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EDITORIAL NOTE

THE ECONOMIC AND FINANCIAL CRISIS – HOW DID NATIONAL ACCOUNTS ADDRESS THE CHALLENGES?
By Magdolna Csizmadia, UNSD

This thematic issue of the *SNA News and Notes* presents a collection of four articles, each highlighting an aspect of the issues that statisticians need to address in the aftermath of the economic and financial crisis.

The update of the System of National Accounts (SNA) has just concluded and some countries had already started implementing the new 2008 version when the signs of the crisis became apparent. In this context, several expert forums have confirmed that the updated standard provides a sound basis for articulating these recent, globally interconnected economic developments. Moreover, the extended scope of the 2008 SNA, its guidance on financial instruments and financial institutional sectors make it well suited for answering measurement issues arising from the financial crisis, as described in the *article by Anne Harrison*.

The programme statement of UNSD at the 2009 Statistical Commission, which incorporated extensive consultations with countries and international organizations, clarified the need for the international statistical community to undertake coordinated initiatives and actions. Lack of data is not considered the cause of recession, but the expert forums have surfaced the need for more high frequency economic statistics as well as meeting data gaps in some segments of the financial sector. *The UNSD article* summarizes various activities undertaken and describes further initiatives e.g. a proposal to coordinate development and tracking of a set of core leading business cycle indicators that the Statistical Commission will consider in 2010.

At the same time other activities have been pursued by the statistical community that will also have an impact on the ways in which national accountants are able to respond to future crisis. One notable example is the work conducted by the *Commission on the Measurement of Economic Performance and Social Progress* (the so-called Stiglitz-Sen Commission). Although the catalyst for this work was not the economic and financial crisis, many of the recommendations contained in the final report are related, for example the recommendations for an increased emphasis on household accounts, balance sheets, and, in particular, the recommendation that greater prominence be given to the distribution of income, consumption and wealth. The full report is available at: http://www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf.

User outreach is a staple activity for national and international statistical agencies alike, and is particularly critical as major economic developments unfold. The *article by Karen Wilson, Statistics Canada* provides the perspective of a national statistical organization on its consultation with users, seeking the client's views, under the circumstances of the economic and financial crisis.

The *article by Floris van Ruth and Symon Algera of Statistics Netherlands* presents a product, called the Business Cycle Factsheet, combining the timeliness of monthly indicators and information from the Quarterly National Accounts. The national statistical office has developed the Business Cycle Factsheet which contains components, for example, the Business Cycle Tracer, to monitor the crisis.

The articles of this thematic issue illustrate the national accountants' efforts to provide timely, reliable, coherent and comparable macroeconomic data to analysts and decision makers as they design and implement corrective measures to rebuild the global economy. Our statistical methodology and output thus impacts the livelihoods of millions of the world's most vulnerable people. It is also the responsibility of the international statistical community to supply decision makers with serviceable instruments of early assessment of the socio-economic impacts of unfolding economic developments. We will be able to address these challenging tasks through coordinated action and continued international collaboration.

THE 2008 SNA AND THE FINANCIAL CRISIS
By Anne Harrison

A. Introduction

The financial crisis became apparent just as the update of the SNA was reaching finalization. It was appropriate and opportune, therefore, to take stock of the actions precipitated by the crisis to consider whether there was adequate guidance in the SNA to show how each initiative by government or by a central bank in such circumstances would be recorded in the accounts. A note examining the situation was prepared for the last AEG meeting held in Washington in November 2008. The conclusion of the AEG was that the revised text of the SNA did allow adequately for the recording of such transaction but in some cases minor refinements of the text to ensure clarity on what is the appropriate form of recording were desirable.

This note is largely based on the AEG paper from November 2008 (on the SNA update web site as paper SNA/M1.08/08). It first reviews the units and the types of financial instruments involved and considers whether any new categories would be desirable within the existing classifications. Then a list of the list of actions taken in response to the crisis is considered, the proposed recording for each is identified and an indication given of refinements to the text that were inserted to ensure the impact of the steps taken in response to the financial crisis would be adequately captured in the SNA.

B. Units

Although some new units were set up in the wake of the crisis, there were no new *types* of units created. Some existing units might need to be reclassified, especially where nationalization is concerned (discussed further below) but no new category needed to be introduced.

The 2008 SNA introduces greater clarity on the distinction between legal and economic ownership of assets linked to the question of which unit bears the risk associated with them. In particular, paragraph 4.67 discusses the treatment of government units that have many of the characteristics of special purpose entities. Thus, if government sets up a special institution to handle particular types of financial instruments and the new unit assumes the risk associated with those instruments, it should be classified as a publicly controlled financial institution. If the risk remains with government, the unit is allocated to the general government sector even though it may constitute a separate institutional unit.

C. Instruments

One cause of the financial crisis of the financial crisis was widely perceived to relate to the vastly increase use of financial derivatives by financial institutions. The 1993 SNA, as originally approved by the UNSC, would not have covered this increased activity well, but the update introduced in 2004 was timely and adequately describes the appropriate recording for these instruments.

All of the instruments featuring in the press as the crisis unfolded fit within one or other category of financial instruments in the SNA. For extra clarity, though, it was agreed to mention explicitly that collateralised mortgage obligations, (CMOs), and collateralised debt obligations (CDOs) are both forms of asset-backed securities. Credit default swaps (CDSs) are a form of derivative. However, not all financial instruments described as swaps are derivatives. Gold swaps are treated as loans, as described in paragraph 11.77.

In the SNA, short selling of securities should be recorded as leading to a negative holding by the unit that sells the security before acquiring it as described in BPM6.

D. Central bank actions

1. Central bank increases money supply

The central bank regularly provides the means by which commercial banks to increase the money supply, crisis or no crisis. The only unusual aspect during a financial crisis may be the timing and the size of the increase. No change in recording is involved.

2.   Central bank buys commercial paper

Commercial paper is a form of short-term security used as a form of raising cash. It is issued by a financial institution or a large non-financial institution and constitutes a promise to pay a given sum at a specified date in the near future (from 2 to 270 days). The only security given is the reputation of the enterprise issuing it. It is offered at a discount (the discount is recorded in the SNA as interest) but because the risk is low, the return is low also. It is unusual for the central bank to buy commercial paper from non-financial institutions but may do so in exceptional circumstances. Acquisition of commercial paper is recorded as a transaction in securities.

