Preliminary Comparison of Unit Labour Cost Indicators Compiled by the BLS and OECD

Executive Summary

This paper covers two topics of comparison:

- the OECD System of Unit Labour Cost (ULC) Indicators for annual manufacturing for all OECD Member countries compared with the same indicator compiled by the US Bureau of Labor (BLS) for 14 countries; and,

- the OECD System of Unit Labour Cost Indicators compiled quarterly ULC compared with similar quarterly ULC indicators complied by the BLS for the United States.

For the annual series there are some differences for a small number of countries which can probably be attributed to additional adjustments made to the core input data by the BLS for taxes, subsidies, and employment. Additionally it should be noted that as the majority of discrepancies occur in the more historical parts of the time series it is an understandable assumption that some of the discrepancies may be due to the use of different historical versions of previously published data.

In regards to the quarterly series, it is not so easy to understand the reasons for the differences between the two series except to state the obvious that the OECD and BLS must be using different compilation methods. In particular the benchmarking methods and differences in the quarterly data being sourced by the two organisations could be the cause of the greater part of the differences seen. More discussion and analysis of each others data, metadata and methodologies would be required before a full understanding could be reached.

Introduction

In March 2007 the Short-Term Economic Statistics (STES) division of the OECD's Statistics Directorate began disseminating comparable Unit Labour Cost Indicators and associated statistics for all 30 OECD Member countries and the European Monetary Union (EMU) area. The indicators are compiled and disseminated both on an annual and quarterly basis. Part of the process involved in the compilation and dissemination of these indicators was to compare the OECD System of Unit Labour Cost (ULC) Indicators with indicators currently published by other institutions. What follows is an examination of how the OECD ULC's measured up to the BLS indicators at both the annual and quarterly series data level, where comparable. The paper is split into an annual section and a quarterly section.

The remainder of this paper is constructed in two distinct parts as it is derived from the original versions of two papers (an annual paper and a quarterly paper) written separately at different times, and this needs to be taken into consideration when reading. The original papers were written and then sent to the BLS for their comment and observations, and where possible these comments have been incorporated into the final version. It should also be noted that this analysis was performed prior to official publication of the OECD data and as such more recent improvements have been made to the OECD production process.

A. International Annual Manufacturing Unit Labour Cost Indicators

A1. Introduction

1. It is well known that the BLS has collected and published a range of statistical information on labour conditions outside the United States for a considerable number of years. One such series, the Manufacturing Annual Unit Labour Cost index is published by the BLS for 15 countries (including the US). In most cases, and for most countries, the data series have more than 55 years data coverage. These indexes are well respected and well utilised by users of international statistics, which is helped by the fact that the data is easy accessible, the methodology is clear and there has been numerous papers written which source this country unit labour cost data, productivity data, labour data and the resulting country comparisons.

2. In recent years there has been considerable user interest within the OECD Economics Department regarding the availability of infra-annual ULC series, covering a wide range of economic activities, that are comparable across the 30 OECD Member countries. To attempt to meet this demand the process began with the 2005 OECD meeting of the Short-Term Economic Statistics Working Party (STESWP) where the paper 'Development of comparable quarterly unit labour cost indexes for OECD countries' was presented. This paper outlined proposals prepared by the Short-Term Economic Statistics (STES) Division for the compilation of comparable annual and quarterly ULC series for all Member countries.

3. Since this first paper was presented at the 2005 STESWP meeting a large amount of investigation and hard work has taken place and as a result the OECD System of Unit Labour Cost Indicators was first published in March 2007 in the OECD's monthly *Main Economic Indicators* (MEI) database and paper publication. The first publication included only quarterly compiled indexes, in raw, seasonally adjusted and trend-cycle form. More recently, annual unit labour cost and related indicators (in levels and indices), for all available activities, have been published through the OECD website and are available through the OECD's statistical online database.

4. The ULC team decided that part of the quality assurance measures for the newly developed OECD System of ULC indicators should involve the comparison of the new indicators with other ULC indicators currently in the international domain, notably, those compiled and disseminated by the BLS. As part of this investigation, the STES Division recently conducted some simple analyses comparing the OECD's new annual ULC indexes with those produced by the BLS. The comparisons are only for annual manufacturing data as these are the only ULCs the BLS compile and disseminate for other countries.

A2. Outline of BLS methodology

5. The BLS compilation methodology is summarised in the following table.

Table 1: A selected extract of relevant technical notes from the BLS ULC Publication[1].

BLS constructs trends of manufacturing labor productivity, hourly compensation costs, and unit labor costs from three basic aggregate measures: output, total labor hours, and total compensation. The hours and compensation measures refer to employees (wage and salary earners) in Belgium and Chinese Taipei. For all other economies, the measures refer to all employed persons, including employees, self-employed persons, and unpaid family workers.

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification (ISIC). However, the measures for France include parts of mining. Data for the United States are in accordance with the North American Industry Classification System (NAICS 97), except compensation data before 1987. Canadian output, employment, and hours data are in accordance with NAICS 97 beginning in 1997 while compensation data are in accordance with NAICS 97 starting in 1961.

For the United States, the output measure for the manufacturing sector is a chain-weighted index of real gross product originating (deflated value added) produced by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce.

Compensation (Labor Cost). The compensation measures are from national accounts data and are in nominal terms. Compensation includes employer expenditures for legally required insurance programs and contractual and private benefit plans, in addition to all payments made in cash or in kind directly to employees. When data for the self-employed are not available, total compensation is estimated by assuming the same average compensation for the self-employed as for employees.

Labor cost is defined as compensation plus employment taxes minus employment subsidies, i.e. the cost to employers of hiring labor. For most economies, labor cost is the same as compensation. However, for Australia, Canada, France, and Sweden, compensation is increased to account for important taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for subsidies.

Data for Australia. Australian data are published by fiscal years, which run from July 1 to June 30. The Australian Bureau of Statistics provides unpublished calendar-year data for real value added, employment, and hours worked. For compensation, BLS estimates calendar-year series using two-year moving averages of the data for fiscal years. Manufacturing compensation data are not available for years prior to 1990.

Data for Recent Years. The measures for recent years may be based on current indicators of output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics, normally used for the long-term measures, become available.

6. In general the BLS and OECD both use a similar methodology and essentially the same data sources to compile their respective ULC indexes, and as such one would expect very little difference between the two final products[2]. All BLS data were downloaded from the BLS website as at 18 October 2006. All OECD ULC data were downloaded from the MEI database as at 20 October 2006.

[1] International Comparisons of Manufacturing Productivity and Unit Labor Cost Trends, 2005. Published Tuesday, September 26, 2006.

