

Italian PADS re-estimated: some preliminary results

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- Aggregate private consumption in Italy and in EU: some facts
- The EU Commission Study on consumption
- The new Italian PCE data
- Problems and results of PADS estimation

Private consumption in Europe

- Since 2001, growth in private consumption in the Euro area has been persistently sluggish and has been much weaker than in some other EU countries or in the USA.
- After years of a declining trend, households have responded to deteriorating growth conditions with a rise in their saving rate in 2001-02 (since then, it is broadly constant).

The EU Commission study on private consumption (2006)

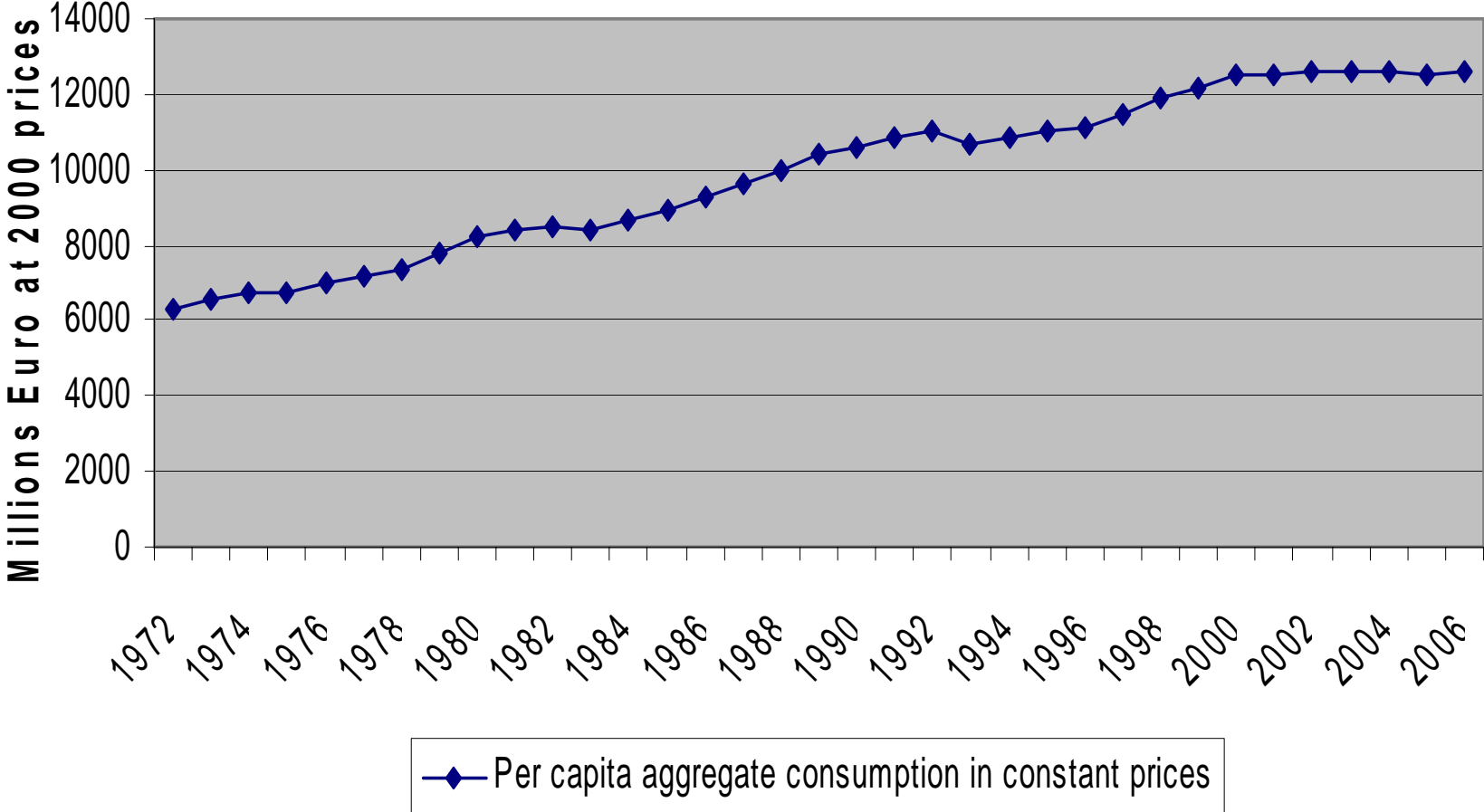
- Main general conclusions:
 - Changes in real personal disposable income have been the major factor behind weak growth in many countries
 - However, recent consumption weakness in Europe may not be fully explained by weak income growth. Other factors appear to have been at work but these generally make a rather small contribution to the explanation
 - There is evidence (from a panel estimation) that the diversity of the European economies, especially in their dynamic responses, is significant. Then, assessing the factors causing slow consumption growth in Europe is better done using single equations with careful analysis of country-specific problems

