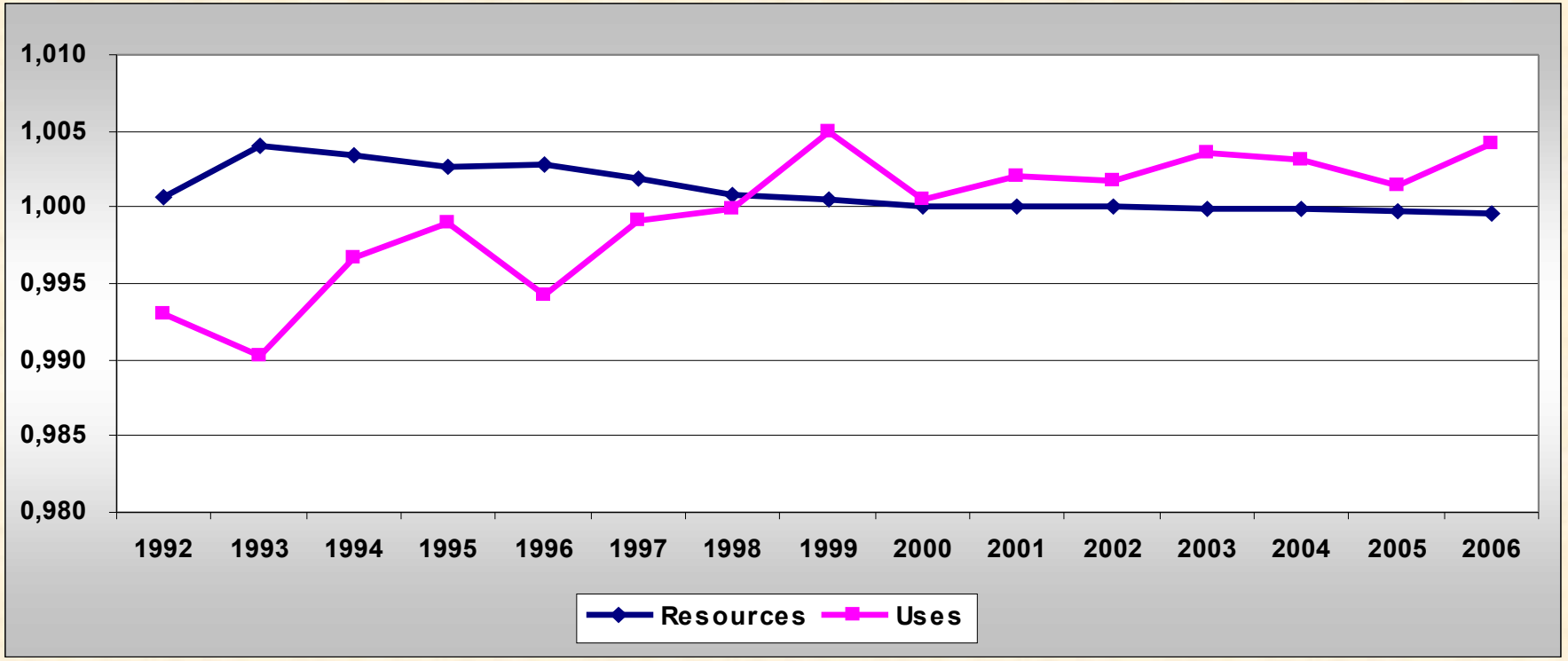
Deflators are not available for CPA details

The recovery of the identities

- Chain indexes;
- Chained time series.

The recovery of the identities

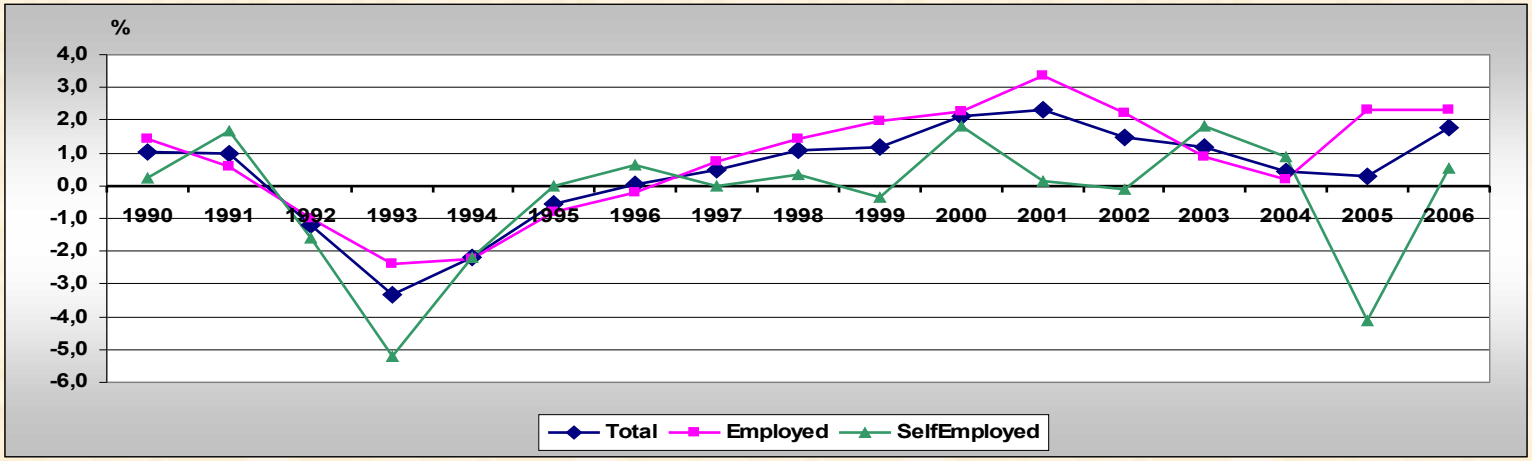
The correction factors in the Resources and Uses account

