Working Paper

No. 143. April 2016

Quasi-Real-Time Data of the Economic Tendency Survey

By Maria Billstam, Kristina Frändén, Johan Samuelsson and Pär Österholm

National Institute of Economic Research

Quasi-Real-Time Data of the Economic Tendency Survey*

Maria Billstam

Kristina Frändén

Johan Samuelsson

Pär Österholm♣

April 2016

* We are grateful to Göran Hjelm, Marcus Jansson, Ard den Reijer, Sven-Erik Sveder and seminar participants at the National Institute of Economic Research for valuable comments on this paper.

♣ Corresponding author. National Institute of Economic Research, Box 3116, 103 62 Stockholm, Sweden
e-mail: par.osterholm@konj.se Phone: +46 8 453 5948

WORKING PAPER NO 143, APRIL 2016

PUBLISHED BY THE NATIONAL INSTITUTE OF ECONOMIC RESEARCH (NIER)

NIER prepares analyses and forecasts of the Swedish and international economy and conducts related research. NIER is a government agency accountable to the Ministry of Finance and is financed largely by Swedish government funds. Like other government agencies, NIER has an independent status and is responsible for the assessments that it publishes.

The Working Paper series consists of publications of research reports and other detailed analyses. The reports may concern macroeconomic issues related to the forecasts of the institute, research in environmental economics, or problems of economic and statistical methods.

All publications can be downloaded directly from the NIER website.

NATIONAL INSTITUTE OF ECONOMIC RESEARCH, KUNGSGATAN 12-14, SE-103 62 STOCKHOLM
+46 8 453 59 00, REGISTRATOR@KONJ.SE, WWW.KONJ.SE/EN
ISSN 1650-996X

Abstract

Survey data from businesses and households are widely used for forecasting and economic analysis. In Sweden, the most important survey of this kind is the Economic Tendency Survey of the National Institute of Economic Research. A shortcoming with this survey is that real-time data of it largely are unavailable. In this paper, we describe how two quasi-real-time data sets of this survey have been constructed and made publicly available – one monthly and one quarterly. The data sets consist of monthly/quarterly vintages of the most important series of the survey, including the main confidence indicators. A natural usage of these data sets is evaluations of model-based forecasts and nowcasts. We illustrate this with an application to Swedish GDP growth. This shows that all models based on indicators from the Economic Tendency Survey, except the one relying on the confidence indicator for the construction industry, have higher forecast precision than the benchmark models.

JEL classification code: C83, E17

Keywords: Data revisions, Nowcasting

Sammanfattning

Enkätdata från företag och hushåll används ofta för ekonomiskt prognos- och analysarbete. I Sverige är den viktigaste enkäten av denna typ Konjunkturbarometern. Ett tillkortakommande med denna enkät är att realtidsdata från den inte finns i någon större utsträckning. I denna arbetsrapport beskriver vi hur två kvasirealtidsdataset för enkäten därför har konstruerats och gjorts tillgängliga för allmänheten – ett på månadsfrekvens och ett på kvartalsfrekvens. Varje månad/kvartal har uppsättningar av enkätens viktigaste serier genererats. Ett naturligt användningsområde för dessa data är utvärderingar av modellbaserat prognosarbete. Detta illustreras med en tillämpning för svensk BNP-tillväxt. Denna visar att samtliga modeller baserade på indikatorer från Konjunkturbarometern, utom den som använder sig av konfidensindikatorn för bygg- och anläggningsverksamhet, har högre prognosprecision än jämförelsemodellerna.

1. Introduction

The National Institute of Economic Research each month asks representatives of Swedish firms and households about the present economic situation and the outlook for the near future. The information is compiled in the *Economic Tendency Survey* – a publication whose purpose is to be a quickly available source of indicators pertaining to outcome, present situation and expectations for important economic variables.

The *Economic Tendency Survey* is the largest survey of its kind in Sweden and it is widely used for both forecasting and economic analysis concerning the Swedish economy. For those using the survey for such purposes, one problem is that most of the data presented are seasonally adjusted. In addition, a number of variables – primarily so called confidence indicators – are also standardised to have a mean of 100 and a standard deviation of 10. Such adjustments of the data mean that looking at a time series today, the value that it takes on for a particular point in time is likely to differ from what the value was according to an earlier publication/release. This problem is by no means unique to the *Economic Tendency Survey*; it is a well-known issue that researchers are aware that they may have to address when dealing with, for example, national accounts data (which can be substantially revised over time). The natural way to address the problem is to use data that reflect what an analyst, policymaker or forecaster would have had access to in real time; see, for example, Diebold and Rudebusch (1991), Croushore and Stark (2001), Orphanides (2001) and Herrmann *et al.* (2005) for important contributions on this topic. But while the usage of real-time data is the preferred solution to this type of problem, it is not always a feasible one. The typical obstacle to using real-time data is that they simply are not available. In some cases, real-time data can be created by going through historical records but often this is not possible.[1] For the *Economic Tendency Survey*, no real-time data set of relevant length exists, nor is it possible to construct one through the historical records.

In this paper we therefore document the creation of two *quasi-real-time* data sets for the *Economic Tendency Survey* which we have made publicly available.[2] By quasi-real-time data we mean data which are not actual real-time data but which have been created in order to provide a close approximation to real-time data. For several purposes, this will constitute a very good approximation to the data that the analyst, forecaster or researcher are interested in. One application for which the quasi-real-time data are highly relevant is the evaluation of models built for nowcasting. We accordingly illustrate the potential usage of the data set with an out-of-sample nowcast exercise for Swedish GDP growth in which we rely on data from the *Economic Tendency Survey* as explanatory variables.

---

[1] Even if it is possible, it might not be realistic in some cases since it may require very large amounts of work.

[2] The data set can be downloaded from www.konj.se/quasi-real-time-data

The rest of this paper is organised as follows: In Section 2, we describe the data of the *Economic Tendency Survey*. The construction of the quasi-real-time data sets is explained in Section 3. In Section 4, we illustrate the usage of the data by conducting an out-of-sample nowcast exercise for Swedish GDP growth. Finally, Section 5 concludes.

2. The *Economic Tendency Survey*

The *Economic Tendency Survey* of the National Institute of Economic Research is the largest survey of its kind in Sweden, including more than 6000 companies and 1500 households. Below we give a short description of the survey. For more details, the reader is referred to the user guide (National Institute of Economic Research, 2013).

2.1 Businesses

Stratified sampling of firms takes place through the business register of Statistics Sweden. The companies are divided into four categories: manufacturing industry, construction industry, trade and private service sector. The questionnaires are addressed to upper management and are designed to be filled out conveniently and quickly. The companies are asked questions concerning the development in recent months, the present situation and the outlook for the near future regarding, for example, output, new orders, employment and prices. For a detailed description of each question, see Appendix A.

Every third month – in January, April, July and October – the business survey contains more questions; for a detailed description of the questions, see Appendix B. This is why we generate two data sets, one monthly and one quarterly.

2.2 Households

Household data are obtained through telephone interviews with a random net sample of 1 500 individuals between 16 and 84 years of age. The questions asked refer both to the household's own economic situation and the aggregate economy. For a detailed description of the questions in this part of the survey, see Appendix C.

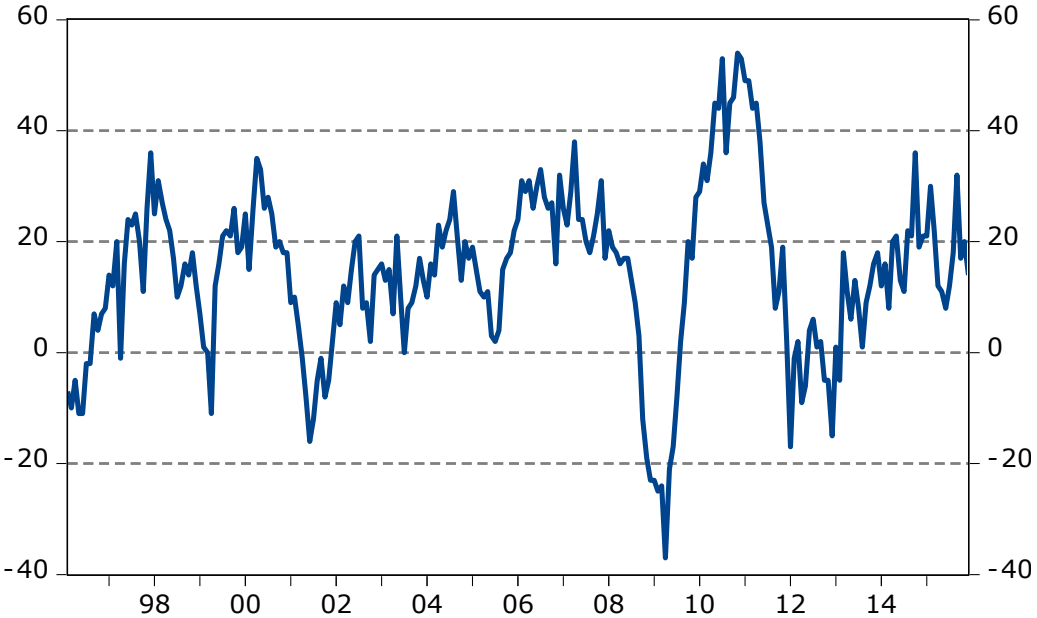
2.3 Presentation of the results

For questions of binominal or multinomial type (where the answers, for example, are increase/unchanged/decrease), the summarised weights for each response alternative are standard-

