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RESEARCH PAPER

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

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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—one monthly and one quarterly. The term "quasi-real-time data" refers to data which are not actual real-time data but have been created in order to provide a close approximation to real-time data. 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 several of the studied indicators from the *Economic Tendency* Survey appear to have positive nowcast content for GDP growth.

Keywords Data revisions · Nowcasting

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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 timely available source of indicators for key economic variables.

The *Economic Tendency Survey* is the largest survey of its kind in Sweden. 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 the information that 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.[2]

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.[3] 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 good enough approximation to the data that the analyst, forecaster or researcher is 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] While there are historical records available—in the form of printed reports—these do not contain the full time series as they looked at each point in time; the typical amount of information concerning each variable is just the last few observations.

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

The remainder of this paper is organised as follows: In Sect. 2, we describe the *Economic Tendency Survey*. The construction of the quasi-real-time data sets is explained in Sect. 3. In Sect. 4, we illustrate the usability of the data by conducting an out-of-sample nowcast exercise for Swedish GDP growth. Finally, Sect. 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 Statistics Sweden's business register. The companies are divided into four main categories: manufacturing industry, construction industry, trade and private service sector. The questionnaires—which approximately half of the companies nowadays receive in electronic form—are addressed to upper management and the questions relate to 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 1.

Every third month—in January, April, July and October—the business survey contains more questions; for a detailed description of the questions, see Appendix 2. This is why we generate two data sets, one monthly and one quarterly.

2.2 Households

A random net sample of 1 500 individuals, between 16 and 84 years of age, are interviewed over the telephone. The questionnaire contains questions concerning 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 3.

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 standardised so that the percentages of the response alternatives add up to 100. In order to simplify the presentation of the data, the concepts "net figures" or "balances" are employed (and used equivalently). A net figure/balance is the difference between the share of respondents reporting an increase and a

decrease for a particular question. For example, if 45% of respondents report that there has been an increase, 25% that there has been no change and 30% that there has been a decrease, the net figure/balance is $45 - 30 = 15$.[4]

As an illustration, consider the time series in Fig. 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 1) 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% of the companies (weighted share) in the survey stated that they had decreased their production whereas 14% (weighted share) had increased it; the remaining 32% (weighted share) had left it unchanged.

Not all series are presented using net figures though. For example, households' inflation expectations at the twelve-month horizon (question Q063, see Appendix 3), which are shown in Fig. 2, are simply given in percent.

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).[5] The quasi-real-time data can therefore be generated in a straightforward manner. For each vintage, we conduct the following three steps for individual questions:

(1) Set the sample to the relevant time period.
(2) Copy the raw data of the series.
(3) If applicable: Seasonally adjust the series.[6]

[4] 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.

[5] The latest vintage of the survey, which contains the raw data (as well as seasonally adjusted series and indicators), can be downloaded from http://statistik.konj.se/PXWeb/pxweb/en/KonjBar/. It should be noted that these data are always up to date and, accordinlgy, not the ones used in this paper to generate the quasi-real-time data. We used the vintage of December 2015 for the monthly data set and the vintage of October 2015 for the quarterly.

[6] 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.

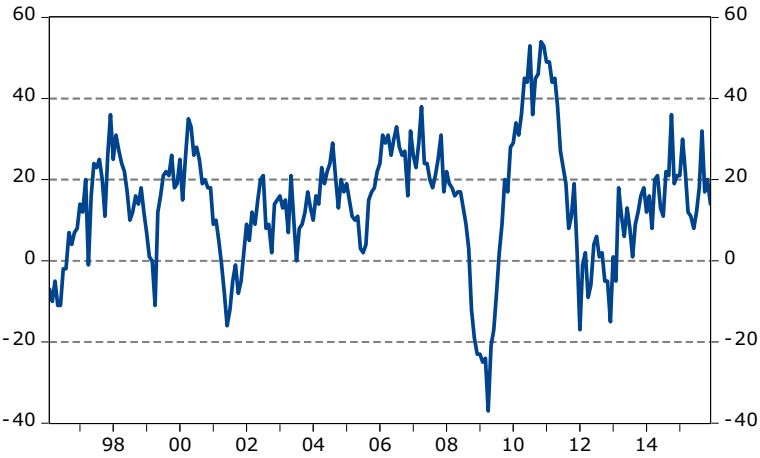

Fig. 1 Output volume over the past 3 months in the manufacturing industry. *Note* Seasonally adjusted net numbers on the *vertical axis*. Data are from the *Economic Tendency Survey* of December 2015

