

Appendix to “Pooling versus model selection for
nowcasting GDP with many predictors: Empirical
evidence for six industrialized countries”

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1 Further instability results of single models

1.1 Nowcast performance of single models between 2000-07 and 2008-09

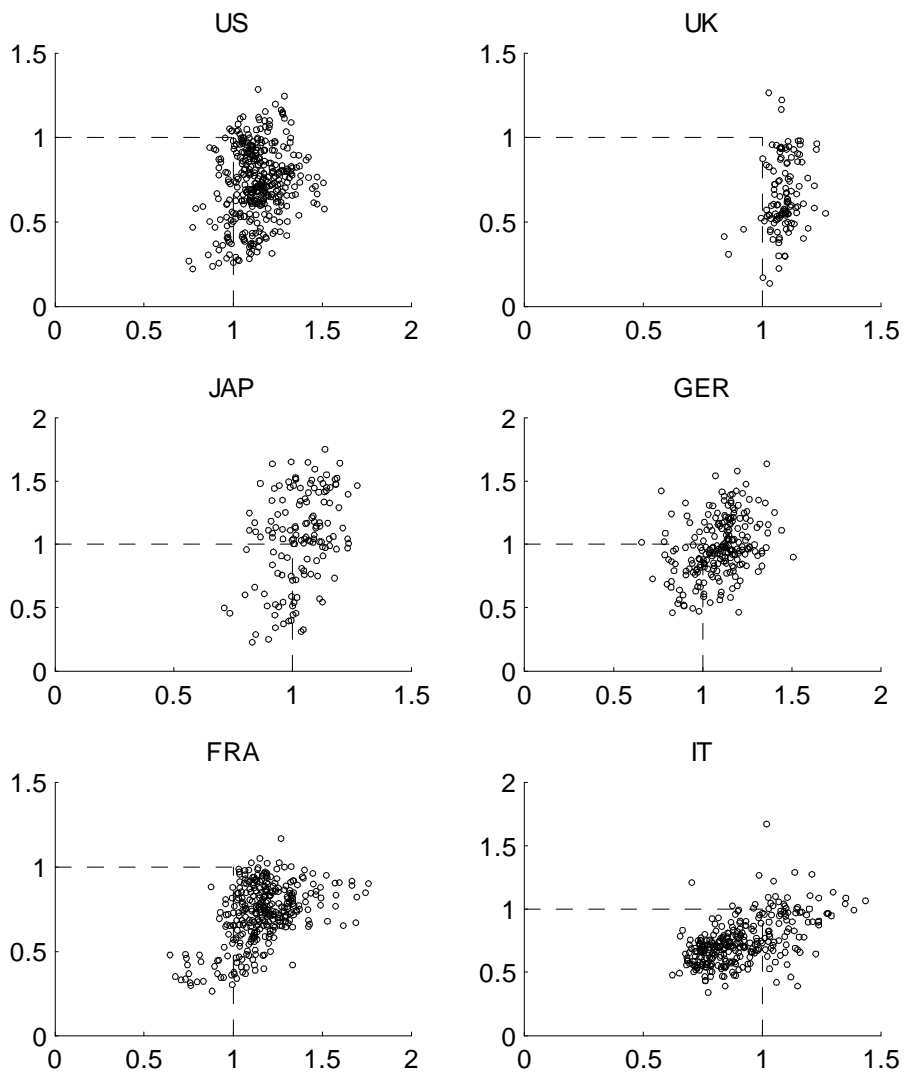
The main text contains results for of single models based on US and UK data, in particular scatter plots of the MSE in the periods 1990-99 and 2000-07. Below, we report additional results for all six countries for the periods 2000-07 and 2008-09. Note that due to a limited data availability, we cannot report results for 1990-99 for Japan, Germany, France, and Italy. Table 1 contains the results for single-indicator MIDAS, whereas Table 2 contains results for the factor approaches. In the Figures, each point refers to a particular pair of MSEs from a single model. The horizontal axis refers to the MSE in the first period 2000-07, and the vertical axis refers to the period 2008-09. In each period, the MSE of a model is computed relative to the MSE of the in-sample mean benchmark. If the nowcast performance were stable, then the points would be scattered around the 45° line. The main message from the figures is that the nowcast performance of models changes considerably between the two periods. In particular, the scatter plots show a lot of MSEs smaller than one on the vertical axis (period 2008-09), but at the same time much more MSE larger than one on the horizontal axis (period 2000-07), indicating at first sight an increase in nowcastability between 2000-07 and 2008-09 for all countries. Note, however, that the performance of the benchmark has deteriorated considerably during 2008-09, see Table 2 in the main text. However, with respect to model selection, the results remain the same as in the main text, where the periods 1990-99 and 2000-07 have been compared: We confirm the instability of single nowcast models when looking at other time periods and countries.