ised so that the percentages of the response alternatives add up to 100. To facilitate presentation and analyses of outcomes, the concept "net figures" or "balances" are employed, where a net figure/balance is the difference between the percentage of respondents reporting an increase and a decrease for a certain question. For example, if 45 percent of respondents state that there has been an increase, 25 percent that there has been no change and 30 percent that there has been a decrease, the net figure/balance is 45-30=15.[3]

As an illustration, consider the time series in Figure 1 which shows the seasonally adjusted net figures for the output volume over the past three months in the manufacturing industry (question BTVI101, see Appendix A) as given by the *Economic Tendency Survey* in December 2015. This shows, for example, how in April 2009 – as the effects of the global financial crisis were seriously affecting the Swedish economy – there were substantially more companies which had decreased their production relative to those who had increased it. The net figure of almost -40 reflects that approximately 54 percent of the companies (weighted share) had decreased their production whereas 14 percent (weighted share) had increased it; the remaining 32 percent (weighted share) had left it unchanged.

Figure 1. Output volume over the past three months in the manufacturing industry.

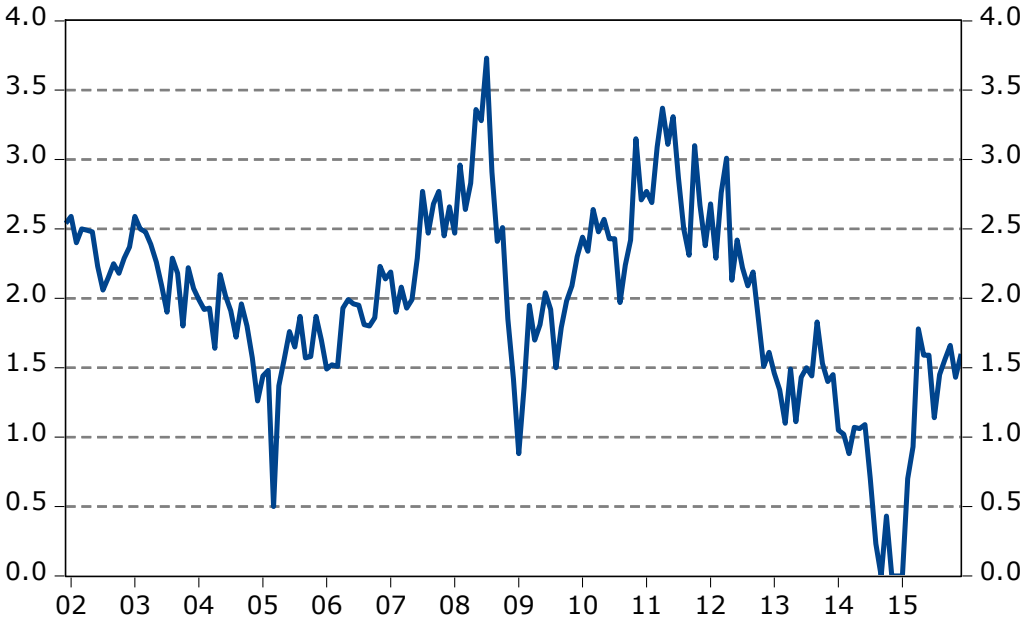


Note: Seasonally adjusted net numbers on the vertical axis. Data are from the *Economic Tendency Survey* of December 2015.

Not all series are presented using net figures though. For example, households' inflation expectations at the twelve-month horizon (question Q063, see Appendix C), which are shown in Figure 2, are simply given in percent.

[3] It can be noted that when conducting these calculations for the companies, a weighting coefficient is used for each firm representing an aspect of its size – either in terms of employment or value added. Having obtained the results for each stratum, weighting coefficients are used to reflect the relative significance of each stratum in the frame or population.

Figure 2. Households' inflation expectations.



Note: Percent on the vertical axis. Data are from the *Economic Tendency Survey* of December 2015.

Having briefly described the survey, we next turn to the construction of the quasi-real-time data sets.

3. Quasi-real-time data

The raw data that underlie indicators and individual questions in the *Economic Tendency Survey* are not revised, except on the relatively rare occasion when an error has to be corrected. This means that for the raw data, the latest data vintage is almost identical to true real-time data (differing only with respect to the corrected errors). The quasi-real-time data can therefore be generated in a straight-forward manner. For individual questions, it is done in the following three steps:

I. Set the sample to the relevant time period.
II. Copy the raw data of the series as they appear.
III. If applicable: Seasonally adjust the series.[4]

For indicators and other variables that are generated based on two or more series, the following steps are also conducted:

IV. If applicable: Standardise the series used in the calculation.
V. Weigh the (potentially standardised) series together using the appropriate weights.

[4] For questions that are not seasonally adjusted or transformed, the latest vintage of data is – just like the case for the raw data – the same as real-time data, except for corrected errors. This applies to, for example, Q050, Q053, Q060, Q063, Q183, Q193 and Q203.

VI. If applicable: Standardise the weighted series. For example, confidence indicators have a mean of 100 and a standard deviation of 10.

Having conducted these steps, a vintage of data has been generated. To generate several vintages, we simply repeat steps I to VI.[5]

Based on the above method, we generate vintages of time series which show how different variables in the *Economic Tendency Survey* would have looked in real time if today's methods concerning seasonal adjustment, standardisation and weighing would have been employed. For recent vintages, our method generates data that are identical to what proper real-time data would have looked like. For older vintages, on the other hand, there will be a difference. The difference will partly be due to methodological changes – such as different methods for seasonal adjustment and different choices concerning standardisation – but also to the above mentioned fact that errors may have been corrected. Whether this difference matters to the potential user of this data set depends on the purpose behind using the data. For example, if one wants to conduct a study of how the *Economic Tendency Survey* has affected stock prices, the exact information content of the survey in real time is a key issue; the quasi-real-time data set here should accordingly not be used in such a case. If, on the other hand, one is interested in developing a new forecasting model based on variables from the survey and want to evaluate its out-of-sample forecast performance, the quasi-real-time data set should be very useful since they address the issues that we mainly are concerned might distort the analysis, namely seasonal adjustment and standardisation. For this purpose the quasi-real-time data should accordingly be close to a perfect substitute to actual real-time data.

3.1 A monthly quasi-real-time data set

The questions, indicators and other variables included in the monthly data set are given in appendices A and C. We generate 192 vintages of monthly data. The first reflects the *Economic Tendency Survey* of January 2000. The last reflects the survey of December 2015. Since different questions have been included in the survey at different points in time, the number of variables included in the survey varies with the vintage. The vintage from which a particular question, indicator or other variable is available – as well as the starting point of the time series in question – can also be found in appendices A and C. For example, the Economic Tendency Indicator (KIFI) is available from the first data vintage, that is, that of January 2000. Its starting date is July 1996 which means that the first vintage has 43 observations. Households' expectations on the variable home loan rate at

[5] As an exception, the variables with the suffixes "ORDP", "SYSP", "SYSA" and "PRIA" are generated in a sligthly different manner: I. Set the sample to the relevant time period. II. Copy the raw data of the series as they appear. III. Weigh the series together using the appropriate weigths. IV. Seasonally adjust the weighted series.

