On line appendix for paper "Monitoring absolute and relative poverty; 'not enough' is not the same as 'much less'"

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[1] The views expressed here are solely that of the authors and do not necessarily represent those of the Maastricht University, the Innocenti Research Centre, UNICEF, or other affiliated institutions.

Table S1: Number of observations in cross-sections by country and survey year

Survey year	1994		1995		1996		1997		1998		1999		2000		2001	
	# hh	# ind	# hh	# ind	# hh	# ind	# hh	# ind	# hh	# ind	# hh	# ind	# hh	# ind	# hh	# ind
Belgium	3,454	9,077	3,341	8,788	3,189	8,356	3,008	7,862	2,857	7,367	2,684	6,915	2,549	6,510	2,322	5,888
Denmark	3,478	7,687	3,217	7,192	2,950	6,555	2,739	6,190	2,504	5,653	2,376	5,409	2,272	5,212	2,279	5,130
Germany	6,163	16,180	6,293	16,577	6,207	16,174	6,098	15,769	5,891	15,076	5,782	14,689	5,619	14,158	5,474	13,733
Greece	5,480	16,205	5,173	15,186	4,851	14,256	4,543	13,335	4,171	12,205	3,952	11,577	3,893	11,322	3,895	11,208
Spain	7,142	22,837	6,448	20,458	6,128	19,267	5,714	17,916	5,438	16,598	5,291	15,835	5,046	14,780	4,948	14,270
France	7,105	18,198	6,679	17,326	6,554	16,878	6,141	15,672	5,849	14,814	5,593	14,076	5,331	13,335	5,247	13,039
Ireland	4,036	14,558	3,562	12,533	3,164	10,871	2,935	9,931	2,723	8,984	2,372	7,706	1,944	6,266	1,757	5,558
Italy	6,915	21,424	7,004	21,431	7,026	21,235	6,627	19,837	6,478	19,096	6,273	18,410	5,989	17,483	5,525	15,979
Luxembourg	-	-	2,976	8,190	2,471	6,804	2,651	7,089	2,521	6,644	2,550	6,584	2,373	6,184	2,428	6,306
Netherlands	5,139	12,895	5,035	12,591	5,097	12,662	5,019	12,529	4,922	12,303	4,981	12,435	4,974	12,378	4,824	12,027
Austria	-	-	3,365	9,540	3,280	9,229	3,130	8,707	2,951	8,173	2,809	7,732	2,637	7,161	2,535	6,859
Portugal	4,787	14,500	4,869	14,717	4,807	14,536	4,766	14,354	4,666	13,997	4,645	13,729	4,606	13,431	4,588	13,237
Finland	-	-	-	-	4,138	11,212	4,103	10,885	3,917	9,970	3,818	9,583	3,101	7,549	3,106	7,480
Sweden	-	-	-	-	-	-	5,286	12,584	5,208	12,451	5,165	12,283	5,116	12,104	5,085	12,045
United Kingdom	5,023	12,588	4,981	12,365	4,974	12,463	4,936	12,322	4,928	12,236	4,874	12,049	4,793	11,904	4,702	11,710
United States	6,648	18,403	7,309	20,199	7,493	20,510	5,221	13,925	-	-	5,883	16,104	-	-	5,922	16,162

Note: Not available (-).

Source: Own calculations ECHP and PSID-CNEF.

