Friday, March 24, 2006

Comparing inflation between United States and Europe Using the Methods of the European Union's Harmonized Index of Consumer Prices

Walter Lane and Mary Lynn Schmidt[1]

This paper introduces an experimental[2] consumer price index for the United States that follows—to the extent possible—the methods of the European Union's (EU's) official price index, the Harmonized Index of Consumer Prices (HICP). The HICP differs from the US Consumer Price Index (CPI) in two major respects. First, the HICP includes the rural population in its scope. Second, and probably more importantly, the HICP excludes owner-occupied housing. The Europeans decided that, largely because the methods for measuring its price change are controversial and difficult, the HICP will exclude owner housing—at least for the present. To construct the experimental US HICP, we expanded the CPI's population coverage to the whole population and then narrowed its item coverage to remove the owner-occupied housing costs that the HICP excludes from its scope.

Price indexes, such as CPIs, are complex constructs. Their results can be sensitive to decisions about scope, calculation formulas and other factors that are under the control of the statistical agencies. Until recently, there has been little standard international practice for CPIs, and the agencies, when making decisions on how to structure their CPIs, have often given little priority to international comparability. Virtually every country has a statistical agency that produces CPIs. Countries use them for a variety of purposes. One of the chief uses of CPIs—as mechanisms for adjusting income payments such as Social Security—is largely internal; so, for this purpose, international differences may be of little importance.

The lack of international comparability is more problematic when using CPIs as economic indicators or deflators for other series. As economic indicators, CPIs signify how well monetary authorities and other policy makers are controlling inflation. As deflators CPIs are used to compute real (inflation-adjusted) versions of other economic series—such as Gross Domestic Product (GDP) and productivity measures. Differences in CPI methods can make cross-country comparisons of inflation or real economic series like real GDP less reliable. If, for example, there is reason to believe that differences in methods are causing one country's price index to appear low relative to another's (it would have risen more rapidly had it used the other country's index methods), then the first country will appear to be doing better controlling

inflation. At the same time, its economy will appear to be growing faster—its real (inflation-adjusted) growth rate will be rising faster—as will its economy's productivity. In recent years, the United States has outperformed Europe with respect to these economic indicators. Some believe that this difference between the United States and European economic performance is due in part to differences between the US and European CPI methods and that the US economy's performance would appear less robust if the American price index used European price index methods. Our experimental indexes do not support this conclusion; in fact, the US HICP has risen more slowly than the official US CPI has. The spread between American and European economic performance would be even greater had the United States used an HICP. Of course, there are other differences—we enumerate some below—that we could not account for; these may be responsible for some of the apparent differences in the relative performances of the American and European economies.

The need for international standards became particularly important in Europe as the countries of Europe joined to form the European Union[3] (EU), integrating their economies. Having a common measure of inflation is even more critical for the 12 EU countries[4] that use the euro, the new monetary unit. To meet this need, Eurostat (the EU's statistical agency) developed the HICP, which is, by design, an internationally comparable measure of inflation. Eurostat developed the HICP's methods[5] in consultation with the statistical agencies of the EU member states. The EU requires each member and prospective member country to produce an HICP. (Many of them continue to produce their old consumer price indexes for internal purposes such as adjusting pensions and for historical continuity). For admission to the EU, prospective members must meet "convergence criteria," including a price stability standard based on the HICP. The European Central Bank, which regulates the euro, uses the HICP to make Euro-zone monetary policy.

An Experimental Consumer Price Index for the Total US Population

Our objective was to create an experimental HICP series for the United States that we can compare to the US CPI and to the HICPs of Europe. The US CPI underwent a major revision effective with the index for January 1998; so that formed the logical starting point for our experimental series.

---

[3] Until April 2004, the EU consisted of 15 countries, the "EU15": Austria, Belgium, Denmark, Germany, Greece, Finland, France, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom. On May 1, 2004, the EU admitted ten additional countries (Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia) to become the "EU25".

[4] This group is the European Monetary Union (EMU), or less formally the "Euro-zone," and consists of the EU15 less Denmark, Sweden and the United Kingdom. The 10 countries that joined the EU in 2004 will join the EMU and adopt the euro between 2006 and 2010.

