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**CALCULATION OF NORMALISED BUSINESS AND CONSUMER  
CONFIDENCE INDICATORS AND ZONE AGGREGATES**

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## CALCULATION OF NORMALISED BUSINESS AND CONSUMER CONFIDENCE INDICATORS AND ZONE AGGREGATES

### Background

The external interest in the OECD Composite Leading Indicators (CLIs) suggests that there could be high demand for business tendency and consumer opinion data (BTS/COS) considering their use as input series for calculation of CLIs as well as their value as stand alone indicators giving information on business and consumer expectations for the near term future. This could be even more interesting if data for the Big 6 Non-Member countries would be covered as well to give information on the overall global level.

The availability of potential survey indicators which summarise the current economic situation in the different sectors and represent the main series of interest for current economic analysis are a series on current and future business or economic situation and a composite confidence indicator. Such indicators are available for the manufacturing sector for all OECD Member countries and for the Big 6 Non-OECD Member countries (Brazil, China, India, Indonesia, Russia and South Africa) and for consumers for all OECD Member countries except Norway and for three of the Big 6 Non-OECD Member countries (Brazil, China and South Africa). However, for other sectors (construction, retail trade and other services) the availability of such indicators is very scarce among Non EU OECD Member countries and in the Big 6 Non-OECD Member countries (see Annex Table 1).

This is why business confidence indicators published on the OECD web at <http://www.oecd.org/std/bt-coi> under the heading Statistics in the Excel file: “OECD Business Tendency and Consumer Confidence Indicators” or on the OECD BTS/COS portal at <http://www.oecd.org/std/bt-coi/coordination> under “Recent Survey Results” only cover manufacturing because other sectors are not available for many countries outside Europe or only available for non-manufacturing as a whole (United States and Korea).

The selected indicators used for the construction of regional and world level confidence indicators for the manufacturing sector and consumers and their characteristics are presented in the first section. The methodology applied for the conversion of data from quarterly to monthly frequency and normalisation of country indicators and aggregation to regional levels is outlined in the second section and a third section looks into the obtained results. Alternative approaches for calculation of regional or zone area confidence indicators are discussed in section four with reference to the Euro area aggregate and comparisons of different World and Euro area confidence indicators are presented in section five. Conclusions and future work is outlined in a final section.

### 1 Indicators

One problem with the available confidence indicators is the different measures (i.e. balance, balance +50 or balance +100, index, % positive answers) used for the presentation of the national indicators calculated for countries outside Europe. In addition, quarterly data are only available for most of the Big 6 Non-Member countries and two of the major OECD Member countries (Canada and Japan) in the case of confidence or business situation indicators for the manufacturing sector. On the other hand monthly consumer confidence indicators are available for all OECD Member countries except Norway but only quarterly data are available for Japan, New Zealand and Switzerland and no surveys are conducted in India, Indonesia and Turkey.

The country coverage and characteristics (type, frequency) of the indicators used for the construction of regional and world level confidence indicators for the manufacturing sector and consumers are presented in Table 1 and outlined below.

## **OECD Major 7 Area**

### *Manufacturing*

Five of the component series used for the calculation of the Major 7 area aggregate which includes Canada, United States, Japan, France Germany, Italy and United Kingdom are monthly confidence indicators calculated by national sources or the European Commission (EC). No confidence indicator is available for Japan so a quarterly series on current business situation is used as component. None of the two alternative indicators are available for Canada. However, the three components used by the EC to calculate their confidence indicator for manufacturing are available and have been used by the OECD to produce a quarterly confidence indicator.

### *Consumers*

Monthly national or EC calculated confidence indicators are available for six of the countries included in the calculation of the Major 7 area. A quarterly confidence indicator is used for Japan.

## **Euro Area**

### *Manufacturing and consumers*

Monthly confidence indicators for both manufacturing and consumers are available from the EC and used for the calculation of this area.

## **OECD Total Area**

### *Manufacturing*

Monthly national or EC calculated confidence indicators are available for 24 OECD Member countries. No confidence indicators are available for Australia, Japan, Korea, New Zealand and Norway so a quarterly series on current business situation is used as component for these countries. None of the two alternative indicators are available for Canada and Turkey. However, in the case of Canada, the three components used by the EC to calculate their confidence indicator for manufacturing are available and have been used by the OECD to produce a quarterly confidence indicator.

### *Consumers*

Monthly or quarterly national or EC calculated confidence indicators are available for 27 OECD Member countries. No confidence indicators are available for Norway and the consumer confidence indicator available for Turkey has not been included in the calculation of the area total because data are only available since 2003.

## **Major Asia Pacific Economies**

### *Manufacturing*

The OECD Asia Pacific area aggregate which includes Australia, China, India, Indonesia, Japan, Korea and New Zealand has a share of close to 30 per cent of the world proxy constituting the OECD Member countries and the Big 6 OECD Non-Member countries. However, confidence indicators are only available for India and Indonesia and they are both of quarterly frequency. A quarterly indicator on current business situation is used as component for all other countries included in this area aggregate.

### *Consumers*

Monthly confidence indicators are available for Australia, China and Korea while quarterly confidence indicators are available for Japan, and New Zealand. No confidence indicators are available for India and Indonesia.

## **Big 6 Non OECD Area**

### *Manufacturing*

A monthly confidence indicator is only available for Russia, while quarterly confidence indicators are available for India, Indonesia and South Africa. No confidence indicators are available for Brazil and China so a quarterly series on current business situation is used as component for these countries.

### *Consumers*

Monthly confidence indicators are only available for Brazil and China, while a quarterly confidence indicator is available for South Africa. No confidence indicators are available for India, Indonesia and Russia.

## **World (OECD Total Area plus Big 6 Non OECD Area)**

### *Manufacturing*

Monthly national or EC calculated confidence indicators are available for 24 OECD Member countries and Russia while quarterly confidence indicators are available for India, Indonesia and South Africa. No confidence indicators are available for Australia, Japan, Korea, New Zealand, Norway, Brazil and China so a quarterly series on current business situation is used as component for these countries.

### *Consumers*

Monthly or quarterly national or EC calculated confidence indicators are available for 27 OECD Member countries and for Brazil, China and South Africa. No confidence indicators are available for Norway, India, Indonesia and Russia and the consumer confidence indicator available for Turkey has not been included in the calculation of the area total because data are only available since 2003.