If we compare nowcasts from single-indicator MIDAS and factor approaches, we find that there are more factor models that outperform the benchmark in the period 2008-09 than single-indicator MIDAS. In particular, only for Germany and Italy we find some factor models that cannot outperform the benchmark in the period 2008-09. In comparison, there are many more single-indicator MIDAS nowcasts that cannot do so in most of the countries.

1.2 Detailed rankings of single models: US evidence

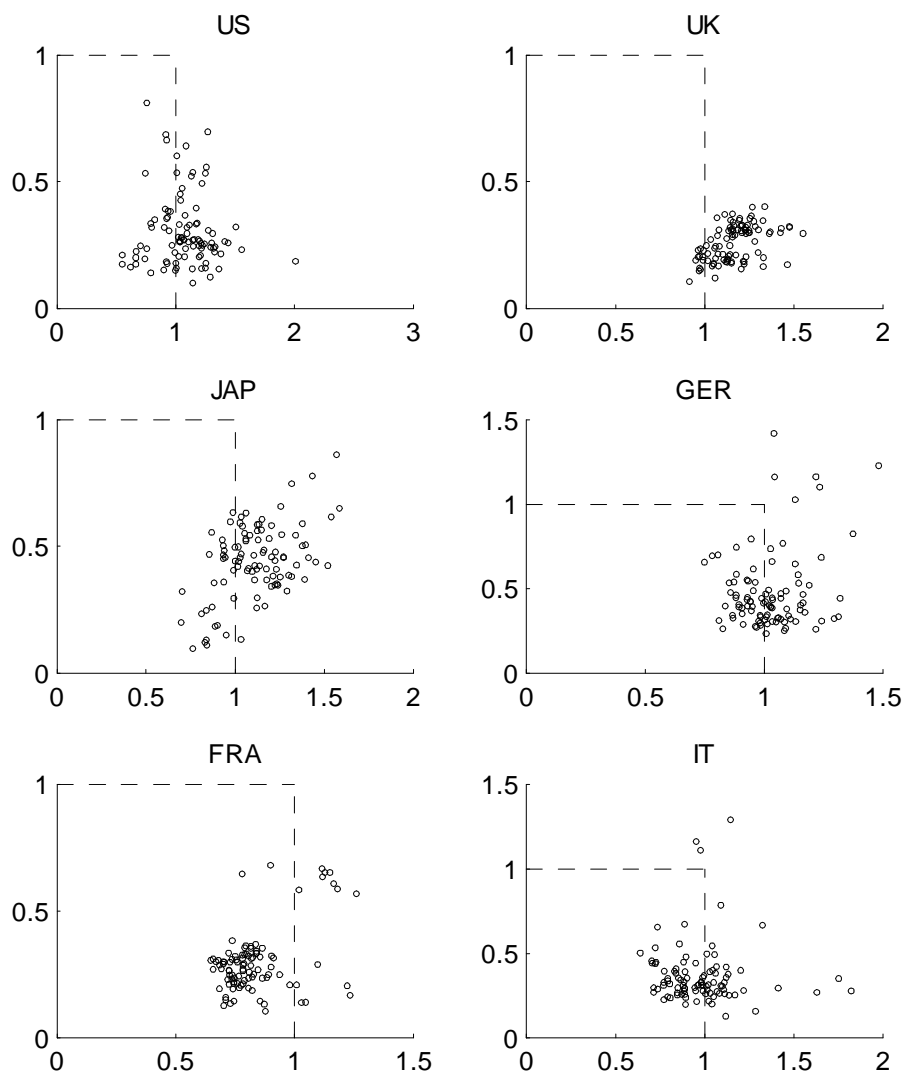
To provide a more detailed information on the performance of the nowcast models, we provide rankings of the best 5 models in the evaluation periods. In Table 1, the nowcast results are shown for the best five MIDAS single-indicator models in terms of MSE over the period 1990-99. We report not only the rank and the relative MSE of each model, but also the performance of the same models in the other evaluation periods 2000-07 and 2008-09. We do the same for the best models in the period 2008-09. The results