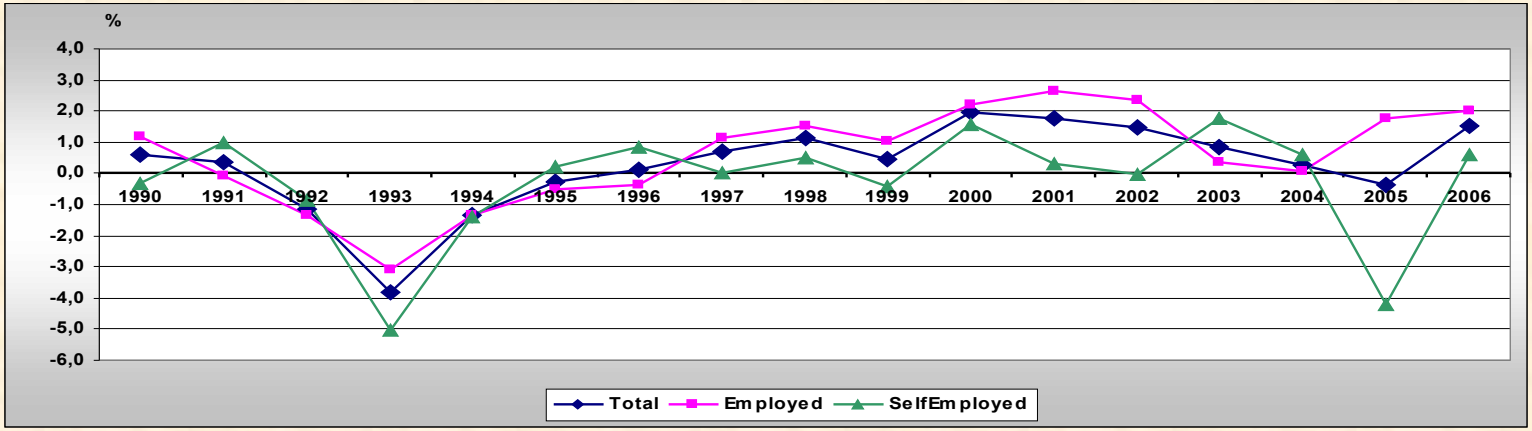


% discrepancies between Totals and Sub-totals

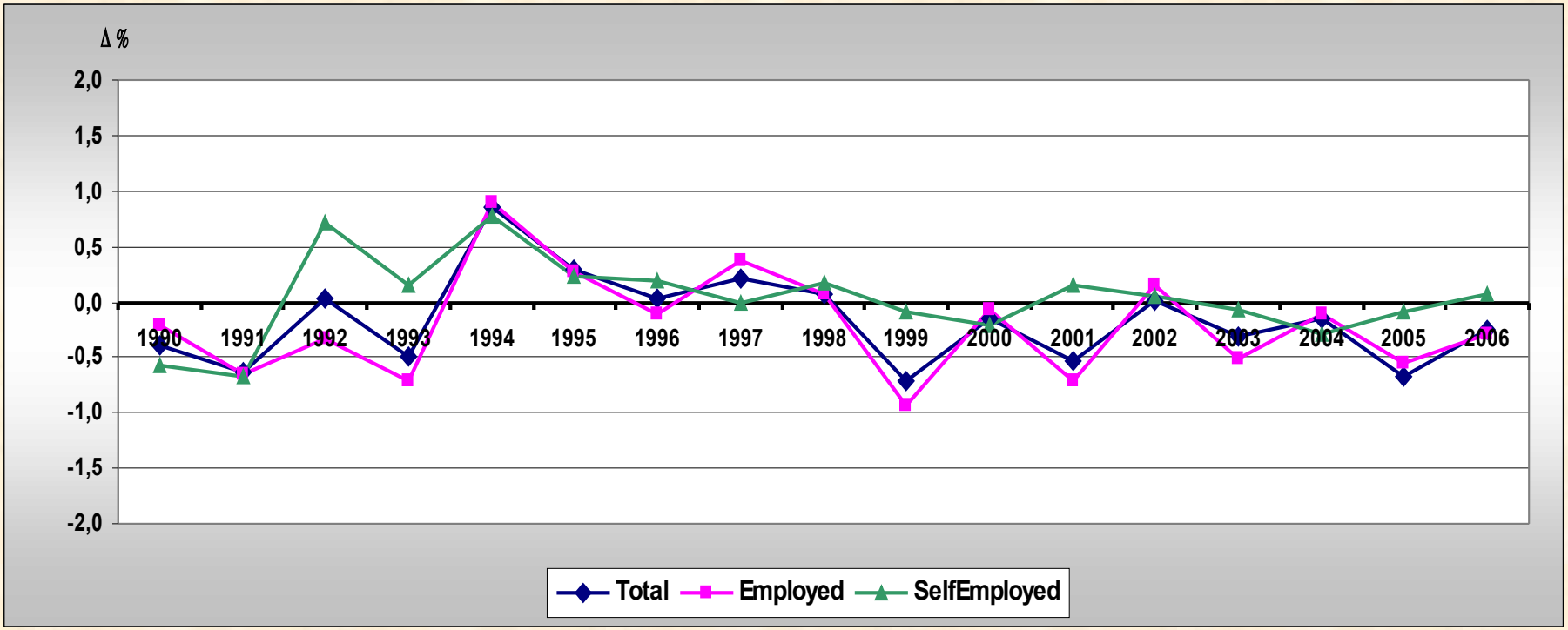
Years	Resources	Uses	PCE	CAP
1992	0,059	-0,697	0,010	-0,046
1993	0,401	-0,971	0,013	-0,104
1994	0,344	-0,326	0,008	-0,059
1995	0,269	-0,100	0,005	0,005
1996	0,280	-0,580	0,009	-0,008
1997	0,189	-0,079	0,002	-0,004
1998	0,087	-0,005	0,001	0,003
1999	0,055	0,488	-0,004	-0,005
2000	0,000	0,044	0,000	0,000
2001	0,000	0,202	-0,002	0,000
2002	-0,001	0,179	-0,001	0,006
2003	-0,004	0,364	-0,003	0,000
2004	-0,018	0,318	-0,002	-0,005
2005	-0,032	0,142	0,001	
2006	-0,048	0,420	0,000	