**Table 1 Regional and World Level Confidence Indicators: Component Indicators**

Region/ Zone	Country Coverage and Frequency of Component Indicators							
	Manufacturing				Consumers			
	Confidence indicator		Business situation		No indicator	Confidence indicator		No indicator
	Coverage	Frequency	Coverage	Frequency		Coverage	Frequency	
Major 7	5 countries	Monthly	Japan	Quarterly	Canada*	6 countries	Monthly	
						Japan	Quarterly	
Euro area	12 countries	Monthly				12 countries	Monthly	
OECD Total	22 countries	Monthly	Australia	Quarterly	Canada*	24 countries	Monthly	Norway
			Japan	Quarterly	Turkey**	Japan	Quarterly	Turkey#
			Korea	Quarterly		New Zealand	Quarterly	
			New Zealand	Quarterly		Switzerland	Quarterly	
			Norway	Quarterly				
Major Asia Pacific Economies	2 countries	Quarterly	Australia	Quarterly		3 countries	Monthly	India
			Japan	Quarterly		2 countries	Quarterly	Indonesia
			China	Quarterly				
			Korea	Quarterly				
			New Zealand	Quarterly				
			Zealand					
Big 6 Non OECD	3 countries	Quarterly	Brazil	Quarterly		2 countries	Monthly	India
	Russia	Monthly	China	Quarterly		South Africa	Quarterly	Indonesia
								Russia
World	22 OECD countries	Monthly	5 OECD countries	Quarterly	Canada*	24 OECD countries	Monthly	Norway
	3 Big 6 Non OECD	Quarterly	2 Big 6 Non OECD	Quarterly	Turkey**	3 OECD countries	Quarterly	Turkey#
	Russia	Monthly				2 Big 6 Non OECD	Monthly	India
						South Africa	Quarterly	Indonesia
								Russia

\* Confidence indicator calculated by OECD based on quarterly survey question corresponding to EC practice.

\*\* No confidence or business situation indicators available. A series on production tendency is used as a proxy.

# Not included because data only available since 2003.

## 2 Methodology

In order to present comparable indicators across countries and to present zone aggregates the data need to be normalised or standardised. One possible way to accomplish this is to apply the same method as used for the calculation of the OECD CLIs. This will have the advantage of presenting the data in index form without or with de-trending (difference from trend), compared to the alternative method of expressing the data in standard deviations.

### Periodicity

Normalisation with the OECD CLI method is carried out on monthly data so quarterly series are converted to monthly frequency by interpolation using the growth rate between two quarters and applying the third root of this growth rate to the quarter. The conversion from quarterly to monthly data is performed by allocating the quarterly data to a specific month by one of the following methods:

1. Quarterly data refer to the first month of the quarter
2. Quarterly data refer to second month of the quarter
3. Quarterly data refer to second month of the quarter with 3<sup>rd</sup> last month extrapolated.
4. Quarterly data refer to third month of the quarter

### Smoothing

It is necessary to ensure that all country confidence component series have equal “smoothness”. This is to ensure that month-to-month changes in the composite indicator are not unduly influenced by irregular movements in any one indicator series. The OECD procedure is to use the "Months for Cyclical Dominance" (MCD) moving average. This procedure ensures approximately equal smoothness between series and also ensures that the month-to-month changes in each series are more likely to be due to cyclical than to irregular movements. Smoothing of components according to the MCD value defined as the shortest span for which the I/C ratio is less unity. I and C are the average month-to-month changes without regard to sign of the irregular and trend-cycle component of the series, respectively. For monthly series maximum value of MCD=6 and for quarterly series maximum value of QCD=2. The data lost at the end of the series due to the moving average are restored with an extrapolation by regression over the end of the series.

### Standardisation/Normalisation

The country confidence component series are normalised so that their cyclical movements have the same amplitude. If this were not done series with particularly marked cyclical amplitude would have undue weight in the composite indicator. The method used to calculate normalised indices is, for each component series, is first to subtract the mean and then to divide by the mean of the absolute values of the difference from the mean. The normalised series are then converted into index form by adding 100.

## Weighting

The country confidence indicator series having been de-trended, converted to a monthly basis, smoothed and normalised are then combined into regional or zone area composite indicators. Appropriate country weights to be used for aggregation to zone areas and a world proxy are indicated in Annex Table 2 and are derived from GDP at purchasing power parity for 2004 taken from OECD sources and the World Bank's World Development Indicators database. The world proxy covers 83.1 % of total world GDP and includes OECD Member countries and the Big 6 OECD Non-Member countries. The share of OECD Member countries in the world proxy is 57.1 % and that of the Big 6 OECD Non-Member countries is 26.2 % compared to 42.7 % for the Major 7 OECD Member countries and 14.7 % for the Euro area.

## Aggregation

The regional or zone area confidence indicators are obtained by averaging the normalised indices of each country confidence indicator. The calculation of zone aggregates is performed when the country coverage is above a certain threshold. For the zone aggregates considered here, the thresholds are as follows:

- 90 % of total weight for zone Major 7 countries
- 60 % of total weight for other zones (OECD Total, Euro area, Major Asia Pacific Economies, Big 6 Non OECD area, World proxy)

In the case of BTS/CTS, the data for OECD Member countries are available in time for the calculation of zone aggregates for the last month with threshold values well above the ones reported above. In addition, the Euro area aggregate is available from the European Commission. However, most BTS/CTS for the Big 6 Non-OECD Member countries are conducted quarterly so any zone aggregate may only be calculated up to the last quarter of available data.

The application of the OECD CLI method to the calculation of zone aggregates for BTS/CTS will convert quarterly series to monthly frequency to obtain normalised indices and this may not be the best policy. However, the method may easily be adapted to produce normalised quarterly indices if required.

### 3 Publication of Results

The country coverage of a zone area total is of first importance for the possibility to calculate and publish a zone area confidence indicator (CI). This is a major problem for the construction of a consumer CI for the Big 6 Non OECD area. A further problem with the confidence indicators constructed for the Big 6 non OECD area is the short time period, for which some country confidence indicators are available. Other problems are the reliance on too many quarterly indicators and the timeliness of the data. These aspect and other characteristics of the constructed regional or zone area CIs for manufacturing and consumers are outlined below and presented in Table 2.

The **period** for which it is possible to calculate a CLI is of course dependent on the thresholds specified for the number of component series required for the calculation. For all zones except the major 7 area a threshold of 60 % is used. This is a rather low value and gives a good illustration of the possibility to calculate timely CLIs with a reasonably good quality.

The quarterly **frequency** of the tendency survey series included as components in the CIs means that the delay for timely data is two months (indicated as t+4 in Table 2). This is a particular problem for the CIs constructed for the Big 6 Non OECD area.

The **timeliness** criteria used here refers to the ability of the component indicator to meet the publication deadline for the Main Economic Indicators publication. CLI data for a given month “t” is published at the beginning of month “t+2”. This implies that component series available at this date would fulfill the timeliness criteria. This is a particular problem for series with a quarterly frequency.

**Table 2 Characteristics of Regional or zone Area Confidence Indicators**

Zone Area Indicator	Number of components/countries	Coverage of total component weight %	Frequency of included components		Share of quarterly components weight %	Starting date	Timeliness Latest Data available at t
			M	Q			
<b>Manufacturing</b>							
Euro area	12	100.0	12	0	0	1985	t+2
OECD Major 7	7	100.0	5	2	25.1	1985	t+2
OECD Total	29	100.0	23	6	25.9	1987	t+2
Major Asia Pacific	7	100.0	0	7	100.0	1997	t+4
Big 6 Non OECD	6	100.0	1	5	90.4	1998	t+4
World	35	100.0	24	11	42.7	1998	t+2
<b>Consumers</b>							
Euro area	12	100.0	12	0	0	1987	t+2
OECD Major 7	7	100.0	6	1	19.5	1985	t+2
OECD Total*	27	97.1	24	3	15.5	1994	t+2
Major Asia Pacific**	5	75.2	3	2	76.9	1995	t+4
Big 6 Non OECD***	3	62.2	2	1	3.5	1995	t+2
World*+***	30	86.5	26	4	9.9	1994	t+2

\* No indicators for Norway and Turkey

\*\* No indicator for India and Indonesia

\*\*\* No indicators for India, Indonesia and Russia



## Characteristics of Regional or Zone area Confidence Indicators

### Manufacturing

The country **coverage** is complete for all CI zone aggregates and allows the calculation of CIs for a **period** back to 1985 for the Euro area and OECD Major 7 area. The CI for the OECD Total area can only be calculated back to 1987 because data are not available before this date for several OECD Non EU countries (Canada, Korea, Norway and Turkey). However, the short time period for which CIs are available for most Non OECD Member countries means that the CI for OECD Asia and the Big 6 Non OECD area can only be calculated back to 1997 and 1998 respectively. The short period of available data for some OECD Non EU countries and most Non OECD Member countries means that the CI for the World proxy can only be calculated back to 1998.