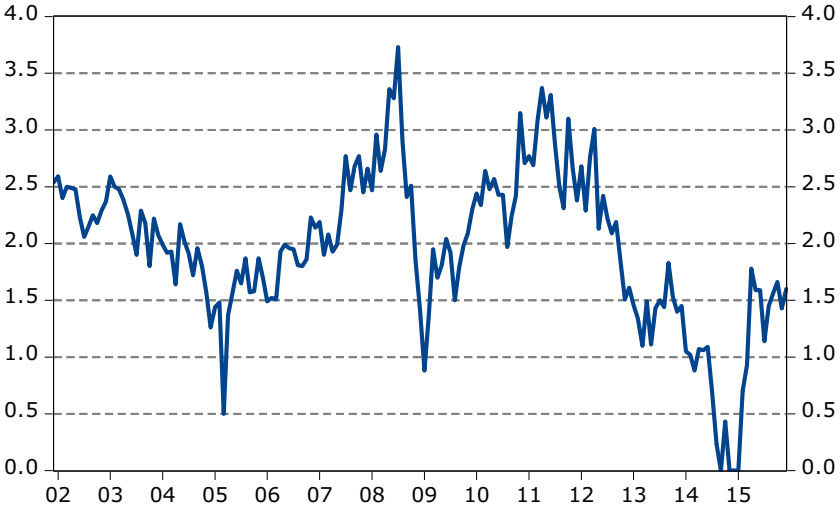

Fig. 2 Households' inflation expectations. *Note* Percent on the *vertical axis*. Data are from the *Economic Tendency Survey* of December 2015

For indicators and other variables that are generated based on two or more series, the following additional steps are conducted:[7]

[7] As an exception, the variables with the suffixes "ORDP", "SYSP", "SYSA" and "PRIA" are generated in a sligthly different manner: (1) Set the sample to the relevant time period. (2) Copy the raw data of the series as they appear. (3) Weigh the series together using the appropriate weigths. (4) Seasonally adjust the weighted series.

(4) If applicable: Standardise the series used in the calculation.
(5) Weigh the (potentially standardised) series together using the appropriate weights.
(6) If applicable: Standardise the weighted series. For example, confidence indicators have a mean of 100 and a standard deviation of 10.

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 generally are identical to what proper real-time data would have looked like. For older vintages, on the other hand, there will be differences. 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 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 present quasi-real-time data set 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. In this case, the issues that we mainly are concerned might distort the analysis, namely seasonal adjustment and standardisation, have been addressed when creating the data set. 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 provided in Appendices 1 and 3. 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 1 and 3. 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 the 1-, 2- and 5-year horizon (questions Q183, Q193 and Q203, see Appendix 3), 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.[8] 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.[9] 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; in the cases where the first vintage differs, 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 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 and seasonal adjustment is conducted using no less than three years of data); see Appendix 1 for details.

Figure 3 shows three different vintages of 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.

In Fig. 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.[10] 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.[11] 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.

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.

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

[9] BTVI101 hence reflects what we above have referred to as "raw data".

[10] For data plotted over the full sample, see Figure 5 in Appendix 4.

[11] This owes to the fact that the seasonally adjusted series are rounded to the nearest integer value. This is done in order to follow the methodology used in the *Economic Tendency Survey*. If the seasonally adjusted series had not been rounded, there would have been minor discrepancies between the January 2006 and December 2015 vintages.