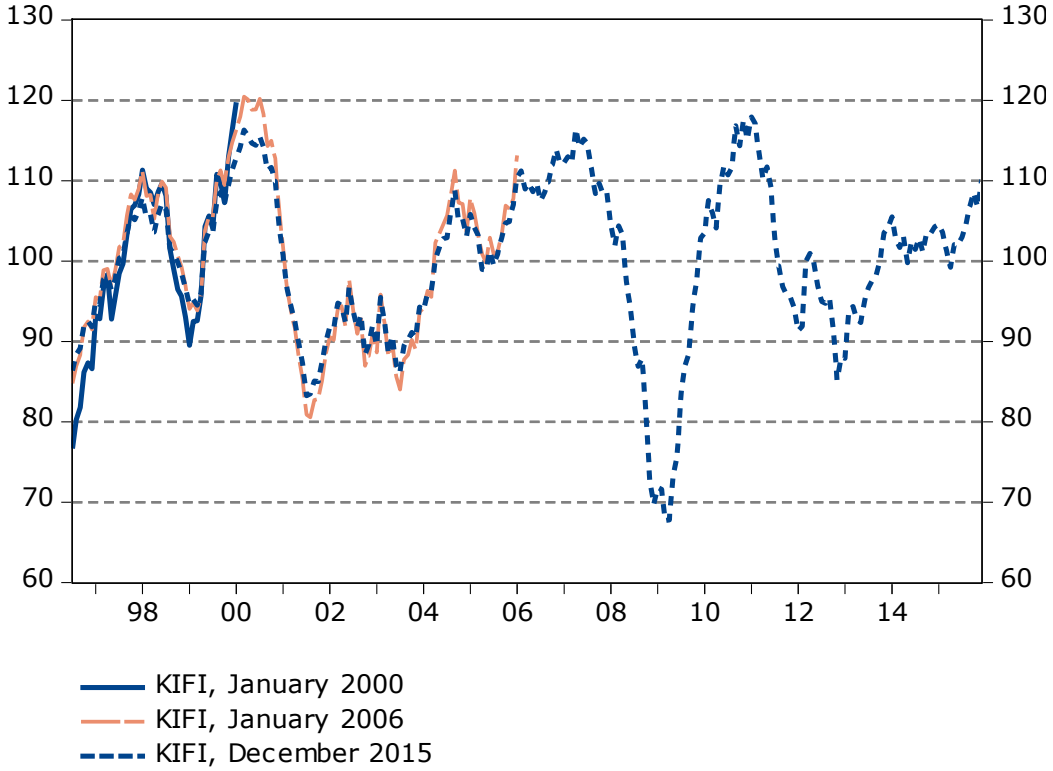
the one-, two- and five-year horizon (questions Q183, Q193 and Q203, see Appendix C), on the other hand, are available only from the vintage of February 2010; this date also corresponds to the first observations for these three series.

As was described above, many time series have been seasonally adjusted. For individual questions, this is indicated with the suffix "S" in the name of the variable.[6] For example, net figures for the output volume over the past three months in the manufacturing industry are given by BTVI101 and the seasonally adjusted net figures are given by BTVI101S. It should be noted though that while indicators such as the consumer confidence indicator (BHUSCON) and the Economic Tendency Indicator (KIFI) are based on seasonally adjusted data, they do not have the suffix "S". The seasonal adjustment is conducted on no less than three years of data. This means that in some cases, the first vintage in which a variable is included will differ between the original series and the seasonally adjusted one. This is indicated with two dates for the first vintage in which the series in question is included; the date for the seasonally adjusted data is indicated with the suffix "s". For an example, January 2000 is the first vintage in which BTVI107 is included. The first vintage in which the seasonally adjusted series BTVI107S is included is July 2002 (since the first observation of BTVI107 is July 1999); see Appendix A for details.

Figure 3 shows three different vintages the Economic Tendency Indicator (KIFI) from the monthly quasi-real-time data set. As can be seen, the three vintages look fairly similar but they are not identical. As an example, we can note that between September 1996 and February 1997, the difference between the January 2006 and December 2015 vintages is small (always less than 0.8 index units). However, between March and August 2000, the difference between the same two vintages is never less than 4 units.

[6] It also applies to the variables with the suffixes "ORDP", "SYSP", "SYSA"and "PRIA".

Figure 3. Different vintages of the Economic Tendency Indicator.

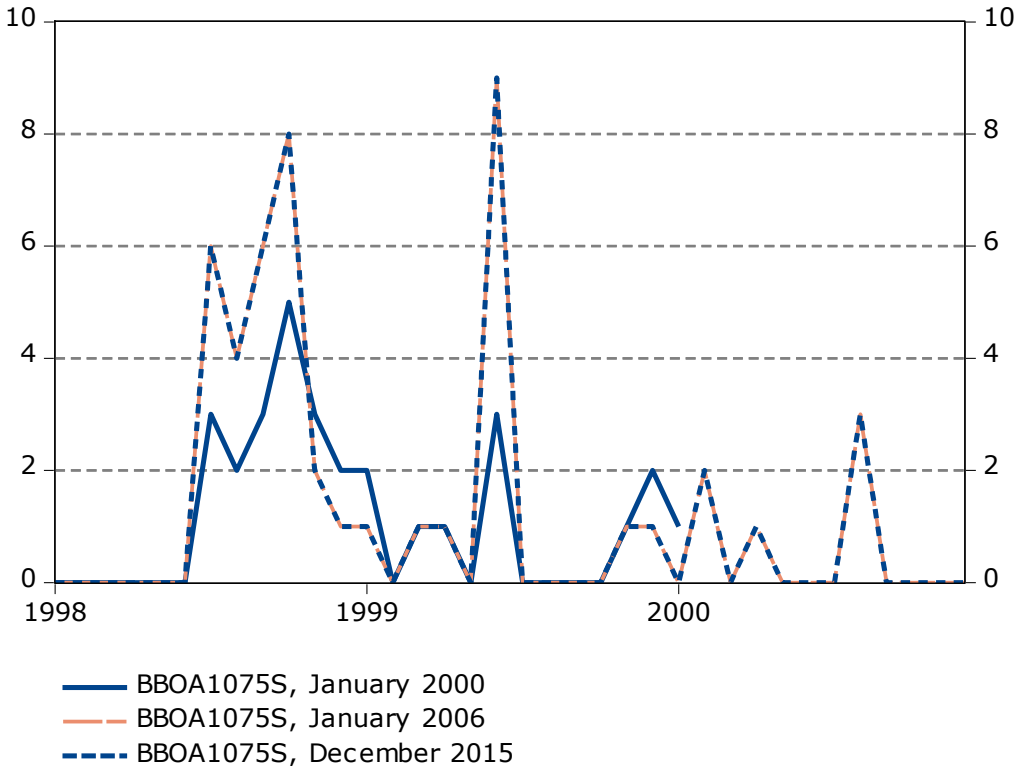


Note: Index numbers on the vertical axis. "KIFI" is the Economic Tendency Indicator. Data are from the quasi-real-time data vintages of January 2000, January 2006 and December 2015.

In Figure 4, different vintages are shown of the seasonally adjusted figures corresponding to the (weighted) share of companies in the construction industry that answered that the weather currently was the main obstacle to increased activity (BBOA1075S). Note that the sample in the figure is January 1988 to December 2000 in order to make differences clearer.[7] Looking at the figure, we see that there is no difference at all – at any point in time – between the January 2006 and December 2015 vintages. Comparing these series to the January 2000 vintage though, it is clear that the seasonal adjustment matters from a real-time perspective, even if the differences by no means are dramatic. For example, the seasonally adjusted value for June 1999 is 3 in the January 2000 vintage but 9 in the January 2006 and December 2015 vintages.

[7] For data plotted over the full sample, see Figure D1 in Appendix D.

Figure 4. Different vintages of the share of companies in the construction industry whose main obstacle to increased activity was the weather, January 1998 to December 2000.



Note: Percent on the vertical axis. Seasonally adjusted data data from the quasi-real-time data vintages of January 2000, January 2006 and December 2015.

Above we have shown just a few examples of how time series look different depending on data vintage. We will not illustrate this issue further since it now should be clear that the real-time aspect of data could matter when using the *Economic Tendency Survey* for analysis. The full monthly data set can be downloaded from www.konj.se/quasi-real-time-data.

3.2 A Quarterly quasi-real-time data set

Turning to the quarterly data, the questions, indicators and other variables included in the data set are given in Appendix B. It should be noted that the quarterly data set only contains data from the business survey (since it is this part of the survey that differs in January, April, July and October). We generate 64 vintages of quarterly data. The first reflects the *Economic Tendency Survey* of January 2000. The last reflects the survey of October 2015. Similar to the case of the monthly survey, different questions have been included in the survey at different points in time; the number of variables included in the survey therefore varies with the vintage also in this case. The vintage from which a particular question, indicator or other variable is available – as well as the starting point of the time series in question – can also be found in Appendix B. The full quarterly data set can be downloaded from www.konj.se/quasi-real-time-data.

