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Innovations to the ifo World Economic Survey

The ifo World Economic Survey (WES), a worldwide international economic survey, is well established at the ifo Institute and has been conducted for over 30 years. WES aims to provide an accurate picture of the current economic situation, as well as economic trends in over 100 key advanced, emerging or developing economies by polling over 1,000 economic experts on a quarterly basis. After its launch in 1981 no major methodological changes have been implemented, except for some slight adjustments in the WES questionnaire. As of 2017 there are three innovations: the balance statistics are applied in analogy to the Ifo Business Climate, regional aggregates are now constructed using real gross domestic product as weights, and the definition of regional aggregates is in accordance with the International Monetary Fund.

WES is an economic tendency survey, which uses qualitative information. Rather than indicating a numeric value (e.g. 2.5 percent) for the assessment of a macroeconomic variable (e.g. expected inflation rate), respondents can choose an answer out of the multiple-choice categories 'positive' (e.g. 'higher'), 'neutral' (e.g. 'about the same') or 'negative' (e.g. 'lower'). For each country covered by WES, the percentage shares of the three categories are calculated for each point in time. Because it is difficult to interpret the evolution of the three shares simultaneously, tendency survey results are normally converted into a single statistic. Following international practice, the Ifo Institute uses the so-called "balances" approach (OECD 2003).

BALANCES

The qualitative questions in the WES have three possible categories: 'good / better / higher' (+) for a positive assessment resp. improvement, 'satisfactory / about the same / no change' (=) for a neutral assessment, and 'bad / worse / lower' (−) for a negative assessment resp. deterioration. The individual replies are combined for each country as an arithmetic mean of all survey responses in the respective country. Thus, for the time t for each qualitative question and for each country i the respective percentage shares (+), (=) and (−) are calculated. The balance $B_{i,t}$ is the difference between (+)- and (−)-shares:

$$(1)\ B_{i,t} = 100\ \frac{(+_{i,t}) - (-_{i,t})}{n_{i,t}},$$

whereas $n_{i,t}$ reflects the number of respondents in country i in time t.

In case all experts give a positive assessment, then $(+_{i,t}) = 1$ and $(-_{i,t}) = 0$ and the balance is + 100 points; in case all experts have a negative opinion, then $(+_{i,t}) = 0$ and $(-_{i,t}) = 1$ and the balance is at − 100 points. As a result, the balance ranges from − 100 points and + 100 points. The mid-range lies at 0 points and is reached if the share of positive and negative answers is equal. The neutral category is ignored when balances are calculated.

An example for the calculation of balances

Out of 20 experts, five assess the economic situation of their country as good, eight as satisfactory and seven as bad. The positive replies (5) and the negative replies (7) are now netted (5 – 7 = −2), divided through the amount of all received responses (20) and multiplied by 100. The value of − 10 balance points reflects experts' assessment of the present situation in the country.

The calculation of the economic climate

When the Ifo Institute reports its WES results, the main focus lies on the so-called economic climate *(GSCL)* of a country i at time t. It is calculated as the geometric mean of the balance of the current economic situation *(GSON)* and the balance of the economic expectations for the next six months *(GSOF)*:

$$(2)\ GSCL_{i,t} = \sqrt{(GSON_{i,t} + 200)(GSOF_{i,t} + 200)}\ \cdot$$

The economic climate also ranges between − 100 and + 100 points.

NO MORE INDEXATION

In the past the Ifo economic climate and its components – the current economic situation and the economic expectations for the next six months – were presented as an index with reference to a specified base year, i.e. 2005=100. This presentation, however, posed a number of problems. With the index it was impossible to make both a comparison of the level of the economic climate across countries and a statement about the level of the climate and its components at the time the survey was conducted. Comparisons had to be made with respect to the base year and were thus limited to the time series itself. A cross-sectional comparison at time t, which is the advantage of a uniform and international economic survey, was impossible.