[5] See W. Erwin Diewert, "Harmonized Indexes of Consumer Prices: Their Conceptual Foundations" *Zeitschrift fur Volkswirtschaft und Statistik 2002*, vol 138 (4) 547-637. Available in English at www.econ.ubc.ca/diewert/harindex.pdf. Also see "Annex 1 The Harmonized Indices of Consumer Prices (European Union)," in *The Consumer Price Index: Theory and Practice*, Geneva, International Labour Office, 2004.

The Consumer Price Index for All Urban Consumers (CPI-U), the headline American CPI, estimates price change for the non-institutional urban population.[6] The CPI-U excludes the rural, non-metropolitan population from coverage, largely due to the difficulty in sampling the remote and sparsely populated areas of the country. The European HICP estimates price change for the entire population—urban and rural. Before constructing an HICP for the United States, we created an experimental CPI for the total US population[7] that we called the CPI-XT, by first constructing an experimental index for the rural US population (the CPI-XR) which we then combined with the CPI-U.

The CPI is calculated in two stages[8]. Simplifying a bit, for the first stage the CPI partitions the universe of consumer items available to urban consumer households in the US into 8,018 discrete, exhaustive, mutually-exclusive categories called *elementary aggregates*[9]. BLS collects a sample of prices and produces price indexes for most elementary aggregates. (BLS imputes price indexes for the unsampled elementary aggregates, which are not very important). With the CPI for January 1999, the US CPI began using the geometric mean index formula for most elementry aggregates. The second stage combines the price indexes for the elementary aggregates to form higher-level indexes by using the elementary price indexes as if they were prices in an index number formula. The higher-level formula is a variant of the Laspeyres[10] index formula; this is also used for the elementary aggregates that do not use the geometric mean and was used for all elementary aggregates prior to 1999.

The Laspeyres formula needs a weight for each elementary aggregate in addition to its price index series. The Consumer Expenditure Survey (CE) is the source of these weights. Although the CE covers the entire US population including those living in rural areas, the CPI-U's high-level weights use only the expenditures of CE respondents living in urban areas. The CE had already compiled rural expenditures for the 2001-02 and 2003-04 CPI weighting periods.[11]

---

[6] As of 1990, the urban and metropolitan non-institutional populations comprised about 87 percent of the total US population.

[7] The HICP population coverage includes all households (either individuals or group) within the boundaries of a country including institutional households. Population coverage also includes all income levels, nationality or residence status. The US CPI-XT covers the urban and rural population at all income levels, nationality or residence status, but not the institutional population, which is about 2.8 percent, mostly residents of nursing homes, military bases and prisons.

[8] For an explanation of US CPI methods, see *BLS Handbook of Methods,* "Chapter 17, The Consumer Price Index", available at http://www.bls.gov/cpi/home.htm

[9] An elementary aggregate is an item category (item stratum) in an index area. The US CPI's item classification system defines 211 item strata covering all in-scope consumer items. Its geographic classification system defines 38 urban areas spread across the four Census regions (the Northeast, the Midwest, the South and the West)[9]. Note that 221x 38 = 8,018.

BLS calls these building blocks *basic indexes* to emphasize the US CPI constructs these indexes with weights (the lower-level weights); most other countries' CPIs construct indexes for their elementary aggregate using unweighted formulas.

[10] The new international manual on CPIs calls this index formula a *Lowe* index. See *Consumer price index manual: Theory and practice,* Chapter 15.

[11] Unfortunately, CPI expenditure weight processing of rural CE data did not begin until the CE for 1999, when the CPI's processing system changed to accommodate biennial weight updating. CPI weights for the period ending in December 2001 use data from the 1993, 1994 and 1995 CE surveys. Consequently, without a prohibitive amount of processing we could not obtain rural weights for pre-2002 index periods.

There is a weight for each of the 211 item strata for the rural areas in each of the 4 Census regions. We used these (211 x 4 =) 844 weights to construct our experimental CPI for the rural United States.