Table S2: Construction of disposable income variable

	Income components (variable code in original survey)
PSID-CNEF (United States)	The PSID-CNEF includes pre-government income (i11101) and post-government income (i11113) where taxes (i11114) and public transfers (i11107) form the difference between the two. The basis for the annual disposable household income variable is the post-government income variable (i11113). This variable includes all income from labor (i11103), assets (i11104), social security pensions (i11108), private pensions (i11117), private transfers (i11106) and public transfers (i11107) and is adjusted to net values using an imputed tax variable (i11114). The value of food stamps and education stipends are included in public transfers (i11107). While the PSID-CNEF does not include the value of housing and heating subsidies, the larger PSID data includes information on whether and how much heating subsidies were received by the household. We retrieved this information (ER2031) from the PSID data and included it in the income estimate. Other in kind transfers and imputed rent (i11105) are not included (the latter is not included because a comparable variable does not exist in the ECHP).
ECHP (EU-15)	The total income variable (hi100) represents the annual disposable income of the household in the year previous to the survey. This variable is constructed by adding after tax income from the following sources: wage income and salary earnings (hi111), self-employment earnings (hi112), capital income (hi121), property/rental income (hi122), private transfers (hi123) and social transfers (hi130). Social transfers are composed of pensions (hi132), unemployment benefits (hi131), family related allowances (hi133), sickness/invalidity benefits (hi134), social assistance (hi137), education allowances (hi135), housing allowance (hi138) and any other personal benefits (hi136). In kind transfers, imputed rent or the value home food production are not available.
Source: Lillard *et* al (2006) and Eurostat (2003). For a detailed explanation regarding encountered comparability issues on the construction of disposable income in this paper we refer to Notten and de Neubourg (2007, p. 14-19).	

Table S3: Income components in ECHP by country

Country	Notes	Impact
Germany (source: GSOEP)	Subcomponent 'other benefits' (hi136) is not available Subcomponent 'social assistance' (hi137) for waves 1-2 is not available	Underestimation of total income possible
Denmark		No
Netherlands	Subcomponent 'other benefits' (hi136) is not available	Underestimation of total income possible
Belgium		No
Luxembourg (source: PSELL)	Variable 'housing allowance' (hi138) is zero at all observations	Impact on income not clear
France	All subcomponents of income are in gross amounts.	No
UK (source: BHPS)	Subcomponent 'social assistance' (hi137) is not available	Underestimation of total income possible
Ireland		No
Italy		No
Greece		No
Spain		No
Portugal		No
Austria	Subcomponent 'sickness/invalidity benefits' (hi134) also includes care allowance for adult but not for children	Impact on income not clear
Finland	All subcomponents of income are in gross amounts	No
Sweden		No

Source: Eurostat (2003)

Table S4: Average per capita disposable income by country and survey year (in PPP USD)

Survey year	1994	1995	1996	1997	1998	1999	2000	2001
Belgium	10,164	10,566	11,131	11,085	11,040	11,315	11,995	12,825
Denmark	10,436	10,473	10,660	10,906	11,424	11,886	12,057	12,357
Germany	10,855	10,579	11,384	11,643	11,383	11,694	12,482	12,945
Greece	6,758	6,701	6,609	6,832	7,145	6,648	7,030	7,180
Spain	6,707	6,344	6,310	6,565	6,780	7,367	8,042	8,789
France	9,179	9,332	9,739	10,010	10,184	10,591	10,912	11,548
Ireland	5,966	6,729	6,877	7,537	8,476	8,430	8,493	9,261
Italy	6,983	7,094	6,447	6,948	7,539	7,885	8,207	8,488
Luxembourg	-	15,582	16,607	16,873	16,587	17,777	18,814	19,723
Netherlands	9,514	9,787	10,459	10,566	10,442	11,020	11,278	12,075
Austria	-	10,883	11,406	10,980	10,791	11,286	11,864	12,180
Portugal	4,939	4,862	5,087	5,352	5,409	5,463	5,876	6,449
Finland	-	-	8,634	8,662	8,972	9,153	9,669	10,169
Sweden	-	-	-	9,060	9,401	9,460	10,059	11,005
United Kingdom	8,718	9,583	9,648	10,576	11,340	11,045	11,937	13,079
United States	13,630	14,078	14,724	16,311	-	15,758	-	19,397

Note: Not available (-). Expressed in Purchasing Power Parity US dollars. Referring to disposable income earned in the year previous to the survey.
Source: Own calculations ECHP and PSID-CNEF.