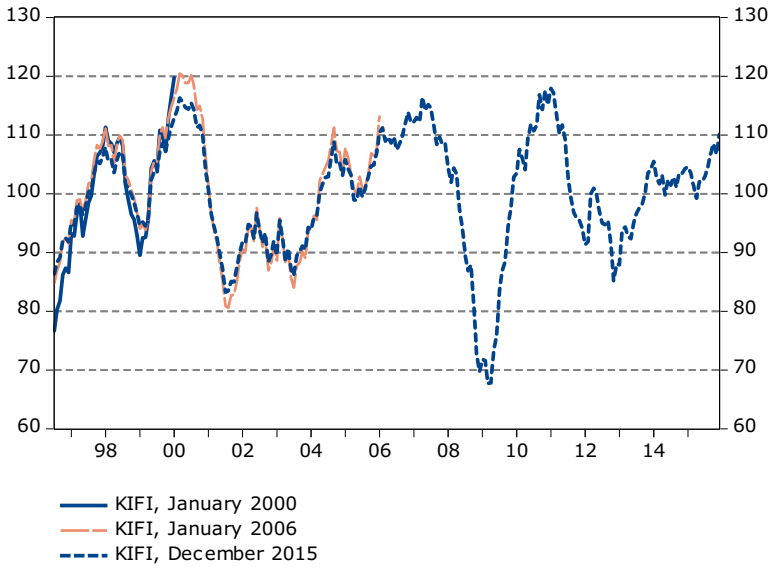

Fig. 3 Different vintages of the Economic Tendency Indicator. *Note* Index numbers on the vertical axis. "KIFI" is the Economic Tendency Indicator. Data are from the quasi-real-time data vintages of January 2000, January 2006 and December 2015

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 2. As was the case for the monthly data set, both raw and seasonally adjusted data have been made available. And just like above, the seasonally adjusted series have the suffix "S". 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 2. 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

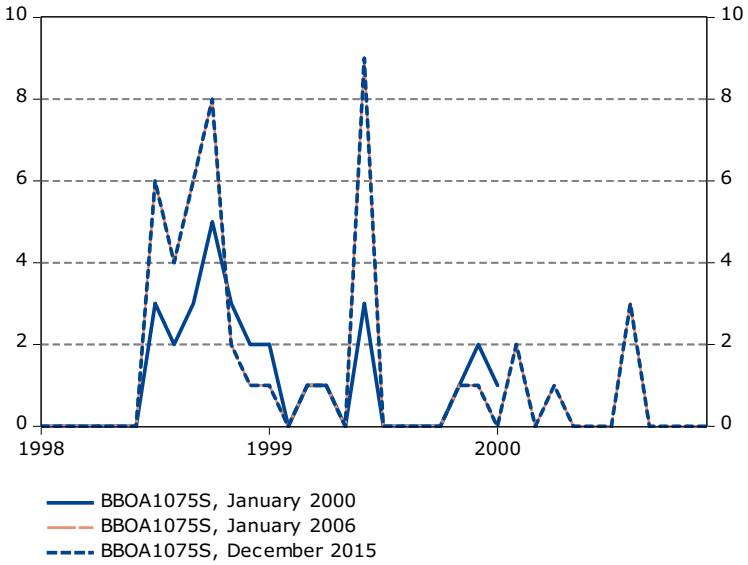

Fig. 4 Different vintages of the share of companies in the construction industry whose main obstacle to increased activity was the weather, January 1998 to December 2000. *Note* Percent on the *vertical axis*. Seasonally adjusted data are from the quasi-real-time data vintages of January 2000, January 2006 and December 2015

as explanatory variables in models developed for this purpose since it is assumed that they provide timely 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.[12] For variables that are seasonally adjusted and/or standardised, this introduces an error which could cause, 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.[13] 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

[12] 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).

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

analysis.[14] We compare the nowcasting performance of models using 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.[15] 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 which reflect national accounts data that were released in early March 2004. At this point in time, the survey data that would have been available for nowcasting correspond to the *Economic Tendency Survey* published in February 2004 (where the value for this month is used for 2004Q1 as described above). Based on these data, we estimate the models and a nowcast for 2004Q1 is generated from each model. The sample is then expanded one quarter, the models re-estimated and new nowcasts are generated. This process continues until the end of the sample period; the final nowcast is based on GDP data from 1996Q3 to 2015Q2, which are used to generate a nowcast for 2015Q3. We accordingly evaluate 47 nowcasts for each model.