The EU Commission study on private consumption (2006)

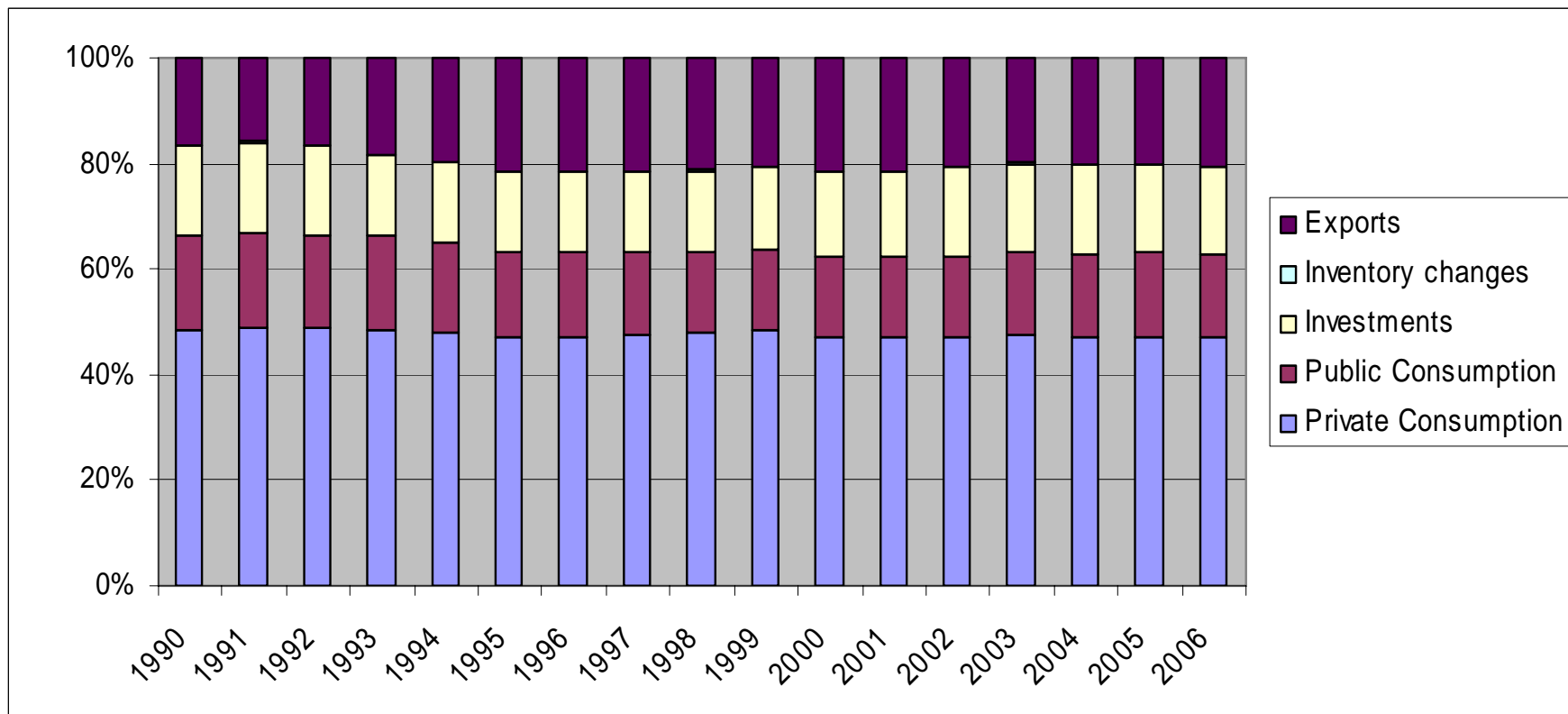
- Some conclusions on the Italian case:
 - weak real personal income growth held back consumption from 2001 to the beginning of 2004, but since then it has been boosting consumption growth modestly
 - the Italian equation has a significant role for the real interest rate (as this has been low in recent years it has been supporting consumption)
 - No effect from demographic variables has been found (at the aggregate level)
 - However, there are large unexplained factors in the determination of Italian consumption possibly reflecting worries about future income prospects following-on from a very weak supply side performance over the last few years

- On wealth effects: Paiella (2007) shows that wealth effects on consumption in Italy appear to be small:
 - 1) Italian households own relatively little financial wealth
 - 2) financial wealth is owned by wealthier households with a lower marginal propensity to consume
 - 3) housing market effects on consumption turn out to be smaller than the financial market effects (real assets are largely illiquid; bequest motive)

Per capita aggregate households' consumption in constant prices (1972-2006)



The components of demand (1990-2006)