4. Empirical illustration: Nowcasting GDP growth using indicators

The main purpose for developing the data sets presented above is to allow for model-based out-of-sample nowcast or forecast evaluations to be conducted in the best possible manner. Variables from the *Economic Tendency Survey* are often used as explanatory variables in models developed for this purpose since it is assumed that they provide early information on the economic situation which is relevant to nowcasters/forecasters. However, until recently such evaluations have typically relied on ex post data from the survey since these are the ones that have been available.[8] For variables that are seasonally adjusted and/or standardised, this introduces an error which could lead to, for example, forecast precision being over- or understated. If one is unfortunate, this could lead to the wrong conclusions being drawn. Having developed the quasi-real-time data sets for the *Economic Tendency Survey*, one can now minimise the errors when conducting this type of analysis. We next illustrate this issue in an empirical application where we nowcast Swedish GDP growth.

By "nowcast", we mean that we are trying to predict the GDP growth associated with a certain quarter when standing partway through the quarter in question.[9] Seeing that GDP is a national accounts variable which tends to be revised as time passes, we follow standard practice and use real-time data on GDP growth for our analysis.[10] We compare the nowcasting performance of the Economic Tendency Indicator and six confidence indicators from the *Economic Tendency Survey* for Swedish GDP growth in two cases. First, we use ex post data from the *Economic Tendency Survey*; these are given by the December 2015 vintage. One quarterly time series per variable is constructed by using the February observations for Q1, the May observations for Q2, the July observations for Q3 and the November observations for Q4.[11] Second, we use the monthly quasi-real-time data described above. In a similar manner to the ex post data, quarterly time series are generated based on the monthly data. However, in this case, one quarterly time series per variable is constructed *for each data vintage*.

The out-of-sample nowcast exercise is conducted the following way: A number of models (specified below) are used. The first nowcast employs data on GDP growth from 1996Q3 to 2003Q4.

[8] See, for example, Hansson *et al*. (2005) and Assarsson and Österholm (2015). Österholm (2014) also relied on ex post data but since the analysis was conducted using net figures which had not been seasonally adjusted, this was equivalent to using real-time data (subject to corrected errors).

[9] See, for example, Banbura *et al*. (2011) and Andersson and den Reijer (2015) for examples of nowcasting.

[10] The real-time data for GDP which have been used are based on the seasonal adjustment of the National Institute of Economic Research for vintages up to and including the vintage published in November 2010; these data are not identical to those published by Statistics Sweden. Later vintages – starting with that published in March 2011 – are based on the seasonal adjustment of Statistics Sweden.

[11] The reason for using this timing is that it reflects how Swedish national accounts are published and, hence, how many forecasters use the data.

This corresponds to national accounts data which would have been released in early March 2004. The survey data that would have been available for nowcasting at this point in time correspond to the *Economic Tendency Survey* published in February 2004 (where the value for this month is used for 2004Q1 as described above). Using these data, each estimated model generates a nowcast for 2004Q1. The sample is then expanded one quarter and new nowcasts are generated, and so forth. The final nowcast is based on GDP data from 1996Q3 to 2015Q2 and it is the nowcasts for 2015Q3 which are evaluated. In total, we evaluate 47 nowcasts for each estimated model.

Two simple alternative models are used as reference points. First, we rely on a model with only a constant:

$$g_t = c + e_t \tag{1}$$

where $g_t = 100(Y_t - Y_{t-1})/Y_{t-1}$, where Y_t is GDP in period t and e_t is an error term. Outperforming this model will be the requirement for a model to have *positive nowcast content*;[12] if a model cannot beat the model which simply says that the growth rate will be the (estimated) historical average, it should have little value to a nowcaster. Second, we also employ an AR(1) model:

$$g_t = c + \rho g_{t-1} + e_t \tag{2}$$

Due to its simplicity and flexibility, the AR(1) model is a commonly employed benchmark model in applied macroeconomic work.[13] Apart from these two models, we also estimate six models for each set of survey data (that is, ex post and quasi-real-time). Each model has the form

$$g_t = c + bS_t + e_t \tag{3}$$

where S_t is an indicator based on survey data.

We rely on the root mean square error (RMSE) of the nowcast as our criterion to evaluate the nowcast performance of the models. This is calculated as

$$RMSE = \sqrt{(1/n)\sum_{i=0}^{n-1}\left(v_{t+i|t+i}\right)^2} \tag{4}$$

[12] Assessing the nowcast content based on the performance of a model relative to that of the historical average is in line with Galbraith (2003). Outperforming (in RMSE terms) the forecast provided by the unconditional average is also the criterion used by Andersson (2000) to establish "forecast memory".

[13] See, for example, Mitchell (2009) or Pesaran *et al*. (2009).

where $v_{t+i|t+i} = g_{t+i} - \hat{g}_{t+i|t+i}$, where $v_{t+i|t+i}$ is the nowcast error, g_{t+i} the outcome and $\hat{g}_{t+i|t+i}$ the nowcast of GDP growth at time *t*+*i* made at *t*+*i*.

Results from this exercise can be found in Table 1, where we first turn to the analysis using ex post data which can be found in the left column. As can be seen, the RMSE of all models except that relying on BBOACON (that is, the confidence indicator for the construction industry) is lower than that from equation (1). Put differently, all investigated variables except BBOACON appear to have positive nowcast content. Comparing the RMSEs to each other, we find that the lowest RMSE is found for BHUSCON (the consumer confidence indicator), closely followed by KIFI (the Economic Tendency Indicator). Overall though, differences between most models using survey data are small and should not be exaggerated.

Table 1. RMSEs when nowcasting GDP growth.

	Ex post data	Quasi-real-time data
Equation (1) [Constant]	0.803	0.803
Equation (2) [AR(1)]	0.794	0.794
Equation (3)		
BHUSCON	0.671	0.653
KIFI	0.685	0.678
BTOTCON	0.701	0.695
BTVICON	0.707	0.696
BBOACON	0.814	0.813
BTJACON	0.703	0.705
BHANCON	0.737	0.728

Note: "Ex post data" and "Quasi-real-time data" refer to the indicators from the *Economic Tendency Survey*; data on GDP growth are in all cases real-time data. Variables based on survey data are defined in appendices A and B.

The results just discussed illustrate conclusions one might draw from a very simple out-of-sample forecast exercise where ex post data for the *Economic Tendency Survey* have been used. So how sensitive are the conclusions drawn with respect to the fact that we relied on ex post data? Were RMSEs over- or understated? Were any incorrect conclusions drawn? In order to answer such questions, we next turn to the analysis using quasi-real-time data.

As can be seen from the right column in Table 1, it can first be noted that the RMSEs using the quasi-real-time data in all cases are close to those when ex post data were used. In general, the RMSEs tend to be lower when using the quasi-real-time data; the RMSE is higher only for BTJACON (the confidence indicator in the service sector). Overall though, it seems fair to say that no serious over- or understatement of forecast precision was introduced by using the ex post data.

If we finally look at the relative performance of the different indicators, we see that the ranking of the models is almost identical.[14] Also when using the quasi-real-time data does BHUSCON have the lowest RMSE, closely followed by KIFI. BBOACON is still the only indicator associated with an RMSE larger than that of equation (1).

Summing up this exercise, it can be concluded that only minor differences were found when using quasi-real-time data instead of ex post data. Our results suggest that for the simple models studied here, one would not have been seriously mislead by using the ex post data. This finding should, however, not be interpreted as a reason not to use the quasi-real-time data. Because while we have established that the error committed by using ex post data in this particular application was small, we had to conduct the above analysis to reach this insight. If this had not been done, we simply would not have known this. And while we maybe could argue in other applications that the error from using ex post data is likely to be small – based on, for example, the findings of this study – we will never know exactly how big the error is in a given application unless we do the analysis. It accordingly seems easier to simply use the quasi-real-time data to begin with.

5. Conclusions

In this paper we have documented two quasi-real-time data sets of the *Economic Tendency Survey*. The data sets consist of monthly/quarterly vintages of the most important series of the survey. A natural usage of these data sets is evaluations of model-based nowcasts and forecasts. We have accordingly illustrated how the data sets can be employed by conducting an out-of-sample nowcast exercise for Swedish GDP growth in which data from the *Economic Tendency Survey* act as explanatory variables. This shows that all studied indicators from the survey – except the confidence indicator for the construction industry – have positive nowcast content for GDP growth.