Two simple models are used as reference points. First, we rely on the model:

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

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. Since this model's only explanatory variable is a constant, its nowcast will be the estimated historical average. It accordingly provides a natural benchmark for other models to outperform. A model which does not have higher forecast precision than such a simple alternative appears to be of limited usefulness. Concerning the models which do have higher forecast precision than the model in Eq. (1), we say that they have *positive nowcast content*.[16] 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 frequently used benchmark in applied macroeconomic work.[17]

[14] 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.

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

[16] The terminology is based on Galbraith (2003). In a similar manner, Andersson (2000) required that the forecast provided by the arithmetic mean should be outperformed in order for a model to have *forecast memory*.

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

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 the survey data.

In addition to these models, we finally report the forecast precision from a naïve forecast. This simply states that GDP growth in the present quarter will be the same as that of the previous quarter:

$$\hat{g}_{t|t} = g_{t-1} \tag{4}$$

where $\hat{g}_{t|t}$ is the nowcast of GDP growth at time t made at t.

We rely on the mean absolute error (MAE) and root mean square error (RMSE) of the nowcast as our criteria to evaluate the nowcast performance of the models. Defining the nowcast error as $v_{t+i|t+i} = g_{t+i} - \hat{g}_{t+i|t+i}$, where g_{t+i} is the outcome and $\hat{g}_{t+i|t+i}$ the nowcast, these measures are given as

$$MAE = (1/n)\sum_{i=0}^{n-1}\left|v_{t+i|t+i}\right| \tag{5}$$

and

$$RMSE = \sqrt{(1/n)\sum_{i=0}^{n-1}\left(v_{t+i|t+i}\right)^2} \tag{6}$$

Results from this exercise can be found in Table 1. We first turn to the analysis using ex post data which can be found to the left. As can be seen, the MAEs indicate that all versions of Eq. (3) except that relying on BBOACON (the confidence indicator for the construction industry) have higher forecast precision than Eq. (1). Put differently, all investigated variables except BBOACON appear to have positive nowcast content. Comparing the MAEs to each other, we find that the lowest MAE is found for BTVICON (the confidence indicator for the manufacturing industry), closely followed by BHUSCON (the consumer confidence indicator) and KIFI (the Economic Tendency Indicator). Turning to the RMSEs, the results are quite similar. We again find that all versions of Eq. (3) except that relying on BBOACON have higher forecast precision than Eq. (1). In terms of the ranking of the models, this is slightly different from when using the MAEs for evaluation. We now we find that the lowest RMSE is found for BHUSCON, followed by KIFI and BTOTCON (the confidence indicator for the total business sector).

Overall though, differences in forecast precision between most models using survey data are small and should not be over-interpreted. In order to illustrate this, consider the fact that judging purely by the MAEs and RMSEs—as we did above—all investigated variables from the *Economic Tendency Survey* except one appear to have positive nowcast content. But what does a formal test have to say about this issue? We assess this by testing whether the differences in nowcast precision between the model in Eq. (1) and the other models are statistically significant. This

Table 1 RMSEs when nowcasting GDP growth

	Ex post data			Quasi-real-time data		
	MAE	RMSE	DM	MAE	RMSE	DM
Eq. (1) [Constant]	0.587	0.803	–	0.587	0.803	–
Eq. (2) [AR(1)]	0.559	0.794	0.01	0.559	0.794	0.01
Eq. (3)						
BHUSCON	0.501	0.671	0.19*	0.482	0.653	0.22*
KIFI	0.503	0.685	0.18*	0.494	0.678	0.19**
BTOTCON	0.512	0.701	0.15*	0.508	0.695	0.16*
BTVICON	0.497	0.707	0.15**	0.485	0.696	0.16**
BBOACON	0.597	0.814	−0.02	0.596	0.813	−0.02
BTJACON	0.518	0.703	0.15	0.523	0.705	0.15
BHANCON	0.531	0.737	0.10	0.516	0.728	0.12
Naïve nowcast	0.700	0.936	−0.23	0.700	0.936	−0.23