Table S5: Average adult equivalent disposable income by country and survey year (in PPP USD)

Survey year	1994	1995	1996	1997	1998	1999	2000	2001
Belgium	15,201	15,881	16,726	16,711	16,672	17,102	18,212	19,499
Denmark	14,852	15,394	15,792	16,206	17,003	17,725	18,075	18,542
Germany	15,587	15,149	16,320	16,734	16,393	16,857	18,004	18,598
Greece	10,557	10,339	10,155	10,497	11,089	10,302	10,823	11,015
Spain	10,587	10,124	10,074	10,466	10,767	11,679	12,769	13,927
France	13,668	14,024	14,644	15,058	15,309	15,998	16,444	17,423
Ireland	9,718	10,850	11,158	12,210	13,742	13,609	13,770	15,059
Italy	10,729	10,788	9,740	10,533	11,489	12,025	12,547	12,970
Luxembourg	-	22,944	24,554	25,040	24,670	26,091	27,735	29,015
Netherlands	13,807	14,179	15,091	15,239	15,054	15,853	16,193	17,328
Austria	-	16,412	17,066	16,435	16,154	16,870	17,780	18,218
Portugal	7,892	7,744	8,080	8,550	8,678	8,768	9,418	10,275
Finland	-	-	12,599	12,654	13,183	13,456	14,243	14,990
Sweden	-	-	-	12,877	13,323	13,499	14,360	15,705
United Kingdom	12,779	14,072	14,104	15,480	16,565	16,013	17,342	19,029
United States	20,190	20,796	21,717	23,955	-	23,404	-	28,771

Note: Not available (-). Expressed in Purchasing Power Parity US dollars. Referring to disposable income earned in the year previous to the survey.
Source: Own calculations ECHP and PSID-CNEF.

Table S6: Data quality indicators

	Attrition cross-section	Ratio of primary market income over national GDP								
Survey year	% change in number of households (since first survey)	1994	1995	1996	1997	1998	1999	2000	2001	% change in ratio (since first survey)
Belgium	-32.8	0.32	0.32	0.30	0.30	0.29	0.30	0.31	0.31	-2.1
Denmark	-34.5	0.33	0.33	0.33	0.32	0.33	0.33	0.34	0.33	0.0
Germany	-11.2	0.34	0.33	0.32	0.30	0.29	0.30	0.31	0.30	-9.6
Greece	-28.9	0.34	0.33	0.31	0.31	0.29	0.27	0.26	0.26	-24.2
Spain	-30.7	0.29	0.28	0.28	0.26	0.27	0.28	0.28	0.28	-3.5
France	-26.2	0.33	0.33	0.33	0.32	0.31	0.31	0.31	0.30	-7.6
Ireland	-56.5	0.33	0.33	0.31	0.33	0.32	0.29	0.27	0.27	-17.7
Italy	-20.1	0.25	0.23	0.24	0.24	0.24	0.24	0.24	0.24	-5.7
Luxembourg	-18.4	-	0.28	0.27	0.27	0.27	0.28	0.25	0.24	-14.3
Netherlands	-6.1	0.31	0.30	0.29	0.29	0.28	0.28	0.27	0.27	-12.4
Austria	-24.7	-	0.31	0.29	0.28	0.27	0.28	0.28	0.26	-15.3
Portugal	-4.2	0.28	0.27	0.27	0.26	0.25	0.25	0.25	0.26	-7.9
Finland	-24.9	-	-	0.49	0.47	0.45	0.44	0.44	0.44	-10.6
Sweden	-3.8	-	-	-	0.26	0.25	0.26	0.25	0.25	-1.2
United Kingdom	-6.4	0.32	0.34	0.32	0.34	0.36	0.33	0.33	0.35	8.8
United States	-10.9	0.46	0.45	0.46	0.53	-	0.48	-	0.51	10.4