Growth rates of Employment
Growth rates of UL





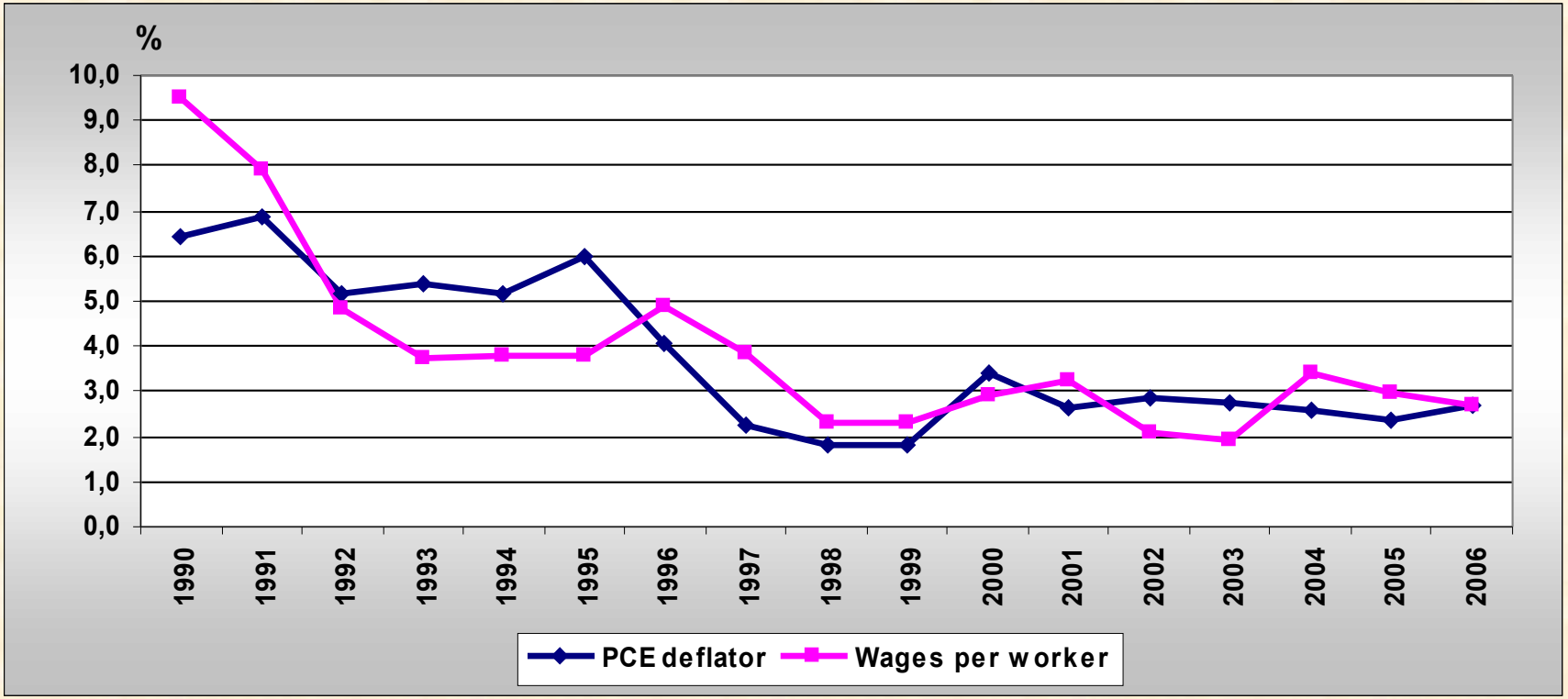
Differences of rates of growth. UL versus Employment