Of course, we needed an index series for each rural elementary aggregate too. Unlike the weights, index series (estimates of price change) are not readily available for the rural aggregates. The CPI does not collect prices in rural areas, so there are no elementary aggregates for them. To proxy for the rural elementary aggregates, we used the 844 elementary aggregates for the small urban areas in each Census region. For some item categories this may be quite reasonable; one could speculate that rural consumers often make their purchases in nearby small urban areas. This argument is less persuasive, however, for item categories such as rent and utilities.

Table 1A compares the official CPI-U (rebased to December 2001 =100) to the CPI-XR and the CPI-XT. Table 1B compares their December to December percent changes.[12] Although the rural index moved rather differently from the urban index, the effect on the index for the total population was small. The rural population is about 13 percent of the non-institutional   US population, but the CPI-XR is only about 11 percent of the CPI-XT. CPI weights are expenditure—not population—weights. The rural population spends less per capita on consumer items; consequently, the rural index has a disproportionately small influence on the total index.

Table 1A   Indexes, December 2001 = 100

December	CPI-U	CPI-XR	CPI-XT
2001	100.0	100.0	100.0
2002	102.4	102.4	102.4
2003	104.3	103.9	104.3
2004	107.7	108.1	107.8
2005	111.4	112.5	111.5

Table 1B   Percent change from the previous December

December	CPI-U	CPI-XR	CPI-XT
2002	2.4	2.4	2.4
2003	1.9	1.4	1.8
2004	3.3	4.1	3.4
2005	3.4	4.1	3.7

The US HICP

Once we had an index for the total US population, we adjusted its item coverage to correspond to that of the European index. Again, the major difference between the US and European

---

[12] We calculated monthly data for all the series we present. They are available on request. For brevity, we exhibit only the December data in this article.

indexes is the treatment of owner-occupied housing costs. This is a difficult and controversial part of any CPI. We can summarize the issues only briefly here.[13] Most economists agree that a house (or other types of housing units) is a capital good and not a consumer good. Expenditures to purchase houses or to make major improvements to them are investments and out of scope for a CPI. Of course, homes provide the occupant with shelter, a valuable service that owner occupants would have to pay for if they did not own their homes and, because they live in their homes instead of renting them out, they are foregoing income they could receive. The US CPI uses a "rental equivalence" approach to capture these implicit consumer items. Under this method, the CPI estimates the changes in what owner occupants would pay to rent equivalent housing. Some European countries use this approach in their national CPIs as well. Others use a variety of methods that usually include mortgage interest and taxes.

To date the Europeans have not been able to agree on an approach to measure owner-occupied housing costs. Consequently, they have simply ruled all owner expenses (except for minor repairs and maintenance) entirely out of scope for the HICP.[14] For the US HICP we removed the stratum for *Owners' equivalent rent of primary residence* along with the part of the *Lodging while out of town* stratum that represents *Owners' equivalent rent of secondary residences*.[15]

There are other differences between European and US methods. Table 2[16] summarizes some of them. The US CPI uses a geometric formula for most elementary aggregates while many European countries choose an arithmetic formula, which tends to rise more rapidly (HICP rules allow either formula.) The US CPI may quality adjust for changes in consumer products and introduce new products into the pricing samples more aggressively. In addition, differences in the public/private divide can be important: One obvious example is that, because Americans pay for a much larger portion of medical care expenses themselves, medical care has a much larger importance in the US indexes. Europeans generally receive much of their medical care through government programs, which are out of scope for CPIs and HICPs. The Europeans also approach some kinds of insurance differently: They use a premiums-net-of-claims-paid approach; the US CPI uses gross premiums for household and vehicle insurance[17]. We may be able to account for this in future versions of the US HICP.

---

[13] For a more complete discussion see "Consumer Price Indexes for Rent and Rental Equivalence," a *CPI Fact Sheet* on the subject. It is available at: http://www.bls.gov/cpi/cpifact6.htm

[14] There is some concern in Europe that, because the share of the households that are owner-occupants varies widely from country to country, omitting owner-occupied housing costs while including renter-occupied housing costs weakens the international comparability of the HICP. See the Christensen, Dupont and Schreyer (2005) article for more on this point.