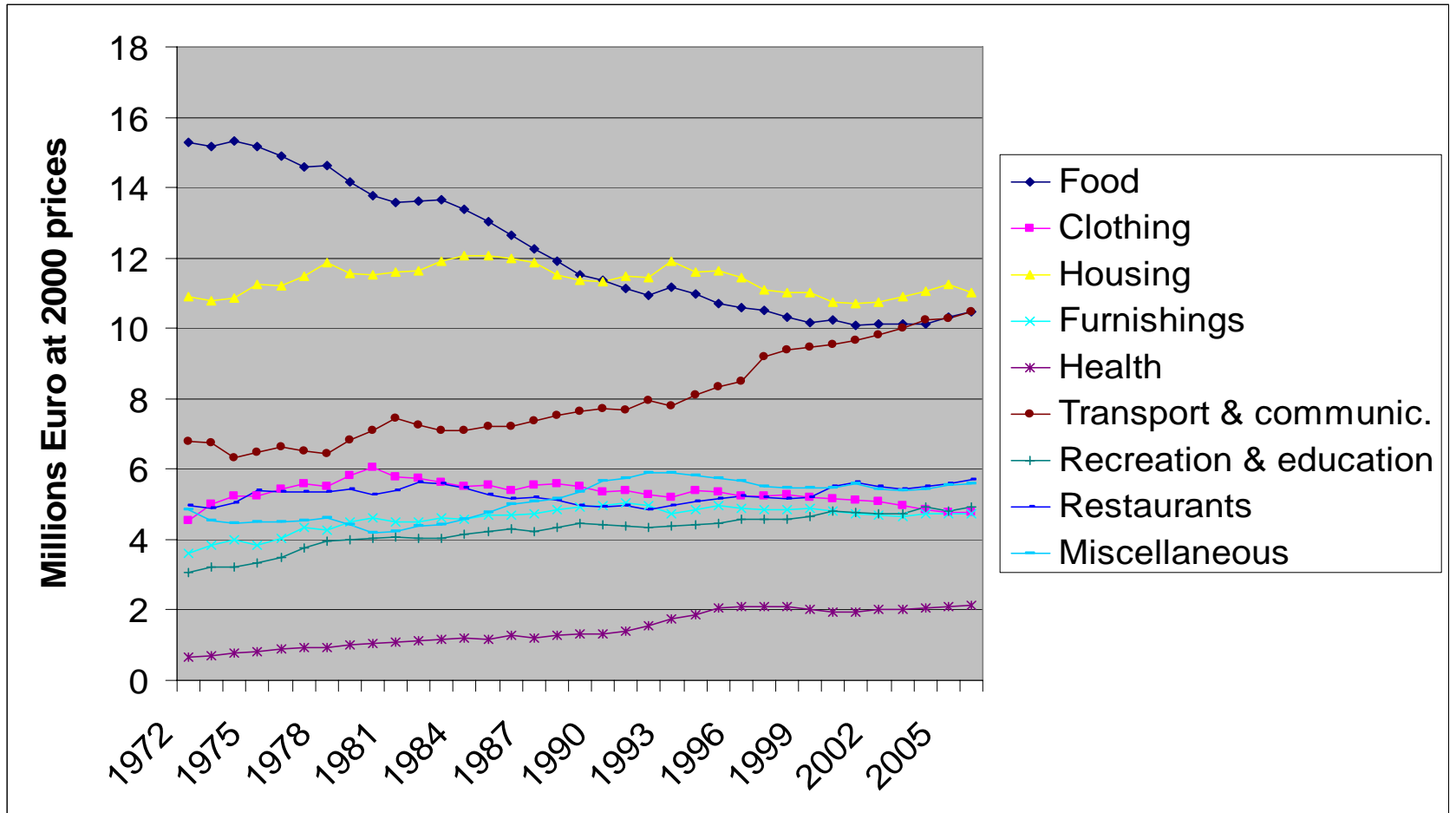
Contributions of demand components to GDP growth – Main EMU Countries 2006 (% values)

	Italy	France	Germany	Spain	EMU
Final consumption	0.8	1.9	0.8	2.9	1.4
Fixed Investments	0.5	0.8	1.0	1.8	1.0
Inventories	0.3	-0.3	-0.2	0.1	0.0
Net Exports	0.3	-0.4	1.1	-1.0	0.3
GDP	1.9	2.1	2.7	3.9	2.7