E. Actions by government

1. Government guarantees

As part of the update process, it had been agreed to introduce a new treatment for standardised loan guarantees. One action taken in the crisis was the extension by some governments of such types of standardised guarantees to other sorts of financial instruments, including bank deposits. The AEG therefore agreed that the references to standardised loan guarantees should be expanded to cover standardised guarantee schemes more generally and this change was made throughout the text. No late change was made to the treatment of guarantees that satisfy the criterion of a derivative, such as a credit default swap, or to one-off loan guarantee to a financial unit in distress, which in some circumstances, may be recorded as if the guarantee is called when it is offered. All these cases are described in section part 3 of chapter 17 of the 2008 SNA.

2. Government buys "toxic" assets

In order to inject some liquidity into the market, the government may offer to purchase assets whose market has dried up, so-called "troubled" or "toxic" assets. They may be bought by a government unit directly but may be bought by an SPE set up for the purpose. If the SPE is controlled by government, and if the risk associated with the assets acquired by the unit remain with government, it is treated as falling within the general government sector (unless the SPE is non-resident). If the SPE retains the associated risk, then it is treated as a publicly controlled financial institution. The

motivation for acquiring the toxic assets is not only to restore liquidity to the market but in the hope that by doing so, government then assumes the risk that the market for the assets will recover when the crisis is past and that it may be able to recover some or all of the cost of acquiring the assets or even recover more than the cost.

The acquisition of the assets is recorded as a financial transaction in the appropriate asset category. While the principle is clear, in practice it may be very difficult to establish what the fair value of an asset is in situations of financial distress and so the difference between this value and the price actually paid is correspondingly difficult to establish. One way of determining which assets are bought by government and what price is paid may be by means of a "reverse auction" where government chooses to buy those assets offered at the lowest price. However, there may still be a strong presumption that the price paid for the assets is higher than a fair value.

If such a value can be estimated (for example by estimating expected future revenue) then the difference between the fair value and the amount paid may be treated as a capital transfer from government to the unit selling the asset to government. Paragraphs 22.143 to 22.146 were tightened to cover this eventuality and moved to follow the section on nationalization.

3. Government nationalizes a bank

In principle, nationalizing a bank is no different from nationalizing a non-financial corporation. Paragraph 22.142 describes two means by which nationalization may occur. In effect, though, the text in paragraphs 22.128 to 22.134 just referred to, describes a third means by which nationalization is achieved. In these cases, the assets and liabilities of the bank (or other unit being bailed out) are transferred to the government and are recorded in the other change in the volume of assets account. At the moment of transfer, the (negative) net worth of the bank does not change but customers are reassured that the government will not default on the liabilities of the bank it has acquired. Any subsequent actions, such as the injection of funds into the bank, are recorded in the normal way.

4. Government injects funds into a firm by means of preference shares

Government may inject funds into a bank without establishing control over it. Often this

will be done by means of acquiring preference (or preferred) shares. In some ways, preference shares function rather like loans without a maturity date. They are for a fixed amount and carry a return agreed at the time they are issued, often a fixed rate of return. If the fixed return is not paid in full, any short-fall increases the value of the preference shares. This return is not solely dependent on the profitability of the bank as is the case for ordinary share.

Preferred shares may be participatory or non-participatory. A participatory preferred share is one that not only provides an agreed income but also provides a claim on the residual value of the company in the case where it is wound up in the same way as ordinary shares. A non-participatory preferred share provides the agreed income only. Non-participatory preference shares are treated as debt securities, as explained in paragraph 11.66; participatory preference shares are treated as equity (see paragraph 11.84).

5. The impact of the actions above on government revenue and debt

In the case of the purchase of assets and the injection of capital into an enterprise, if the necessary funds are realized by disposing of existing assets, there is no impact on government debt; only the composition of assets changes. However, if in order to raise funds to meet these needs, government issues new securities, for example, then government debt increases accordingly.

In both cases, there may be future revenue arising from the assets acquired. This is also the case for preference shares.

In the case of standardized government guarantees issued for a fee, there will be revenue to the government. The impact of one-off guarantee will depend on the conditions attached to it.

F. Impacts on commercial banks

1. Inter–bank lending

Paragraph 6.166 contains the following two sentences:
> The rate prevailing for inter-bank borrowing and lending may be a suitable choice as a reference rate.

> For banks within the same economy, there is often little if any service provided in association with banks lending to and borrowing from other banks.

The AEG noted that the usual assumptions are unlikely to apply in a financial crisis and that banks may indicate their unwillingness to lend to one another by charging rates significantly in excess of a reference rate. It was felt inappropriate to develop this in the SNA text but to ensure this is covered as part of the research agenda item concerning FISIM.

2. Impaired assets

One innovation in the 2008 SNA was to introduce memorandum items for non-performing loans in respect of both stocks and flows. It is possible that such memorandum items might be considered for other instruments, such as deposits and accounts receivable. Under pressure caused by the present crisis, the IASB has recently varied its advice on which assets should be "marked to market" and allows fair value reporting in some circumstances. It should be noted as part of the research agenda that monitoring the developments of IASB and other international and national accounting standards setters is important for the SNA.

UNITED NATIONS STATISTICS DIVISION/DESA ROLE IN COORDINATING A GLOBAL STATISTICAL RESPONSE TO THE ECONOMIC AND FINANCIAL CRISIS
By UNSD

While in recent quarters, the global economy seems to have moved away from the depths of the economic and financial recession and turmoil, these positive signals in the economy should not lead to complacency by the global statistical community. Rather, the recent global recession has made it clear that our community should remain focused and intensify its efforts in remedying the identified shortcomings of the global statistical system to monitor and analyze the interconnected global economy.

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Ongoing collective efforts at national, regional and international level should be coordinated to put in place an integrated monitoring and analytical system for crisis responsiveness. This will allow for an early assessment of global vulnerabilities and exposures and support timely, coordinated global responses to global economic shocks. Failing to realize this system could exacerbate the present socio-economic impact of the present crisis and lengthen the duration of its impact on human development and the livelihoods of billions of people.

The United Nations Statistics Division/Department of Economic and Social Affairs (UNSD/DESA) at the fortieth Session of the United Nations Statistical Commission in February 2009 called for swift and coordinated statistical initiatives by countries, regional and international organizations in response to the global crisis. These initiatives should focus on identifying and remedying data gaps for monitoring economic shocks as well as to improve the dissemination and communication of relevant information already available. This call for action followed extensive consultations with countries and international organizations during a series of high level meetings organized by UNSD/DESA. These included *High Level Forum on the Long term Development of the SNA*[1] held under the aegis of the Inter-Secretariat Working Group on National Accounts (ISWGNA) at the World Bank in Washington DC, in November 2008, and the *High Level Forum on Globalization and Global Crisis*[2] and the Informal Meeting on the *Official Statistics and the Impact of the Global Financial Crisis*[3] both held at the United Nations, New York in February 2009.