Figure 1: MSE performance of single-indicator MIDAS in period 2000-2007 (horizontal axis) and period 2008-09 (vertical axis)



Note: The points in the scatter plot show the pair of MSEs for a particular model in periods 2000-07 on the horizontal axis and 2008-09 on the vertical axis.

Figure 2: MSE performance of factor approaches in period 2000-2007 (horizontal axis) and period 2008-09 (vertical axis)



Note: The points in the scatter plot show the pair of MSEs for a particular model in periods 2000-07 on the horizontal axis and 2008-09 on the vertical axis.

Table 1: Ranking of nowcast results with single-indicator MIDAS, relative MSE

indicator	evaluation sample MIDAS type	1990-99		2000-07		2008-09	
		rank	MSE	rank	MSE	rank	MSE
con_pr	MID	1	0.49*	104	1.06	72	0.53*
pyrl_cons	MAR	2	0.51*	343	1.30	132	0.65
con_tot	MID	3	0.53*	140	1.09	79	0.55
con_pr	MAR	4	0.54*	216	1.14	30	0.39*
con_tot	MAR	5	0.55*	172	1.11	21	0.36*
ipnetot	MID	140	0.80	2	0.77*	1	0.22*
ipnetot	MAR	41	0.71	9	0.89	2	0.24*
ipne_xccs	MID	232	0.93	18	0.92	3	0.25*
ipne_xccs	MAR	117	0.78	52	1.00	4	0.26*
ipmfg	MID	158	0.82	1	0.75*	5	0.27*
AR			0.84		1.32		0.73
MSE in-sample mean			0.35		0.28		1.63

Note: The first five models are the best models according to their relative MSE in the evaluation period 1990-99. Their ranking is also determined by the relative MSE. The last five models are the best models according to their relative MSE in the period 2008-09. Details on the MIDAS specification can be found in Section 2.1 and Table 1 in the main text. The indicator mnemonics and the corresponding variable names can be found in the US data appendix.

show that the best single-indicator MIDAS models in terms of MSE over the period 1990-99 perform badly over 2000-07. They are not ranked among the best indicators also during the period 2008-09, though they can outperform the benchmark by a large amount. Note that the indicator ‘con_pr’ refers to ‘Construction put in place’, and ‘pyrl_cons’ refers to ‘Employment in Construction’, see the US data appendix below.

In the period 2008-09, the best five MIDAS models include indicators that are all related to Industrial Production, and some of them are highly ranked also during 2000-07. They remain better than the benchmark also in 1990-99, but their ranking performance deteriorates substantially. For example, ‘ipnetot’ (i.e., ‘Industrial production: non-energy, total (NAICS)’) is ranked 1st in 2008-09, 2nd in 2000-07, but only 140th in 1990-99. These rankings show that a top rank in one period does not imply a high rank in another period. Furthermore, the type of indicators being relevant for nowcasting changes over time. Concerning the type of MIDAS projections, the results show that MIDAS regressions with and without AR terms can be found among the best-performing models, with overall small differences in terms of MSE. Hence, the choice of the proper high-frequency indicator seems to matter more than the presence of AR dynamics.

In Table 2, the nowcast results are shown for the best five factor models in terms of MSE over the different periods. Interestingly, there is substantial instability in the rankings also for the factor models. The best model over the period 1990-99 ranks 67th in the period 2000-07 and performs worse than the benchmark. The best model over the period 2008-09 (VA-GPC-MID, $r = 5$, $q = 3$) ranks 52nd in 1990-99, but is uninformative compared to the benchmark over 2000-07.