While the quasi-real-time data do not solve all problems that the applied researcher using the *Economic Tendency Survey* might face, it should help address a few of them. The quasi-real-time data should be the natural starting point when conducting, for example, an out-of-sample nowcast or forecast exercise; it is after all the best approximation to real-time data that we have. The data sets should also be useful when studying a range of other questions, including issues concerning the survey itself. For example, one could investigate quality aspects of seasonal adjustment. Such analysis could contribute not only to our understanding of the properties of the time series in the *Economic Tendency Survey* in particular, but also to a widening regarding our knowledge of the behaviour of data based on similar surveys in general.

[14] The only difference is that BTJACON and BTVICON have switched places.

References

Andersson, M. K. (2000), "Do Long-Memory Models Have Long Memory?", *International Journal of Forecasting* 16, 121-124.

Andersson, M. K. and den Reijer, A. H. J. (2015), "Nowcasting", *Sveriges Riksbank Economic Review* 2015:1, 75-89.

Assarsson, B. and Österholm, P. (2015), "Do Swedish Confidence Indicators Do What They Are Intended to Do?", Forthcoming in *Applied Economics Quarterly*.

Banbura, M., Giannone, D. and Reichlin, L. (2011), "Nowcasting", in Clements, M. P. and Hendry, D. F. (eds), *The Oxford Handbook of Economic Forecasting*. Oxford University Press, New York.

Croushore, D. and Stark, T. (2001), "A Real-Time Data Set for Macroeconomists", *Journal of Econometrics* 105, 111-130.

Diebold, F. X. and Rudebusch, G. D. (1991), "Forecasting Output With the Composite Leading Index: A Real-time Analysis", *Journal of the American Statistical Association* 86, 603-610

Galbraith, J. W. (2003) "Content Horizons for Univariate Time Series Forecasts", *International Journal of Forecasting* 19, 43-55.

Hansson, J., Jansson, P. and Löf, M. (2005), "Business Survey Data: Do They Help in Forecasting GDP Growth?" *International Journal of Forecasting* 21, 377–389.

Herrmann, H., Orphanides, A. and Siklos, P. (2005), "Real-Time Data and Monetary Policy", *North American Journal of Economics and Finance* 16, 271-276.

Mitchell, J. (2009), "Where Are We Now? The UK Recession and Nowcasting GDP Growth Using Statistical Models", *National Institute Economic Review* 209, 60-69.

National Institute of Economic Research (2013), *User Guide to the Economic Tendency Survey*. http://www.konj.se/user-guide-economic-tendency-survey

Orphanides, A. (2001), "Monetary Policy Rules Based on Real-Time Data", *American Economic Review* 91, 964-985.

Österholm, P. (2014), "Survey Data and Short-Term Forecasts of Swedish GDP Growth", *Applied Economics Letters* 21, 135-139.

Pesaran, M. H., Schuermann, T. and Smith, L. V. (2009), "Forecasting Economic and Financial Variables with Global VARs", *International Journal of Forecasting* 25, 642-675.

Wallis, K. F. (1982), "Seasonal Adjustment and Revision of Current Data: Linear Filters for the X-11 Method", *Journal of the Royal Statistical Society, Series A* 145, 74-85.

Appendix A – Variable names for indicators and questions referring to businesses included in the monthly data set

Total business sector

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BTOTCON**	**1996m07**	**2000m1**
Demand, present situation assessment *(weighted average of the balances of BTVI104, BBOA104, BHAN102 and BTJA103)*	**BTOTORDP**	**2001m01**	**2001m01/ 2004m01s**
The number of employees in the firm has over the past 3 months: *(weighted average of the balances of BTVI107, BBOA106, BHAN104 and BTJA105)*	**BTOTSYSP**	**2001m01**	**2001m01/ 2004m01s**
The number of employees in the firm is expected in the next 3 months to: *(weighted average of the balances of BTVI204, BBOA204, BHAN204 and BTJA203)*	**BTOTSYSA**	**2001m01**	**2001m01/ 2004m01s**
Prices are expected in the next 3 months to: *(weighted average of the balances of BTVIPRIA, BBOA202, BHAN202 and BTJA202)*	**BTOTPRIA**	**2010m05**	**2010m05/ 2013m05s**

Manufacturing industry

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BTVICON**	**1996m02**	**2000m01**
Output volume has over the past 3 months: Increased Unchanged Decreased	**BTVI101**	**1996m02**	**2000m01**
New orders from the domestic market have over the past 3 months: Increased Unchanged Decreased	**BTVI102**	**1996m02**	**2000m01**
New orders from the export market have over the past 3 months: Increased Unchanged Decreased	**BTVI103**	**1996m02**	**2000m01**
New orders have over the past 3 months: *(weighted average of BTVI102 and BTVI103)*	**BTVIORDP**	**1996m02**	**2000m01**
The total order book is currently: Relativlely large Sufficient Too small	**BTVI104**	**1996m02**	**2000m01**
The export order book is currently: Relativlely large Sufficient Too small	**BTVI105**	**1996m02**	**2000m01**

Question/Indicator	Name	First obs.	First vintage
Finished inventories are currently: Too large Sufficient Too small	**BTVI106**	**1996m02**	**2000m01**
The number of employees in the firm has over the past 3 months: Increased Unchanged Decreased	**BTVI107**	**1999m07**	**2000m01/ 2002m07s**
Output volume is expected in the next 3 months to: Increase Unchanged Decrease	**BTVI201**	**1996m02**	**2000m01**
Selling prices on the domestic market are expected in the next 3 months to: Increase Unchanged Decrease	**BTVI202**	**1996m02**	**2000m01**
Selling prices on the export market are expected in the next 3 months to: Increase Unchanged Decrease	**BTVI203**	**1996m02**	**2000m01**
Selling prices (in SEK) are expected in the next 3 months to: *(weighted avereage of BTVI202 and BTVI203)* Increase Unchanged Decrease	**BTVIPRIA**	**1996m02**	**2000m01**
The number of employees in the firm is expected in the next 3 months to: Increase Unchanged Decrease	**BTVI204**	**1999m07**	**2000m01/ 2002m07s**

Three subsectors of the manufacturing industry are also included in the data set: "investment goods", "intermediate goods" and "consumer goods". The questions asked are the same in all cases but the variable names are given with a different prefix. For "investment goods" the prefix is "BINVE", for "intermediate goods" it is "BINTM" and for "consumer goods", it is "BCONS". The question concerning output volume over the past three months is accordingly called BINVE101, BINTM101 and BCONS101 for the three subsectors respectively. The other questions and indicators for these subsectors are named according to the same principle. The first observation of the raw data for the subsectors is in all three cases January 2000. Accordingly, the raw data first appear in the January 2000 vintage and the seasonally adjusted data in the January 2003 vintage.

Construction of buildings and civil engineering

Question/Indicator	Name	First obs.	First vintage
Confidence indicator	**BBOACON**	**1996m02**	**2000m01**
Index, mean = 100			
Building activity has over the past 3 months:	**BBOA101**	**1996m02**	**2000m01**
Increased			
Unchanged			
Decreased			
Tender prices have over the past 3 months:	**BBOA102**	**1996m02**	**2000m01**
Increased			
Unchanged			
Decreased			
The order book has over the past 3 months:	**BBOA103**	**1996m02**	**2000m01**
Increased			
Unchanged			
Decreased			
The order book is currently:	**BBOA104**	**1996m02**	**2000m01**
Increased			
Unchanged			
Decreased			
The number of employees in the firm has over the past 3 months:	**BBOA106**	**1996m02**	**2000m01**
Increased			
Unchanged			
Decreased			
Which factor is currently the main obstacle to increased construction activity?			
None	**BBOA1071**	**1996m02**	**2000m01**
Insufficient demand	**BBOA1072**	**1996m02**	**2000m01**
Shortage of plant capacity and/or building materials	**BBOA1073**	**1996m02**	**2000m01**
Labour shortage	**BBOA1074**	**1996m02**	**2000m01**
Weather	**BBOA1075**	**1996m02**	**2000m01**
Financial restrictions	**BBOA1076**	**2003m05**	**2003m05/ 2006m05s**
Other factors	**BBOA1077**	**1996m02**	**2000m01**
Construction activity is expected in the next 3 months to:	**BBOA201**	**1996m02**	**2000m01**
Increase			
Unchanged			
Decrease			
Tender prices are expected in the next 3 months to:	**BBOA202**	**1996m02**	**2000m01**
Increase			
Unchanged			
Decrease			
The order book is expected in the next 3 months to:	**BBOA203**	**1996m02**	**2000m01**
Increase			
Unchanged			
Decrease			
The number of employees in the firm is expected in the next 3 months to:	**BBOA204**	**1996m02**	**2000m01**
Increase			
Unchanged			
Decrease			