The G20 Summit of 2 April, 2009 called for "...the United Nations, working with other global institutions, to establish an effective mechanism to monitor the impact of the crisis on the poorest and most vulnerable". Concurrently, the United Nations System Chief Executives Board for Coordination

(CEB) at its April 2009 meeting in Paris decided to "… urgently establish an United Nations system-wide vulnerability monitoring and alert mechanism to track developments, and report on the political, economic, social and environmental dimensions of the crisis". Earlier, in February 2009, the High Level Committee on Programmes (HLCP) had asked UN-DESA to act as the lead agency in developing an integrated monitoring and analysis system as part of the joint UN-system responses to the crisis. At the same time, on behalf of the Secretary-General, the Deputy Secretary-General has initiated activities to establish an UN system-wide Global Impact and Vulnerability Alert System (GIVAS) - consisting of a Global Impact and Vulnerability Data Platform and a series of Global Alert Products.

Throughout the series of high level meetings, the System of National Accounts 2008 (2008 SNA) was recognized as the overarching framework for economic statistics and the 2008 update of the 1993 SNA considered well suited for answering to the present crisis, because it incorporates the measurement issues arising from the financial crises during the 1990s and early years of the 2000s. The extended scope of the 2008 SNA allows for the measurement and classification of present government and central bank interventions and the latest innovations in financial instruments and financial institutional sectors.

UNSD is also a member of the Inter Agency Group on Economic and Financial Statistics (IAG), which is chaired by the International Monetary Fund and also comprises the Bank for International Settlements (BIS) and the European Central Bank (ECB), Eurostat, the Organization for Economic Co-operation and Development, and the World Bank. The IAG considered vital that statisticians take note of the data needs of policy makers and both establish a public on-line website disseminating a set of economic and financial time series for a group of systemic countries, with links to relevant websites, and identify data gaps that the crisis has revealed.

In April 2009, the IAG launched the Principal Global Indicators (PGI) website of economic and financial time series for a group of systemic countries, and the IMF and Financial Stability Board, in close consultation with the IAG, reported on information gaps to the

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[1] http://unstats.un.org/unsd/sna1993/hlg.asp

[2] http://unstats.un.org/unsd/statcom/statcom_09/seminars/High_level_forum_2009/High_level_forum_2009.html

[3] http://unstats.un.org/unsd/sna1993/finCrisis/lod.asp

November 2009 meeting of the G-20 Finance Ministers and Central Bank Governors in St Andrews Scotland. The identified data gaps include for those segments of the non-bank financial corporations sector where the reporting of data is not well established, in the financial accounts and balance sheets of the other sectors, particularly the non-financial corporations and household sectors; in property prices; and in issues relating the credit transfer instruments and to large systemically important financial institutions.[4]

The UNSD/DESA programme of work for 2009 addressed the statistical framework for high frequency statistics and their international comparability, and the related analytical framework for early warning and business cycle indicators. For this purpose, UNSD/DESA and Eurostat jointly organized an *International Seminar on Timeliness, Methodology, and Comparability of Rapid Estimates of Economic Trends* with the support of Statistics Canada as co-organizer and host of the seminar, held on 27-29 May 2009 in Ottawa[5].

The emergence over the past several years of consistent and transparent data initiatives, such as developed by the IMF through its Special Data Dissemination Standard (SDDS) and General Data Dissemination System (GDDS) and by Eurostat through its Principal European Economic Indicators (PEEI) remain highly relevant. Further, the speed at which the crisis developed highlighted the need for indicators that could support early warning efforts. This would entail, among other things, a new perspective in assessing the trade-off between timeliness and completeness, and a new look at the traditional statistical production model to meet the needs of today. In short, the statistical community should ensure the continued relevance of economic and financial statistics in timeliness and frequency, and in the evolution from first estimates to revised statistics.

An important outcome of the Ottawa international seminar was the support for and agreement with the proposed United Nations data template for economic and financial statistics with 12 major categories covering national accounts, production and turnover indicators, prices, labour market indicators, sectoral indicators for the external, financial, government, non- financial and household sector, financial and real estate market indicators, and economic sentiment and composite indicators.

The Ottawa seminar also agreed that the proposed data template should be assessed by the countries for its relevance and feasibility in terms of availability, periodicity and timeliness. Based on the global baseline assessment of the availability and comparability of the high frequency statistics at the country level, it was suggested that the data template should be re-arranged in different tiers following a cross country analysis. Moreover, where possible, the high frequency statistics for individual countries should be complemented by time series of world and regional aggregates for those high frequency statistics which are sufficiently comparable.

Another key issue raised at the Ottawa seminar was the need to enter into dialogue with the user community on the question whether the data template meets their immediate analytical and policy needs. The dialogue with the user community is considered of paramount importance to ensure a proper alignment of the statistical, analytical and policy frameworks at national and international levels. The user perspective on the proposed data template will establish whether the data template meets the identified data gaps and their periodicity and timeliness requirements, and determine how to better disseminate data and prepare improved statistical narratives on the movement of the business cycles and trend developments.

Besides the agreement around the proposed data template, the Ottawa seminar recommended that work should be initiated in developing a glossary of terms and definitions around high frequency statistics (covering terms like nowcast, forecast, flash, rapid and first estimate, etc.) to clarify the high frequency statistics framework and its compilation methodology. Moreover, the need was expressed to develop new manuals or update existing handbooks and guidelines on

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[4] Both the PGI website and G-20 report on the Financial Crisis and Information gaps are available at
http://www.imf.org/external/data.htm#data
[5]
http://unstats.un.org/unsd/nationalaccount/workshops/2009/ottawa/ac188-2.asp

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composite indicators, GDP flash estimates, and economic sentiment indicators (for business tendency and consumer confidence surveys) given their extensive use in tracing the business cycles.

As a way forward, the Ottawa seminar will be followed up with another international seminar at the end of 2009 with a strong engagement of the user community. This second meeting of the series, the *International Seminar on Early Warning and Business Cycle Indicators* is scheduled from 14 to 16 December 2009 in Scheveningen, the Netherlands, hosted by Statistics Netherlands and co-organized by UNSD, Eurostat and Statistics Netherlands[6].