[2] A summary of the OECD methodology and data sources can be found at the following link: OECD ULC Metadata

A3. Initial Observations

7. Some initial observations can be made fairly easily with regards to country coverage, series length and methodology between the two indexes. The BLS produce annual ULC index estimates for manufacturing for 15 countries with Chinese Taipei being the only country that is not an OECD member. The overlapping 14 countries are: Australia, Belgium, Canada, Denmark, France, Germany, Italy, Japan, Korea, Netherlands, Norway, Sweden, United Kingdom, and the United States. Each ULC index can be extracted from the BLS website in either national currency or on a USD basis, giving a total of 29 available series. All the BLS ULC indexes have 1992 as the base year (1992=100).

Table 2: Start and End Dates for ULC Manufacturing Indexes

	BLS	**OECD**
Australia	1990 - 2005	1970 - 2005
Belgium	1960 - 2005	1970 - 2004
Canada	1950 - 2005	1970 - 2002
Denmark	1950 - 2005	1966 - 2005
France	1950 - 2005	1970 - 2004
Germany[3]	1991 - 2005	1970 - 2005
Italy	1950 - 2005	1970 - 2005
Japan	1950 - 2005	1970 - 2005
Korea	1970 - 2005	1970 - 2004
Netherlands	1950 - 2005	1970 - 2005
Norway	1950 - 2005	1970 - 2003
Sweden	1950 - 2005	1970 - 2004
United Kingdom	1950 - 2005	1970 - 2005
United States	1950 - 2005	1970 - 2005

8. Table 2 shows that in most cases the BLS series are longer than the corresponding OECD series with BLS series normally starting in 1950. All BLS series have data to 2005. In comparison, virtually all OECD ULC indexes start in 1970 and only eight countries have data to 2005.

9. The end date issue could imply that the BLS is undertaking some form of estimation as for most of these countries (as far as the OECD is aware) annual data for manufacturing has not yet actually been released for the missing year(s). This is partially confirmed in Table 1 under the heading – *Data for Recent Years.* The only country where the OECD has a longer series is Australia (one could include Germany in this, but in reality it is very easy to link the German series to the former West German series), where the OECD series has an extra 20 years.

10. In addition to the 14 country overlap, the OECD compiles annual manufacturing ULC indexes for 16 other countries (including the European Monetary Union (EMU)). The OECD also produces seven other disaggregated industry ULC series for each OECD Member country, namely: Total Economy; Industry; Construction; Trade, transport, and communication; Financial and business services; Market services; and , the Business sector (excluding Agriculture).

11. The major probable difference between the BLS and OECD ULC compilation methodologies involves the treatment of taxes and subsidies. The OECD makes no adjustment for these factors during the compilation phase. Table 1 outlines that BLS makes these types of adjustments for Australia, Canada, France, Sweden and the United Kingdom.

[3] Data for the former West Germany are available from 1950 – 1991.

A4. Analysis

12. In general and as expected, the two ULCs for the 14 countries are closely correlated, as shown below.

Table 3: Correlations: BLS ULC versus OECD ULC

	Index (2000=100)	**Growth Rate (YoY)**
Australia	0.978	0.418
Belgium	0.994	0.851
Canada	1	0.984
Denmark	1	0.976
France	0.997	0.976
Germany	1	1
Italy	1	0.995
Japan	1	0.998
Korea	0.998	0.933
Netherlands	0.997	0.945
Norway	1	0.994
Sweden	0.998	0.983
United Kingdom	0.999	0.983
United States	0.994	0.964
AVERAGE	0.997	0.929 (excl Australia = 0.968)

13. From Table 3 one can see that for six countries the index correlation is 1, with Germany also having a correlation of 1 for growth. A further seven countries have a correlation coefficient above 0.99 for the indexes, leaving only one country where the index correlation coefficient is below 0.99 – Australia. This is not altogether surprising considering the type of adjustments the BLS make for Australia as shown in Table 1.

14. For growth correlations, which are considered a better measure of comparison, the coherence is not as strong. Ten countries have a growth correlation below 0.99, and understandably but still worryingly, Australia has a growth correlation of 0.418 which indicates issues for further consideration.

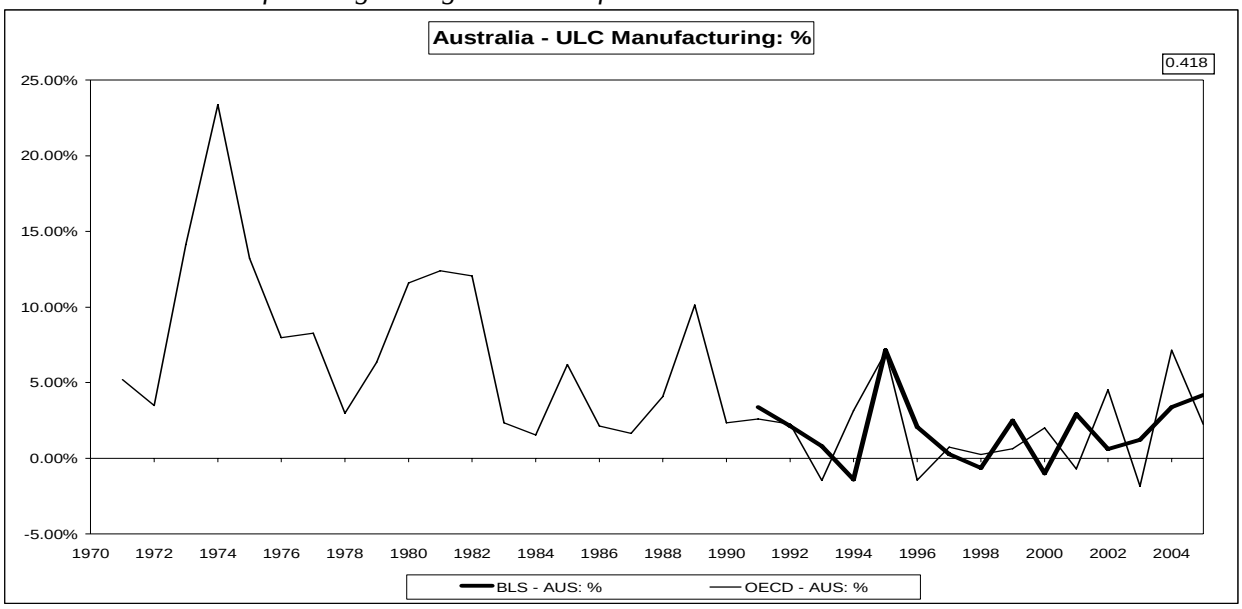
A4.1 Australia

15. The main issue for Australia appears to be one of fiscal versus calendar data. Below is an extract from Table 1 above:

> *Data for Australia.* Australian data are published by fiscal years, which run from July 1 to June 30. The Australian Bureau of Statistics provides unpublished calendar-year data for real value added, employment, and hours worked. For compensation, BLS estimates calendar-year series using two-year moving averages of the data for fiscal years. Manufacturing compensation data are not available for years prior to 1990.