These problems are illustrated in Figures 1a und 1b, which reflect the current situation, economic expectations and the economic climate in the euro area. While Figure 1a shows the indices, Figure 1b shows the balances. The individual movements in the time series are identical; but with the indexation the level shifts. Thus, the indexed expectations (yellow line in Figure 1) rose in the years 2013 and 2014 (grey shaded area) to over 100 index points and was nearly at the same level as the current economic situation (red line in Figure 1). The most obvious assumption is that the relative shares of both variables are identical and that the majority of experts assess the current situation as good, and their expectations are optimistic, due to an index value of
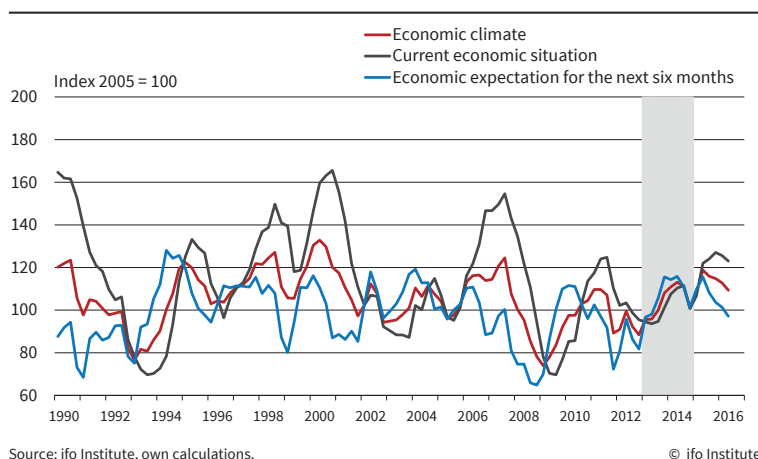
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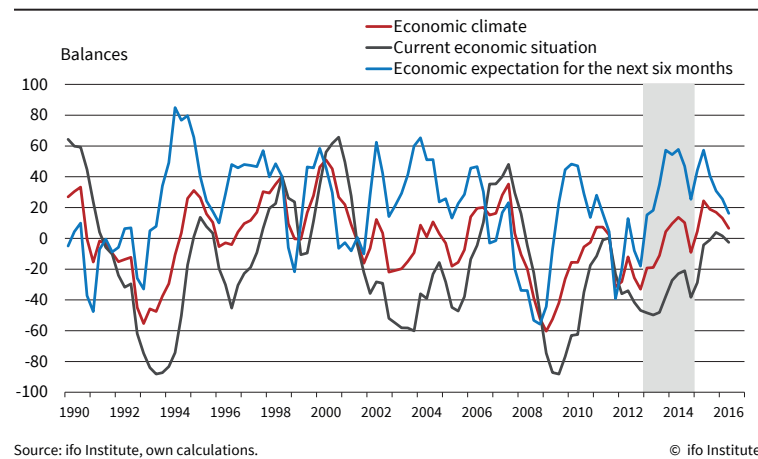
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Figure 1a

Euro area index value

Index 2005 = 100

— Economic climate
— Current economic situation
— Economic expectation for the next six months

Source: ifo Institute, own calculations.

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Figure 1b

Euro area balances

Balances

— Economic climate
— Current economic situation
— Economic expectation for the next six months

Source: ifo Institute, own calculations.

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terly year-on-year growth rate of real GDP. The trend was extracted using the Hodrick-Prescott filter with a smoothing parameter of lambda equal to 1600, which is commonly used for quarterly data. The criteria for including a country in the analysis were the availability of quarterly annual growth rates and a sufficient number of WES experts in the survey (at least 10). The analysis covers the period from the first quarter of 1989 to the fourth quarter of 2015, summing up to 2,469 observations in 56 countries shown as a scatter plot in Figure 2.

The WES balances show a positive correlation with the deviation of the GDP growth rate from its trend, which is significantly different from zero (black regression line in Figure 2). Thus, on average an improvement in the WES climate of a country goes along with an increase of a country's GDP growth rate. For a given trend growth rate, the estimated slope coefficient signals an increase in the GDP growth rate by 0.34 percentage points if the WES climate improves by 10 balance points. The intersection of the regression line with the vertical axis is at – 0.1 percentage

over 100 points. This assumption, however, is misleading. By observing the Figure 1b with balances, it becomes clear that at this time only expectations have positive balances and are far more positive than the current situation. While the current economic situation was assessed by the majority of experts as bad, economic expectations were on balance highly optimistic.

Thus the interpretation of balances is more intuitive. Therefore from the first release in 2017 the index values are dispensed and only balances are provided. By presenting the balances, the international uniform questionnaire offers the possibility for country comparisons.