This seminar will discuss the results from the global assessment of the data template on availability, timeliness and comparability of high frequency and first estimates, the challenges in collecting early warning and business cycle indicators and the analytical usefulness of early warning and business cycle indicators in actually tracking economic developments, such as the Composite Leading Indicator developed and used by the OECD to identify turning points in the business cycle (see www.oecd.org/std/cli)

Moreover, the seminar will further elaborate on country practices in preparing first GDP estimates, composite indicators, sentiment surveys and their application in tracking the economic crisis. It is expected that the seminar will propose an analytical indicator template that can be derived from the Ottawa data template to complement basic country time series of high frequency statistics based on a comparison of existing analytical frameworks applied by the various international and regional organizations.

Apart from the international user community, senior representatives of the national statistical offices and their national counterparts in the Central Banks and/or Ministries of Finance are encouraged to attend this seminar to stimulate country-level initiatives in strengthening the compilation of high frequency statistics estimates following their joint assessment of priorities. Moreover, with the objective to improve the geographical coverage, scope and quality of the collection of early warning and business cycle indicators for the measurement of economic and financial vulnerability and tracking economic activity, this seminar will seek appropriate coverage of large systemic countries and appropriate regional representation. Based on these considerations, about 40 countries and 20 international and regional organizations are expected to attend. Moreover, the United Nations regional commissions have been invited given their role and responsibility in strengthening basic statistical infrastructure under the SNA implementation programme and their reporting requirement on the economic and financial performance for their respective regions.

The outcomes of the two international seminars will be reported to the United Nations Statistical Commission in 2010 to present the global statistical strategy in advancing a system of early warning and business cycle indicators at national and international level.

RESPONSE TO THE FINANCIAL CRISIS - STATISTICS CANADA CONSULTATIONS WITH USERS: RESULTS AND LESSONS LEARNED
By Karen Wilson, Statistics Canada

This brief note describes the results of the recent consultation process Statistics Canada launched with users as the current financial crisis unfolded. The note articulates the specific responses to this consultation, but highlights the generic lessons learned that can be applied in response to any similar circumstance.

At the onset of the financial crisis Statistics Canada began to question whether the data and services provided to our clients were appropriate in terms of quality and scope to inform the analysis of the economic situation. Brainstorming sessions were held internally which led to several possible adjustments to the program. A process of user consultation was launched in order seek the client views.

The consultations included the key policy departments, the Finance ministry in charge of the economic stimulus package, the Central Bank and the Human Resources department. We also consulted with the business analysts, academic and economic forecasting communities. The questions were also posed to the National Accounts Advisory Committee and to the National Statistics Council. (The National Statistics Council is a group of prominent Canadians who advise the chief statistician on strategic issues twice per year. The other committees are in place to advise on specific subject matters such as National Accounts, Trade Statistics, Prices statistics and so on. These committees meet either once or twice per year.)

We asked for advice on the following:
1. Is our timeliness on the key economic indicators appropriate or should we consider "flash" estimates in any areas?
2. Are there any key missing data products that are needed to help identify the turning point in this crisis? Are these data products that could be started quickly at low cost, and then stopped when the "crisis" is over?
3. Are there any things in addition to adding emphasis to some key financial and labour market releases that should be done to better communicate the data holdings/findings to the public?

This consultation process took place throughout March and April of 2009.

Stakeholders' Responses

The following are items of advice which were common across the consultations.

Timeliness:

1. The release of the Financial Flow Accounts is too slow (60 days after the reference quarter). Since a lot of high frequency data exists on financial transactions published by the Central Bank and large institutional investors, is there a possibility of doing the Financial Accounts on a monthly basis?
2. There are no "between quarters" indicators or estimates for some final demand categories of final-expenditure based GDP even though some monthly source data exists. Is there a possibility of publishing:
   a. Monthly estimates of personal expenditure on goods based on monthly retail sales data?
   b. Monthly estimates of inventory investment based on survey data from manufactures, retailers and wholesalers?
   c. Monthly indicators of engineering investment projects?
3. "Flash" estimates or real time estimates of retail sales could be useful to signal the turning point depending on the reliability.

Data Gaps:

1. Investment data on an infra-annual basis is only derived from indicators and no direct measures exist. On this

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basis there was broad support for the proposal to do a mid-year update of investment intentions for 2009.

2. Since there are already many players in the business and consumer conditions survey data business, there is no need for Statistics Canada to spend resources in that area. The National Statistics Office should stick to quantitative measurement of performance.
3. In terms of adding questions to the Labour Force Survey, the most useful information in the short run would be related to labour market transitions such as:
    a. Time spent on job search after layoff
    b. Transition to a new industry or occupation
    c. Was a pay cut required to transition to a new job?
    d. Was geographical relocation necessary?
4. No price index exists for the resale of existing housing assets within the Statistics Canada data sets on prices. Could such an indicator be developed, perhaps using the "Case-Shiller" approach used in the United States?

Communication of data products

1. The metadata and the structure of the financial accounts and balance sheets are out-of-date and need to be modernized.
2. Users have trouble interpreting the changes in the high frequency financial data published by others (but often used as inputs later in the FFA and Balance sheets) in parallel with the quarterly financial accounts. A reconciliation of concepts and methods would be useful.
3. Adding analytic content like leverage and debt burden ratios is very helpful and addition of maps to display geographic detail on employment insurance was appreciated by users.
4. Users still have difficulty finding the data they need quickly when they are unfamiliar with data holdings in certain areas. A better organization

of the web site and a better search engine could help.

Other general messages included:

- A worry that an NSO should not rush into short term data collection without the usual testing of the instrument.
- Short term ad hoc measures will not be useful unless there is time series continuity.
- The agency should continue its longer term investments in quality improvements and new data products.

An important point was raised by representatives of the Financial Services industries that the work going on at the international level for coordinated regulatory reform was the opportune time for the Central Bank and the National Statistical Office to work together to outline the information needs for financial information going forward, and to work out a clear delineation of the statistical work of the two organization.

Follow-up challenges

Given tight resources, a further process was launched to seek funding for additional data such as an additional round of the Investment Intentions Survey or Labour Market transition variables. In the end, no additional funding was made available, but an agreement was reached for one-time funding was found for the Investment Intentions survey by cutting another program one year earlier than scheduled.

The survey was launched and published in July of 2009. Users expressed appreciation for this initiative in that it was very informative as to the cyclical nature of investment in this business cycle. It revealed more retrenchment in private investment in industries hard hit by the recession, but it also showed the pick up in public investment related to the economic stimulus initiative.

Lessons learned

While the current economic cycle is running its course and the "crisis" seems to have ebbed, there were many lessons learned

in the above outlined process that would be important for an NSO to keep in mind for meeting the needs of a crisis of *any* nature. Since any future crisis is an unpredictable as the current one, the most important lessons learned are the ones that can be applied to any situation.