Two keys to fight against unemployment

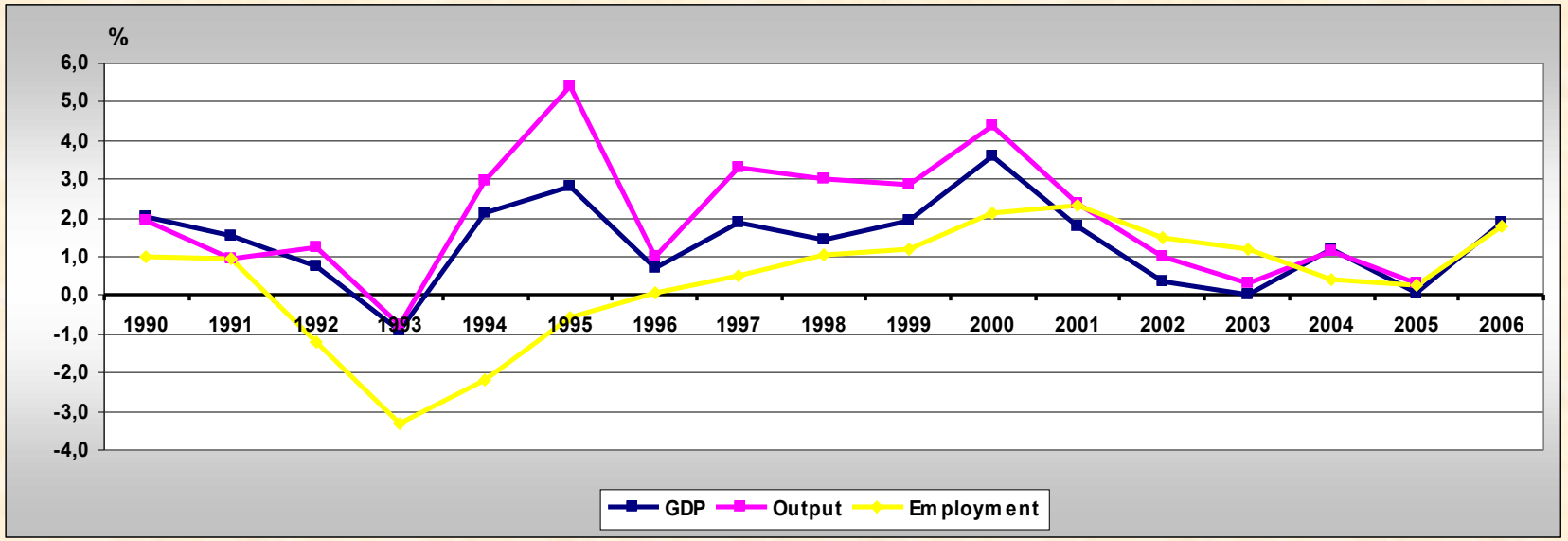
- Promotion of moderate wage policies
- Improvement of the efficiency of the labour market institutions