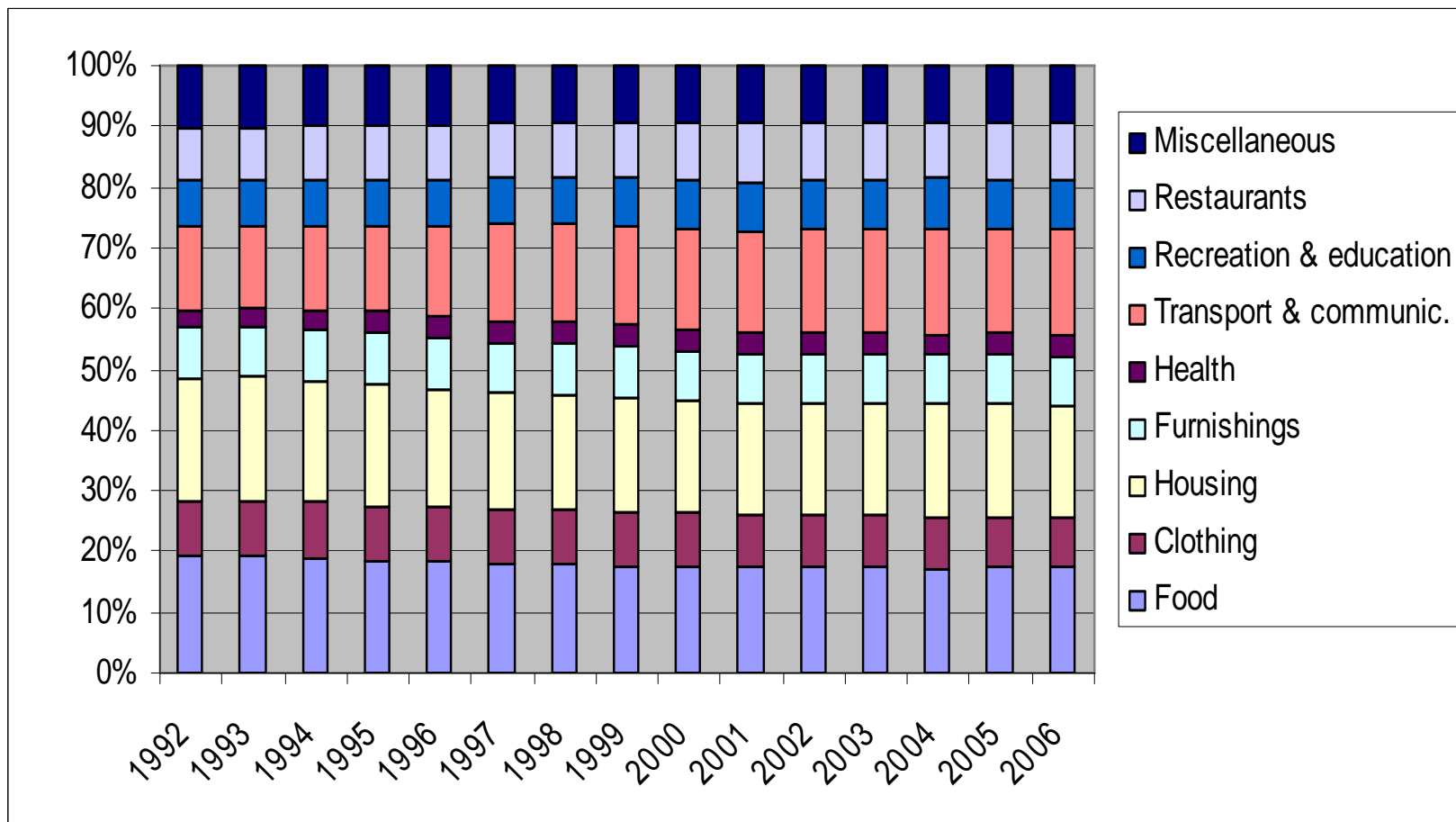
The Italian propensity to consume

- In the Nineties the average propensity to consume out of disposable income has increased (from 77% in 1990 to 89% in 2000).
- In 2001 there has been a sharp downturn: the propensity has progressively decreased to 86% in 2005 (the propensity to save increased from 11 to 13%).
- In 2006, the increase of household consumption was not due to a rise of disposable income but to a decrease of the propensity to save (-1.3%)

A long-term disaggregated picture



The last fifteen years (1992-2006)