[15] Comparing the weight shares for the CPI-XT and the HICP on Table 4a shows how these removals increased the importance of the non-housing items.

[16] Table 2 is an adaptation of a table that compares the HICP to the national price indexes of the EU members. It is in the Ahert and Branchi paper; the HICP column is identical to the one in their table.

[17] The US CPI nets insurance reimbursements out of the weights for repairs and replacement purchases rather than from the weights for household and vehicle insurance premiums. Like the HICP, the US CPI nets out health insurance reimbursements from the weights for health insurance premiums (and not those of health care providers such as hospitals).

Table 2 HICP CPI Comparison

	EU-HICP	US HICP	CPI-U
Definition	Measure of the average price changes of goods and services available for purchase on the economic territory of the Member State for purposes of directly satisfying consumer needs	Measure of the average change over time in the prices of consumer items—goods and services that people buy for day-to-day living	Measure of the average change over time in the prices of consumer items—goods and services that people buy for day-to-day living
Geographic and Population Coverage	All households on the territory of the Member State	Non-institutional population of the United States	Non-institutional population of the urban United States
Item Coverage	Private consumption except owner occupied housing, gambling, lottery and life insurance	Private consumption except owner occupied housing, gambling, lottery and life insurance	Includes owner occupied housing and excludes gambling, lottery and life insurance
Formula	Laspeyres	Laspeyres	Laspeyres
Weight update interval	At least 5 yearly, annual review	Biennial	Biennial
Elementary aggregate formula	Ratio of geometric or arithmetic mean	Weighted geometric or arithmetic mean	Weighted geometric or arithmetic mean
Classification	COICOP (Classification of Individual Consumption by Purpose)	COICOP (2-digit level)	US CPI item classification structure
Level of detail	94 classes/160 sub-indices	12 classes (2-digit COICOP)	211 item strata 38 index areas

US Inflation as measured by the US HICP

Tables 3A and 3B compare the CPI to the HICP for the United States from December 1997 through December 2005. For the period before 2002, for which we lacked rural weights, the comparison is for the urban population only. Starting with data for January 2002, the comparison is for the total population[18].

From December 1997 through December 2005, the experimental US HICP rose 20.8 percent. Over the same period, the experimental CPI-XT rose 22.1 percent, a bit more than the official CPI-U's 21.7 percent. Thus, HICP-measured inflation is lower than inflation as the CPI measured it. The index for *Owners' equivalent rent* rose 26.0 percent over the December 1997 to December 2005 period, so leaving that stratum out of the calculation reduced the HICP percentage growth. Over the same period, the index for *Lodging while out of town* rose 20.2 percent; reducing its CPI weight for the HICP had relatively little effect on the difference between the two.

---

[18] We previously calculated and made available a preliminary version of the US HICP. That version was the CPI-U less the stratum for *Owners' equivalent rent of primary residence*. It rose 16.3 percent between December 1997 and December 2004.

Table 3A   Indexes, December 2001 = 100

December	CPI-U	HICP-U
1997	91.3	92.6
1998	92.8	93.7
1999	95.2	96.2
2000	98.5	99.2
2001	100.0	100.00
	CPI-XT	**HICP-T**
2002	102.4	102.2
2003	104.3	104.1
2004	107.8	107.9
2005	111.5	111.9

Table 3B   Percent change from the previous December

December	CPI-U	HICP-U
1998	1.6	1.2
1999	2.6	2.7
2000	3.5	3.1
2001	1.5	0.8
	CPI-XT	**HICP-T**
2002	2.4	2.2
2003	1.9	1.9
2004	3.4	3.7
2005	3.5	3.8

Table 4a uses the American item classification scheme to provide the weight shares[19] for the CPI-U, the CPI-XR, the CPI-XT and the US HICP-T for the current (since January 2004) and previous (January 2002 through December 2003) CPI weight regimes. This table gives weight information for the eight CPI major groups of item strata and for selected smaller groups and strata. It shows that rural spending patterns are rather different from those of the urban