Note: Not available (-). Referring to primary market income earned in the year previous to the survey. Primary market income consists of wages, salaries and earnings from self-employment and is expressed in after-tax values for most countries with the exception of the United States, France and Finland where market income is expressed in gross values (depending on the country this income variable is only available in after-tax or gross values). The ratio is obtained by summing primary market income over all surveyed households and subsequently dividing it by national Gross Domestic Product (GDP values retrieved from 2009 World Development Indicators database). Large differences in ratio *between* countries are associated with differences in the degree of income underreporting between countries which in turn affects the analysis of absolute and relative poverty estimates *within* a country (the purpose of this paper): absolute poverty is underestimated (i.e. too high poverty rates) while the impact on relative poverty is ambiguous as it depends on underreporting at median versus low income levels. Countries appearing to be most affected are: Italy, Portugal, Greece, Sweden and Luxembourg. A potentially more serious problem is a large decline in ratio over time as it is associated with non random attrition leading to an increase in income underreporting over time: the degree to which absolute poverty is underestimated increases over time (i.e. poverty rates change too slowly) while the impact on relative poverty is ambiguous as it depends on underreporting at median versus low income levels. Countries appearing to be most affected are: Ireland and Greece. In spite of this, there is enough variation in absolute and relative poverty estimates in the remaining countries to support the conclusions of this paper.
Source: Own calculations ECHP and PSID-CNEF.

Table S7: Total household weight using various equivalence weighing schemes

Household types	Individual	Modified OECD scales	Implied US scales	Household
Single adult	1	1	1	1
Single elderly	1	1	0.92	1
Adult couple	2	1.5	1.29	1
Elderly couple	2	1.5	1.16	1
Single parent, one child	2	1.3	1.32	1
Single parent, two children	3	1.6	1.55	1
Parents one child	3	1.8	1.55	1
Parents two children	4	2.1	1.95	1
Parents three children	5	2.4	2.29	1