- | | | | |
|----|--|----|---|
| 1 | Cereals and Bakery Products | 29 | Drug Preparation, Sundries and orthopedic equipment |
| 2 | Meat | 30 | Physicians, Dentists, Other Medical Professionals |
| 3 | Fish | 31 | Hospitals, Nursing Homes |
| 4 | Dairy Products | 32 | Vehicles |
| 5 | Fats & Oils | 33 | Operation of Motor Vehicles (excluding fuels) |
| 6 | Fruit | 34 | Fuels and oil |
| 7 | Fresh vegetables | 35 | Public Transportation |
| 8 | Sugar, marmelade, syrups, honey | 36 | Postal services |
| 9 | Other Food n.e.c. | 37 | Telephone and communication equipment |
| 10 | Coffee, Tea and Cocoa | 38 | Telephone and communication services |
| 11 | Nonalcoholic Beverages | 39 | TV, Radio, Photo, Computers |
| 12 | Alcoholic Beverages | 40 | Other recreational durables |
| 13 | Tobacco | 41 | Recreational equipment |
| 14 | Clothing | 42 | Flowers, plant, pets |
| 15 | Footwear and Repair | 43 | Recreational and cultural Services |
| 16 | Rents | 44 | Books |
| 17 | Tenant Occupied Rent | 45 | Magazines and Newspapers |
| 18 | House maintenance | 46 | All-inclusive holidays |
| 19 | Water and other household services | 47 | Education |
| 20 | Electricity, gas, and other fuels | 48 | Bar and Restaurants |
| 21 | Furniture | 49 | Hotels & motels |
| 22 | Household Linen | 50 | Personal Care equipment |
| 23 | Kitchen and Household Large Appliances | 51 | Personal care items n.e.c. |
| 24 | Kitchen and Household small Appliances | 52 | Personal Care services |
| 25 | China, Glassware and Tableware | 53 | Social services |
| 26 | Household and garden utensils | 54 | Insurance |
| 27 | Other Non-Durables | 55 | Financial Services |
| 28 | Domestic Services | 56 | Other Services n.e.c. |

Estimated PADS

- The demand system estimated is the time-series version (no linkage with cross-section equations and with DPM) (Almon, 1996)
- The main factors explaining consumption are disposable income and relative prices (no demographic effects)

Here is a list of possible problems with the parameters.

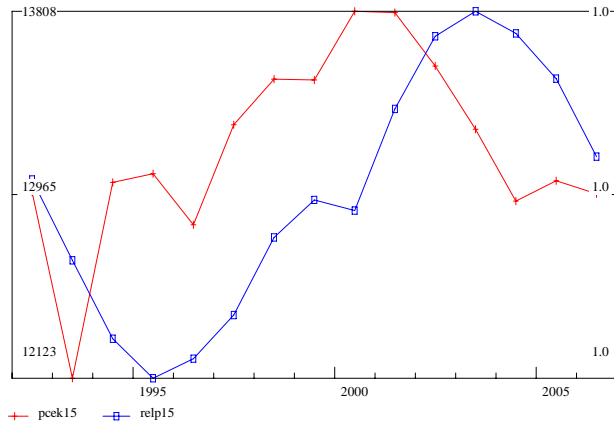
nsec	title	Incl	DInc	PrEl
2	Meat	-0.64	-0.39	1.31
3	Fish	0.07	-2.50	0.71
4	Dairy Products	0.13	-4.08	0.54
5	Fats & Oils	.	.	0.60
6	Fruit	-0.16	-1.46	0.41
7	Fresh vegetables	-0.45	-1.92	0.41
8	Sugar, marmelade,	-0.11	-13.39	1.03
9	Other Food n.e.c.	-0.64	.	.
11	Nonalcoholic Bever	.	.	0.30
12	Alcoholic Beverage	-0.73	.	1.24
15	Footwear and Repai	.	.	0.53
16	Rents	-0.98	-0.33	.
17	Tenant Occupied Re	-0.10	-1.10	1.05
19	Water and other ho	.	.	0.57
20	Electricity, gas,	-0.14	.	0.40
22	Household Linen	-0.65	-2.53	7.01
25	China, Glassware a	.	.	2.93
26	Houehols and garde	.	.	1.88
27	Other Non-Durables	-0.16	-9.00	.
28	Domestic Services	-0.72	.	.
29	Drug Preparation,	-1.87	-1.54	0.97
30	Physicians, Dentis	-0.63	-1.23	.
31	Hospitals, Nursing	-0.91	-1.35	0.90
33	Operation of Motor	-0.60	-0.52	.
35	Public Transportat	-0.14	-6.58	.
36	Postal services	-2.23	.	4.90
41	Recreational equip	-0.70	-0.08	0.65
42	Flowers, plant, pe	.	.	2.31
44	Books	.	.	0.03
45	Magazines and News	.	.	0.48
46	All-inclusive holi	.	.	1.39
48	Bar and Restaurant	.	.	0.45
49	Hotels & motels	.	.	0.30
50	Personal Care equi	.	.	0.45
51	Personal care item	.	.	0.18
52	Personal Care serv	.	.	3.11
53	Social services	-1.18	-0.82	.
54	Insurance	-0.37	.	1.22
55	Financial Services	.	.	1.24
56	Other Services n.e	.	.	0.50