## THE ECONOMIC INTERPRETATION OF WES BALANCES

Another advantage of this presentation is that the balances can be economically interpreted. For this purpose, the economic climate of a country is compared to the country's de-trended quar-

points. However, as it is statistically not significantly different from zero, a WES balance of zero corresponds to a development whereby GDP grows with its trend rate. For positive WES balances, the GDP growth rate of an economy is above the trend growth rate, with negative balances below it.

Figure 2

Relationship between GDP growth and WES balances
All Countries

GDP-growth rate
(Deviation from the trend rate in percentage points)

WR_{BIP}
$= -0.10_{(0.07)} + 0.034_{(0.003)} GSCL$

Balances
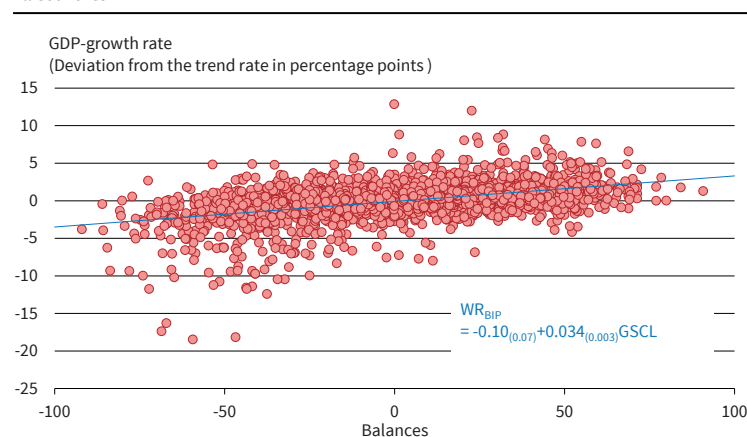
Note to the regression: GR_{GDP} reflects the de-trended growth rate.
The values in parenthesis contain the standard errors of the regression.

Source: National statistical offices; OECD; IMF; ifo Institute, own calculations.

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WEIGHTING ACCORDING TO THE GROSS DOMESTIC PRODUCT BASED ON PURCHASING-POWER-PARITY

For the aggregation of WES-results to country groups (for example North America, Asia, euro area or OPEC countries), trade figures were used as country weights until now. To this end, the weighting factor *w* was calculated by using exports *Ex* und imports *Im* in US dollars of a country as a share of total world trade of *n* countries in a total group. The trade figures, which were published by the UN, were in general available after a period of two years *(t–2y)*:

$$(3) \quad w_{i,t} = \frac{Ex_{i,t-2y}+Im_{i,t-2y}}{\sum_{i=1}^{n}(Ex_{i,t-2y}+Im_{i,t-2y})}$$
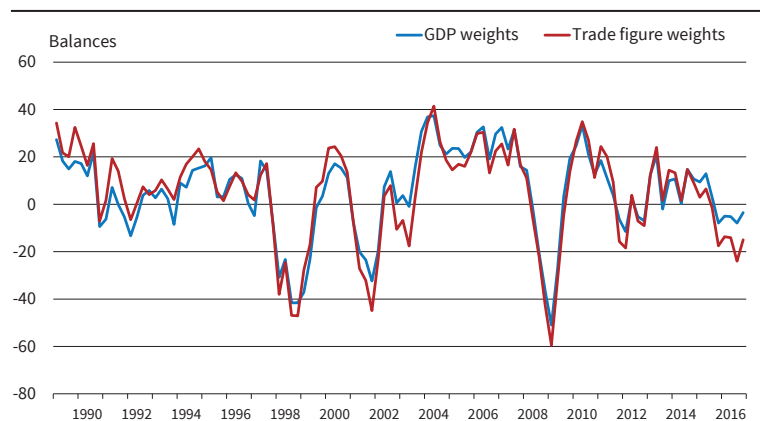
From now on the weighting factors are calculated using the gross domestic product based on purchasing-power-parity of each country:

$$(4) \quad w_{i,t} = \frac{GDP_{i,t-2y}}{\sum_{i=1}^{n}GDP_{i,t-2y}}.$$

The database used for the gross domestic product based on purchasing-power-parity is the World Economic Outlook of the International Monetary Fund. In order to guarantee a uniform dating across countries, country weights are calculated using GDP data of the year prior to the previous year *(t-2y)*. With this adjustment, the Ifo Institute adopts the methodology for aggregation used in international organisations (see IMF, OECD). For Asia, for example, the comparison of both the new and old aggregation only shows small differences (Figure 3).