Trade

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BHANCON**	**1996m07**	**2000m01**
The sales volume has over the past 3 months: Increased Unchanged Decreased	**BHAN101**	**1996m07**	**2000m01**
The firm's current sales situation is considered to be: Good Satisfactory Weak	**BHAN102**	**1996m07**	**2000m01**
Inventories are currently considered to be: Too large Sufficient Too small	**BHAN103**	**1996m07**	**2000m01**
The number of employees has over the past 3 months: Increased Unchanged Decreased	**BHAN104**	**1999m05**	**2000m01/ 2002m05s**
The sales volume is expected in the next 3 months to: Increase Unchanged Decrease	**BHAN201**	**1996m07**	**2000m01**
Selling prices are expected in the next 3 months to: Increase Unchanged Decrease	**BHAN202**	**2003m05**	**2003m05/ 2006m05s**
Purchases of goods are expected in the next 3 months to: Increase Unchanged Decrease	**BHAN203**	**1996m07**	**2000m01**
The number of employees is expected in the next 3 months to: Increase Unchanged Decrease	**BHAN204**	**1999m05**	**2000m01/ 2002m05s**
The firm's sales situation in 6 months' time is expected to be: Better Unchanged Weaker	**BHAN205**	**1996m07**	**2000m01**

The subsector "retail trade" is also included in the data set. The questions asked are the same as for "trade" in all cases but the variable names are given with a different prefix, "BDHAN". The question concerning sales volume over the past three months is accordingly called BDHAN101. The other questions and indicators are named according to the same principle. First observations and first vintages for the BDHAN variables are the same as for the BHAN variables.

Private service sector

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BTJACON**	**1996m01**	**2000m01**
How have the firm's operations developed over the past 3 months? Improved Unchanged Deteriorated	**BTJA101**	**2003m04**	**2003m04/ 2006m04s**
Demand for the firm's services has over the past 3 months: Increased Unchanged Decreased	**BTJA102**	**2001m12**	**2001m12/ 2004m12s**
The volume of assignments/orders on hand is currently considered to be: Relatively large Sufficient Too small	**BTJA103**	**2001m12**	**2001m12/ 2004m12s**
Selling prices have over the past 3 months: Increased Unchanged Decreased	**BTJA104**	**2003m04**	**2003m04/ 2006m04s**
The number of employees has over the past 3 months: Increased Unchanged Decreased	**BTJA105**	**2001m12**	**2001m12/ 2004m12s**
Demand for the firm's services is expected in the next 3 months to: Increase Unchanged Decrease	**BTJA201**	**2001m12**	**2001m12/ 2004m12s**
Selling prices are expected in the next 3 months to: Increase Unchanged Decrease	**BTJA202**	**2003m04**	**2003m04/ 2006m04s**
The number of employees is expected in the next 3 months to: Increase Unchanged Decrease	**BTJA203**	**2001m12**	**2001m12/ 2004m12s**

Appendix B – Variable names for indicators and questions referring to businesses included in the quarterly data set

Total business sector

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BTOTCON**	**1996q2**	**2000q1**
Demand, present situation assessment *(weighted average of the balances of BTVI109, BBOA104, BHAN102 and BTJA103)*	**BTOTORDP**	**1996q3**	**2000q1**
The number of employees in the firm has over the past 3 months: *(weighted average of the balances of BTVI116, BBOA106, BHAN105 and BTJA106)*	**BTOTSYSP**	**1996q2**	**2000q1**
The number of employees in the firm is expected in the next 3 months to: *(weighted average of the balances of BTVI207, BBOA204, BHAN203 and BTJA203)*	**BTOTSYSA**	**1996q2**	**2000q1**
Prices has over the past 3 months: *(weighted average of the balances of BTVIPRIP, BBOA102, BHAN107 and BTJA104)*	**BTOTPRIP**	**1996q2**	**2000q1**
Prices are expected in the next 3 months to: *(weighted average of the balances of BTVIPRIA, BBOA202, BHAN204 and BTJA202)*	**BTOTPRIA**	**1996q2**	**2000q1**
Profitability *(weighted average of the balances of BTVI115, BHAN108 and BTJA105)*	**BTOTLON**	**2003q2**	**2003q2/ 2006q2s**
Labour shortage *(weighted average of the balances of BTVI901, BBOA1074, BHAN106 and BTJA107)*	**BTOTBRIP**	**1996q2**	**2000q1**

Manufacturing industry

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BTVICON**	**1964q2**	**2000q1**
Output volume has over the past 3 months: Increased Unchanged Decreased	**BTVI101**	**1964q2**	**2000q1**
Production capacity has over the past 3 months: Increased Unchanged Decreased	**BTVI102**	**1964q2**	**2000q1**
The firm's production capacity is currently: More than sufficient Sufficient Not sufficient	**BTVI103**	**1996q2**	**2000q1**
Current capacity utilisation is estimated at around: …… percent	**BTVI104**	**1996q2**	**2000q1**
Selling prices (in SEK) on the domestic market have over the past 3 months: Increased Unchanged Decreased	**BTVI105**	**1964q2**	**2000q1**
Selling prices (in SEK) on the export market have over the past 3 months: Increased Unchanged Decreased	**BTVI106**	**1964q2**	**2000q1**
Selling prices (in SEK) have over the past 3 months: *(weighted average of balances of BTVI105 and BTVI106)*	**BTVIPRIP**	**1964q2**	**2000q1**
New orders from the domestic market have over the past 3 months: Increased Unchanged Decreased	**BTVI107**	**1964q2**	**2000q1**
New orders from the export market have over the past 3 months: Increased Unchanged Decreased	**BTVI108**	**1964q2**	**2000q1**
New orders have over the past 3 months: *(weighted average of the balances of BTVI107 and BTVI108)*	**BTVIORDP**	**1964q2**	**2000q1**
The total order book is currently: Relatively large Sufficient Too small	**BTVI109**	**1964q2**	**2000q1**
The export order book is currently: Relatively large Sufficient Too small	**BTVI110**	**1996q2**	**2000q1**
How many production weeks are covered by the current order book? Around …… weeks	**BTVI111**	**1996q2**	**2000q1**
How has the firm´s competitive situation changed on the domestic market over the past 3 months? Improved Unchanged Worsened	**BTVI112**	**1996q2**	**2000q1**

Question/Indicator	Name	First obs.	First vintage
How has the firm´s competitive situation changed on the EU-market over the past 3 months?	**BTVI113**	**1996q2**	**2000q1**
Improved			
Unchanged			
Worsened			
How has the firm´s competitive situation changed outside the EU over the past 3 months?	**BTVI114**	**1996q2**	**2000q1**
Improved			
Unchanged			
Worsened			
Current profitability is:	**BTVI115**	**1996q2**	**2000q1**
Good			
Satisfactory			
Poor			
The number of employees in the firm has over the past 3 months:	**BTVI116**	**1978q2**	**2000q1**
Increased			
Unchanged			
Decreased			
Is there currently a shortage of skilled labour?	**BTVI117**	**1964q2**	**2000q1**
Yes			
No			
Is there currently a shortage of technical staff?	**BTVI118**	**1964q2**	**2000q1**
Yes			
No			
Is there currently a shortage of other staff?	**BTVI119**	**1996q2**	**2000q1**
Yes			
No			
Shortage of staff	**BTVI901**	**1995q2**	**2000q1**
(Yes on any of BTVI117-119)			
Raw materials inventories are currently:	**BTVI120**	**1964q2**	**2000q1**
Too large			
Sufficient			
Too small			
Finished inventories have over the past 3 months:	**BTVI121**	**1964q2**	**2000q1**
Increased			
Unchanged			
Decreased			
Finished inventories are currently:	**BTVI122**	**1964q2**	**2000q1**
Too large			
Sufficient			
Too small			
Which factor is currently the main obstacle to increased production?			
None	**BTVI123**	**1996q2**	**2000q1**
insufficient demand	**BTVI124**	**1968q2**	**2000q1**
shortage of machinery and plant	**BTVI125**	**1968q2**	**2000q1**
labour shortage	**BTVI126**	**1968q2**	**2000q1**
financial restrictions	**BTVI127**	**2003q3**	**2003q3/2006q3s**
other factor	**BTVI128**	**1968q2**	**2000q1**
Production factors as the main obstacle to increased production	**BTVIRAS**	**1968q2**	**2000q1**
(BTVI125 or BTVI126 or BTVI128)			