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 1 and 2. "Naïve nowcast" refers to a nowcast which states that the growth rate of the current quarter will be the same as that of the previous quarter. "DM" is the test statistic from the Diebold–Mariano test, where the comparison always is made against the model in Eq. (1); ** and * indicate significance at the 5 and 10% level respectively

is done by conducting Diebold-Mariano tests (Diebold and Mariano 1995) under an assumption of a quadratic loss function.[18] That is, we run the regression

$$\left(v_{t|t}^{1}\right)^2 - \left(v_{t|t}^{comp}\right)^2 = c + \omega_t \tag{7}$$

where $v_{t|t}^{1}$ is the nowcast error from Eq. (1) and $v_{t|t}^{comp}$ the nowcast error from the competing model; ω_t is an error term. The nowcasts from the competing models are based on Eqs. (2), (3) and (4). We test the null hypothesis that the parameter c in Eq. (7) is equal to zero using a t test based on Newey–West standard errors (Newey and West 1987). As can be seen from the table, the Diebold–Mariano test is statistically significant (at the 10% level or less) for BHUSCON, KIFI, BTOTCON and BTVICON. For BTJACON and BHANCON though, the difference is not statistically significant; this is despite the fact that the model based on BTJACON has an RMSE which is 12% lower than that of the model in Eq. (1).[19]

The results just discussed illustrate conclusions one might draw from a very simple out-of-sample nowcast exercise where ex post data for the *Economic Tendency Survey* have been used. So how sensitive are the conclusions drawn with

[18] Note that we follow Diebold's (2015) recommendation and rely on the original test and not later, more intricate, versions which take into account that forecasts have been generated by estimated—and in this case also nested—models.

[19] This finding should, on the other hand, not necessarily be interpreted as a reason to use Eq. (1) instead of Eq. (3) with BTJACON. A nowcaster choosing between models which are approximately equally likely a priori would be inclined to choose the model with the highest nowcast precision even if this model is not found to significantly outperform the other model(s). For a critical view concerning significance tests, see Armstrong (2007).

respect to the fact that we relied on ex post data? Were MAEs and/or 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 part of Table 1, it can first be noted that the MAEs and RMSEs using the quasi-real-time data in all cases are close to those when ex post data were used. In general, both measures tend to be lower when using the quasi-real-time data; the MAE and RMSE are 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 look at the relative performance of the different indicators, we see that the ranking of the models is similar; it can be noted though that the best indicator judging by the MAE is now found to be BHUSCON rather than BTVICON (as we found when using the ex post data above).[20] It should, however, be pointed out once again that the differences in forecast precision between most models are small. Finally, turning to the results from the Diebold–Mariano tests, we see that these are almost identical to when the ex post data were used. One minor difference can be found, namely that for KIFI the null hypothesis can be rejected at the 5% level (rather than the 10% level that was the case when employing the ex post data).

Summing up this exercise, we established that there were only minor differences in the results when using quasi-real-time data instead of ex post data. Our findings suggest that for the simple models studied here, one would not have been seriously mislead by using the ex post data. This conclusion 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. Using larger and/or more complicated models, results may very well look different. In practice, the researcher never will know exactly how big the error from using ex post data is in a given application unless analysis similar to that in this paper is conducted. To conclude, we note that real-time data have become the benchmark when it comes to certain analysis relying on national accounts data, such as forecasting and nowcasting. We recommend that the quasi-real-time data sets presented in this paper should be employed in a similar manner for analysis relying on the *Economic Tendency Survey*.

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

[20] In addition, BTJACON and BHANCON have also switched places when using the MAE as the evaluation criterion. Using the RMSE as the evaluation criterion, the only difference is that BTJACON and BTVICON have switched places.

GDP growth in which data from the *Economic Tendency Survey* act as explanatory variables. This shows that several of the studied indicators from the *Economic Tendency* Survey appear to 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.