Problems

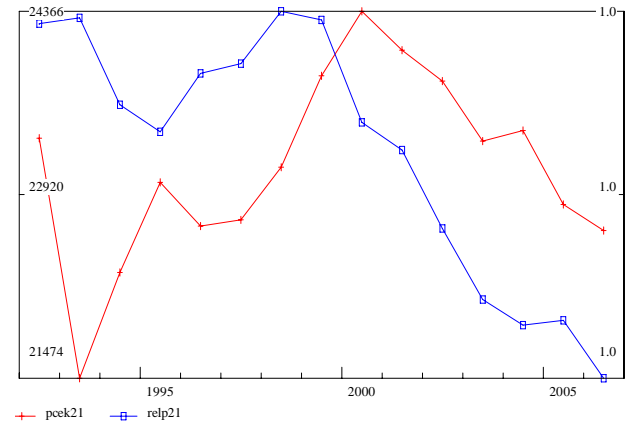
- Wrong signs for price and income elasticities
- Very large time-trend coefficients
- Some items cause trouble in the system because their behaviour has no connection with price behaviour
- Some products show rising relative prices and rising expenditures in real terms

Some examples

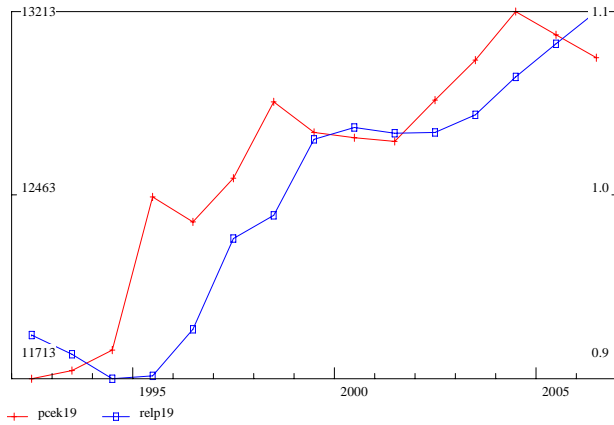
Footwear and Repair



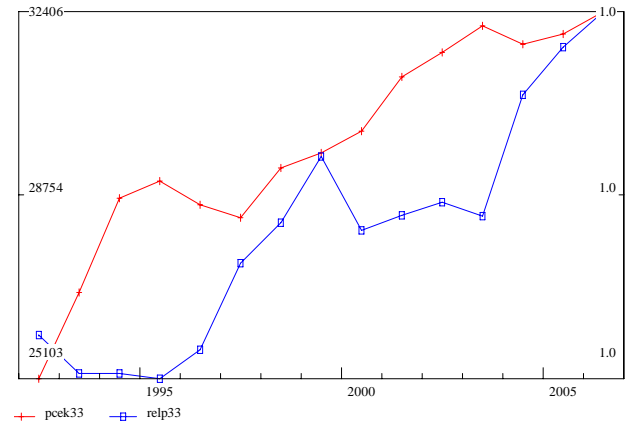
Furniture

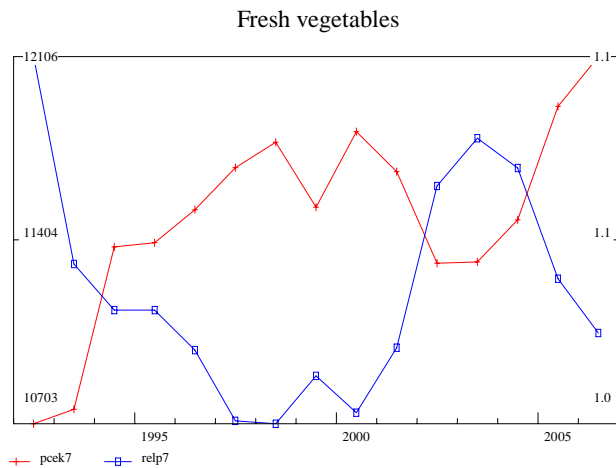
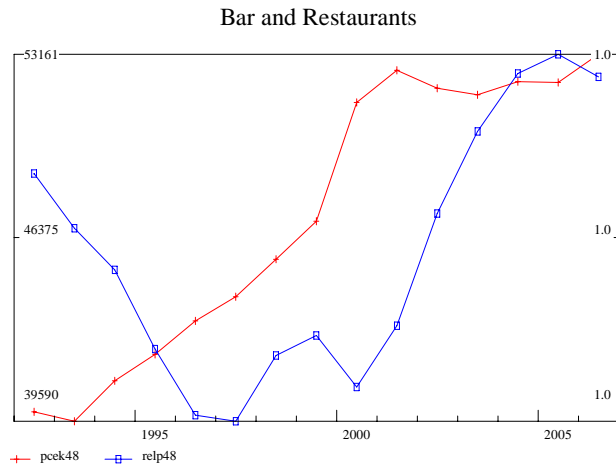


Water and other household services



Operation of Motor Vehicles (excluding fuels)