All country confidence indicators included as components in the CI for Euro area are of monthly **frequency**, while about 25 per cent of the weighted share of the country CIs is quarterly for the OECD Major 7 area and the OECD Total area. On the other hand, the weighted quarterly share of the country CIs is as high as 90 per cent for the Big 6 Non OECD area and even 100 per cent for the Major Asia Pacific aggregate. This means that, as noted above, that the delay for timely data is two months for these two zone aggregates.

The share of monthly component indicators is high for all OECD Member country regional or zone area confidence indicators which mean that the **timeliness** criteria used here  $t+2$  (see above) is met for the Euro area, OECD Major 7 and OECD Total zone aggregates. On the other hand, the high share of quarterly component indicators in the Big 6 Non OECD Member countries means that the timeliness criteria is not met for the Major Asia Pacific area and the Big 6 Non OECD area aggregate.

The **cyclical development** of business confidence indicators for manufacturing for different zone aggregates and countries is illustrated in Charts 1-4. Business confidence seems to be well synchronised between the major zone aggregates as illustrated in Chart 1 which shows the cyclical development over the period 1998 – 2005 for the OECD Total area, the Big 6 Non OECD area and the World proxy. The synchronisation between the OECD Total area and the World proxy is particularly strong which reinforces the argument that the OECD Total area aggregate is a good proxy for a world aggregate. The cyclical developments of the OECD Asia area and the World proxy seem also very well synchronised as shown in Chart 2, while the Euro area is lagging the two other zone aggregates over the period 1997 – 2001 and shows a less pronounced cyclical pattern than the other zone aggregates thereafter .

The development of business confidence for the United States, Japan and the Euro area over the period 1985 – 2005 is illustrated in Chart 3. Business confidence seems to be rather well synchronised between the United States and the Euro area, but with a clear leading tendency for the United States at all major cycles. On the other hand, the development in Japan seems to be out of phase with both the United States and the Euro area over the cycle in the mid 1990s.

Business confidence for some of the major countries (Brazil, China, India and Russia) included in the Big 6 Non OECD area is illustrated in Chart 4 over the period 1998 – 2005. The cyclical development across the selected countries seems to be rather different except for some synchronisation over the period 1997 – 2003 between Brazil and India.

## Consumers

The country **coverage** is complete only for the CI zone aggregates for the Euro area and the OECD Major 7 area and allow calculation of CIs for a **period** back to 1987 and 1985 for these two zones respectively. The country coverage measured in per cent of total component weight is 97.1 per cent for the CI for the OECD Total area explained by exclusion of data for Turkey and Norway (no survey). However the short time period for which CIs are available for many OECD Non EU countries (Australia, Canada, Korea, Mexico and New Zealand) means that the CI for the OECD Total area can only be calculated back to 1994. The country coverage measured in per cent of total component weight is as low as 62.2 per cent for the CI for the Big 6 Non OECD area explained by exclusion of data for India, Indonesia and Russia. The lack of data for India and Indonesia also explain the low country coverage of only 75.2 per cent for the CI for the Major Asia Pacific aggregate. In addition, the short time period of available data for which CIs are available for all Non OECD Member countries means that the CIs for the Big 6 Non OECD area and the OECD Asia can only be calculated back to 1995. The short period of available data for many OECD Non EU countries and all Non OECD Member countries means that the CI for the World proxy can only be calculated back to 1994.

All country confidence indicators included as components in the CI for Euro area are of monthly **frequency**, while 19.5 and 15.5 per cent of the weighted share of the country CIs are quarterly for the OECD Major 7 area and the OECD Total area respectively. On the other hand, the weighted share of the country CIs is as low as 3.5 per cent for the Big 6 Non OECD area. In contrast, close to 77 per cent of the weighted share of the country CIs are quarterly for the Major Asia Pacific aggregate. The share of monthly component indicators is high for all regional or zone area confidence indicators which mean that the **timeliness** criteria used here t+2 (see above) is met for all zones.

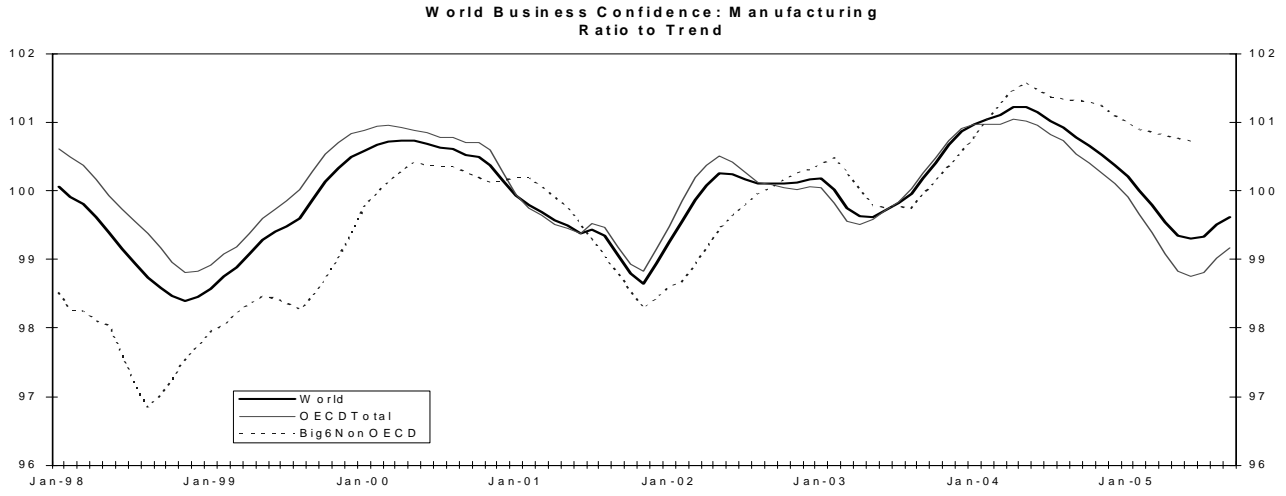
The **cyclical development** of consumer confidence indicators for different zone aggregates and OECD countries is illustrated in Charts 5 - 7. Consumer confidence seems to be well synchronised between the OECD Total area and World proxy aggregate as illustrated in Chart 5 which shows the cyclical development over the period 1994 – 2005. This is, however, not surprising considering the fact that the World proxy only includes three (China, Russia and South Africa) of the six countries from the Big 6 Non OECD area and with data for China only available from 2000. On the other hand, the development in the Euro area seems to be out of phase with the OECD Total and World proxy aggregate over the cycle in the late 1990s. The cyclical developments of the Major Asia Pacific area and the World proxy seem also less well synchronised, in particular over the period 1995 - 1998, as shown in Chart 6.