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Appendix 1: 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	BTVICON	1996m02	2000m01
Index, mean = 100			
Output volume has over the past 3 months:	BTVI101	1996m02	2000m01
Increased			
Unchanged			
Decreased			
New orders from the domestic market have over the past 3 months:	BTVI102	1996m02	2000m01
Increased			
Unchanged			
Decreased			
New orders from the export market have over the past 3 months:	BTVI103	1996m02	2000m01
Increased			
Unchanged			
Decreased			
New orders have over the past 3 months:	BTVIORDP	1996m02	2000m01
(weighted average of BTVI102 and BTVI103)			
The total order book is currently:	BTVI104	1996m02	2000m01
Relatively large			
Sufficient			
Too small			
The export order book is currently:	BTVI105	1996m02	2000m01
Relatively large			
Sufficient			
Too small			
Finished inventories are currently:	BTVI106	1996m02	2000m01
Too large			
Sufficient			
Too small			
The number of employees in the firm has over the past 3 months:	BTVI107	1999m07	2000m01/ 2002m07s
Increased			
Unchanged			
Decreased			
Output volume is expected in the next 3 months to:	BTVI201	1996m02	2000m01
Increase			
Unchanged			
Decrease			

Question/indicator	Name	First obs.	First vintage
Selling prices on the domestic market are expected in the next 3 months to:	BTVI202	1996m02	2000m01
Increase			
Unchanged			
Decrease			
Selling prices on the export market are expected in the next 3 months to:	BTVI203	1996m02	2000m01
Increase			
Unchanged			
Decrease			
Selling prices (in SEK) are expected in the next 3 months to:	BTVIPRIA	1996m02	2000m01
(weighted avereage of BTVI202 and BTVI203)			
Increase			
Unchanged			
Decrease			
The number of employees in the firm is expected in the next 3 months to:	BTVI204	1999m07	2000m01/ 2002m07s
Increase			
Unchanged			
Decrease			

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			

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

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

Appendix 2: 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	BTOTCON	1996q2	2000q1
Index, mean = 100			
Demand, present situation assessment	BTOTORDP	1996q3	2000q1
(weighted average of the balances of BTVI109, BBOA104, BHAN102 and BTJA103)			
The number of employees in the firm has over the past 3 months:	BTOTSYSP	1996q2	2000q1
(weighted average of the balances of BTVI116, BBOA106, BHAN105 and BTJA106)			
The number of employees in the firm is expected in the next 3 months to:	BTOTSYSA	1996q2	2000q1
(weighted average of the balances of BTVI207, BBOA204, BHAN203 and BTJA203)			
Prices have over the past 3 months:	BTOTPRIP	1996q2	2000q1
(weighted average of the balances of BTVIPRIP, BBOA102, BHAN107 and BTJA104)			
Prices are expected in the next 3 months to:	BTOTPRIA	1996q2	2000q1
(weighted average of the balances of BTVIPRIA, BBOA202, BHAN204 and BTJA202)			
Profitability	BTOTLON	2003q2	2003q2/
(weighted average of the balances of BTVI115, BHAN108 and BTJA105)			2006q2s
Labour shortage	BTOTBRIP	1996q2	2000q1
(weighted average of the balances of BTVI901, BBOA1074, BHAN106 and BTJA107)			

Manufacturing industry

Question/indicator	Name	First obs.	First vintage
Confidence indicator	BTVICON	1964q2	2000q1
Index, mean = 100			
Output volume has over the past 3 months:	BTVI101	1964q2	2000q1
Increased			
Unchanged			
Decreased			

Question/indicator	Name	First obs.	First vintage
Production capacity has over the past 3 months:	BTVI102	1964q2	2000q1
Increased			
Unchanged			
Decreased			
The firm's production capacity is currently:	BTVI103	1996q2	2000q1
More than sufficient			
Sufficient			
Not sufficient			
Current capacity utilisation is estimated at around:	BTVI104	1996q2	2000q1
……percent			
Selling prices (in SEK) on the domestic market have over the past 3 months:	BTVI105	1964q2	2000q1
Increased			
Unchanged			
Decreased			
Selling prices (in SEK) on the export market have over the past 3 months:	BTVI106	1964q2	2000q1
Increased			
Unchanged			
Decreased			
Selling prices (in SEK) have over the past 3 months:	BTVIPRIP	1964q2	2000q1
(weighted average of balances of BTVI105 and BTVI106)			
New orders from the domestic market have over the past 3 months:	BTVI107	1964q2	2000q1
Increased			
Unchanged			
Decreased			
New orders from the export market have over the past 3 months:	BTVI108	1964q2	2000q1
Increased			
Unchanged			
Decreased			
New orders have over the past 3 months:	BTVIORDP	1964q2	2000q1
(weighted average of the balances of BTVI107 and BTVI108)			
The total order book is currently:	BTVI109	1964q2	2000q1
Relatively large			
Sufficient			
Too small			
The export order book is currently:	BTVI110	1996q2	2000q1
Relatively large			
Sufficient			
Too small			