16. The BLS also state in the same document that for Australia, compensation of employees is increased to account for important taxes on payroll or employment. This makes it clear that OECD data for Australia will never match the BLS series. The fiscal year is also an issue for New Zealand.

Chart 1: Annual manufacturing ULC growth rates for Australian OECD and BLS.



17. One way of attempting to manipulate the OECD ULC to the same basis as the BLS ULC entails use of the annual result from the OECD's quarterly ULC. This would give an annual ULC statistic on a calendar year. This calculation shows better correlations but considering the single source of data (Australia Bureau of Statistics (ABS)) available to both organisations it is still not as high as would be expected. In trying to determine the major cause of difference between the two ULC indicators, numerous emails were exchanged between the BLS, OECD and the ABS.

18. The general agreement in these email exchanges was that the methodology the BLS uses to try and transform Australian data from fiscal year to calendar year data suggests that any correlation with the OECD ULC will be weak. In particular the methodology for transforming the compensation of employees, as stated above (BLS estimates calendar-year series using two-year moving averages of the data for fiscal years), will have a major impact on the data and annual growth rates.

A4.2 Belgium

19. For Belgium, if one takes the correlation of the growth rates from 1995, instead of 1970, the resulting correlation improves. This can be clearly seen in Charts 2 and 3 below. This coincides with the fact that currently available Belgium OECD data has been linked backwards with historical series' at 1995. For manufacturing, OECD data for the period 1970-1995 is sourced via the OECD's *Structural Analysis Database* (STAN). As there is no employee data prior to 1995 the self-employed ratio from 1970-1994 is locked in at the 1995 figure.

20. The self-employment ratio post-1995 is very stable for Belgium and couldn't realistically be considered as a factor here given the higher correlation post 1995 even though the BLS make no such adjustment for Belgium as stated in Table 1. The source of the low correlation pre 1995 may be due to different historical series being used by the OECD and BLS.

Chart 2: Annual manufacturing ULC indexes for Belgium OECD and BLS.

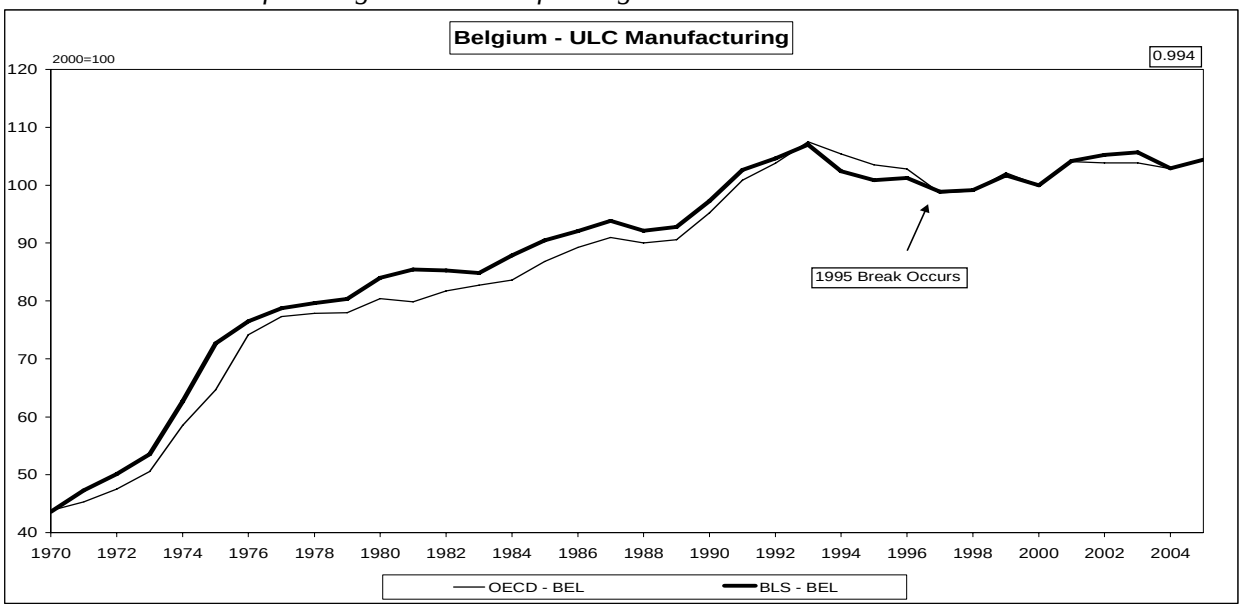
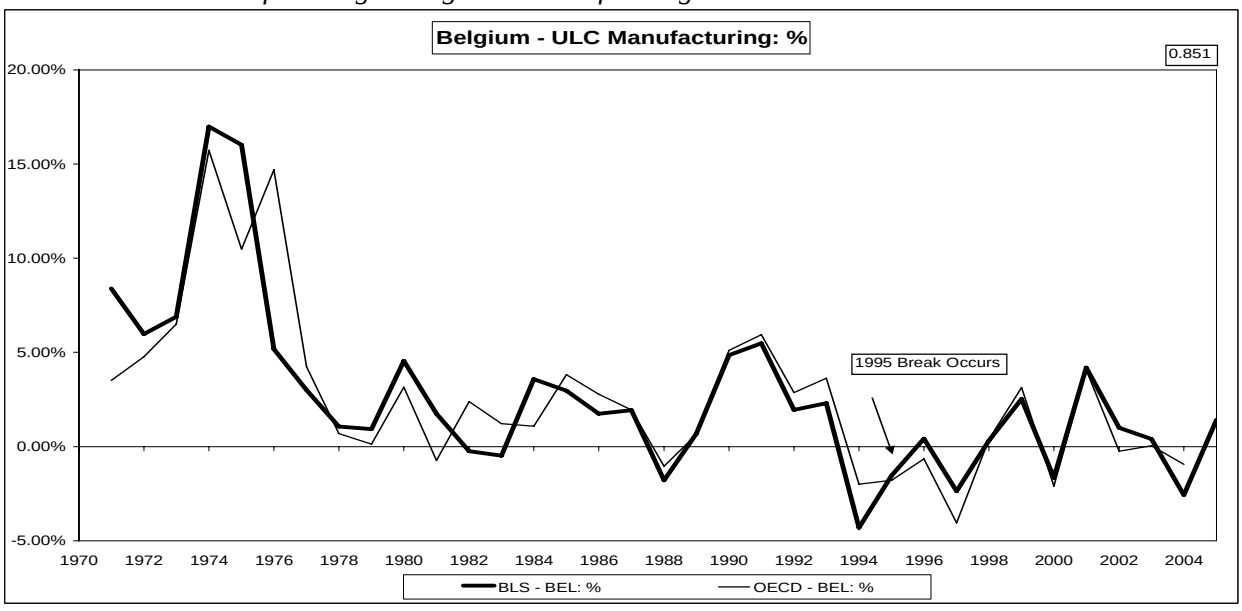


Chart 3: Annual manufacturing ULC growth rates for Belgium OECD and BLS.