Question/Indicator	Name	First obs.	First vintage
Output volume is expected in the next 3 months to: Increase Unchanged Decrease	**BTVI201**	**1964q1**	**2000q1**
Production capacity is expected in the next 3 months to: Increase Unchanged Decrease	**BTVI202**	**1964q2**	**2000q1**
Selling prices (in SEK) on the domestic market are expected in the next 3 months to: Increase Unchanged Decrease	**BTVI203**	**1964q1**	**2000q1**
Selling prices (in SEK) on the export market are expected in the next 3 months to: Increase Unchanged Decrease	**BTVI204**	**1964q1**	**2000q1**
Selling prices are expected in the next 3 months to *(weighted average of balances of BTVI203 and BTVI204)*	**BTVIpria**	**1964q1**	**2000q1**
New orders from the domestic market are expected in the next 3 months to: Increase Unchanged Decrease	**BTVI205**	**1964q1**	**2000q1**
New orders from the export market are expected in the next 3 months to: Increase Unchanged Decrease	**BTVI206**	**1964q1**	**2000q1**
New orders received are expected in the next 3 months to: *(weighted average of balances of BTVI205 and BTVI206)*	**BTVIORDA**	**1964q1**	**2000q1**
The number of employees in the firm is expected in the next 3 months to: Increase Unchanged Decrease	**BTVI207**	**1978q2**	**2000q1**

Three subsectors of the manufacturing industry are also included in the data set: "investment goods", "intermediate goods" and "consumer goods". The questions asked are the same in all cases but the variable names are given with a different prefix. For "investment goods" the prefix is "BINVE", for "intermediate goods" it is "BINTM" and for "consumer goods", it is "BCONS". The question concerning output volume over the past three months is accordingly called BINVE101, BINTM101 and BCONS101 for the three subsectors respectively. The other questions and indicators for these subsectors are named according to the same principle. The first observation of variables for the subsectors is in all three cases later than the corresponding variables for "BTVI". However, all subsector variables appear for the first time in the same data vintages as the corresponding BTVI variable.

Construction of buildings and civil engineering

Question/Indicator	Name	First obs.	First vintage
Confidence indicator	**BBOACON**	**1974q2**	**2000q1**
Index, mean = 100			
Building activity has over the past 3 months:	**BBOA101**	**1974q2**	**2000q1**
Increased			
Unchanged			
Decreased			
Tender prices have over the past 3 months:	**BBOA102**	**1974q2**	**2000q1**
Increased			
Unchanged			
Decreased			
The order book has over the past 3 months:	**BBOA103**	**1974q2**	**2000q1**
Increased			
Unchanged			
Decreased			
The order book is currently:	**BBOA104**	**1974q2**	**2000q1**
Increased			
Unchanged			
Decreased			
How many production weeks are covered by the current order book?	**BBOA105**	**1996q2**	**2000q1**
Around …….. weeks			
The number of employees in the firm has over the past 3 months:	**BBOA106**	**1974q2**	**2000q1**
Increased			
Unchanged			
Decreased			
Which factor is currently the main obstacle to increased construction activity?			
None	**BBOA1071**	**1996q2**	**2000q1**
Insufficient demand	**BBOA1072**	**1974q2**	**2000q1**
Shortage of plant capacity and/or building materials	**BBOA1073**	**1974q2**	**2000q1**
Labour shortage	**BBOA1074**	**1974q2**	**2000q1**
Weather	**BBOA1075**	**1996q2**	**2000q1**
Financial restrictions	**BBOA1076**	**2003q3**	**2003q3/2006q3s**
Other factors	**BBOA1077**	**1974q2**	**2000q1**
Construction activity is expected in the next 3 months to:	**BBOA201**	**1974q2**	**2000q1**
Increase			
Unchanged			
Decrease			
Tender prices are expected in the next 3 months to:	**BBOA202**	**1974q2**	**2000q1**
Increase			
Unchanged			
Decrease			
The order book is expected in the next 3 months to:	**BBOA203**	**1974q2**	**2000q1**
Increase			
Unchanged			
Decrease			
The number of employees in the firm is expected in the next 3 months to:	**BBOA204**	**1974q2**	**2000q1**
Increase			
Unchanged			
Decrease			
Outlook for the construction market a year ahead	**BBOA205**	**1974q2**	**2000q1**
Improve			
Unchanged			
Deteriorate			

Trade

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BHANCON**	**1996q2**	**2000q1**
The sales volume has over the past 3 months: Increased Unchanged Decreased	**BHAN101**	**1996q2**	**2000q1**
The firm's current sales situation is considered to be: Good Satisfactory Weak	**BHAN102**	**1996q3**	**2000q1**
Purchases of goods have over the past 3 months: Increased Unchanged Decreased	**BHAN103**	**1996q2**	**2000q1**
Inventories are currently considered to be: Too large Sufficient Too small	**BHAN104**	**1996q2**	**2000q1**
The number of employees has over the past 3 months: Increased Unchanged Decreased	**BHAN105**	**1996q2**	**2000q1**
Does the firm currently have a staff shortage: Yes No	**BHAN106**	**1996q2**	**2000q1**
Selling prices have over the past 3 months: Increased Unchanged Decreased	**BHAN107**	**1996q2**	**2000q1**
Profitability is currently? Good Satisfactory Weak	**BHAN108**	**1996q2**	**2000q1**
The sales volume is expected in the next 3 months to: Increase Unchanged Decrease	**BHAN201**	**1996q1**	**2000q1**
Purchases of goods are expected in the next 3 months to: Increase Unchanged Decrease	**BHAN202**	**1996q1**	**2000q1**
The number of employees is expected in the next 3 months to: Increase Unchanged Decrease	**BHAN203**	**1996q2**	**2000q1**
Selling prices are expected in the next 3 months to: Increase Unchanged Decrease	**BHAN204**	**1996q1**	**2000q1**
The firm's sales situation in 6 months' time is expected to be: Better Unchanged Weaker	**BHAN205**	**1996q3**	**2000q1**

The subsector "retail trade" is also included in the data set. The questions asked are the same as

for "trade" in all cases but the variable names are given with a different prefix, "BDHAN". The question concerning sales volume over the past three months is accordingly called BDHAN101. The other questions and indicators are named according to the same principle. First observations and first vintages for the BDHAN variables are the same as for the BHAN variables, with one exception: the first observation of BDHAN102 is 1996q2 and the first observation of BHAN102 is 1996q3.

Private service sector

Question/Indicator	Name	First obs.	First vintage
Confidence indicator Index, mean = 100	**BTJACON**	**1996q1**	**2000q1**
How have the firm's operations developed over the past 3 months? Improved Unchanged Deteriorated	**BTJA101**	**2003q2**	**2003q2/ 2006q2s**
Demand for the firm's services has over the past 3 months: Increased Unchanged Decreased	**BTJA102**	**2003q2**	**2003q2/ 2006q1s**
The volume of assignments/orders on hand is currently: Relatively large Sufficient Too small	**BTJA103**	**2003q2**	**2003q2/ 2006q2s**
Selling prices have over the past 3 months: Increased Unchanged Decreased	**BTJA104**	**2003q2**	**2003q2/ 2006q2s**
Profitability is currently? Good Satisfactory Weak	**BTJA105**	**2003q2**	**2003q2/ 2006q2s**
The number of employees has over the past 3 months: Increased Unchanged Decreased	**BTJA106**	**2003q2**	**2003q2/ 2006q2s**
Does the firm currently have a staff shortage? Yes/No	**BTJA107**	**2003q2**	**2003q2/ 2006q2s**
If the demand expanded, could you increase your volume of activity with your present resources? Yes/No	**BTJA108**	**2003q2**	**2003q2/ 2006q2s**
If so, by how much? ...%	**BTJA109**	**2011q3**	**2011q3/ 2014q3s**
Which factor is currently the main obstacle firm's activity?			
None	**BTJA110**	**2003q2**	**2003q2/2006q2s**
Insufficient demand	**BTJA111**	**2003q2**	**2003q2/2006q2s**
Shortage of plant capacity and/or building materials	**BTJA112**	**2003q2**	**2003q2/2006q2s**
Labour shortage	**BTJA113**	**2003q2**	**2003q2/2006q2s**
Financial restrictions	**BTJA114**	**2003q2**	**2003q2/2006q2s**
Other factors	**BTJA115**	**2003q2**	**2003q2/2006q2s**
Demand for the firm's services is expected in the next 3 months to: Increase Unchanged Decrease	**BTJA201**	**2003q2**	**2003q2/ 2006q2s**
Selling prices are expected in the next 3 months to: Increase Unchanged Decrease	**BTJA202**	**2003q2**	**2003q2/ 2006q2s**
The number of employees is expected in the next 3 months to: Increase Unchanged Decrease	**BTJA203**	**2003q2**	**2003q2/ 2006q2s**
Demand for the firm's services in 6 months' time is expected to: Increase Unchanged Decrease	**BTJA204**	**2003q2**	**2003q2/ 2006q2s**