The development of consumer confidence for the United States, Japan and the Euro area over the period 1985 – 2005 is illustrated in Chart 7. Consumer confidence seems to be rather well synchronised between the United States and the Euro area, but with a clear leading tendency for the United States at all major cycles. On the other hand, the development in Japan seems to be out of phase with both the United States and the Euro area over the cycle in the late 1990s.

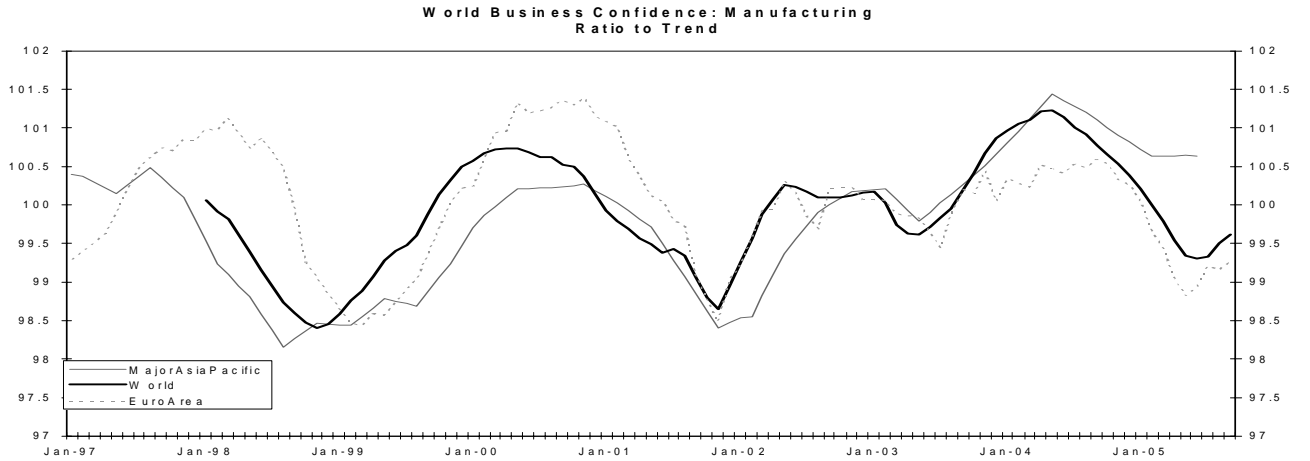
## Business and Consumer Indicators

Business and consumer confidence indicators show at times different cyclical evolutions and give in such periods valuable complementary information for a better understanding of the economic situation. The timing of turning points differ as well in certain cycles with in general a leading tendency for the business confidence indicator over the consumer confidence indicator as illustrated in Chart 8 which shows the cyclical development over the period 1985 – 2005 of both types of confidence indicators for the OECD Major 7 area.

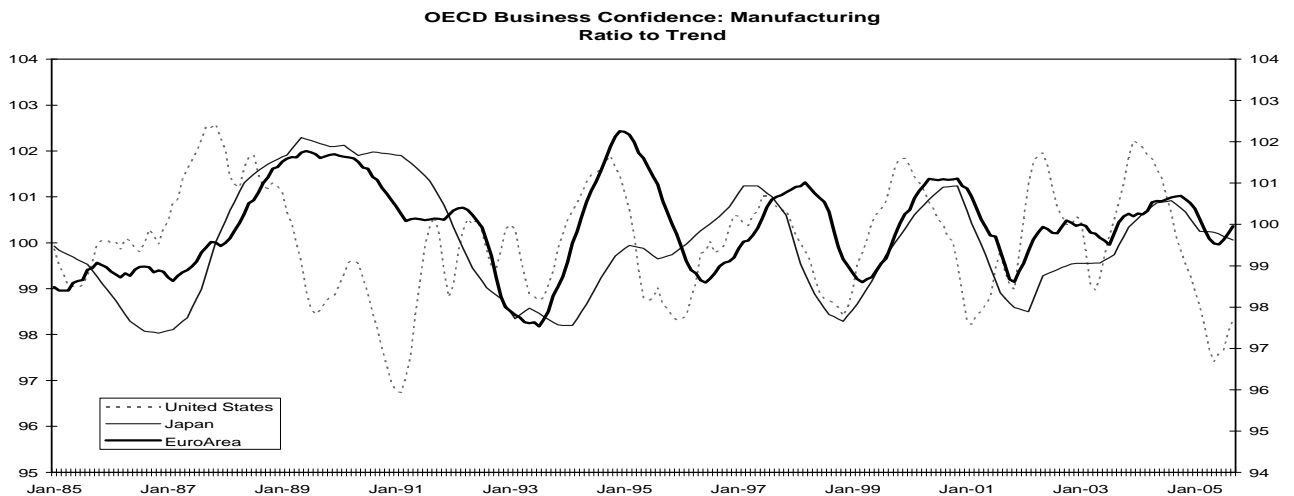
**Chart 1 World Business Confidence: Manufacturing**



**Chart 2 World Business Confidence: Manufacturing**



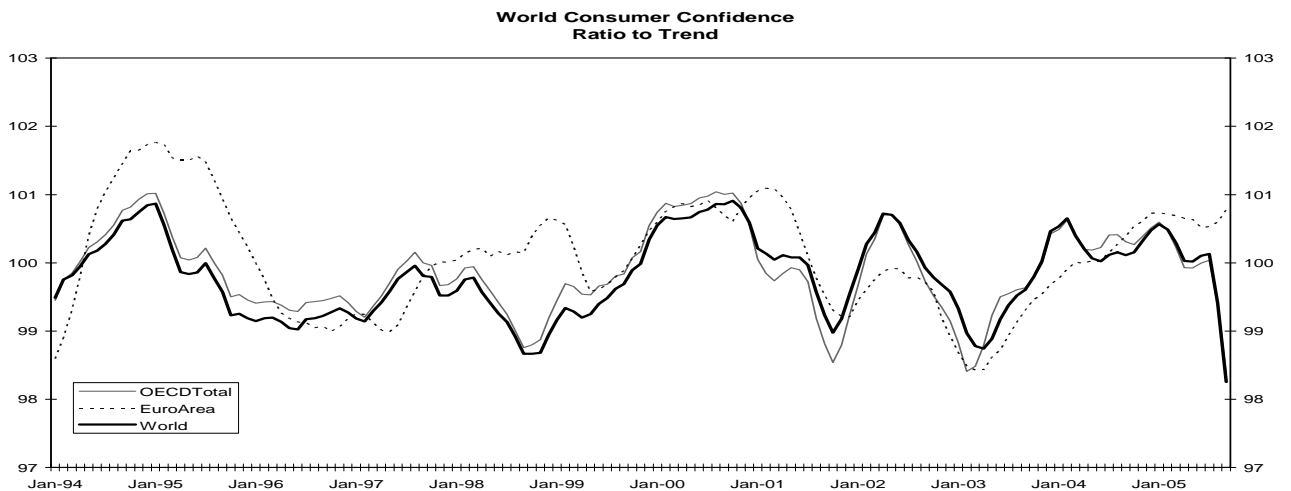
**Chart 3 OECD Business Confidence: Manufacturing**