The “Euro effect”: these two items show a higher increase in price deflator relative to the overall deflator after the introduction of the Euro (2002)

Following Clopper's lesson

- It was necessary to softly constrain the time variable for many products (not for those with strong time trends in tastes)
- Some products were treated as insensitive to prices (out of the system)
- Some groups and subgroups were redefined
- Soft constraints on price (and some income) parameters were necessary

- 6 Groups: Food, Clothing and footwear, Housing durables, Housing non-durables, Transports, Communication and Recreation
- Products outside the system: Tobacco, Tenant occupied Rents, Health Care, Postal Services

Some improvements in the results

- Table 1. Results by product
- The value of L is 0.11
- mu: 0.04 0.10 0.10 0.51 1.92 0.92
- nu: 0.00 -0.83 0.06

nsec	title	G	S	P	C	I	lamb	share	IncEl	DInc	PrEl	til	Err%	rho
• 1	Cereals and Bakery	1	0	1	1	1	0.23	0.028	2.11	-0.59	-0.36	0.62	3.14	0.77
• 2	Meat	1	1	1	1	1	0.10	0.034	0.82	-0.09	-0.23	0.64	4.46	0.86
• 3	Fish	1	1	1	1	1	-0.00	0.010	1.94	-0.90	-0.15	0.33	3.33	0.75
• 4	Dairy Products	1	1	1	1	1	0.02	0.021	0.58	0.79	-0.16	5.19	2.20	0.57
• 5	Fats & Oils	1	0	1	1	1	-0.01	0.008	0.92	1.69	-0.14	0.87	4.98	0.51
• 6	Fruit	1	0	1	1	1	0.01	0.011	1.45	-1.07	-0.15	0.71	3.49	0.36
• 7	Fresh vegetables	1	0	1	1	1	0.15	0.016	1.97	-1.00	-0.29	0.77	4.75	0.64
• 8	Sugar, marmelade,	1	0	1	1	1	0.15	0.010	1.97	0.35	-0.29	0.83	4.38	0.70
• 9	Other Food n.e.c.	0	0	1	1	0	0.10	0.000	0.09	-0.59	0.00	0.12	4.99	0.63
• 10	Coffee, Tea and Co	1	0	1	1	1	-0.11	0.002	0.42	3.66	-0.04	0.16	1.33	-0.20
• 11	Nonalcoholic Bever	1	0	1	1	1	0.03	0.009	0.78	-0.57	-0.18	2.43	1.71	0.13
• 12	Alcoholic Beverage	0	0	1	1	1	0.12	0.008	0.09	-0.51	-0.23	2.73	3.64	0.60
• 13	Tobacco	0	0	1	1	0	0.00	0.017	0.36	0.16	0.00	10.15	1.80	0.45
• 14	Clothing	2	0	1	1	1	0.23	0.070	1.91	0.09	-0.33	0.50	1.55	0.49
• 15	Footwear and Repai	2	0	1	1	1	-0.01	0.019	1.50	0.06	-0.18	2.96	1.78	0.49
• 16	Rents	0	0	1	1	0	0.00	0.018	2.34	-0.76	0.00	0.85	6.31	0.76
• 17	Tenant Occupied Re	0	0	1	1	0	0.00	0.103	4.27	-0.92	0.00	0.10	9.54	0.79
• 18	House maintenance	0	0	1	1	1	0.21	0.012	1.05	0.07	-0.32	1.43	1.47	0.47
• 19	Water and other ho	0	0	1	1	1	0.17	0.017	3.10	-0.47	-0.28	0.83	5.54	0.81
• 20	Electricity, gas,	0	0	1	1	1	0.15	0.034	1.93	-1.20	-0.26	0.51	5.88	0.67
• 21	Furniture	3	0	1	1	1	0.22	0.034	1.77	0.20	-0.33	0.50	1.96	0.54
• 22	Household Linen	5	0	1	1	1	-0.09	0.005	1.36	1.32	-1.41	0.43	5.68	0.39
• 23	Kitchen and Househ	3	0	1	1	1	-0.03	0.009	1.68	0.38	-0.15	0.51	1.87	0.03
• 24	Kitchen and Househ	5	0	1	1	1	-1.00	0.002	1.03	1.11	-0.77	0.19	1.76	-0.02
• 25	China, Glassware a	5	0	1	1	1	0.03	0.006	1.94	0.12	-1.34	0.58	2.15	0.07
• 26	Households and gar	5	0	1	1	1	-0.14	0.003	1.87	1.01	-1.51	0.72	3.84	0.26
• 27	Other Non-Durables	0	0	1	1	1	0.14	0.012	1.33	0.88	-0.25	0.70	3.51	0.43
• 28	Domestic Services	0	0	1	1	1	0.18	0.011	2.68	-0.88	-0.29	0.56	5.89	0.77
• 29	Drug Preparation,	0	0	1	1	0	0.00	0.016	2.74	0.50	0.00	0.52	6.42	0.59
• 30	Physicians, Dentis	0	0	1	1	0	0.00	0.012	2.71	0.02	0.00	0.53	5.96	0.59
• 31	Hospitals, Nursing	0	0	1	1	0	0.00	0.006	1.52	0.56	0.00	0.67	5.11	0.40