These lessons can be characterized by three simple words: Outreach, Flexibility, and, Communications.

Outreach

A National Statistical Office needs to have the infrastructure and capacity to do consultations quickly with clients in order to assess changing needs. This is essential for maintaining relevance of the statistical product line on an ongoing basis. If the infrastructure is already in place it can be used very effectively to launch short run consultations with specific user communities when a particular crisis arises. In this case infrastructure refers to advisory committees, user workshops and other feedback mechanisms, relationships with industry or professional associations, etc., in other words, consultation mechanisms.

Flexibility

In order to react during a crisis and respond to advice given in consultations, the NSO needs to have flexibility to be able to move resources out of lower priority programs into higher ones quickly. This could involve keeping a list of programs that can be altered quickly or suspended for short periods of time. It also requires having a sound governance structure that can resolve issues of moving resources from one area to another. It could also involve establishing partnerships that could be called on to provide short-term funding for special initiatives.

Communications

Possibly the most successful initiative Statistics Canada launched over this business cycle was to adjust the communications strategy around some data products. In particular, putting more emphasis and effort into the analytic reports associated with the financial-type data and labour market data at the time of publication was instrumental in helping users find the data they needed to analyze the economic situation. This has been appreciated by the user community.

On the other hand, we learned that some of our metadata were not adequate to help users access data sets they had not used prior to this crisis, the financial accounts data in particular.

The longer term lessons are that an NSO should constantly re-assess the communications strategy in order to best inform the clients (and potential clients) on the availability, sources and definitions of the data product line. Additional analytic products help users understand how to use the data products.

Conclusion

Statistics Canada will continue to invest in outreach to users including and in particular, with the key policy departments who would be the major clients for data in any crisis. Work continues on improving releases and metadata available to users. Flexibility is by far the biggest challenge. Knowing what products can be suspended or augmented in the short run is the current focus.

COHERENT INDICATOR SETS – THE DUTCH CASE
By Floris van Ruth and Symon Algera, Statistics Netherlands

Introduction

There is an urgent need of quick and reliable information to monitor the current crisis and with which future crises can be signalled earlier. Many users consider the Quarterly Accounts too slow for this purpose. On the other hand the various monthly indicators are considered to be too fragmented.

It is often unclear which monthly indicators should be monitored, and what the overall situation is.

In order to monitor the crisis, Statistics Netherlands has developed an intermediate product, which combines the timeliness of the monthly indicators with the summarizing properties of the Quarterly Accounts, this is the Business Cycle Factsheet (BCF). The BCF

and its components can be considered as coherent indicator sets.

This article first shows the position of coherent indicator sets in the system of statistics, then it provides shortly the storytelling with these coherent indicator sets in general terms. The following section explains the Business Cycle Factsheet (BCF) and its components. The last section deals with the policy of Statistics Netherlands and some future plans.

Position of coherent indicator sets in the system of statistics

The Dutch system of statistics can roughly be described by a matrix with the rows containing the time dimension and the columns the degree of integration. The matrix shows in a glance the main characteristics of the various statistics and the interrelationships between them.

Statistical matrix (with some relevant examples)

Time	Degree of integration		
	Single	Combined	Integrated
Future	Tendency surveys	Business Cycle Factsheet and coherent indicator sets	
Month	Short-term statistics		
Quarter			Quarterly national accounts
Year	Structural business statistics		National accounts

The *time* column distinguishes statistics relating to future, monthly, quarterly and annual data. Under degree of integration:

- the column headed single contains statistics which are obtained from a single survey of statistical units. The data are simply the survey findings;
- in the combined column the statistics are the outcome of combining different statistics (and different surveys), but are not yet integrated;
- the integrated column contains data that are the outcome of an integration process involving detailed checks of all available information. The national accounts and the quarterly national accounts are examples of integrated statistics.

Such a matrix can be used to explain some relevant aspects of coherence. Reading from top to bottom of each column, the reported results become more reliable and detailed, but take longer to publish. Reading from left to right, the data become more comprehensive and reliable, but again as a rule are published later. Moreover, as a consequence, the quality of statistics can be assessed in two ways, one in terms of predictive power (the columns of the statistical matrix), the other in terms of consistency (the rows of the statistical matrix).

The Business Cycle Factsheet and its components (Business Cycle Tracer, BCT indicator, Business Cycle Dashboard and the Exports Radar) are based on tendency surveys and monthly statistics and on compound indicators/infographics. So, within the matrix above, the Factsheet is located on the rows *future* and *month* and in the column *combined*, in the shaded area. Though not being fully integrated, the Factsheet provides a first

insight into the development of variables in the integrated statistics. Structuring indicator sets, the intermediate stage of integration, is a way to achieve some of the advantages of National Accounts style integration, but with greater flexibility and timeliness. Because of their more qualitative nature, indicator sets can potentially be produced with little or no additional computations needed, as they are based on existing (short-term) statistics. It is

also possible to construct indicator sets for different economic phenomena, not just national production. This approach has also been described as statistical storytelling. Its essence is selecting and structuring statistical information, thus making connections visible and yielding a comprehensive picture of the central theme. At the same time, a shift in emphasis is occurring from reporting numbers to offering alternative presentations and analytical tools. This has been made feasible by the possibilities the internet offers for constructing interactive and dynamic applications. These are two mutually reinforcing developments. Statistical storytelling and coherent indicator sets give meaning to interactive applications and the applications allow for new methods of presentation. Dynamic and interactive options allow the users to explore the phenomenon and connections for themselves. The next sections of this article will present the components of the Statistics Netherlands Business Cycle Fact sheet, which are concrete examples of how coherent indicator sets and statistical storytelling can work in practice.

Business Cycle Factsheet

At Statistics Netherlands a programme is underway to provide access to important statistics via interactive and graphical applications. These range from dynamic maps, via customisable graphs to somewhat more novel applications. This article discusses a number of graphical tools developed for the presentation and analysis of business cycle related statistics. Those already in production have recently been grouped in a business cycle fact sheet website, which has been created especially for monitoring the evolution of the current economic crisis. The visualisations currently published there focus on analysing the current state of the business cycle and conditions for Dutch exports. The first graphical tool developed by Statistics Netherlands to support the reporting on current economic conditions was the Business Cycle Compass. It has now been succeeded by the more advanced Statistics Netherlands Business cycle tracer (see Annex 1).