Question/indicator	Name	First obs.	First vintage
How many production weeks are covered by the current order book?	BTVI111	1996q2	2000q1
Around …… weeks			
How has the firm's competitive situation changed on the domestic market over the past 3 months?	BTVI112	1996q2	2000q1
Improved			
Unchanged			
Worsened			
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-BTVI119)			

Question/indicator	Name	First obs.	First vintage
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 (BTVI125 or BTVI126 or BTVI128)	BTVIRAS	1968q2	2000q1
Output volume is expected in the next 3 months to:	BTVI201	1964q1	2000q1
Increase			
Unchanged			
Decrease			
Production capacity is expected in the next 3 months to:	BTVI202	1964q2	2000q1
Increase			
Unchanged			
Decrease			
Selling prices (in SEK) on the domestic market are expected in the next 3 months to:	BTVI203	1964q1	2000q1
Increase			
Unchanged			
Decrease			
Selling prices (in SEK) on the export market are expected in the next 3 months to:	BTVI204	1964q1	2000q1
Increase			
Unchanged			
Decrease			

Question/indicator	Name	First obs.	First vintage
Selling prices are expected in the next 3 months to	BTVIPRIA	1964q1	2000q1
(weighted average of balances of BTVI203 and BTVI204)			
New orders from the domestic market are expected in the next 3 months to:	BTVI205	1964q1	2000q1
Increase			
Unchanged			
Decrease			
New orders from the export market are expected in the next 3 months to:	BTVI206	1964q1	2000q1
Increase			
Unchanged			
Decrease			
New orders received are expected in the next 3 months to:	BTVIORDA	1964q1	2000q1
(weighted average of balances of BTVI205 and BTVI206)			
The number of employees in the firm is expected in the next 3 months to:	BTVI207	1978q2	2000q1
Increase			
Unchanged			
Decrease			

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			

Question/indicator	Name	First obs.	First vintage
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
Relatively large			
Just right			
Too small			
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			

Question/indicator	Name	First obs.	First vintage
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	BHANCON	1996q2	2000q1
Index, mean = 100			
The sales volume has over the past 3 months:	BHAN101	1996q2	2000q1
Increased			
Unchanged			
Decreased			
The firm's current sales situation is considered to be:	BHAN102	1996q3	2000q1
Good			
Satisfactory			
Weak			
Purchases of goods have over the past 3 months:	BHAN103	1996q2	2000q1
Increased			
Unchanged			
Decreased			
Inventories are currently considered to be:	BHAN104	1996q2	2000q1
Too large			
Sufficient			
Too small			
The number of employees has over the past 3 months:	BHAN105	1996q2	2000q1
Increased			
Unchanged			
Decreased			
Does the firm currently have a staff shortage:	BHAN106	1996q2	2000q1
Yes			
No			
Selling prices have over the past 3 months:	BHAN107	1996q2	2000q1
Increased			
Unchanged			
Decreased			

Question/indicator	Name	First obs.	First vintage
Profitability is currently?	BHAN108	1996q2	2000q1
Good			
Satisfactory			
Weak			
The sales volume is expected in the next 3 months to:	BHAN201	1996q1	2000q1
Increase			
Unchanged			
Decrease			
Purchases of goods are expected in the next 3 months to:	BHAN202	1996q1	2000q1
Increase			
Unchanged			
Decrease			
The number of employees is expected in the next 3 months to:	BHAN203	1996q2	2000q1
Increase			
Unchanged			
Decrease			
Selling prices are expected in the next 3 months to:	BHAN204	1996q1	2000q1
Increase			
Unchanged			
Decrease			
The firm's sales situation in 6 months' time is expected to be:	BHAN205	1996q3	2000q1
Better			
Unchanged			
Weaker			