A4.3 France

21. For France the discrepancies observed may also be due to differences in linking to historical series. While the index correlation is high (0.997), one can see in the graph (Chart 4) that there are two points where the two ULC's separate: 1999 and 1988. For France, 1999 and 1978 are the two link dates for the OECD compiled ULC indexes. Data for Annual Value Added (AVA) constant price 1970-1978 is derived using the activity 'Industry' as a proxy (this would seem a pretty fair assumption as manufacturing comprised 90% of Industry in 1978 for France). For the remainder of the constant price series, data for 1978-1999 come from the OECD's *Annual National Accounts database* (SNA) version 101, and data from 1999-2004 from SNA version 201.

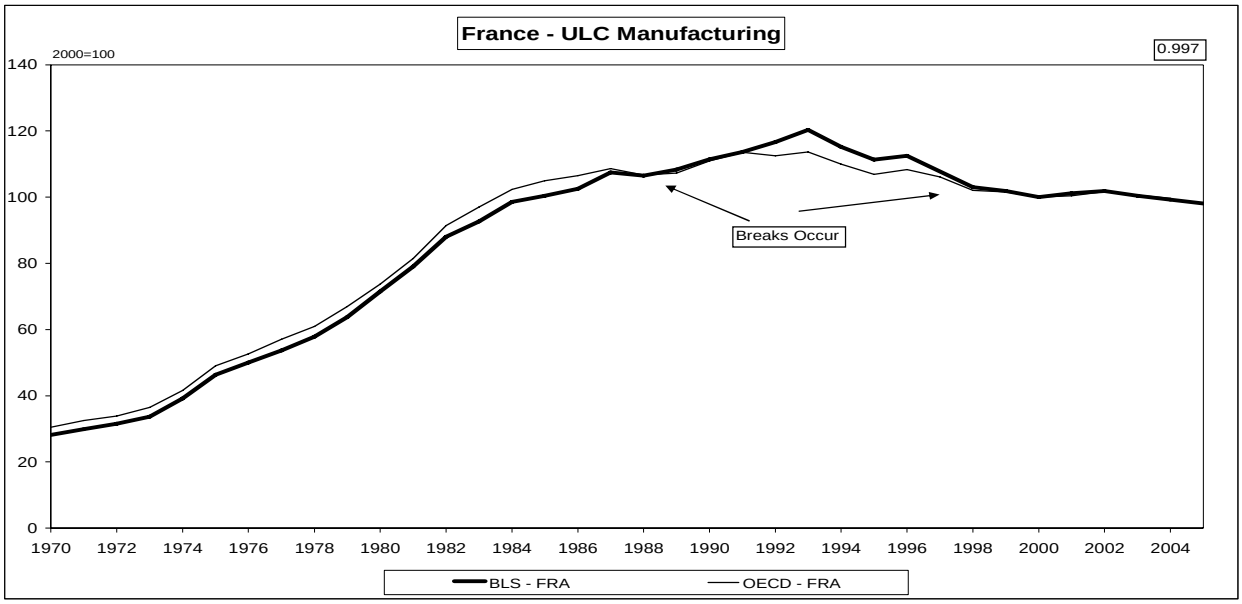
22. Annual compensation of employees 1970-1978 are sourced from STAN, 1978-1999 from SNA version 101, and 1999-2004 from SNA version 201. The self-employment ratio has a link at 1999, but has no data prior to 1978. The BLS offer a number of comments on their compilation method for France, namely:

- In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification (ISIC). However, the measures for France include parts of mining.

- Labour cost is defined as compensation plus employment taxes minus employment subsidies, i.e. the cost to employers for hiring labour. For France compensation is increased to account for important taxes on payroll or employment.

22. These differences may also explain the lower growth correlation (0.976) between the two ULCs, although it could be interesting to know in which years such adjustments were made.

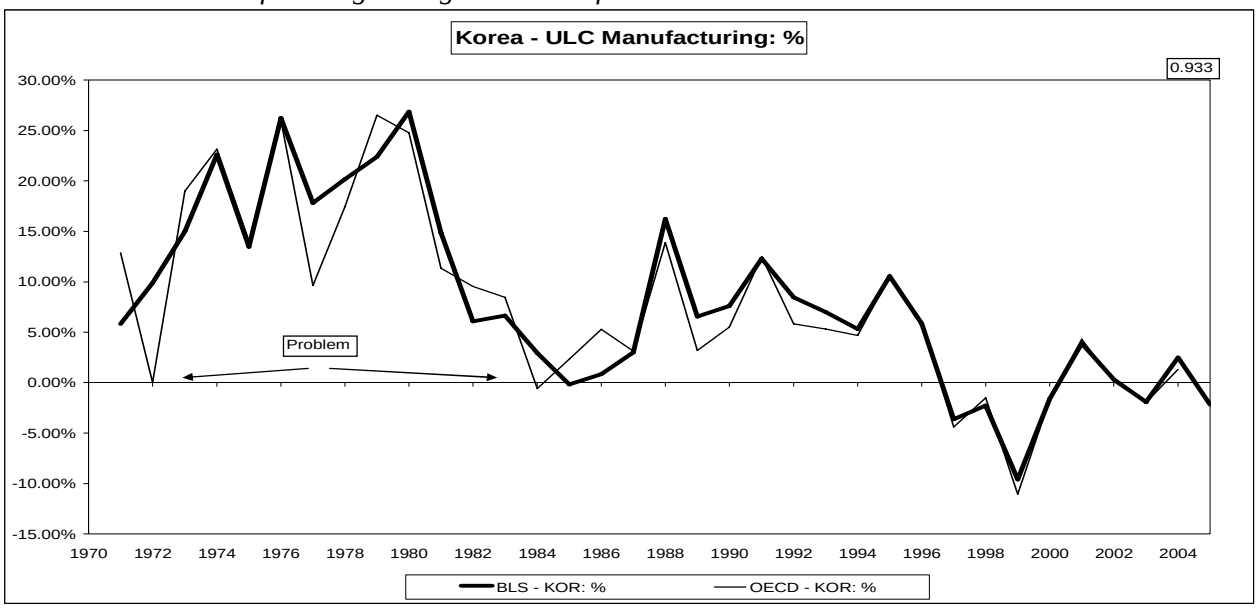
Chart 4: Annual manufacturing ULC indexes for France OECD and BLS.