nsec title	G	S	P	C	I	lamb	share	IncEl	DInc	PrEl	til	Err%	rho
31 Hospitals, Nursing	0	0	1	1	0	0.00	0.006	1.52	0.56	0.00	0.67	5.11	0.40
32 Vehicles	4	2	1	1	1	0.25	0.043	2.31	1.05	-0.16	5.67	3.94	0.39
33 Operation of Motor	4	2	1	1	1	0.22	0.041	2.85	-0.62	-0.12	0.52	6.24	0.76
34 Fuels and oil	4	2	1	1	1	0.21	0.036	3.44	0.13	-0.10	0.51	5.71	0.60
35 Public Transportat	4	0	1	1	1	0.20	0.018	2.17	-0.45	-0.75	0.53	5.11	0.82
36 Postal services	0	0	1	1	0	0.00	0.001	0.03	-0.39	0.00	0.63	2.89	0.23
37 Telephone and comm	6	3	1	1	1	-0.83	0.006	4.46	-0.97	-0.13	1.78	4.33	0.05
38 Telephone and comm	6	3	1	1	1	0.15	0.019	1.10	-0.09	-0.82	13.98	0.82	-0.26
39 TV, Radio, Photo,	6	0	1	1	1	-0.52	0.011	2.04	-0.04	-0.31	2.63	2.45	0.20
40 Other recreational	6	0	1	1	1	-0.01	0.004	0.48	1.37	-0.94	2.33	3.55	0.35
nsec title	G	S	P	C	I	lamb	share	IncEl	DInc	PrEl	til	Err%	rho
41 Recreational equip	6	0	1	1	1	-0.11	0.005	0.05	-0.90	-0.81	3.43	3.86	0.63
42 Flowers, plant, pe	0	0	1	1	1	0.14	0.008	1.70	0.18	-0.25	1.62	2.01	0.14
43 Recreational and c	0	0	1	1	1	0.22	0.025	3.19	-0.56	-0.32	0.51	4.48	0.49
44 Books	0	0	1	1	1	0.13	0.006	0.69	1.03	-0.24	0.46	2.23	0.17
45 Magazines and News	0	0	1	1	1	0.14	0.011	0.58	1.31	-0.25	1.57	2.14	0.41
46 All-inclusive holi	0	0	1	1	1	0.73	0.003	1.38	-0.18	-0.83	1.56	2.79	0.40
47 Education	0	0	1	1	1	0.22	0.009	0.35	1.98	-0.33	3.21	1.84	0.28
48 Bar and Restaurant	0	0	1	1	1	0.21	0.071	3.37	-0.83	-0.29	0.51	5.06	0.72
49 Hotels & motels	0	0	1	1	1	0.18	0.024	4.24	-0.70	-0.28	0.53	6.53	0.74
50 Personal Care equi	0	0	1	1	1	0.13	0.013	1.81	-0.12	-0.24	0.61	2.17	0.36
nsec title	G	S	P	C	I	lamb	share	IncEl	DInc	PrEl	til	Err%	rho
51 Personal care item	0	0	1	1	1	0.23	0.012	1.10	1.33	-0.34	1.98	2.04	-0.13
52 Personal Care serv	0	0	1	1	1	0.18	0.012	1.28	-1.01	-0.29	3.22	2.30	0.23
53 Social services	0	0	1	1	1	0.18	0.006	0.06	-0.82	-0.29	4.21	3.25	0.69
54 Insurance	0	0	1	1	1	-0.06	0.015	0.10	-0.93	-0.05	16.79	8.58	0.53
55 Financial Services	0	0	1	1	1	-0.07	0.024	0.05	-0.39	-0.04	-1.50	8.53	0.44
56 Other Services n.e	0	0	1	1	1	0.20	0.010	1.48	0.03	-0.30	4.13	1.16	-0.00

Here is a list of possible problems with the parameters.

nsec title	IncEl	DInc	PrEl
9 Other Food n.e.c.	0.09	-0.59	.
12 Alcoholic Beverage	0.09	-0.51	.
36 Postal services	0.03	-0.39	.
41 Recreational equip	0.05	-0.90	.
53 Social services	0.06	-0.82	.
54 Insurance	0.10	-0.93	.
55 Financial Services	0.05	-0.39	.

Decomposing the determinants of consumption in Italy (2000-2004)