Evidence of moderate wage policies



Evidence of structural changes in the labour market institutions

Growth rates of GDP, Output and Employment

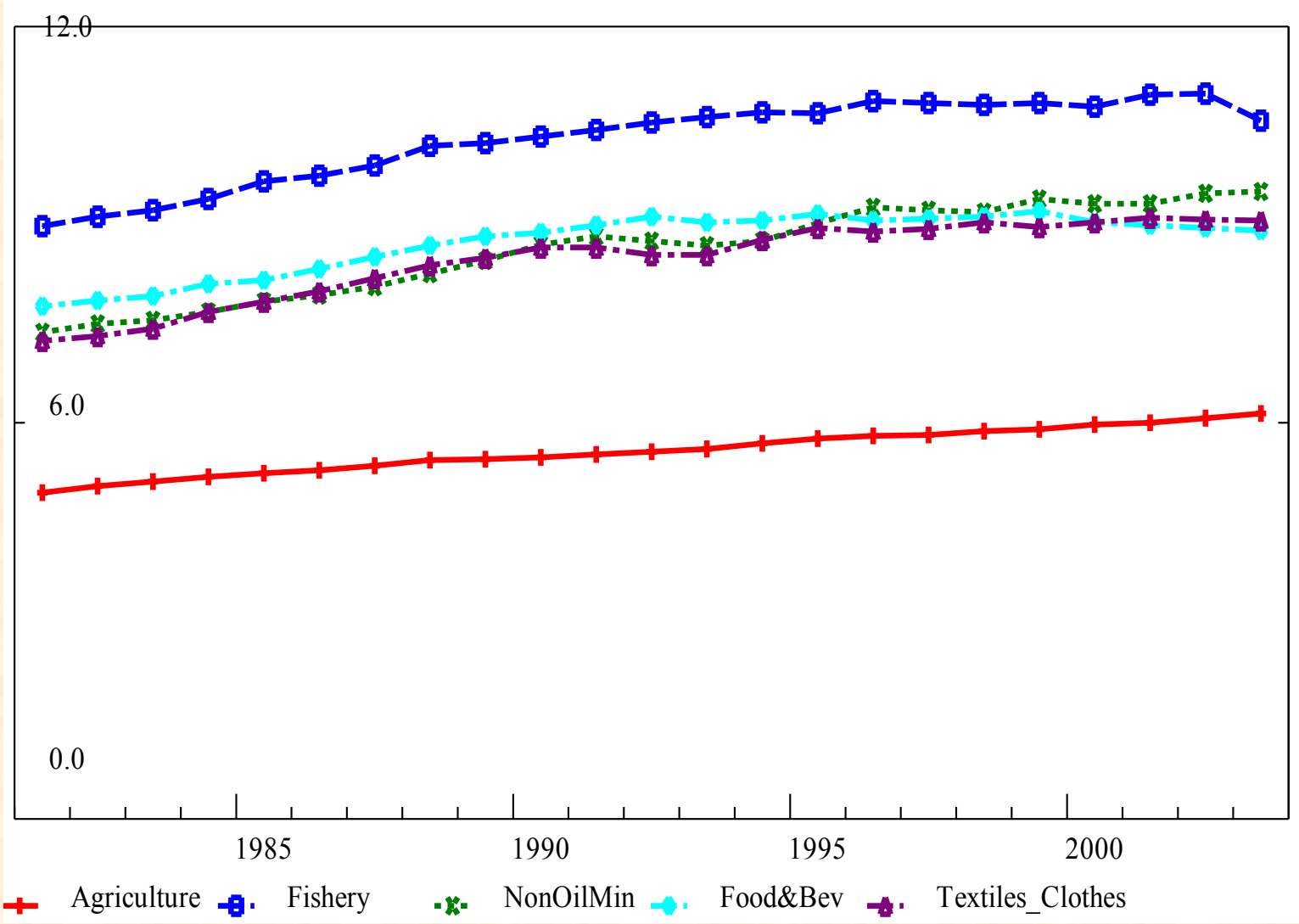


Investments, Capital Stock and Replacement

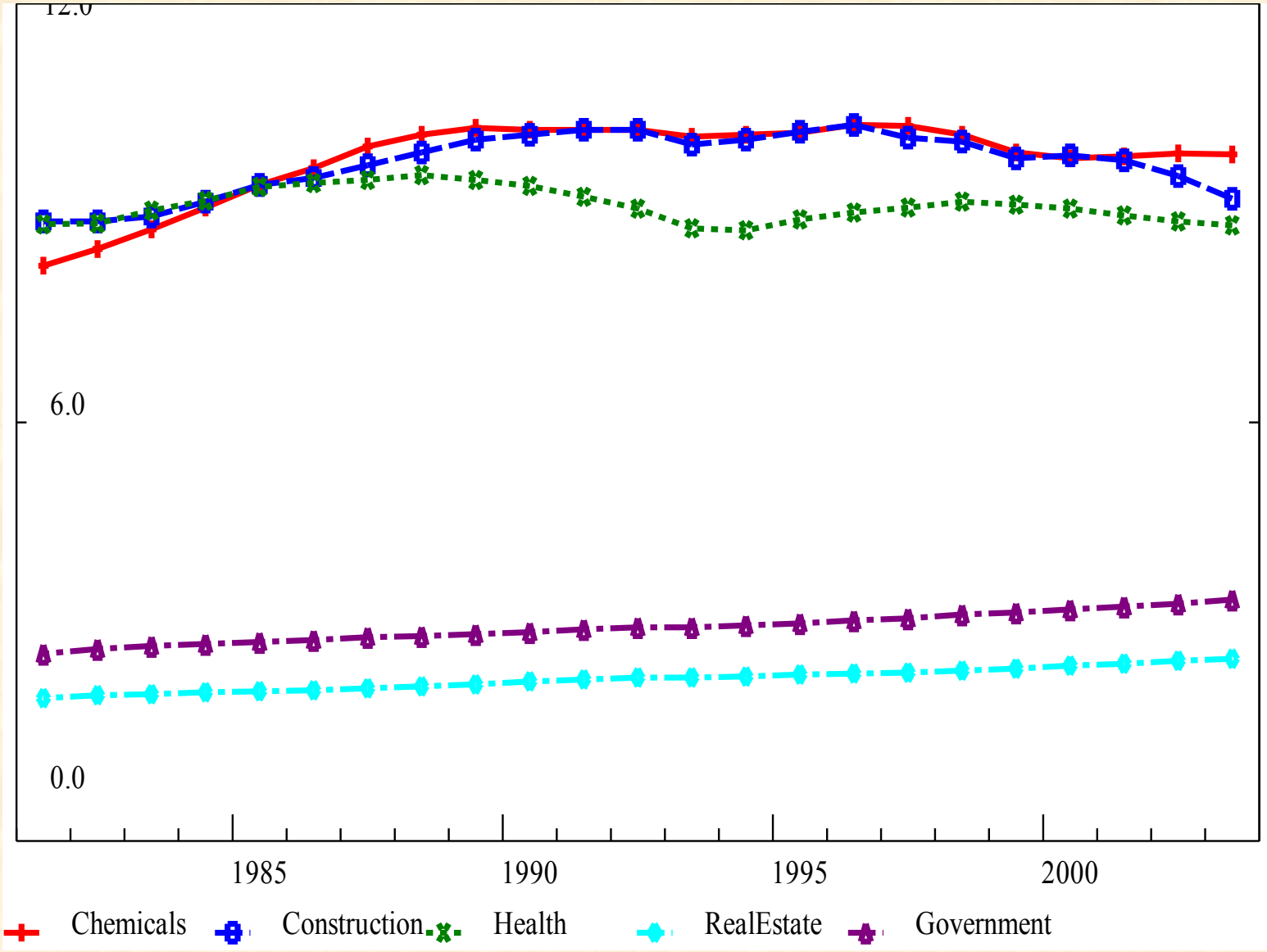
What can be learnt from the recent time series released by ISTAT

(thanks to Massimiliano Iommi)?