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	BTJACON	1996q1	2000q1
Index, mean = 100			
How have the firm's operations developed over the past 3 months?	BTJA101	2003q2	2003q2/
Improved			2006q2s
Unchanged			
Deteriorated			
Demand for the firm's services has over the past 3 months:	BTJA102	2003q2	2003q2/
Increased			2006q2s
Unchanged			
Decreased			
The volume of assignments/orders on hand is currently:	BTJA103	2003q2	2003q2/
Relatively large			2006q2s
Sufficient			
Too small			
Selling prices have over the past 3 months:	BTJA104	2003q2	2003q2/
Increased			2006q2s
Unchanged			
Decreased			
Profitability is currently?	BTJA105	2003q2	2003q2/
Good			2006q2s
Satisfactory			
Weak			
The number of employees has over the past 3 months:	BTJA106	2003q2	2003q2/
Increased			2006q2s
Unchanged			
Decreased			
Does the firm currently have a staff shortage?	BTJA107	2003q2	2003q2/
Yes/No			2006q2s
If the demand expanded, could you increase your volume of activity with your present resources?	BTJA108	2003q2	2003q2/ 2006q2s
Yes/No			
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

Question/indicator	Name	First obs.	First vintage
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:	BTJA201	2003q2	2003q2/ 2006q2s
Increase			
Unchanged			
Decrease			
Selling prices are expected in the next 3 months to:	BTJA202	2003q2	2003q2/
Increase			2006q2s
Unchanged			
Decrease			
The number of employees is expected in the next 3 months to:	BTJA203	2003q2	2003q2/
Increase			2006q2s
Unchanged			
Decrease			
Demand for the firm's services in 6 months' time is expected to:	BTJA204	2003q2	2003q2/ 2006q2s
Increase			
Unchanged			
Decrease			

Appendix 3: 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			

Question/indicator	Name	First obs.	First vintage
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…?	Q030	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?	Q053	2001m12	2001m12
(mean, extreme values excluded)			
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)?	Q063	2001m12	2001m12
(mean, extreme values excluded)			

Question/indicator	Name	First obs.	First vintage
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 think 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 years' time	Q193	2010m02	2010m02
(mean, extreme values excluded)			
5 years' 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 4

See Fig. 5.

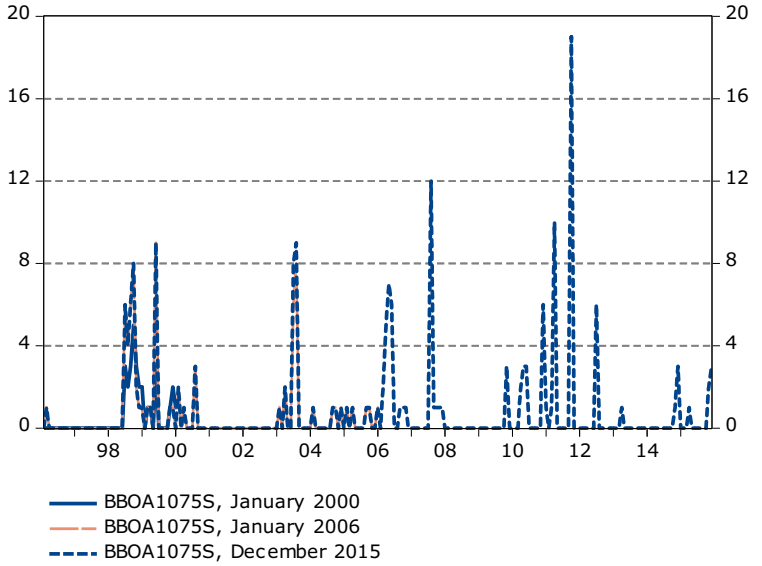

Fig. 5 Different vintages of the share of companies in the construction industry whose main obstacle to increased activity was the weather, February 1996 to December 2015. *Note* Percent on the *vertical axis*. Seasonally adjusted data. Data are from the quasi-real-time data vintages of January 2000, January 2006 and December 2015

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