The Business Cycle Tracer is the central tool at Statistics Netherlands for analysing short- and medium-term economic developments. It has been especially

constructed to give a timely indication of the current state of the Dutch business cycle. It consists of a set of fifteen carefully selected and filtered macro-economic indicators, which are placed in a diagram according to their medium-term development (above or below trend) and their short-term development (increasing or decreasing). The diagram is in fact a graphical representation of the concept of the business cycle: each quadrant represents a distinct phase of the cycle. The location of the indicators in the diagram reflects their position in the cycle, and the whole reflects the current state of the Dutch business cycle. The dynamic properties of the tool allow the user to choose a point in the past, see the corresponding state of the Business Cycle Tracer and watch a replay of the evolution of the business cycle. This graphical representation and visual interpretation is often easier and quicker to understand than a table or even a textual analysis. At the same time, the structure of the diagram and the indicators selected transfer a lot of information concerning the business cycle process.

Here, the storytelling component comes into play. Not only does the composition of the Business Cycle Tracer show which indicators are important for analysing business cycle developments, but it also shows that different economic indicators have different relationships with the business cycle. This is made explicit in a recent addition to the Business Cycle Tracer, the Business Cycle Dashboard (see Annex 2).This shows the cycles of the individual indicators jointly and in a structured fashion. The indicators are divided into three groups: sentiment, economic and labour market indicators. A simple colour code, corresponding to the colours of the business cycle phase in the Business Cycle Tracer, characterises the phase of each individual indicator. The differences in development of different types of indicators become visible at a glance. The interactive element of the Business Cycle Tracer allows users to analyse the behaviour of individual indicators compared to the group as a whole and to other individual indicators. Thus, the existence of leading, coincident and lagging indicators is shown explicitly, as are connections among business cycle indicators themselves.

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The next component of the business cycle fact sheet is more conventional. The Business Cycle Tracer indicator (see Annex 3) is the simple average of the component indicators of the Business Cycle Tracer. It represents the Dutch business cycle, and is therefore a coincident composite indicator. Though not visually exciting, this type of aggregate indicators can be very useful, as they are able to summarize the information present in potentially large and diverse sets of indicators. The resulting composite indicators tend to be easier to interpret than a set of separate indicators, and they show the communality of the individual indicators.

The final component of the Business Cycle Fact Sheet is more innovative. It is the Exports Radar (see Annex 4), a visual tool for analysing export conditions. It consists of six economic indicators, all relevant for Dutch exports. Together, they show whether conditions are favourable or unfavourable for Dutch exports. Using the time function, it is also possible to see whether conditions have improved or deteriorated compared to the previous month or any earlier time period. Fundamental to this concept is the identification of factors which determine the development of the economic phenomenon to be tracked, in this case exports. For Dutch exports, the main factors are competitiveness and developments in the major markets, Germany and the rest of the Euro zone. The next step is to select the most relevant indicators representing developments in these factors. Thus, this Exports Radar becomes an analytical tool. Its main function is to assist in analysing export development. It places export developments in context and assist in answering such questions as "why have exports grown/declined (this much)?" The graphical format makes interpretation easy and intuitive; a wider diagram means more

favourable conditions. At the same time the Radar also has a strong statistical storytelling aspect: it shows how exports are related to other economic indicators, and which are the most relevant.

These examples have hopefully shown that visualisations can be powerful tools for communicating statistical information, especially when interactive options allow the users to explore the data and their interconnections themselves. The main message, however, is that presenting statistical indicators in a structured manner can greatly enhance their value, while at the same time transferring important knowledge, often latently present in statistical institutions, about economic structure and relationships. Detailed methodological information concerning the components of the BCF can be found at the BCF website of Statistics Netherlands.

Statistics Netherlands policy and future plans

It is policy at Statistics Netherlands to develop more coherent indicator sets /infographics like these. More specific: the "Radar concept" (which is already presented for exports) will also be applied for other relevant macro and meso variables. For instance: Radars will be developed for Household consumption and Fixed capital formation (expenditure side of the economy) and Manufacturing and Construction (production side of the economy). By doing so emphasis is placed on coherence in statistics, the output of statistical institutes is expanded without additional response burden and better use is made of existing data sources. The main benefit is that the usefulness of statistical information for large groups of users is enhanced, at little additional cost.

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Annex 1: Business Cycle Tracer
Annex 2: Business Cycle Dashboard
Annex 3: Business Cycle Tracer Indicator
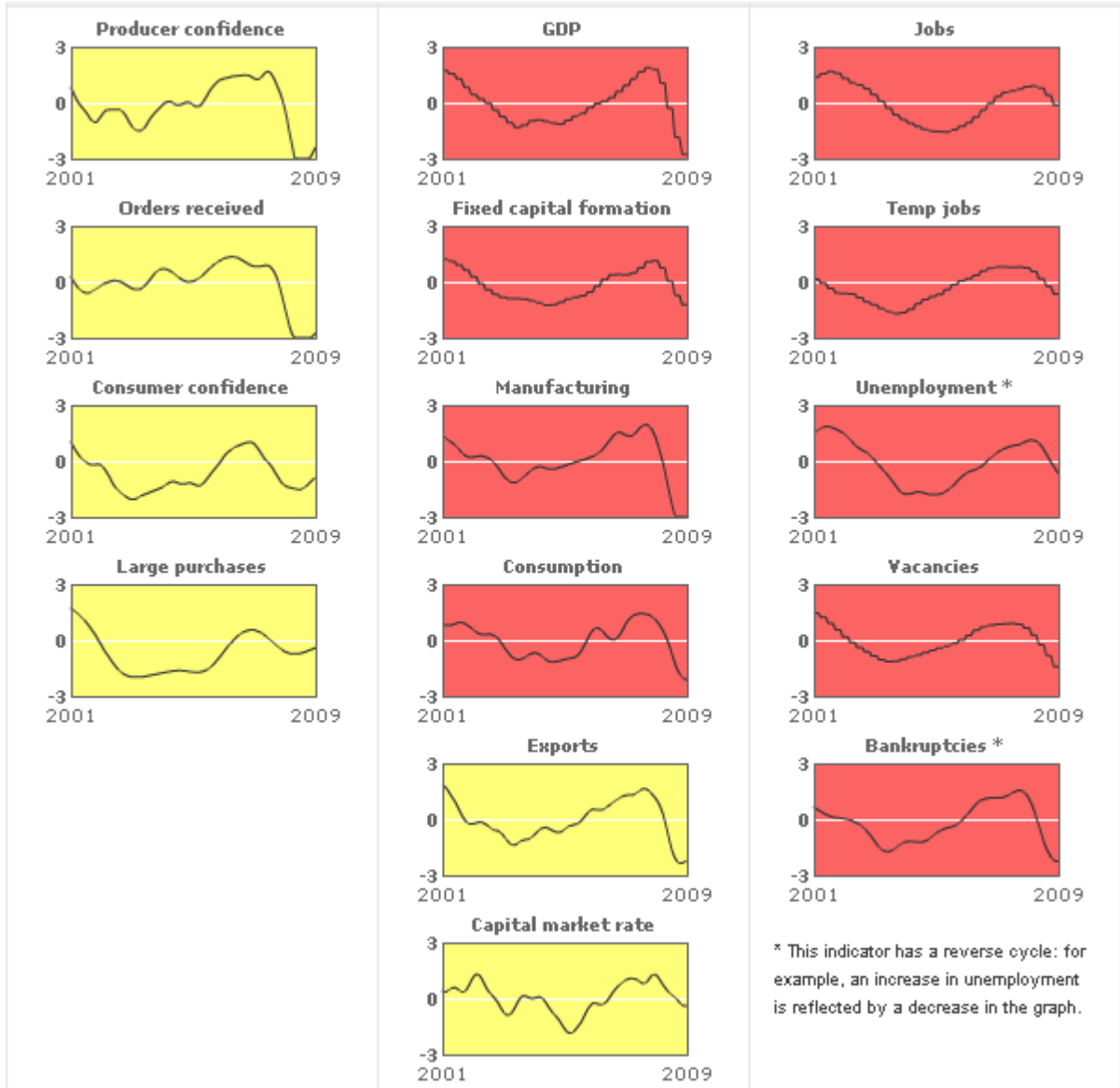**Annex 4: Exports Radar**