---

[19] The expenditure shares from the 2001 and 2002 Consumer Expenditure Surveys are the basis of the weights for the indexes of January 2004 through December 2005; those from the 1999 and 2000 CE surveys are the basis for the January 2002 through December 2003 indexes.   When updated for price change to the December before their first index use, the expenditure shares are the initial weights for each weight regime. Unfortunately, we were not able to update our expenditure shares to the December before their first index use, which would have made them comparable to the published CPI relative importances. The CPI production system routinely updates shares, but our index simulation system, because it works at a more aggregated level, does not.

population; for example, the rural population devotes a larger share of its consumer spending to *Transportation* and a smaller share to *Shelter*. These differences are likely the result of differences in overall price levels and in relative prices as well as in income, lifestyles and tastes.

Table 4a Biennial Weights (Relative Importances)
for the US Indexes (CPI-U, CPI-XR, CPI-XT and HICP)
for 1999-2000 and 2001-2002[1]

Group	1999-2000 Biennial Weights			
	CPI-U	CPI-XR	CPI-XT	US HICP-T[2]
All Items	100.00	100.00	100.00	100.00
Food and beverages	15.45	15.96	15.51	20.16
Food	14.43	15.17	14.51	18.86
Food at home	8.34	9.48	8.46	11.00
Food away from home	6.10	5.69	6.05	7.86
Alcoholic beverages	1.02	0.80	0.99	1.29
Housing	40.04	34.79	39.45	21.29
Shelter	30.64	24.37	29.94	8.93
Rent of primary residence	6.13	2.62	5.73	7.45
Lodging away from home	2.97	1.80	2.84	1.00
Hotels and motels	0.79	0.59	0.77	1.00
Owners' Equivalent of secondary residences	2.17	1.21	2.06	0.00
Household insurance	0.35	0.46	0.37	0.47
Owners' equivalent rent of primary residence	21.20	19.49	21.01	0.00
Fuels and utilities	4.38	5.40	4.49	5.84
Household furnishings and operations	5.02	5.02	5.02	6.53
Apparel	4.82	4.24	4.75	6.17
Transportation	17.77	21.33	18.17	23.62
Private transportation	16.52	20.59	16.98	22.07
New and used motor vehicles	8.84	10.99	9.08	11.80
Motor fuel	3.18	4.48	3.33	4.33
Public transportation	1.25	0.73	1.19	1.55
Medical care	5.56	7.41	5.77	7.50
Recreation	6.12	6.68	6.19	8.05
Education and communication	6.07	5.18	5.97	7.76
Education	2.55	1.50	2.43	3.16
Communication	3.52	3.68	3.54	4.60
Other goods and services	4.16	4.40	4.19	5.45

Table 4a (continued) Biennial Weights (Relative Importances)
for the US Indexes (CPI-U, CPI-XR, CPI-XT and HICP)
for 1999-2000 and 2001-2002[1]

Group	2001-2002 Biennial Weight			
	CPI-U	CPI-XR	CPI-XT	US HICP-T[2]
All Items	100.00	100.00	100.00	100.00
Food and beverages	15.08	15.59	15.13	20.14
Food	14.09	14.86	14.17	18.86
Food at home	8.06	9.01	8.17	10.87
Food away from home	6.02	5.85	6.00	7.99
Alcoholic beverages	0.99	0.73	0.96	1.28
Housing	41.79	36.39	41.19	21.72
Shelter	32.38	25.31	31.59	8.95
Rent of primary residence	5.98	2.73	5.62	7.48
Lodging away from home	3.22	2.36	3.12	0.97
Hotels and motels	0.74	0.66	0.73	0.97
Owners' Equivalent of secondary residences	2.48	1.70	2.40	0.00
Household insurance	0.37	0.48	0.38	0.51
Owners' equivalent rent of primary residence	22.81	19.74	22.47	0.00
Fuels and utilities	4.64	5.58	4.75	6.32
Household furnishings and operations	4.77	5.51	4.85	6.46
Apparel	4.32	3.87	4.27	5.68
Transportation	17.32	21.50	17.78	23.67
Private transportation	16.21	20.89	16.73	22.27
New and used motor vehicles	8.69	11.30	8.98	11.95
Motor fuel	3.16	4.53	3.31	4.41
Public transportation	1.11	0.60	1.05	1.40
Medical care	5.78	7.97	6.03	8.03
Recreation	5.98	5.98	5.98	7.96
Education and communication	6.00	5.01	5.89	7.84
Education	2.56	1.42	2.43	3.23
Communication	3.44	3.60	3.46	4.61
Other goods and services	3.73	3.68	3.73	4.96