A4.4 Korea

22. Chart 5 shows that the two series drift apart slightly at 2000 and more noticeably at 1992 with the overall growth series having a relatively low growth correlation of 0.933. In the OECD ULC series there is a link in the Korean data at 1992 for the self-employed ratio where employment as measured by 'Persons' is linked to employment measured by 'Hours'. This practice is standard methodology for the OECD ULC's.

Chart 5. Annual manufacturing ULC growth rates for Korea OECD and BLS.

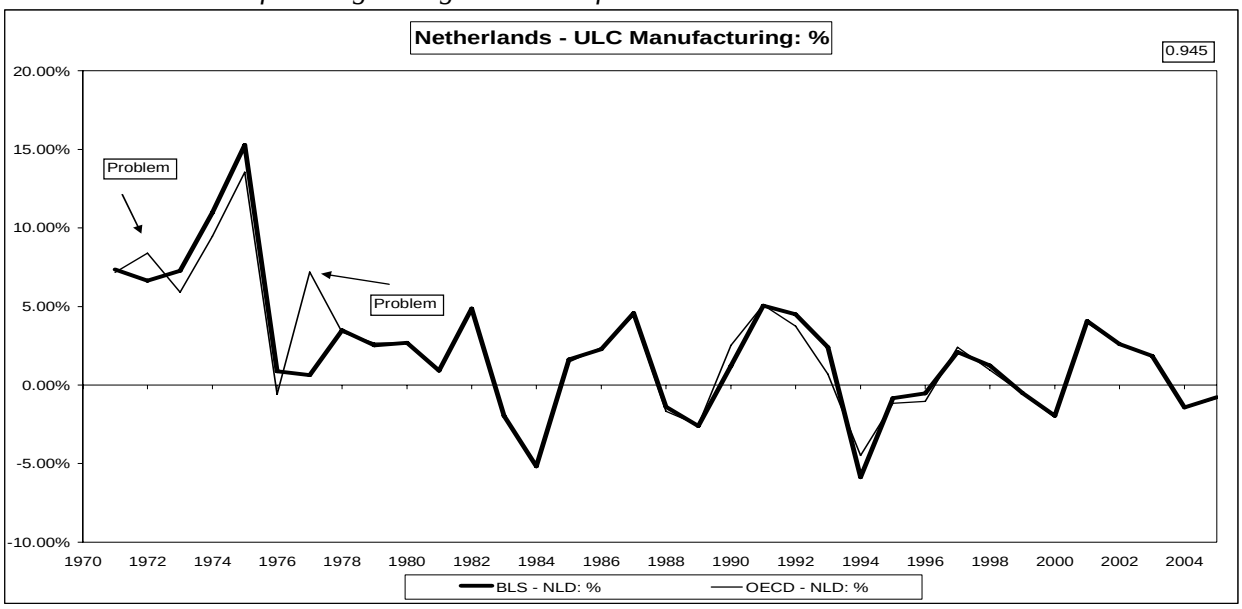


23. A large part of this low growth correlation comes from the pre-1992 OECD ULC data which is more volatile than the corresponding BLS series. This volatility can be traced back to the self-employment ratio for this period with this data coming directly from STAN (1970-1992). If one removes this employment data for the 1970-1992 period and instead makes the self-employment ratio for this period equal to the 1992 figure (the standard methodology where no data is available), then the growth correlation becomes 0.996 – a vast improvement. It would therefore be useful to compare the data used by the BLS to adjust for self employment in Korea as this is the most likely source of discrepancy between the two series.

A4.5 Netherlands

24. Discrepancies for The Netherlands may also be due to different approaches for linking to historical series. It should be noted that the Dutch recently released updated Annual National Accounts dating back to 1995 for AVA constant prices and annual compensation of employees, whereas at present in the OECD ULC a link is made to historical data at 1987. Nonetheless, a discrepancy occurs with BLS data for the growth rates at 1996 and then the series are substantially different prior to 1978. Data for the OECD series from 1969-1977 for AVA constant prices come from STAN and would appear to be different from the data used by the BLS for this period. Chart 6 shows the extent of the discrepancies in growth rates at the different time periods.

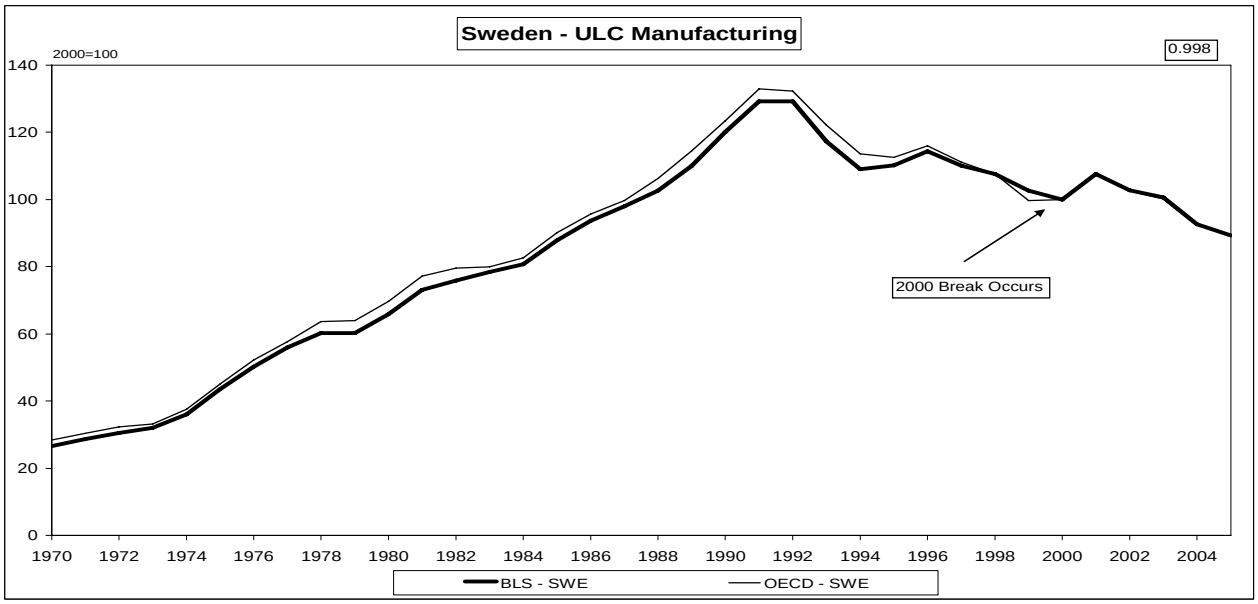
Chart 6. Annual manufacturing ULC growth rates for the Netherlands OECD and BLS.