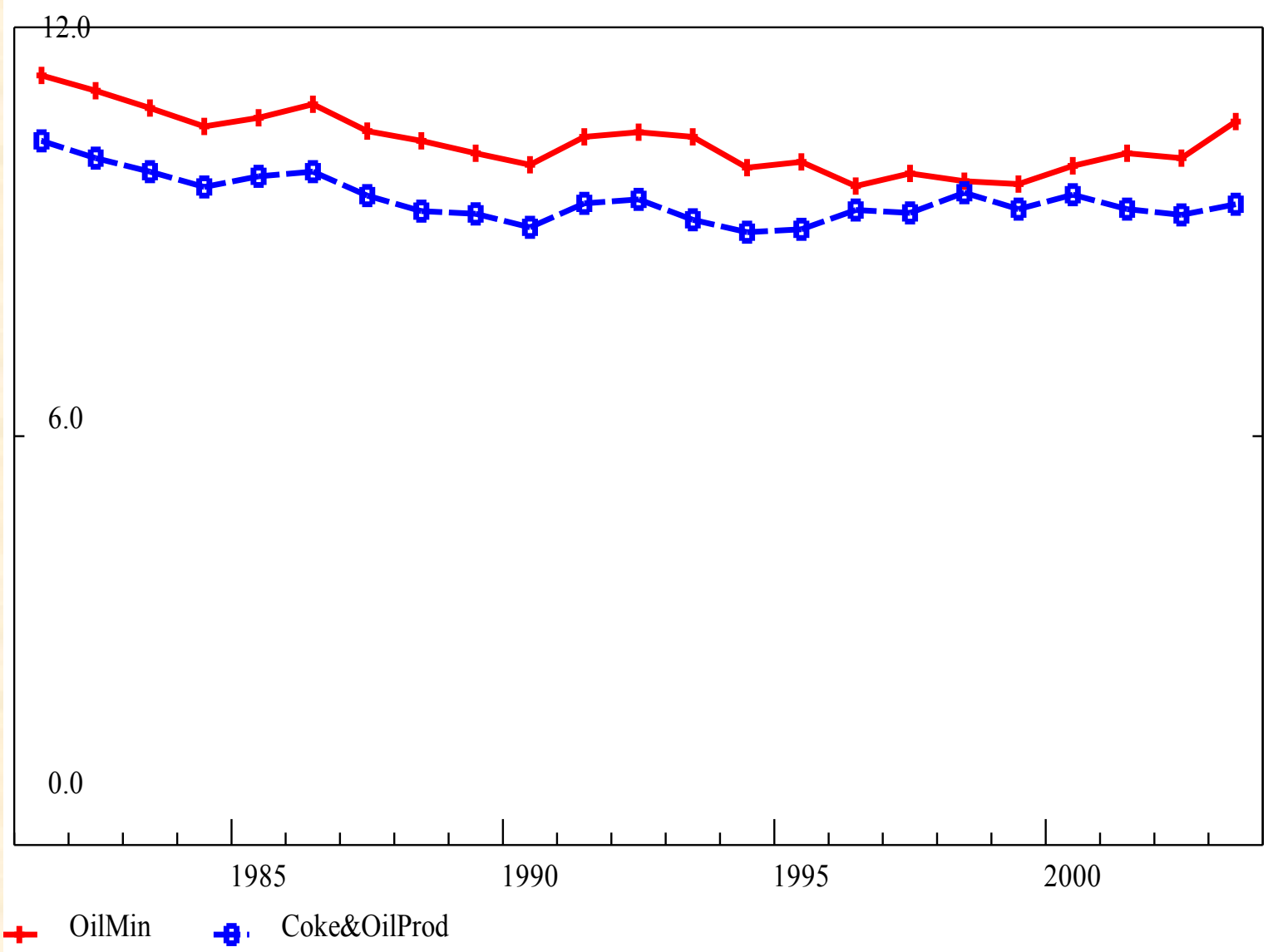
Replacement rates



Replacement rates



Replacement rates

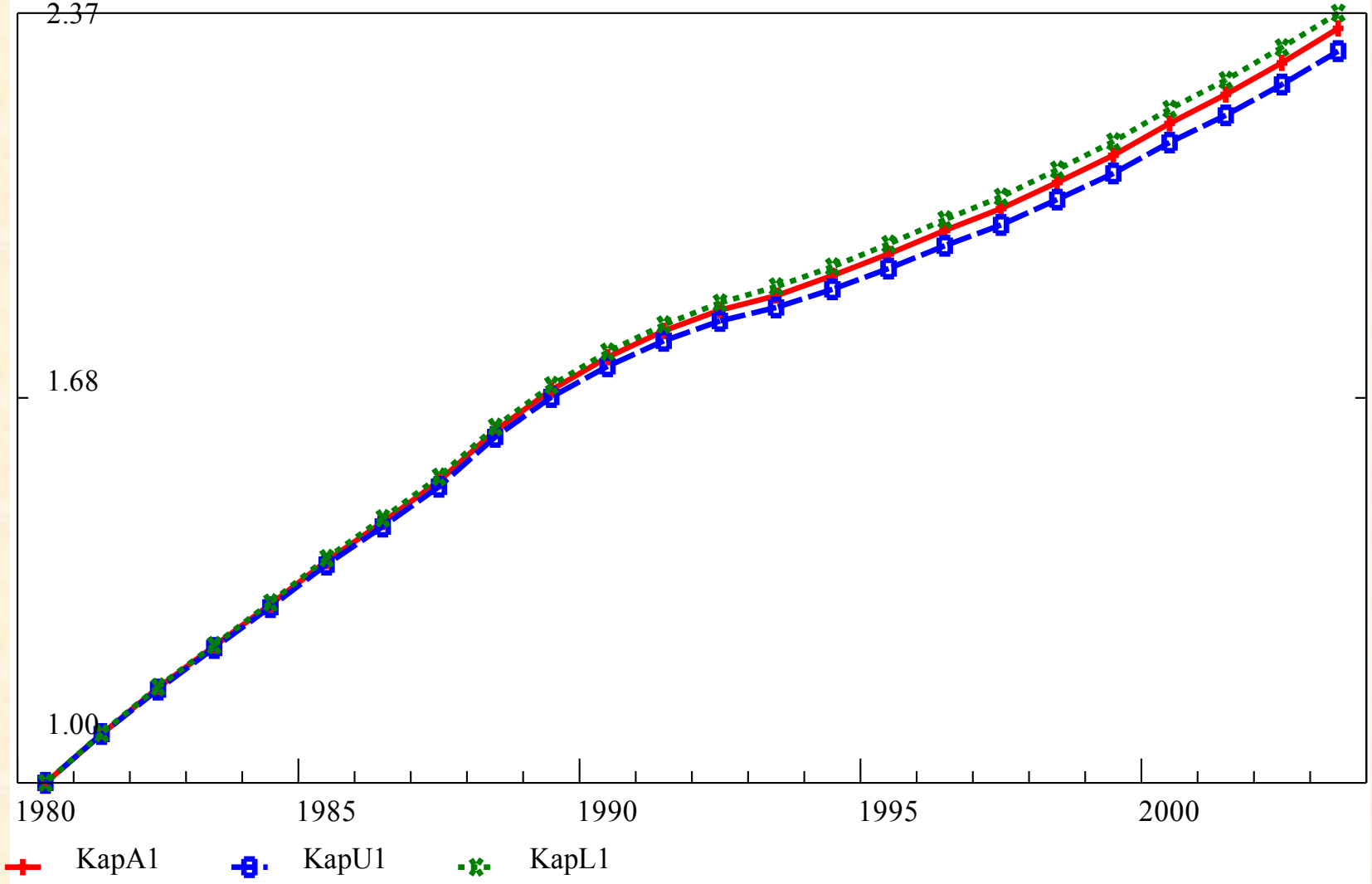


			REPLACEMENT RATES			
		Years	period 1981-2003			
			average	minimum	maximum	difference
1		Agriculture	5,57	4,93	6,14	1,21
2		Fishery	10,27	8,97	10,97	2,01
3		Mining of energetic Raw Mat	10,31	9,67	11,28	1,61
4		Mining non energetic materials	8,60	7,36	9,50	2,14
5		Food beverage industry	8,72	7,76	9,20	1,44
6		Textiles & Clothes	8,46	7,24	9,10	1,86
7		Leather and products	8,92	7,41	9,77	2,36
8		Wood and furniture	8,07	6,71	8,79	2,09
9		Paper, paper products	8,90	7,28	9,66	2,38
10		Coke, oil products	9,47	8,98	10,33	1,35
11		Chemicals	9,76	8,24	10,26	2,02
12		Rubber & plastic	8,90	7,43	9,51	2,08
13		Non metallic minerals	8,62	7,31	9,21	1,90
14		Metal products	8,95	7,42	9,66	2,24