[1] The CPI weights are based on biennial time periods: The 2002-2003 CPI weights use 1999-2000 expenditures, and the 2004-2005 CPI weights use 2001-2002 expenditures. Relative importances are expenditures as a percent of total.

[2] The US HICP-T is the CPI-XT excluding *Owners' Equivalent Rent of the primary residence* and *Owners' equivalent rent of secondary residences.*

Table 4b classifies according to the Classification of Individual Consumption by Purpose (COICOP) scheme, which the HICP uses. It defines at the first level 12 "2-digit" categories, that are similar to the 8 major groups of the American classification system. We calculated these 2-digit-level index series for the experimental US HICP.

Table 4b Relative Importances of the EICP (the HICP for EU25) and the US HICP-T

	European Index of Consumer Prices (EICP)	US HICP- T Biennial Expenditure Weights[2]	European Index of Consumer Prices (EICP)	US HICP- T Biennial Expenditure Weights[2]
	2001	1999-2000	2003	2001-2002
cp00 All-items HICP	100.00	100.00	100.00	100.00
cp01 Food and non-alcoholic beverages	16.00	10.57	15.49	10.40
cp02 Alcoholic beverages, tobacco and narcotics	4.28	1.94	4.28	1.87
cp03 Clothing and footwear	7.25	5.72	7.21	5.30
cp04 Housing, water, electricity, gas and other fuels	15.12	12.78	14.55	13.20
cp05 Furnishings, household equipment and routine maintenance of the house	7.70	6.05	7.48	5.94
cp06 Health	3.66	6.85	3.66	7.27
cp07 Transport	15.08	19.96	14.70	19.75
cp08 Communications	2.71	3.32	2.98	3.39
cp09 Recreation and culture	10.67	9.31	10.61	9.09
cp10 Education	1.00	2.78	1.10	2.85
cp11 Restaurants and hotels	9.49	11.51	9.79	12.05
cp12 Miscellaneous goods and services	7.05	9.22	8.16	8.89

[1] The EICP is based on the Expenditure Weight year.

[2] The US HICP-T is based on biennial time periods where the 2002-2003 CPI is based on the 1999-2000 Biennial Expenditure Weights, and the 2004-2005 CPI is based on the 2002 and 2003 Biennial Expenditure Weights.

Comparing inflation in the US and Europe

Each European country produces its own national HICP. Eurostat combines national HICPs to produce HICPs for multinational groups. A country's weight is its share (within the multinational group) of "private domestic consumption expenditures," which is a component of a country's Gross Domestic Product. The European Index of Consumer Prices (EICP) is the aggregate price index for the entire EU.[20] Eurostat also produces indexes for other European areas and country groups such as the Euro-zone. Eurostat publishes these HICPs in its monthly press release, *Statistics in Focus: Economy and Finance.* They include the US and the Japanese CPIs in the release, noting that they are not strictly comparable with the HICP. Tables 5a and 5b compare the US CPI-U, the US HICP-T with the EICP[21].