A4.6 Sweden

25. As can be seen in Chart 7, a discrepancy appears with the Swedish data at 2000 where the data drifts apart and maintains a gap which varies slightly over time back to 1970. An explanation for discrepancies between 1993 and 2000 could be if the BLS made significant adjustments to the Swedish data for employment taxes. Their technical notes state that for Sweden, labour compensation is increased to account for important taxes on payroll or employment. All OECD data from SNA are linked in 1993 with STAN data, thus discrepancies prior to 1993 may also be due to the use of different historical series or linking methodologies.

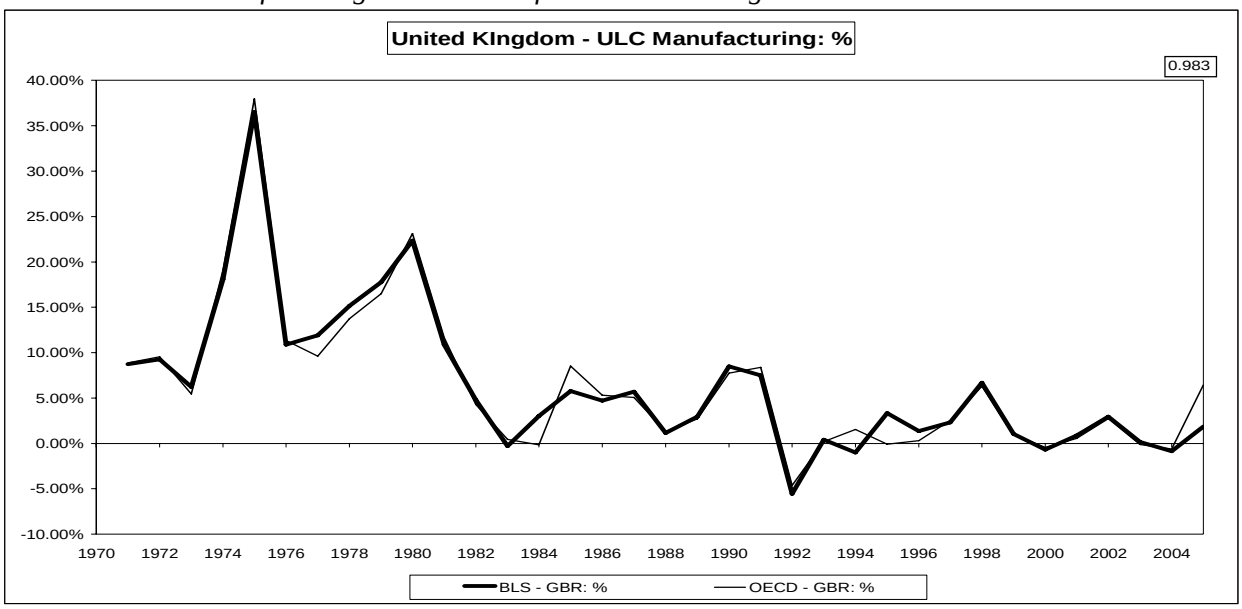
Chart 7. Annual manufacturing ULC indexes for Sweden OECD and BLS.



A4.7 United Kingdom

26. The BLS state that for the United Kingdom, labour compensation is reduced between 1967 and 1991 to account for subsidies. Chart 8 clearly shows this impact. The chart also shows that a break occurred around 1996, which is the link date for the OECD AVA constant prices data. SNA only contains data to 1996 with data from 1970-1995 coming from STAN. The self-employment ratio data all come from the OECD's Annual Labour Force Statistics (ALFS) as data on Employment and Employees available in the National Accounts were being compiled using a flawed methodology[4].

Chart 8. Annual manufacturing ULC indexes for the United Kingdom OECD and BLS.



A5. Summary

27. While it appears that the OECD and BLS use a similar methodology and the same data to compile their manufacturing ULC country indicators, there are some differences for a few of the 14 overlapping countries. Some of the differences can probably be attributed to the additional adjustments made by the BLS for taxes and subsidies, and possibly some differences could be in the calculation and data used for the self-employment ratio. Furthermore, as the majority of discrepancies occur in the more historical parts of the time series, these discrepancies may be due to the use of different versions of historically published series by OECD and BLS to extend the time series and / or linking methodologies used to join these respective series.

28. The Australian issue can mostly be explained due to the fiscal/calendar year adjustment, adjustment for employment taxes and the fact that the BLS takes a two year moving average for compensation of employees data. The remaining issues all seem to follow the same pattern, namely a point where the two series diverge which then causes the growth correlation to fall. The most obvious explanation for this would seem to be different approaches and data used for linking historical time series.

[4] This issue was brought to the attention of the UK Office for National Statistics who have stated they are in the process of revising their methodology for the compilation of employment and employee estimates by industry in their national accounts.

B. Quarterly United States Unit Labour Cost Indicators

B1. Introduction

29. This was a preliminary investigation into the comparability of the quarterly unit labour cost (ULC) indices being produced by the OECD and BLS for the US. It should be noted that the OECD System of Unit Labour Cost Indicators, which were first published in March 2007, are compiled to ensure that internationally comparable ULCs are disseminated both annually and quarterly for all 30 OECD Member countries. This should be seen in the light of the BLS who have been producing quarterly US ULC indices for a long time, have a very strong reputation in this statistical field and have direct access in most cases to US labour statistics unit record data. These differences make it clear that the ULC indices from the two organisations will never be exact; however one would at least expect a reasonable level of comparability between them.

B2. Analysis

30. The following four BLS series' (extracted from the BLS website under the 'Productivity and Technology – Major Sector Productivity and Costs Index' headings) are seen as being the most comparable with what the OECD is producing:

- Manufacturing (PRS30006113)
- Business (PRS84006113)
- Nonfarm Business (PRS85006113)
- Nonfinancial Corporations (PRS88003113)

31. Presently the OECD only compiles four activity based quarterly ULCs, in both seasonally adjusted (SA) and trend (TE) format for the US due to data[5] constraints, these are (including their OECD series code):

- Total Economy (ULQBBU01)
- Manufacturing (ULQBBU02)
- Industry (ULQBB03)
- Business Sector (ULQBBU08)

32. The series selected for comparative analysis were:

A. Manufacturing (PRS30006113) - Manufacturing (ULQBBU02)
B. Nonfarm Business (PRS85006113) - Business Sector (ULQBBU08)
C. Business (PRS84006113) - Total Economy (ULQBBU01)

[5] To date, the OECD has not found any suitable US real output statistics for: Trade, Transport and Communication Services; and, Financial and Business Services.