and Notes

Annex 1: Business Cycle Tracer

The Statistics Netherlands Business Cycle tracer for September 2009: a transition from the recession quadrant (bottom left) to the upswing quadrant (bottom right) can be seen.
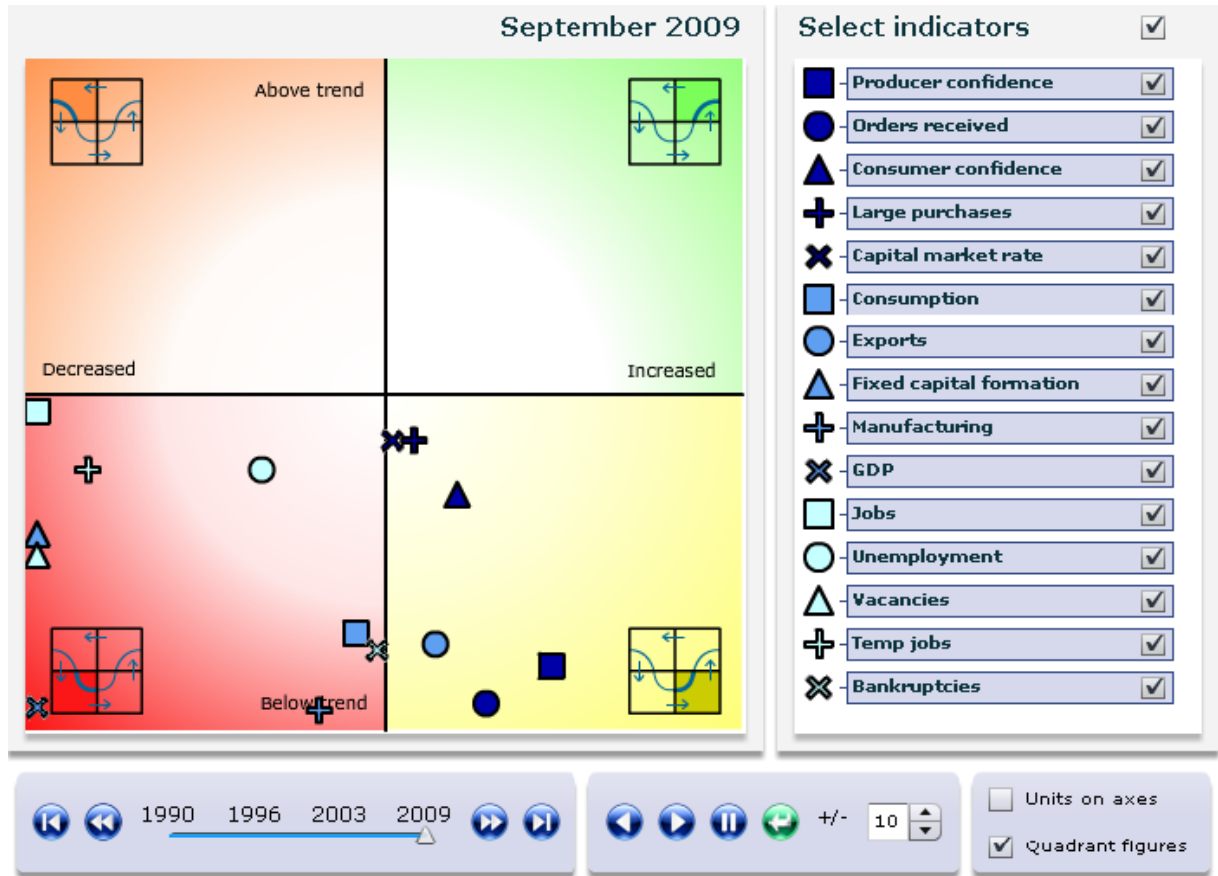
Annex 2: Business Cycle Dashboard

Business Cycle Dashboard; the cyclical development of the component indicators of the Business Cycle Tracer. The colour of the graph corresponds to the colour code of the relevant business cycle phase from the Tracer diagram. Indicators are grouped into sentiment indicators, economic indicators and labour market indicators.

* This indicator has a reverse cycle: for example, an increase in unemployment is reflected by a decrease in the graph.