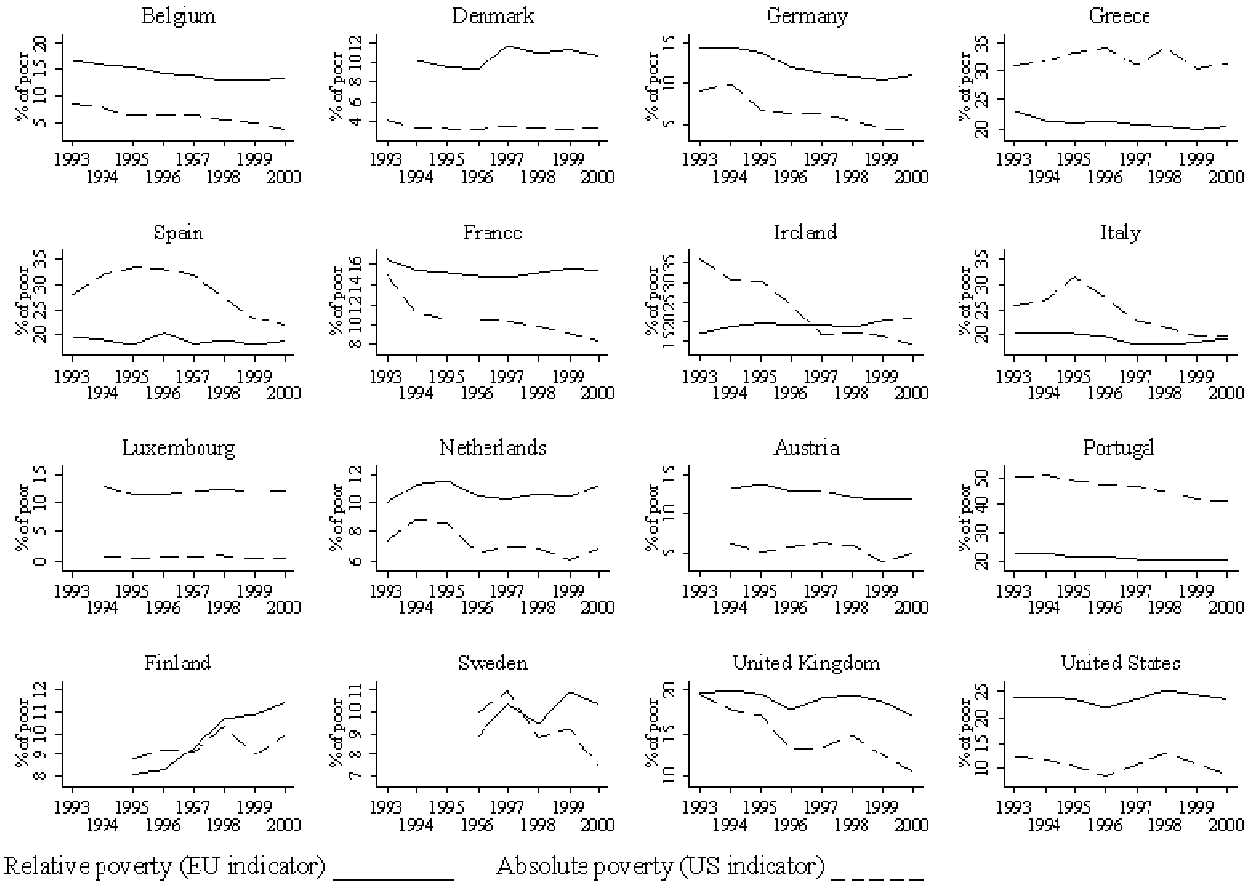
Note: This table compares the equivalence weighting schemes for a selection of household types. To obtain adult equivalent income, household income is divided by the sum of the weights of all household members. All individuals in the household are poor when the adult equivalent income lies below the adult equivalent poverty line. The second column reflects the weight when each household member receives a weight of 1 (i.e. there are no differences between individual needs and there are no economies of scale or other advantages of sharing common resources in a household). The third column reflects the aggregate weights for the modified OECD scales that are used in calculating the relative EU poverty rates. The fourth column represents the weighting that is implied by a selection of the 48 absolute US poverty lines. This weight can be obtained by dividing the corresponding poverty line for a specific household type by the US single adult poverty line. The final column expresses a weighting scheme that assumes full benefits from sharing resources within the household. In comparison to the extreme individual and household weighting schemes, the EU and US weighting schemes are rather similar. Nevertheless, for most household types the US scales have a lower value than the OECD scales, implying that the US scales assume lower cost to reach the same level of economic well being. In contrast to the OECD scales, the US scales often give a slightly higher weight to children than to additional adults. For instance, single parents with one child receive a US weight of 1.32 and an OECD weight of 1.3. For an adult couple household the OECD weight is 1.5 while the Orshansky weight is 1.29. In figures A1-A3 is shows that, even though the differences between the OECD and US equivalence scales are not so large, they can have a considerable impact on overall poverty rates as well as on poverty rates for certain groups in society.

Table S8: Ratio of US poverty line to adult equivalent median disposable income by country and survey year

Survey year	1994	1995	1996	1997	1998	1999	2000	2001
Belgium	0.55	0.54	0.52	0.53	0.55	0.54	0.53	0.52
Denmark	0.55	0.53	0.53	0.52	0.51	0.50	0.50	0.50
Germany	0.55	0.56	0.53	0.53	0.56	0.56	0.53	0.52
Greece	0.85	0.88	0.91	0.92	0.89	0.94	0.89	0.89
Spain	0.86	0.91	0.94	0.92	0.92	0.85	0.79	0.74
France	0.67	0.63	0.61	0.62	0.62	0.61	0.60	0.58
Ireland	0.95	0.86	0.85	0.78	0.67	0.67	0.62	0.56
Italy	0.80	0.81	0.90	0.83	0.79	0.77	0.73	0.72
Luxembourg	0.40	0.38	0.35	0.36	0.36	0.36	0.35	0.34
Netherlands	0.62	0.62	0.61	0.59	0.61	0.60	0.59	0.58
Austria	-	0.53	0.51	0.53	0.55	0.55	0.52	0.53
Portugal	1.19	1.22	1.18	1.15	1.15	1.13	1.08	1.05
Finland	-	-	0.68	0.69	0.66	0.67	0.64	0.63
Sweden	-	-	-	0.66	0.65	0.63	0.61	0.58
United Kingdom	0.67	0.63	0.63	0.60	0.59	0.61	0.57	0.55
United States	0.45	0.45	0.44	0.41	-	0.46	-	0.39