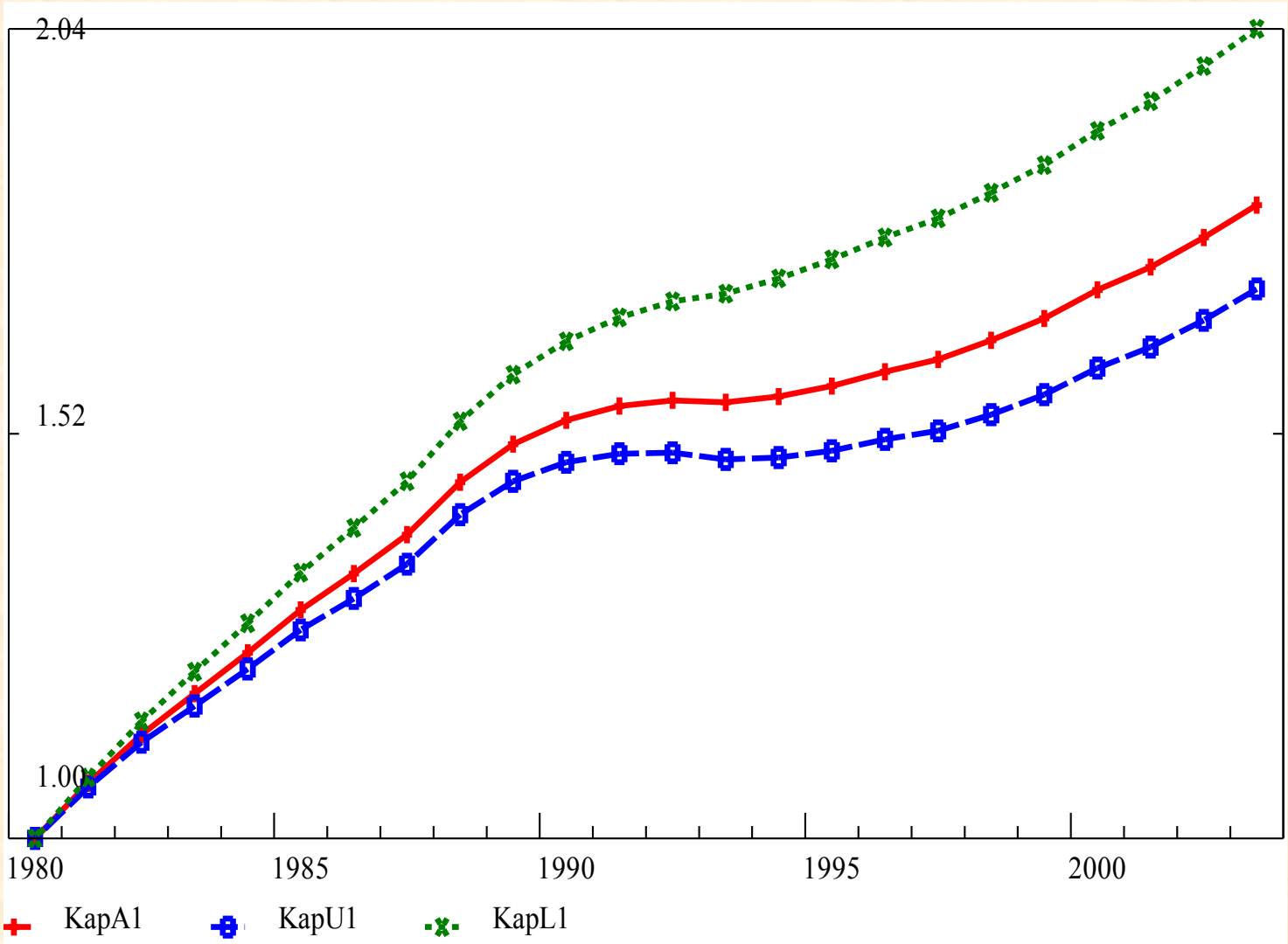
			REPLACEMENT RATES			
		Years	period 1981-2003			
			average	minimum	maximum	difference
15		Mechanical machinery	8,58	7,13	9,21	2,08
16		Electrical machinery	9,74	8,26	10,75	2,50
17		Motor vehicles	9,45	8,30	10,10	1,80
18		Other industries	8,13	6,20	9,32	3,12
19		Electricity, gas, water	6,14	5,37	7,46	2,09
20		Construction	9,71	8,87	10,25	1,38
21		Trade	6,60	5,91	7,17	1,26
22		Hotels & Restaurants	4,96	4,02	5,80	1,77
23		Transport, comunic.	9,16	8,01	10,01	2,00
24		Financial services	4,43	3,26	4,99	1,72
25		Real Estate	2,31	2,04	2,61	0,57
26		Government	3,05	2,68	3,45	0,77
27		Education	4,35	4,20	4,57	0,38
28		Health services	9,10	8,74	9,53	0,79
29		Other personal services	6,13	5,79	6,65	0,85

Education

replacement rate: 4.20, 4.4, 4.6



Other Manufacturing



Next steps

3 main burning issues:

- The price equation(s) analytical form;
- The “purification” of matrices of Indirect taxes and Trade and Commercial Margins;
- The adoption of the *imsis()* function.

The price equation analytical form

$$p_t = (I - H)^{-1} * (T * p_t^{imp} + v_t)$$

$$where\ A = (H' + T')$$

$$cim_t = T * p_t^{imp} = cost\ of\ imported\ materials$$

$$v_t = value\ added\ per\ unit\ of\ output$$

The price equation analytical form

cim_t (cost of imported materials) and v_t are computed in the model

Which price equation? A mark-up macroeconomic equation has the form

$$p_{it} = f(cim_{it}, v_{it})$$

What about the cost of domestic inputs?

Where is the alternative to the leontievan equation?

The purification of Indirect taxes and Margin matrices

- Product-to-product matrix can be obtained summing up Domestic flows and Import flows Uses matrices submitted to the separate purifications.

- It is possible to assume that the Indirect taxes and margin purification is independent from that of the domestic and import flows?

The adoption of the *imsis()* function

- Intimo_88 computed imports share matrix year by year.
- The procedure was cumbersome and not completely satisfactory.
- It is the time to implement Intimo2000 with the function described in Interdyme Report 1 (May 1995).