Figure 3

Economic climate for Asia applying old and new country weights

Source: ifo Institute, own calculations.

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OTHER COUNTRY AGGREGATES

Finally, the regional aggregates have been revised. The classification according to country income-groups is no longer standard. Instead it is common practice to draw a distinction between advanced 'economies' and 'emerging and developing economies'. To select the new regional aggregates, the Ifo Institute closely followed the approach of the International Monetary Fund (see Table 1 for a summary).
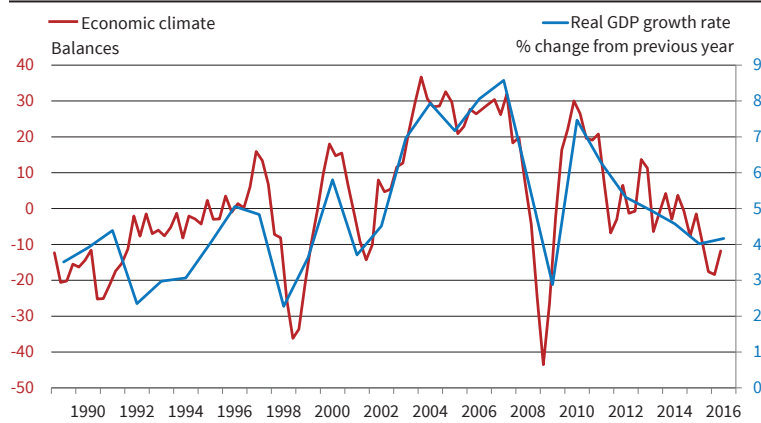
By aligning the WES indicators with the definition of the International Monetary Fund, each country group can now be compared with the macroeconomic time series provided by the IMF (see Figure 4).

CHANGES IN THE QUESTIONNAIRE

Apart from the recurring questions about macroeconomic variables and their expected changes, the WES questionnaire also covers a number of semi-annual questions referring to certain topics. Those questions do not have a neutral answer category, or a symmetric middle respectively. Instead, the questions deal with the extent of an existing problem, for example how the supply of bank credit to firms is constrained by bank-specific factors. The possible multiple-choice responses are 'not constrained / moderately constrained / strongly constrained'. The time series reflects the unweighted shares of survey respondents indicating moderate and strong constraints; and thus gives a measure of the degree of credit constraints. The scale ranges from 0 to + 100. As for the questions related to economic problems, the previous three multiple-choice answers ('most important / important / not so important') will be reorganised as a yes/no question, whereas 'yes' stands for a current important problem and 'no' for no problem at present. The time series reflects the shares of 'yes' answers, so over time it is displayed if the intensity of a problem increases or decreases. The scale ranges from 0 (none of the survey respondents currently deems for example corruption as an economic problem) to 100 (every expert stated that this variable poses a problem to the economy).

Table 1
New aggregates in the WES

			All countries					
Advanced economies			Emerging market and developing economies					
Euro	Major advanced economies G7	Other advanced economies	Commonwealth of Independent States (CIS)	Emerging and developing Asia	Emerging and developing Europe	Latin America	Middle East and North Africa	Sub-Saharan Africa
EU28			ASEAN5 (Indonesia, Malaysia, Philippines, Thailand, Vietnam)					

Source: ifo Institute.

Figure 4

Economic growth and Ifo Economic climate for emerging market and developing economies

Source: IMF; ifo Institute, own calculations.   © ifo Institute

In addition, the list of problems has been adjusted. Variables for which there are official statistics in most of the countries, for example, *inflation, unemployment or public deficits,* are no longer included and are replaced by non-measurable variables such as a *lack of innovation, inadequate infrastructure, political instability, lack of credible central bank policy* and *widening income inequality.*

SUMMARY

The implementation of balances is an advantage to data users, as the WES results are now presented according to international standards. As a result, the data is more intuitive and easier to interpret. With a balance near zero, an economy or a region is growing at its trend rate. For positive WES balances, the GDP growth rate of an economy is above its trend growth rate, with negative balances below. The new regional aggregates, which are defined in accordance with the International Monetary Fund, and the new country weights render the WES indicators more user friendly, as their calculation is in line with the standards used by international organisations.

REFERENCES

OECD (2003), *Business Tendency Surveys: A Handbook – OECD,* http://www.oecd.org/std/leading-indicators/businesstendencysurveysahandbook.htm.