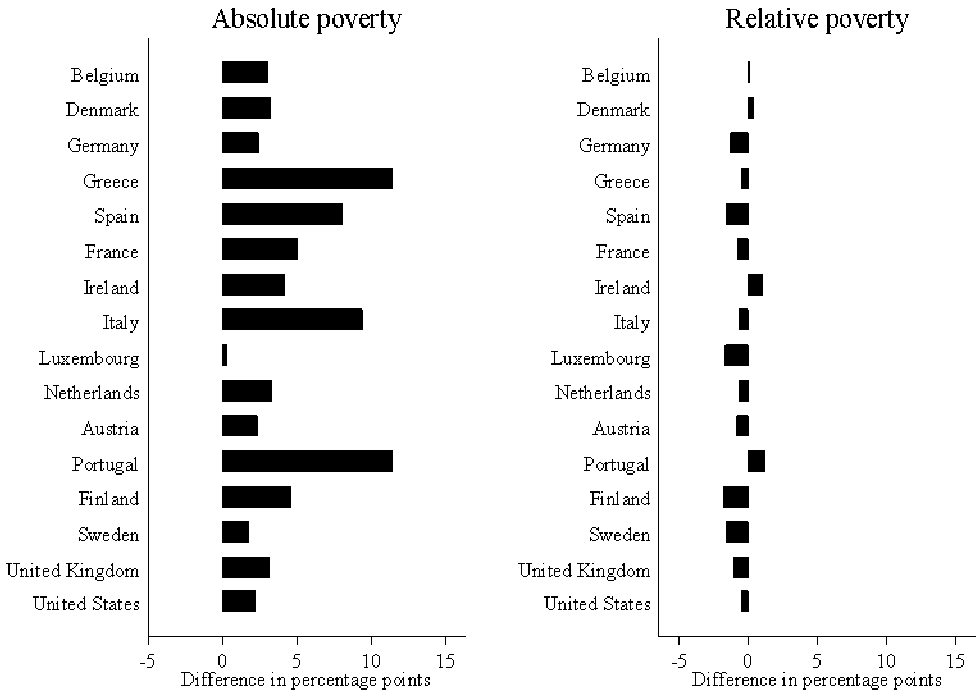
Note: The ratio is calculated by dividing the single working-age adult US poverty line by adult equivalent median disposable income. Adult equivalent income is obtained by means of the modified OECD equivalence scales.
Source: Own calculations ECHP and PSID-CNEF.

Figure S1: Poverty incidence (in % of individuals over the period 1993-2000, using the modified OECD weights to estimate relative poverty and the US weights to estimate absolute poverty)