Appendix C – Variable names for questions and indicators referring to households and the entire economy included in the monthly data set

Question/Indicator	Name	First obs.	First vintage
Consumer confidence indicator	**BHUSCON**	**1993m01**	**2000m01**
Consumer macro index	**BHUSMIKRO**	**1993m01**	**2000m01**
Consumer micro index	**BHUSMAKRO**	**1993m01**	**2000m01**
Economic tendency indicator	**KIFI**	**1996m07**	**2000m01**
How does the financial situation of your household now compare with what it was 12 months ago? Has it…?	**Q010**	**1993m01**	**2000m01**
Got a lot better/			
Got a little better			
Stayed the same			
Got a little worse			
Got a lot worse			
Don't know			
How do you think the financial position of your household will change over the next 12 months? Will it…?	**Q020**	**1993m01**	**2000m01**
Get a lot better			
Get a little better			
Stay the same			
Get a little worse			
Get a lot worse			
Don't know			
How do you think the general economic situation in this country has changed over the last 12 months? Has it…?	**Q30**	**1993m01**	**2000m01**
Got a lot better			
Got a little better			
Stayed the same			
Got a little worse			
Got a lot worse			
Don't know			
How do you think the general economic situation in this country will develop over the next 12 months? Will it…?	**Q040**	**1993m01**	**2000m01**
Get a lot better			
Get a little better			
Stay the same			
Get a little worse			
Get a lot worse			
Don't know			
Compared with 12 months ago, do you find that prices in general are …?	**Q050**	**1993m01**	**2000m01**
Very much higher			
Quite a bit higher			
A little higher			
About the same			
Lower			
Don't know			
Compared with 12 months ago, how much higher in percent do you think that prices are now? *(mean, extreme values excluded)*	**Q053**	**2001m12**	**2001m12**

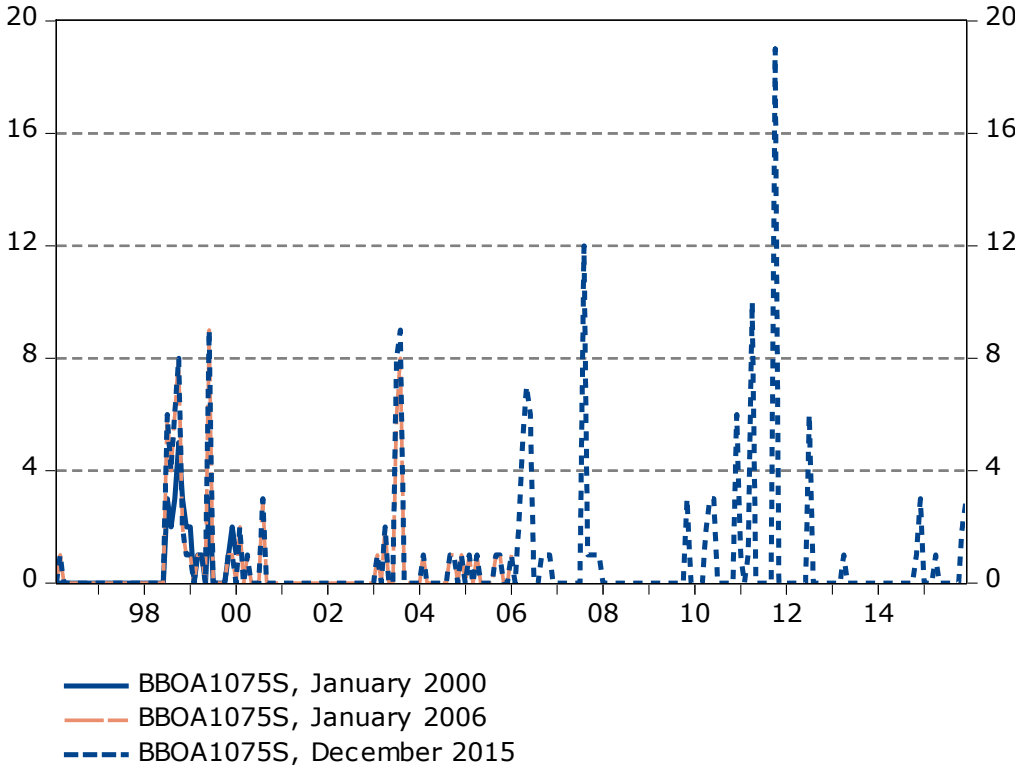
Question/Indicator	Name	First obs.	First vintage
Compared to the situation today, do you think that at in the next 12 months prices in general will …?	**Q060**	**1993m01**	**2000m01**
Increase faster			
Increase at the same rate			
Increase at a slower rate			
Stay about the same			
Fall slightly			
Don't know			
Compared with today, how much in percent do you think that prices will go up (i.e. the rate of inflation 12 months from now)? (Mean, extreme values excluded)	**Q063**	**2001m12**	**2001m12**
How do you think the level of unemployment in the country will change over the next 12 months? Will it…?	**Q070**	**1993m01**	**2000m1**
Increase sharply			
Increase slightly			
Remain the same			
Fall slightly			
Fall sharply			
Don't know			
Do you think there is an advantage for people to make major purchases (furniture, washing machines, TV sets etc.) at the present time?	**Q080**	**1993m01**	**2000m1**
Yes, now is the right time			
It is neither the right time or the wrong time			
No, it is the wrong time, purchase should be postponed			
Don't know			
Over the next 12 months, how do you think the amount of money you will spend on major purchases will compare with what you spent over the last 12 months? Will it be…?	**Q090**	**1993m01**	**2000m1**
Much more			
A little more			
About the same			
A little less			
Much less			
Don't know			
In the view of the general economic situation, do you thing this is:…?	**Q100**	**1993m01**	**2000m1**
A very good time to save			
Quite a good time to save			
Neither a good, nor an unfavourable time to save			
Rather an unfavourable time to save			
A very unfavourable time to save			
Don't know			
Over the next 12 months, how likely are you to be able to save any money?	**Q110**	**1993m01**	**2000m1**
Very likely			
Fairly likely			
Fairly unlikely			
Very unlikely			
Don't know			

Question/Indicator	Name	First obs.	First vintage
Which of these statements best describe the present financial situation of your household?	**Q120**	**1993m01**	**2000m1**
We are saving a lot			
We are saving a little			
We are just managing to make ends meet on our income			
We have to draw on our savings			
We are running into debt			
Don't know			
How likely are you to buy a car within the next 12 months? [1]	**Q130**	**1996m01**	**2000m1**
Very likely			
Fairly likely			
Fairly unlikely			
Very unlikely			
Don't know			
Are you planning to purchase or build a home within the next 12 months (to live in yourself, for a member of your family, as a holiday home, to let etc.)?	**Q140**	**1996m01**	**2000m1**
Yes, definitely			
Possibly			
Probably not			
Definitely not			
Don't know			
Over the next 12 months, how likely are you to spend any large sums of money on home improvements such as central heating, sanitary ware etc.?	**Q150**	**1996m01**	**2000m1**
Very likely			
Fairly likely			
Fairly unlikely			
Very unlikely			
Don't know			
Compared with 12 months ago, is the risk that You will become unemployed...?	**Q160**	**2001m11**	**2004m11**
A lot greater			
A little greater			
About the same			
A little less			
A lot less			
No opinion			
Today the variable home loan rate is xx %. How high do you expect the variable home loan rate to be in:			
1 year's time	**Q183**	**2010m02**	**2010m02**
(mean, extreme values excluded)			
2 year's time	**Q193**	**2010m02**	**2010m02**
(mean, extreme values excluded)			
5 year's time	**Q203**	**2010m02**	**2010m02**
(mean, extreme values excluded)			

Notes: Before July 2002, question Q130 concerned plans within 24 months instead of 12 months. Balance for questions Q010-Q040 and Q070-Q120 is chained in December 2001 with data from Statistics Sweden. Balance for questions Q130-Q150 chained in December 2001 with data from Statistics Sweden.

Appendix D – Additional figure

Figure D1. Different vintages of the share of companies in the construction industry whose main obstacle to increased activity was the weather, February 1996 to December 2015.



Note: Percent on the vertical axis. Seasonally adjusted data. Data are from the quasi-real-time data vintages of January 2000, January 2006 and December 2015.

National Institute of Economic Research, Kungsgatan 12-14, Box 3116, SE-103 62 Stockholm, Sweden
+46 8 453 59 00, registrator@konj.se, www.konj.se/en

ISSN 1100-7818