33. The following correlations were calculated:

Table 4.

	A. Manufacturing (PRS30006113) v Manufacturing (ULQBBU02)	B. Nonfarm Business (PRS85006113) v Business Sector (ULQBBU08)	C. Business (PRS84006113) v Total Economy (ULQBBU01)
Seasonally adjusted (SA)			
Level	0.442	0.999	0.998
Growth (QoQ)	0.457	0.838	0.921
Trend (TE)			
Level	0.441	0.999	0.998
Growth (QoQ)	0.337	0.808	0.707

34. The most disappointing correlation in Table 4 is for the manufacturing sector. It appears that the OECD's manufacturing ULC has virtually no correlation with the manufacturing ULC being compiled by the BLS. As part of the OECD's compilation process, all quarterly US data is benchmarked with US Annual National Accounts data. This is highlighted by the fact that the annual US ULC for manufacturing as compiled by the BLS and the OECD had a growth correlation of 0.932 which makes the above result even harder to understand.

35. The following tables provide detailed explanations of how the OECD compiles the quarterly US ULCs.

Table 5.

Manufacturing (ULQBBU02)

Real Output – Monthly Industrial Production Index, seasonally adjusted, sourced via the Federal Reserve. The quarterly data (monthly average) is benchmarked to Annual Manufacturing Value Added in constant prices, sourced via the OECD's Annual National Accounts (SNA) database (as supplied by the BEA Table 113. Gross Value Added by Industry (ISIC)).

Total Labour Cost – From the BLS 'Employment, Hours, and Earnings from the Current Employment Statistics survey (National)' two monthly variables are taken and multiplied together:

1. Seasonally Adjusted; Super Sector-Manufacturing; Industry-Manufacturing; Data Type-All Employees (CES3000000001)
2. Seasonally Adjusted; Super Sector-Manufacturing; Industry-Manufacturing ; Data Type-Average Weekly Earnings of Production Workers (CES3000000004)

Quarterly data (monthly average) is benchmarked to Annual Manufacturing Compensation of Employees current prices, sourced via the OECD's SNA database (as supplied by the BEA Table 115: Compensation of Employees by Industry (ISIC), Expanded Industry Detail). Data is adjusted to include an estimate for the self-employed using US employment statistics also from the annual national accounts.

Trend analysis undertaken using TRAMO-SEATS in the software package Demetra.

Table 6.

Business Sector (ULQBBU08)

Real Output – Quarterly Value Added – Non-farm in constant prices, sourced via the BEA Table 1.3.6. Real Gross Value Added by Sector, Millions of chained (2000) dollars, Seasonally adjusted at annual rates.

Quarterly data is benchmarked to Annual Value Added Non-farm in constant prices, sourced via BEA Table 1.3.6.

Real Gross Value Added by Sector, Chained Dollars, Millions of chained (2000) dollars.

Total Labour Cost – Quarterly Personal Income, Private Industries sourced via BEA Table 2.1. Personal Income and Its Disposition, Millions of dollars, Seasonally adjusted at annual rates.

Quarterly data is benchmarked to Annual Personal Income, Private Industries sourced via BEA Table 2.1. Personal Income and Its Disposition, Millions of dollars.

Trend analysis undertaken using TRAMO-SEATS in the software package Demetra.

Table 7.

Total Economy (ULQBBU01)

Real Output – Quarterly Gross Domestic Product by Expenditure – Total in chained volume estimates, national reference year, quarterly levels, seasonally adjusted, sourced via the OECD's Quarterly National Accounts (QNA) database (as supplied by the BEA).

Quarterly data is benchmarked to Annual Value Added Total in constant prices, sourced via the OECD's Annual National Accounts (SNA) database (as supplied by the BEA Table 113. Gross Value Added by Industry (ISIC)).

Total Labour Cost – Quarterly Gross Domestics Income, Compensation of Employees Total in current prices, quarterly levels seasonally adjusted sourced via the OECD's Quarterly National Accounts (QNA) database (as supplied by the BEA).

Quarterly data is benchmarked to Annual Compensation of Employees, Total, current prices, sourced via the OECD's SNA database (as supplied by the BEA Table 115: Compensation of Employees by Industry (ISIC), Expanded Industry Detail). Data is adjusted to include an estimate for the self-employed using US employment statistics also from the annual national accounts.

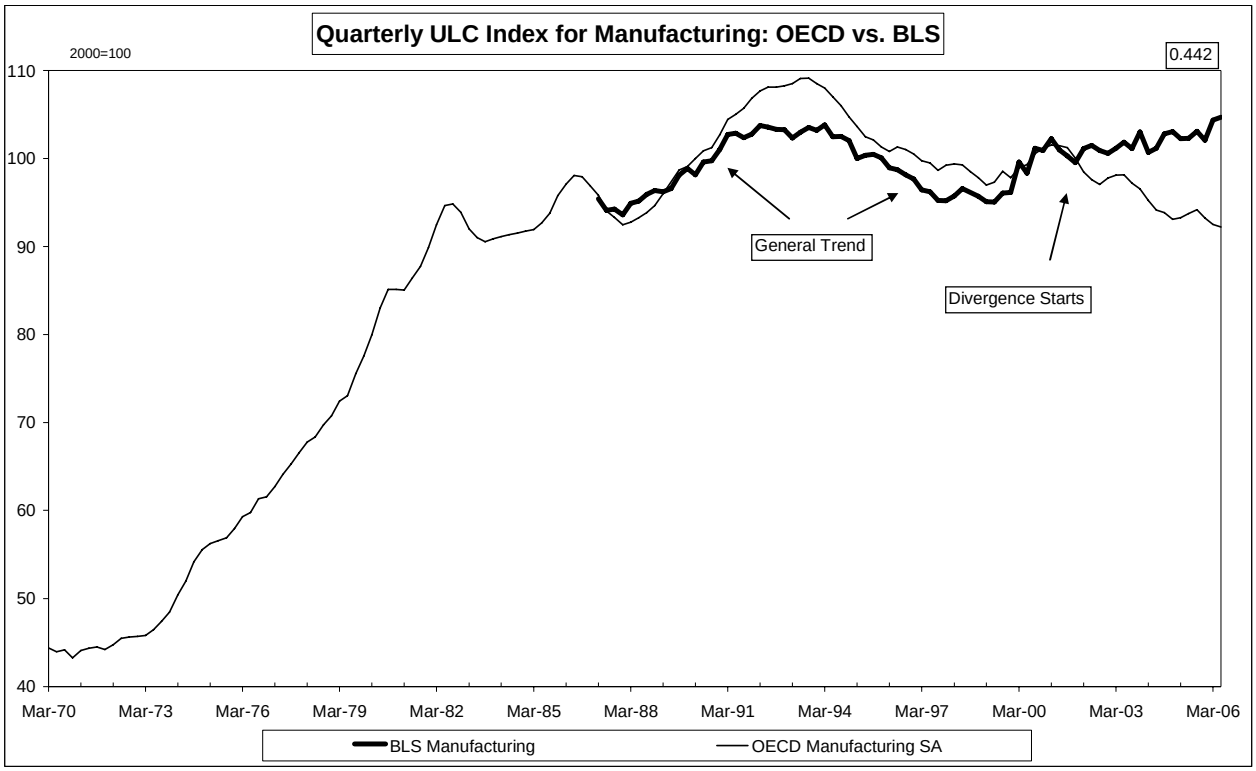
Trend analysis undertaken using TRAMO-SEATS in the software package Demetra.