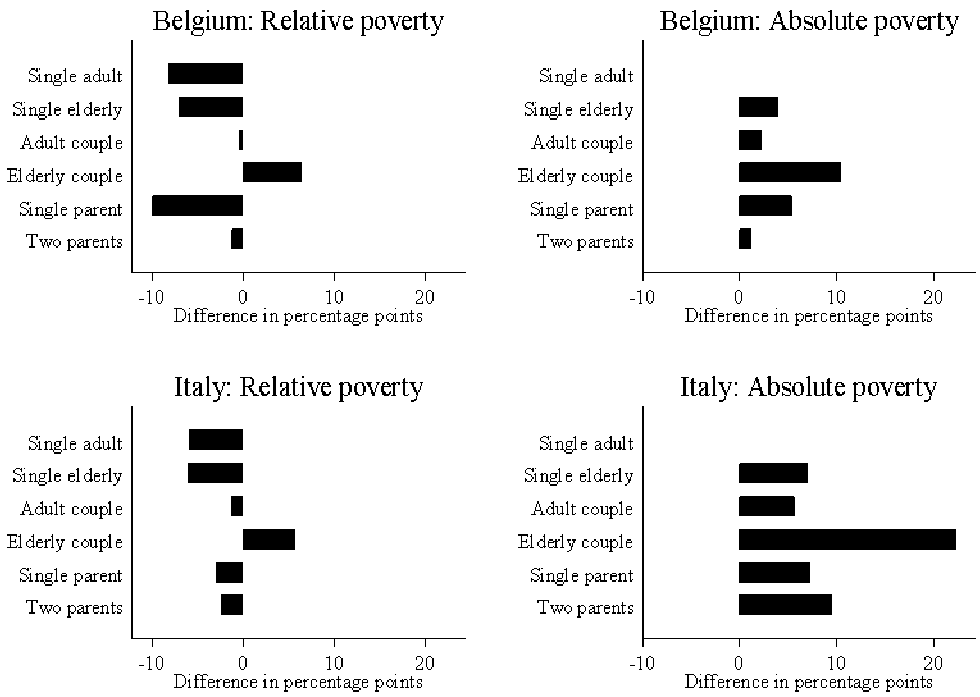
Note: To facilitate comparison of absolute and relative poverty trends within countries, we used different scales on the vertical axes. For the USA there are no observations in 1997 and 1999.
Source: Own calculations ECHP and PSID-CNEF.

Figure S2: Difference between absolute and relative poverty rates in 2000 due to different equivalence schemes (by national poverty levels, expressed in percentage points)



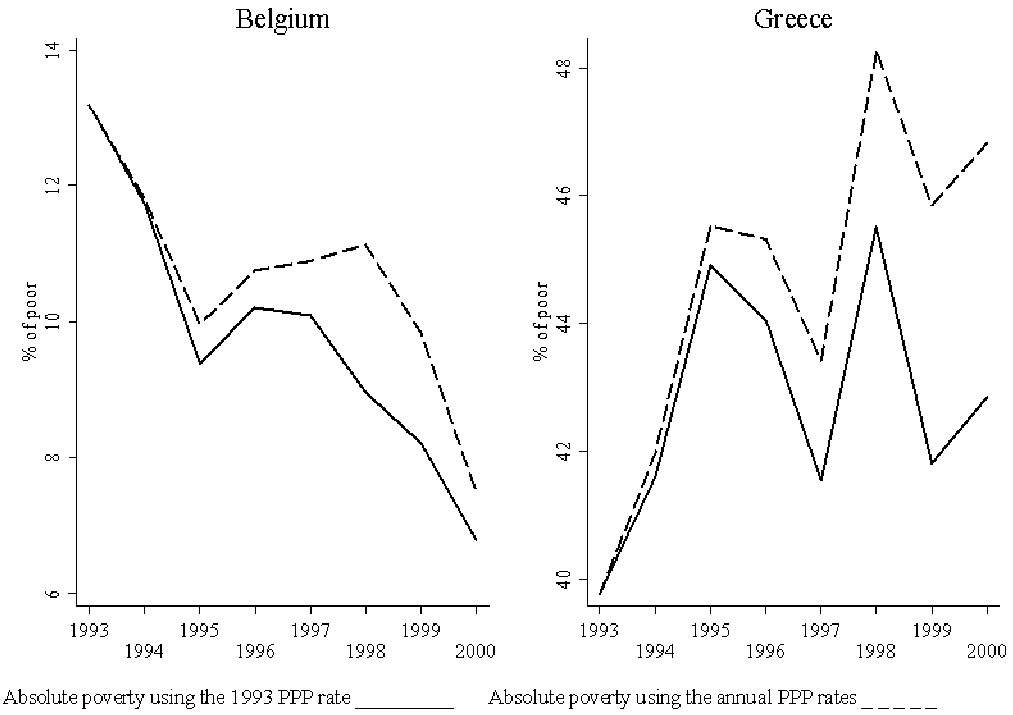
Note: The bars reflect the difference in poverty rate using OECD equivalence scale minus the poverty rate using the US weighting scheme.
Source: Own calculations ECHP and PSID-CNEF.