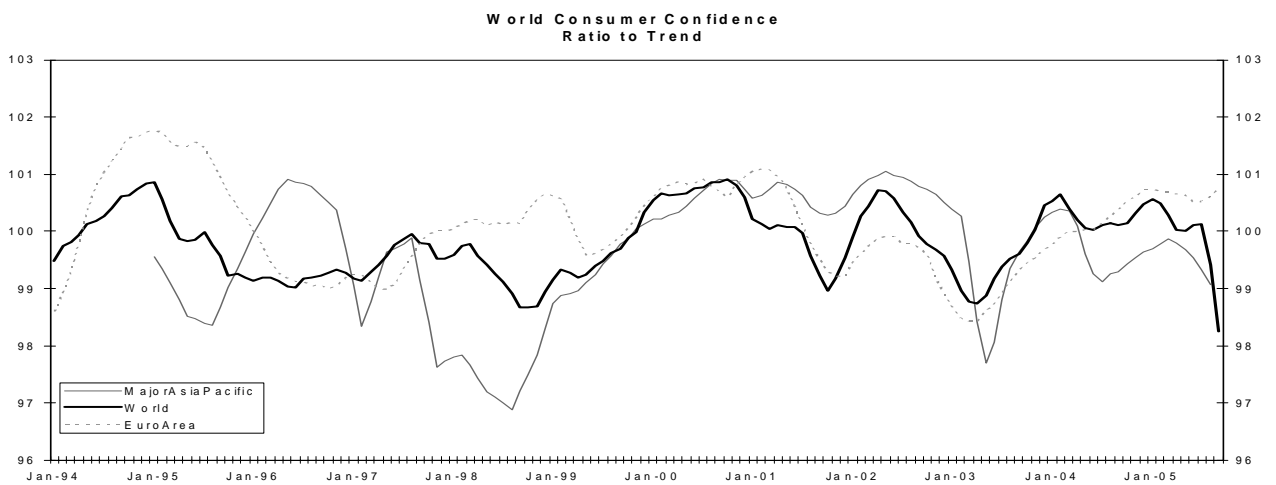
**Chart 4 Non OECD Business Confidence: Manufacturing**



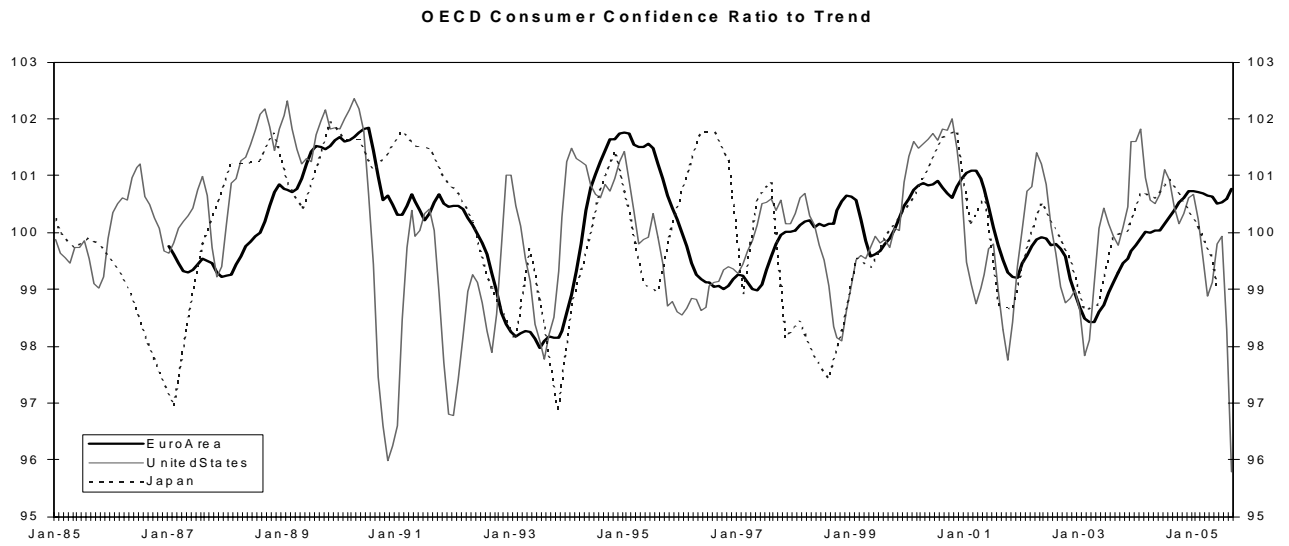
**Chart 5 World Consumer Confidence**



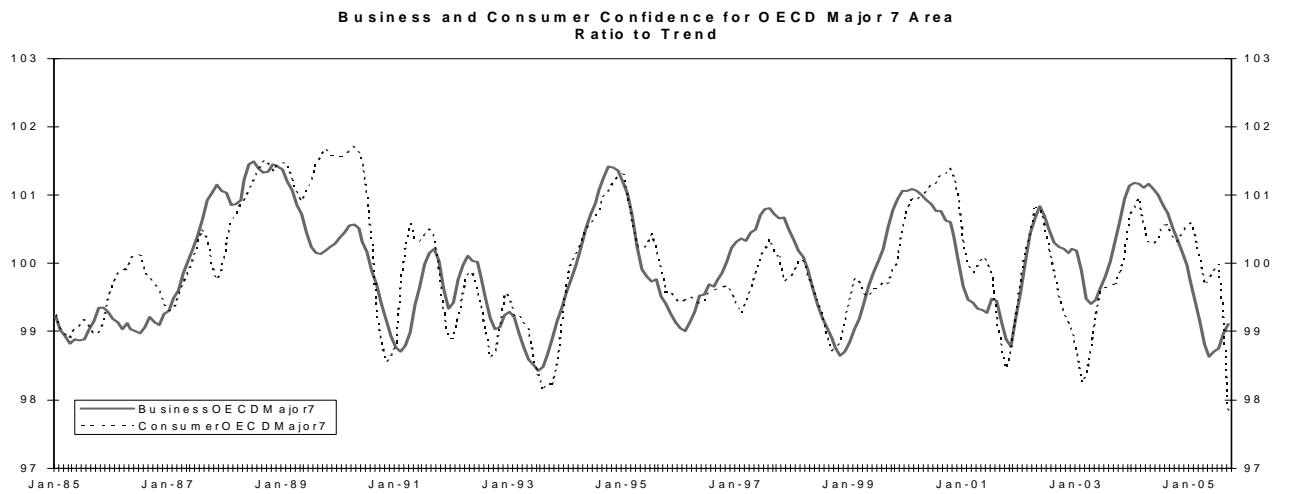
**Chart 6 World Consumer Confidence**



**Chart 7 OECD Consumer Confidence**



**Chart 8 Business and Consumer Confidence for OECD Major 7 Zone area**



#### 4 Alternative Approaches for Calculation of Regional or Zone Area Confidence Indicators

The approach for the calculation of regional or zone confidence indicators (CI) applied in this study follows the method used for the calculation of the OECD composite leading indicators as outlined in section two above. In particular, the country specific confidence indicators or business situation indicators used as components have been de-trended, normalised and weighted before they are aggregated to a zone area CI. In order to verify the results obtained by this approach (OECD 1) for the Euro area they are confronted with results from two alternative approaches of calculations applied to the Euro area.