## Annex 3: Business Cycle Tracer Indicator

The Business Cycle Tracer Indicator: the simple average of the component indicators of the Business Cycle Tracer. It reflects the stance of the Dutch business cycle and summarizes the information present in the individual business cycle indicators.
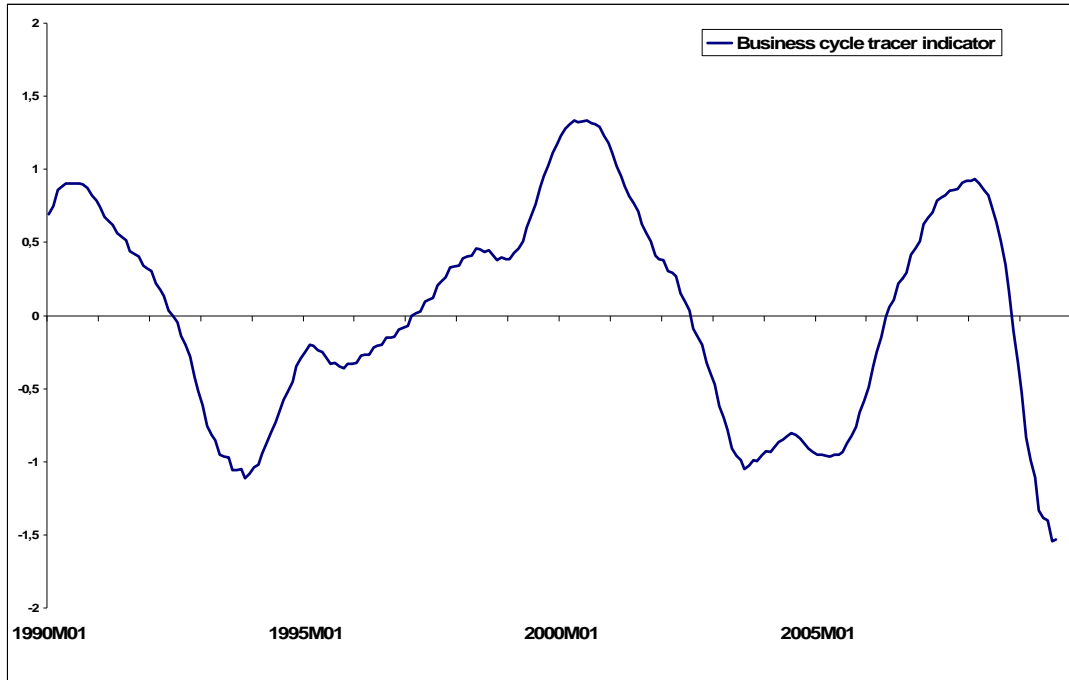
Annex 4: Exports Radar

The Exports Radar; a graphical representation of a structured indicator set reflecting conditions for Dutch exports.

EXPORTS RADAR OCTOBER 2009
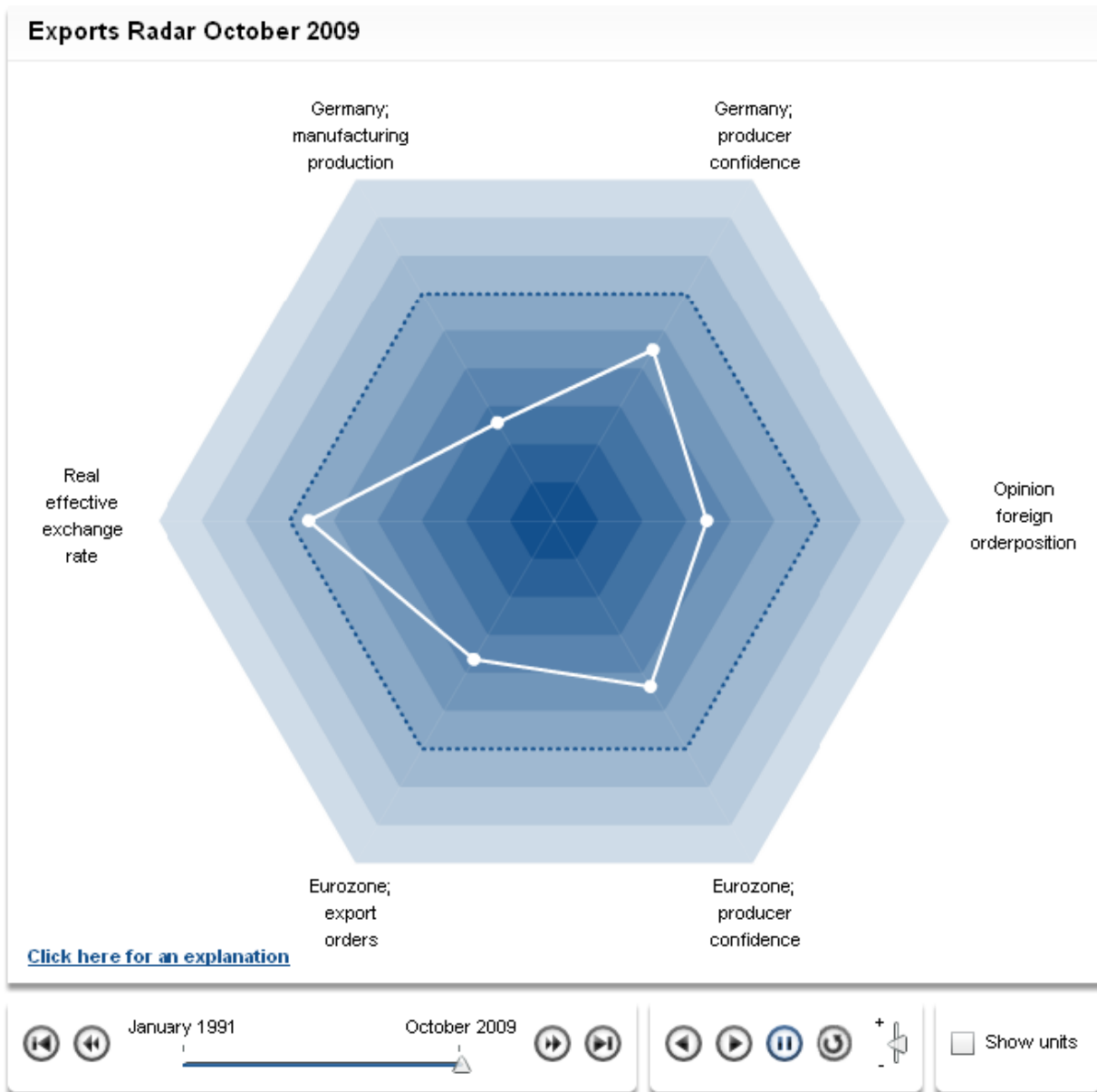
MEETINGS AND SEMINARS

2-4 November 2009: OECD Working Party on Financial statistics, Paris, France

4-6 November 2009: OECD Working Party on National accounts, Paris, France

9-10 November 2009: OECD Meeting of the Eurostat/OECD Task Force on Emission Permits in National Accounts, Luxembourg

19-20 November 2009: Meeting of Eurostat's European System of Accounts (ESA) Review Group, Luxembourg

7-9 December 2009: Friends of the Chair Group on Integrated Economic Statistics, Washington, D.C.

9-11 December 2009: Workshop to develop a regional programme for the improvement of economic statistics in Asia and the Pacific, Bangkok, Thailand

14-16 December 2009: International Seminar on Early Warning and Business Cycle Indicators, Scheveningen, the Netherlands

Editorial Note

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