Figure S3: Difference between absolute and relative poverty rates in 2000 due to different equivalence schemes (by household type, expressed in percentage points)



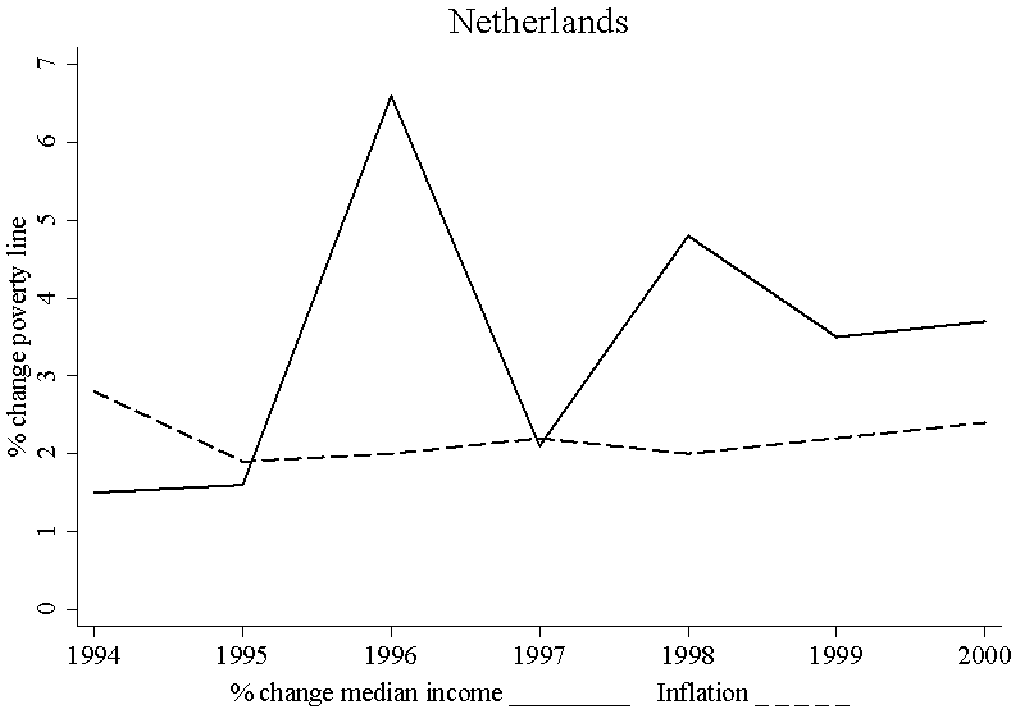
Note: The bars reflect the difference in poverty rate using OECD equivalence scale minus the poverty rate using the US weighting scheme.
Source: Own calculations ECHP and PSID-CNEF.

Figure S4: Impact of PPP benchmark year on absolute poverty in Belgium and Greece



Note: From 1993 to 2000, there were considerable changes in the PPP rates of countries such as Greece, Spain, Ireland, Italy and Portugal. The dollar PPP rate in Greece increased from 0.5499 in 1993 to 0.7501 in 2000. For the other countries changes in dollar PPP rate were much more modest. In Belgium for instance the rates hovered with a high of 0.9598 in 1998 and a low of 0.913 in 2000. These graphs show how absolute poverty in Belgium and Greece changes by taking different benchmark years for PPP rates. The solid line shows absolute poverty converting the 1993 US poverty threshold using the 1993 PPP and annual CPI updates for 1994-2000. The dashed line illustrates the poverty rates if the US thresholds would be PPP converted to Greek living standards *every year* using the respective annual PPP rate. The vertical distance between both lines shows the effect of choosing a particular PPP benchmark year. For instance, using 2000 as PPP benchmark year, the Greek absolute poverty rate in 2000 would be 47% as compared to 43%. Choosing a different base year, however, does not affect the poverty trend.
Source: Own calculations ECHP and PSID-CNEF.

Figure S5: Change in poverty lines due to different updating mechanisms



Source: Own calculations ECHP and PSID-CNEF.