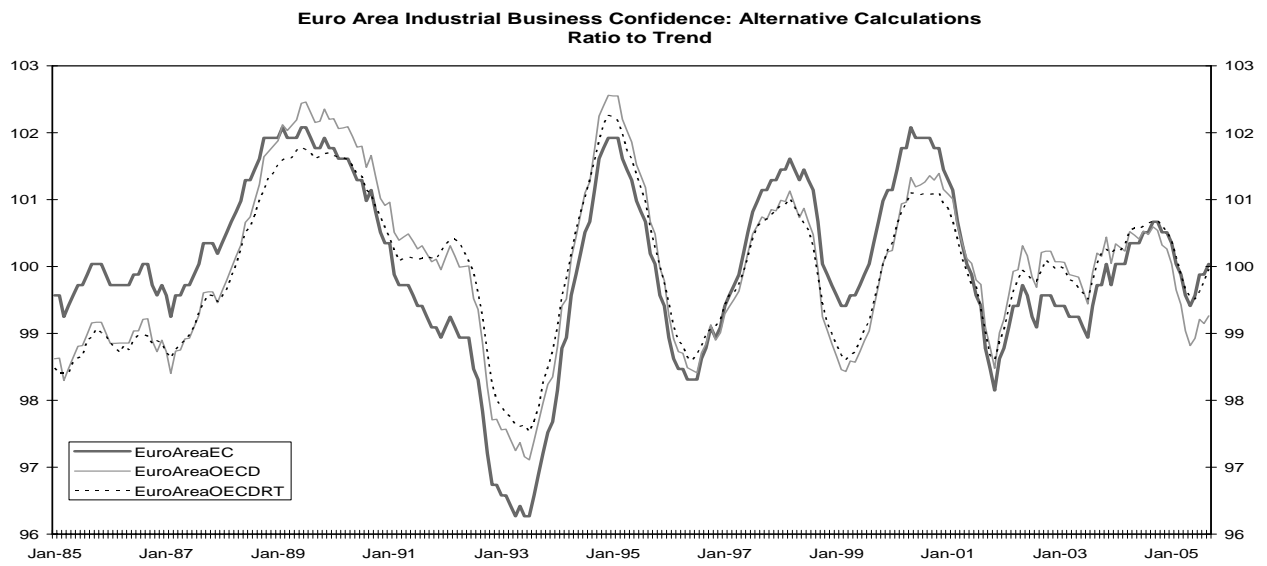
The two alternative approaches include the Euro area aggregate calculated by the European Commission (EC) and an alternative calculation based on the OECD method with no de-trending of the country specific components, but with normalisation and weighting of components (OECD 2). This method corresponds to the EC method with respect to no de-trending where simple aggregation of country balance indicators is performed. However, the method is different with regard to the two other aspects. Normalisation is not applied in the EC approach and changing yearly weights are used while the OECD approach is using fixed weights. The characteristics of the three alternative approaches are as follows:

	Series name in graphs	De-trending	Normalisation	Weighting
EC	EuroAreaEC	No	No	Changing yearly weights
OECD 1	EuroAreaOECDRT	Yes	Yes	Fixed weights
OECD 2	EuroAreaOECD	No	Yes	Fixed weights

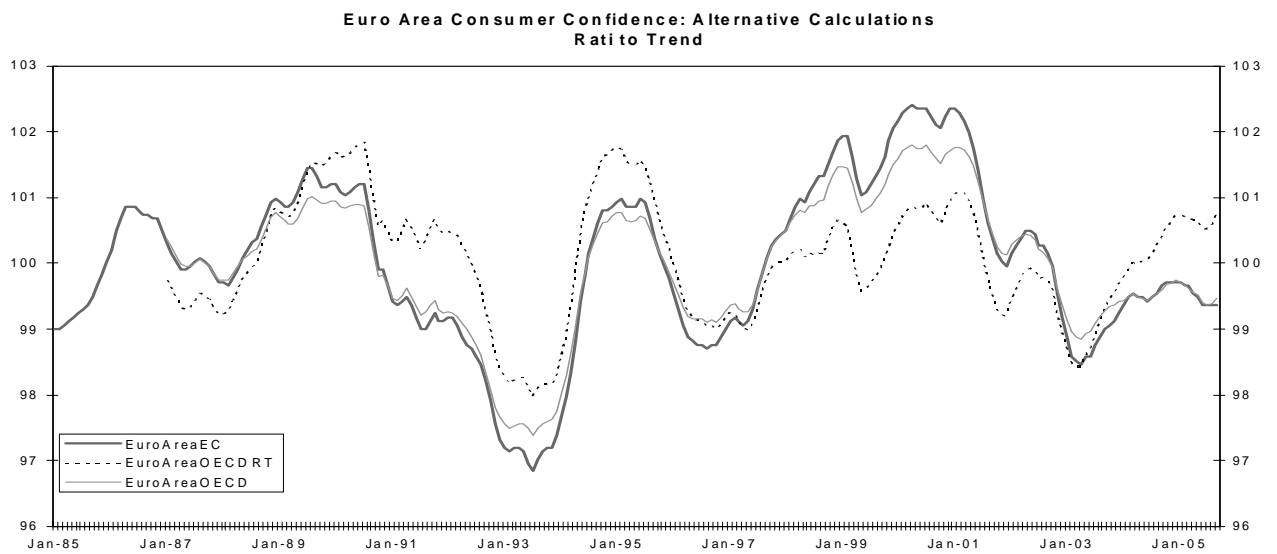
The cyclical developments obtained with the different approaches with regard to the **business confidence indicator** in manufacturing for the Euro area are shown in Chart 9 for the period 1985 - 2005. The results show a very strong synchronised development between the three alternative zone aggregations. However, the level is somewhat different in particular around turning points between the EC indicator and the two OECD indicators. Normalisation of country components is not applied in the EC approach and this is probably the main factor explaining this difference. The two OECD indicators show very similar developments on no major difference in levels supporting the argument that there is no trend in survey data.

The cyclical developments of the **consumer confidence indicators** obtained with the different approaches for the Euro area are shown in Chart 10 for the period 1985 - 2005. The results show a rather strong synchronised development between the three alternative zone aggregations. However, the level is very different between the EC indicator and the OECD 1 indicator based on de-trended components while the OECD 2 indicator is much closer to the EC indicator. These results contradict the results obtained for the manufacturing confidence indicator by showing that de-trending matters. The smaller difference in level between the EC indicator and OECD 2 indicator is probably explained by the fact that normalisation of country components is not applied in the EC approach.

**Chart 9 Euro Area Business Confidence: Alternative Calculations**



**Chart 10 Euro Area Consumer Confidence: Alternative Calculations**



## 5 Comparison of Different World and Euro area Confidence Indicators

A world economic climate indicator and a Euro area climate indicator are produced from the results obtained from the World Economic Survey (WES) conducted by the IFO Institute. These results are based on expert opinions in 90 countries and the climate indicators are the arithmetic mean to the two qualitative questions on current and expected economic situation. These two WES indicators are compared to the indicators obtained by the OECD approach with no de-trending of country specific components (OECD 2) and in addition with the indicator calculated by the EC for the Euro area.