Table 5a US CPI-U, US HICP-T, and EICP Indexes, December 2001=100

December	CPI-U	US HICP-T	EICP
1997	91.3	92.6	91.9
1998	92.8	93.7	93.3
1999	95.2	96.3	95.4
2000	98.5	99.2	98.0
2001	100.0	100.0	100.0
2002	102.4	102.2	102.0
2003	104.3	104.1	104.1
2004	107.7	107.9	106.6
2005	111.4	111.9	108.8

Source: BLS, Eurostat

Table 5b Percent change from previous year, 1998- 2005

December	CPI-U	US HICP-T	EICP
1998	1.6	1.2	1.5
1999	2.7	2.7	2.2
2000	3.4	3.1	2.7
2001	1.6	0.8	2.1
2002	2.4	2.2	2.1
2003	1.9	1.8	1.9
2004	3.3	4.4	2.4
2005	3.4	3.8	2.1
1997-2005	22.0%	20.8%	18.4

The chief sources of greater measured inflation in the United States are in motor fuels, gasoline, and medical services and drugs. All of these US indexes have higher weights and exhibited greater price increases than their counterparts in Europe. Offsetting this a bit, tobacco and alcohol rose more rapidly in the European index and have more weight as well.

---

[20] The EICP covered the EU15 until April 2004 and the EU25 thereafter.

[21] We rebased all series to December 2001. The CPI-U is published on a 1982-84=100 basis and the EICP on a 1996=100 base.

Summary

The differences between the measures should not be overstated. Although there were some noticeable differences for individual years, the two US measures move similarly over the period of study. Differences between the United States and Europe were not particularly striking either. The fact that the period of study was one of comparatively mild inflation may cause some of this. We plan to continue producing the experimental measures and these conclusions may be revisited, especially if the underlying inflation situation changes.

Bibliography

Ahnert, Henning and Branchi Mariagnese, "The HICP as an anchor for European price statistics," Presented at OECD conference *Inflation Measures: Too High - Too Low - Internationally Comparable?* , Paris, June 2005.
Available at http://www.oecd.org/dataoecd/14/45/34996095.pdf.

Ane-Kathrine Christensen, Julien Dupont and Paul Schreyer, "International Comparability of the Consumer Price Index: Owner-occupied housing," Presented at OECD conference *Inflation Measures: Too High - Too Low - Internationally Comparable?* , Paris, June 2005.
Available at http://www.oecd.org/dataoecd/14/18/34987270.pdf.

Diewert, Erwin, "Harmonized Indexes of Consumer Prices: Their Conceptual Foundations", March 2002, Working Paper Series Number 130, European Central Bank.

ECB Monthly Bulletin, "Comparability of Statistics for the Euro Area, United States and Japan", April 2005, p. 61-72 Available at http://www.ecb.int/pub/pdf/mobu/mb200504en.pdf.

Eurostat*, Compendium of HICP reference documents,* Theme 2 Economy and Finance, Working documents, Luxembourg: Office for Official Publications of the European Communities, 2001

Eurostat*, Harmonized Indices of Consumer Prices (HICPs): A short Guide for Users, Eurostat* Theme 2 Economy and Finance, Methods and Nomenclatures Luxembourg: Office for Official Publications of the European Communities, 2004

Eurostat, *Cowe25 Country weights for EU-25 (European Union*).
http://epp,eurostat,cec,eu.int/portal accessed 3 June 2004.

Eurostat, *"Harmonised consumer prices - Monthly data"*
http://europa.eu.int/comm/eurostat/newcronos/ 17 Feb 05 09:19:57.

Eurostat, Household Budget Surveys in the EU: Methodology and Recommendations for Harmonization, February 1997.

International Labour Office, "Annex 1: Harmonized Indices of Consumer Prices (European Union)", *The Consumer Price Index: Theory and Practice*, Geneva, 2004.

ILO/IMF/OECD/UNECE/Eurostat/The World Bank, *Consumer price index manual: Theory and practice,* Geneva, International Labour Office, 2004

Dale A. Smith and Mary Lynn Schmidt, "Determining a Market Basket Structure for the US Consumer Price Index Based on the International Standard Classification of Individual Consumption by Purpose (COICOP)", *Proceedings of the Annual Meeting of the American Statistical Association, Social Statistics Section*, August 5-9, 2001.

Dale A. Smith and Mary Lynn Schmidt, "Developing a Core Classification System for U.S. Personal Consumption Data", *Proceedings of the Annual Meeting of the American Statistical Association, Social Statistics Section*, August 11-15, 2002, pp. 3274-3278