36. A number of other quarterly total labour cost measures were investigated when designing the compilation methods for the quarterly US ULCs. Most of these data sources were rejected on a correlation to the annual, unsure understanding, and/or timeliness basis. For example, the NAICS based Quarterly Census of Employment and Wages (QCEW) data was investigated as a total labour cost input but due to timeliness (first quarter 2006 data was only made available on 30 November 2006) this wasn't seen as viable. However, if the timeliness of this survey release improved then the OECD would seriously consider using the data as the main total labour cost quarterly input, as its scope is the most appropriate (i.e. is not just restricted to production workers as the current labour cost input is).

37. Some BEA data was also investigated, for example, BEA tables '2.1. Personal Income and Its Disposition' and '2.2B. Wage and Salary Disbursements by Industry' were investigated in regards to being used as quarterly labour costs indicators for Manufacturing (D) and Industry (C_E). However, average annual growth correlations (compared with the annual benchmark from national accounts) and an uncertainty as to exactly what data was being presented in these tables ruled them out.

38. Chart 9 underlines just how much the manufacturing quarterly ULC indices differ. The most interesting (perplexing?) point in the chart is the obvious divergence that occurs from the year 2000.

Chart 9.Quarterly Manufacturing ULC – OECD vs. BLS

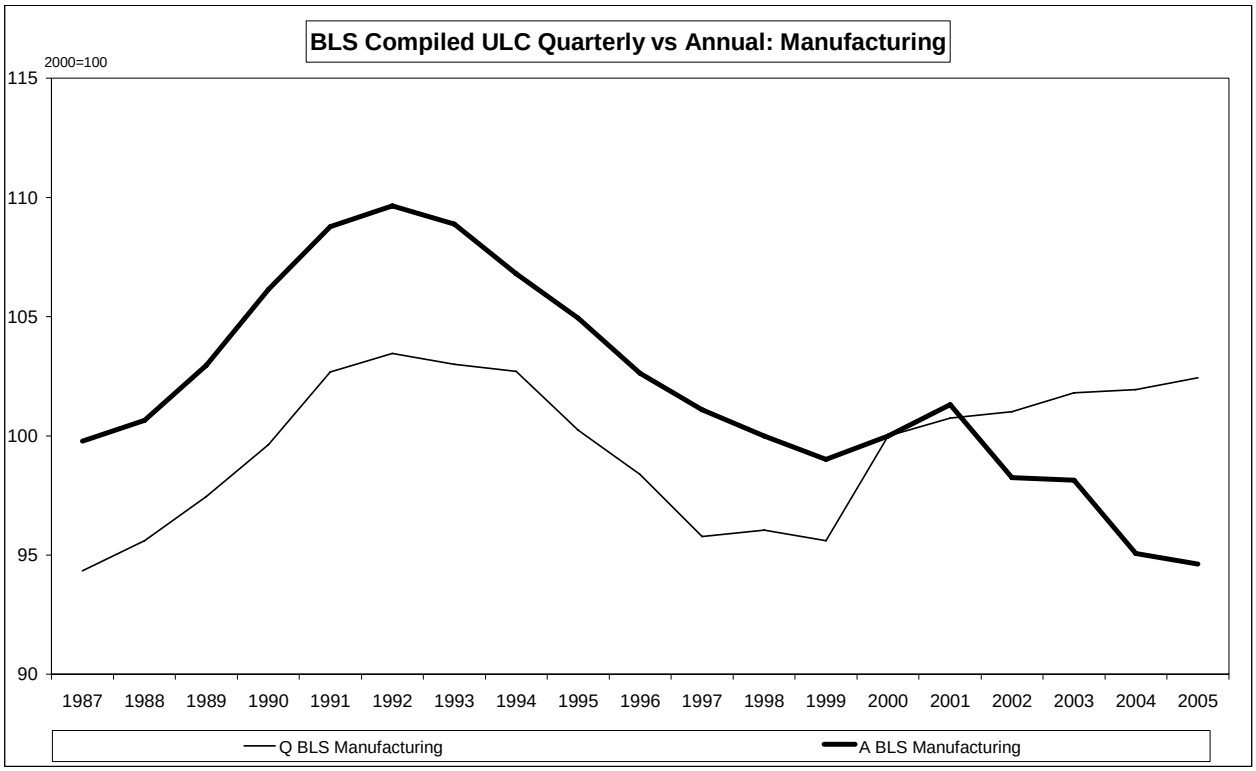


B3. Summary

39. To further this analysis and really understand what are driving the differences between the series, the OECD would need to fully investigate and comprehend the exact data sources the BLS are using in their quarterly ULC calculations. In particular the issue of benchmarking to either annual or other less frequent source data, and the methodology used in such benchmarking operations should be addressed. It would also be interesting for the OECD to investigate suggestions the BLS's may have on the OECD's compilation methods, data sources, and coverage to see if convergence between the series could be improved. The low correlations displayed in the manufacturing sector are certainly an issue for further discussion and the OECD will continue to work on this US ULC.

40. The issue can be seen in another light, as displayed in Chart 10 below, where the annual BLS ULC for manufacturing is compared with the quarterly BLS ULC series for manufacturing. There is the same effect as seen in Chart 9, namely divergence after 1999 which could imply that the two input data sources are also diverging. Thus it isn't possible for the OECD to match the BLS's quarterly ULC for manufacturing unless a change in methodology was implemented which in turn would lead to a loss of international comparability and a loss in coherence between the OECD quarterly and annual ULC series for the US..

Chart 10.



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