The WES economic climate indicators are constructed by simple aggregation of weighted country components where the weights reflect the share of a specific country's exports and imports in total world trade. The Euro area aggregate calculated by the European Commission (EC) is constructed by simple aggregation of weighted components using PPP adjusted GDP weights. The OECD confidence indicators used here (OECD 2) is different to the WES and EC indicators with regard to normalisation which is not applied to the other two indicators and the weighting approach and coverage is also different across the indicators. The characteristics of the three different indicator approaches are as follows:

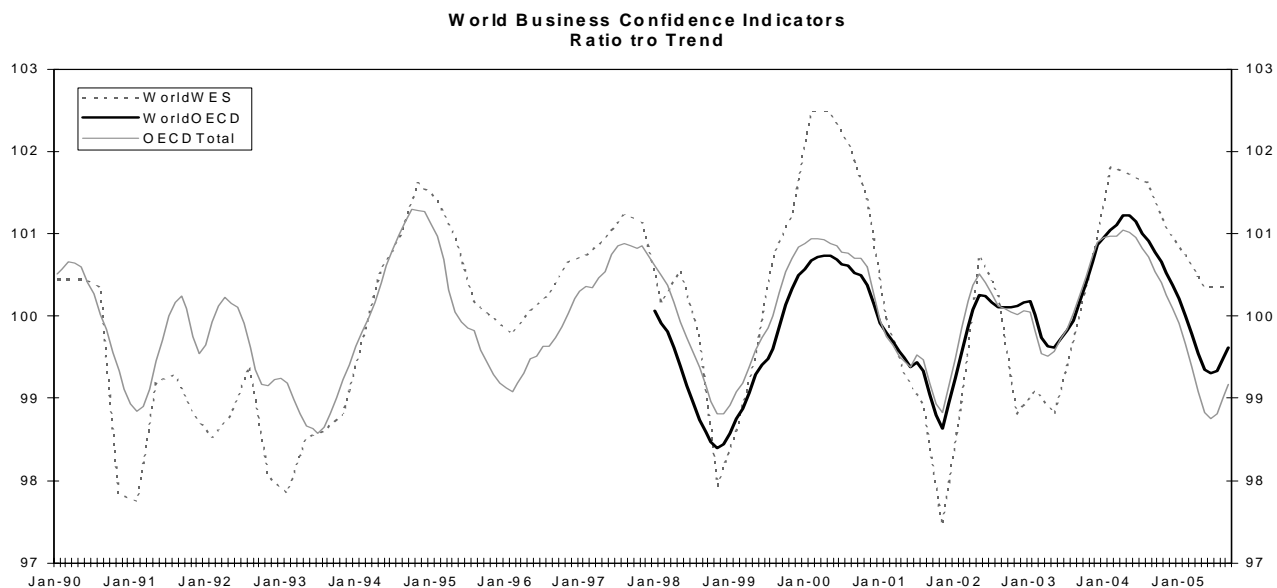
Indicator	Coverage			De-trending	Normalisation	Weighting
	<i>Countries</i>	<i>Share of PPP GDP</i>	<i>Sector</i>			
WorldWES	90	95.4	Economy	No	No	Fixed trade weights
EuroAreaWES	12	100.0	Economy	No	No	Fixed trade weights
EuroAreaEC	12	100.0	Manufacturing	No	No	Changing yearly PPP GDP weights
WorldOECD	35	83.1	Manufacturing	No	Yes	Fixed PPP GDP weights
OECDTotal	29	100.0	Manufacturing	No	Yes	Fixed PPP GDP weights
EuroAreaOECD	12	100.0	Manufacturing	No	Yes	Fixed PPP GDP weights

The cyclical developments obtained with the different indicators for the **World area** are shown in Chart 11 for the period 1990 - 2005. The results show a very strong synchronised development between the three different indicators. However, the level is very different in particular around turning points between the WorldWES indicator and the two OECD indicators (WorlOECD and OECDTotal). The broader country coverage of the WordWES indicator combined with the trade related weighting variable is probably the main factor explaining this difference. The two OECD indicators show very similar developments with no major difference in levels supporting the argument that the OECD Total area is a good proxy for world development.

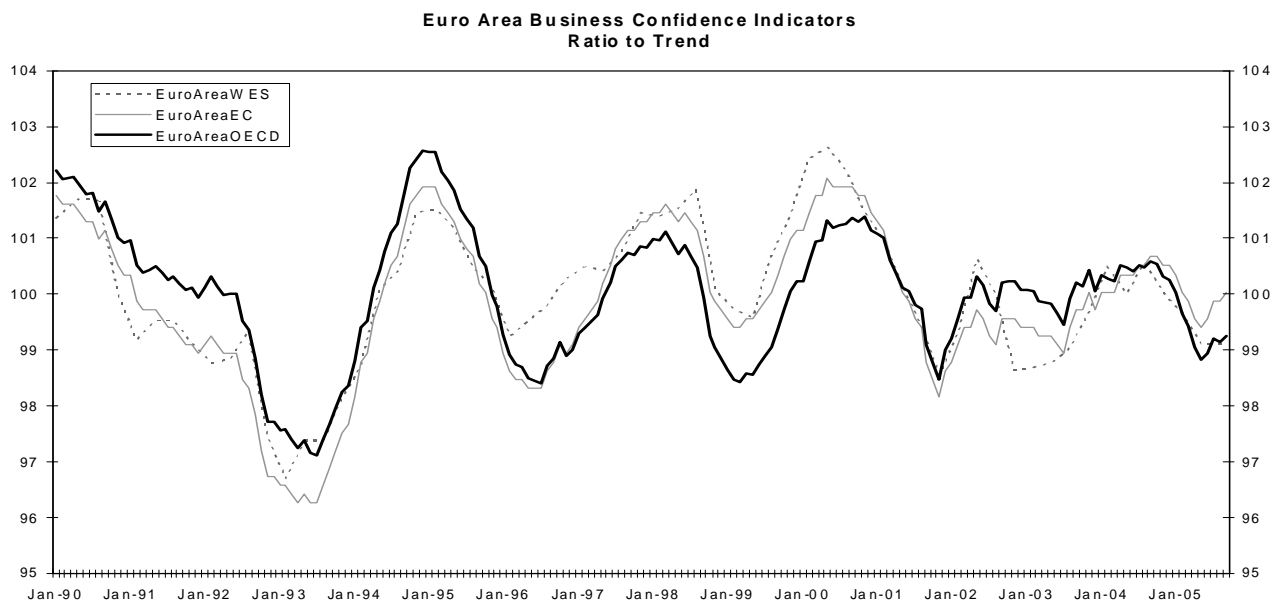
The cyclical developments obtained with the different approaches with regard to the indicators for the **Euro area** are shown in Chart 12 for the period 1990 - 2005. The results show a very strong synchronised development between the three different indicators. However, the level is somewhat different between the three different indicators. Normalisation of country components is applied to neither the EuroAreaWES nor the EuroAreaEC indicators and this may be one factor explaining this difference. The trade related weighting variable used in the aggregation of the EuroAreaWES indicator is another factor which may explain the difference between this indicator and the other two indicators.



**Chart 11 World Business Confidence Indicators**



**Chart 12 Euro Area Business confidence Indicators**



## 6 Conclusions and Future Work

The results obtained concerning the calculation of regional or zone area business and consumer confidence indicators for selected OECD country aggregates and a world proxy suggest the following:

### Publication of Results

- **business confidence indicators** for the manufacturing sector may be calculated and published for all investigated zone areas ( Euro area, OECD Major 7, OECD Total, Major Asia Pacific, Big 6 Non OECD and a World proxy);
- **consumer confidence indicators** may be calculated and published for the following zone areas: Euro area, OECD Major 7 and OECD Total;

### Methodology

- the OECD CLI approach gives good results, but the use of the option de-trending should be investigated further;

### Future work may include some of the following points:

- calculation of country specific business confidence indicators for Non EU OECD Member countries based on EC practice or other method where no such indicator is available (replacing business situation as a component series);
- identification and/or incorporation of consumer confidence indicators for missing countries (India, Indonesia and Russia);
- extension of calculation of zone aggregates to other areas such as: Big 4 Europe, OECD Europe, EU 15, NAFTA, etc;
- investigation of the possibility to calculate regional or zone confidence indicators for other sectors including a non-manufacturing sector (only aggregate available for the United States and Korea);
- exploration of the use of alternative weights to reflect the relative importance of the countries in the aggregation to regional or zone aggregates such as the share of exports and imports of a country in total world trade.

**ANNEX Table 1 Availability of Business and Confidence Indicators in OECD MEI database**

	Number of Series/Countries/Source								
	Manufacturing		Construction		Retail trade		Services		Consumers
Quarterly Surveys (Q)	Business Situation	Confidence Indicator	Business Situation	Confidence Indicator	Business Situation	Confidence Indicator	Business Situation	Confidence Indicator	Confidence Indicator
Canada (Q)									NS
Mexico		NS							NS
United States	NS	NS	NS*		NS*		NS*		NS
Australia (Q)	NS**								NS
Japan (Q)	NS		NS		NS		NS		NS
Korea (Q)	NS		NS		NS		NS		NS
New Zealand (Q)	NS**		NS**						NS
Austria		EC	EC	EC	EC	EC	EC	EC	EC
Belgium		EC	EC	EC	EC	EC	EC	EC	EC
Czech Republic	NS	EC	EC	EC	EC	EC	EC	EC	EC
Denmark		EC	EC	EC	EC	EC	EC	EC	EC
Finland		EC	EC	EC	EC	EC	EC	EC	EC
France	NS**	EC	EC	EC	EC	EC	EC	EC	EC
Germany	NS	EC	EC	EC	EC	EC	EC	EC	EC
Greece		EC	EC	EC	EC	EC	EC	EC	EC
Hungary	NS	EC	EC	EC	EC	EC	EC	EC	EC
Ireland		EC	EC	EC	EC	EC	EC	EC	EC
Italy		EC	EC	EC	EC	EC	EC	EC	EC
Luxembourg		EC	EC	EC	EC	EC	EC	EC	EC
Netherlands		EC	EC	EC	EC	EC	EC	EC	EC
Norway (Q)	NS**								
Poland	NS	EC	EC	EC	EC	EC	EC	EC	EC
Portugal		EC	EC	EC	EC	EC	EC	EC	EC
Slovak Republic	NS	EC	EC	EC	EC	EC	EC	EC	EC
Spain		EC	EC	EC	EC	EC	EC	EC	EC
Sweden		EC	EC	EC	EC	EC	EC	EC	EC
Switzerland	NS**		NS		NS		NS		NS
Turkey (Q)									
United Kingdom		EC	EC	EC	EC	EC	EC	EC	EC
OECD Total	14	21	24	19	23	19	22	19	28
Major seven	5	5	6	4	6	4	6	4	7
OECD Europe	8	19	20	19	20	19	19	19	20
EU15		15	15	15	15	15	15	15	15
Brazil (Q)	NS								NS
China (Q)	NS		NS	NS	NS	NS	NS	NS	NS
India (Q)		NS							
Indonesia	NS	NS	NS		NS		NS		
Russia (M/Q)		NS	NS	NS	NS	NS			
South Africa	NS	NS	NS	NS	NS	NS			NS
Big 6 Non-Members	4	4	4	3	4	3	2	1	3

NS National Source EC European Commission (I) Index \* Non-manufacturing \*\* Future tendency \*\*\* Judgement

**ANNEX Table 2 Country Weights for Regional or Zone Area Confidence Indicators  
PPP adjusted GDP weights in per cent, 2004**

	World proxy		Big 6 Non OECD		OECD Total		OECD Major 7	Euro area	OECD Asia	
	Manufact.	Consumers	Manufacturing	Consumers	Manufacturing	Consumers	Manufacturing and consumers		Manufacturing	Consumers
Australia	1.3	1.5			1.6	1.7			3.6	4.8
Austria	0.6	0.6			0.9	0.9		3.2		
Belgium	0.7	0.8			1.0	1.0		3.6		
Canada	2.1	2.5			4.1	4.2	5.6			
Czech Republic	0.4	0.5			0.7	0.7				
Denmark	0.4	0.4			0.5	0.5				
Finland	0.3	0.4			0.6	0.6		2.2		
France	3.7	4.3			5	5.1	6.8	18.7		
Germany	5.0	5.8			8.3	8.6	11.2	30.7		
Greece	0.5	0.6			0.4	0.4		1.5		
Hungary	0.3	0.4			0.5	0.5				
Ireland	0.3	0.4			0.6	0.6		2.2		
Italy	3.5	4.0			5.4	5.6	7.3	20.1		
Japan	8.1	9.4			14.5	14.9	19.5		22.6	30.0
Korea	2.1	2.4			4.4	4.5			5.9	7.8
Luxembourg	0.1	0.1			0.1	0.1		0.1		
Mexico	2.2	2.5			3.3	3.4				
Netherlands	1.1	1.3			1.4	1.4		5.2		
New Zealand	0.2	0.2			0.3	0.3			0.5	0.8
Norway	0.4	-			1.0	-				
Poland	1.0	1.2			1.5	1.6				
Portugal	0.4	0.5			0.6	0.6		2.2		
Slovak Republic	0.2	0.2			0.3	0.3				
Spain	2.2	2.6			2.8	2.9		10.4		
Sweden	0.6	0.7			0.9	0.9				
Switzerland	0.5	0.6			0.7	0.7				
Turkey	1.2	-			1.9	-				
United Kingdom	3.9	4.5			5.4	5.6	7.2			
United States	25.0	28.9			31.5	32.4	42.4			
Brazil	3.2	3.7	10.1	16.3						
China	15.3	17.7	48.6	78.1					42.6	56.6
India	7.2	-	22.9	-					20.1	-
Indonesia	1.7	-	5.3	-					4.7	-
Russia	3.0	-	9.6	-						
South Africa	1.1	1.3	3.5	5.6						
Non OECD Big 6	31.5	22.7								
Euro area	18.5	21.4								
Major Asia Pacific	35.9	31.2								
OECD Major 7	51.3	59.4								
OECD total	68.3	77.3								
OECD total+Big6	100.0	100.0								