In terms of model specifications, VA-GPC (vertical realignment with generalized PC) seems to dominate over 1990-99. However, as can be verified from Table 3, which contains top 15 rankings, there are all different kinds of factor estimation methods including the state-space approach (EM-KFS-joint) among the best models. In the period 1990-99, there is indeed little differences with respect to MSE performance. Over the period 2000-07, the picture changes, and it is EM-KFS that dominates the top 15 models. Finally, there is a mix of all different factor approaches in the top 15 ranking in the period 2008-09. With respect to the number of factors, we do not find any specification that systematically performs best across the three evaluation samples. Over the period 2000-07, the factor specifications are in general more parsimonious than those for 1990-99 and 2008-09.

Overall, by investigating single models in detail, we confirm the first impressions from graphical results of instability. If the potential user of these methods based her choice on the best-performing specifications in the past, in general she would not nowcast well in the future, since the best specifications change over time. This result holds for both factor models and single-indicator MIDAS, and motivates to assess

Table 2: Ranking of nowcast results with factor approaches, relative MSE

model	evaluation sample	1990-99		2000-07		2008-09	
	specification	rank	MSE	rank	MSE	rank	MSE
VA-GPC-MAR	$r = 4, q = 2$	1	0.53*	67	1.20	38	0.25*
VA-GPC-MAR	$r = 5, q = 5$	2	0.55*	40	1.04	48	0.26*
VA-GPC-MAR	$r = 5, q = 2$	3	0.56*	70	1.21	24	0.21*
VA-GPC-MAR	$r = 5, q = 3$	4	0.58*	76	1.24	42	0.25*
VA-GPC-MAR	$r = 6, q = 6$	5	0.58*	77	1.25	54	0.27*
VA-GPC-MID	$r = 5, q = 3$	52	0.77	60	1.14	1	0.10*
VA-GPC-MAR	$r = 8, q = 4$	77	0.90	83	1.29	2	0.12*
EM-KFS-MID	$r = 3$	57	0.78	12	0.79	3	0.14*
VA-GPC-MID	$r = 5, q = 2$	68	0.83	30	1.00	4	0.15*
EM-KFS-joint	$r = 8$	40	0.72	16	0.90	5	0.15*
AR			0.84		1.32		0.73
MSE in-sample mean			0.35		0.28		1.63

Note: The first five models are the best models according to their relative MSE in the evaluation period 1990-99. Their ranking is also determined by the relative MSE. The last five models are the best models according to their relative MSE in the period 2008-09. Details on the factor specifications and model abbreviations can be found in Section 2.2 and Table 1 in the main text.

Table 3: Top 15 nowcast results with factor approaches, relative MSE

rank	sample	1990-99		2000-07		2008-09	
		model specification	MSE	model specification	MSE	model specification	MSE
1		VA-GPC-MAR, $r = 4, q = 2$	0.53*	EM-KFS-MID, $r = 1$	0.55*	VA-GPC-MID, $r = 5, q = 3$	0.10*
2		VA-GPC-MAR, $r = 5, q = 5$	0.55*	EM-KFS-MAR, $r = 1$	0.55*	VA-GPC-MAR, $r = 8, q = 4$	0.12*
3		VA-GPC-MAR, $r = 5, q = 2$	0.56*	EM-KFS-MAR, $r = 2$	0.62*	EM-KFS-MID, $r = 3$	0.14*
4		VA-GPC-MAR, $r = 5, q = 3$	0.58*	EM-KFS-MID, $r = 2$	0.67*	VA-GPC-MID, $r = 5, q = 2$	0.15*
5		VA-GPC-MAR, $r = 6, q = 6$	0.58*	EM-KFS-joint, $r = 1$	0.67*	EM-KFS-joint, $r = 3$	0.15*
6		VA-GPC-MAR, $r = 2, q = 2$	0.59*	EM-KFS-MAR, $r = 3$	0.67*	VA-GPC-MAR, $r = 8, q = 5$	0.16*
7		VA-GPC-MAR, $r = 4, q = 4$	0.59*	EM-KFS-MAR, $r = 4$	0.70	VA-GPC-MID, $r = 6, q = 4$	0.16*
8		EM-KFS-joint, $r = 5$	0.59*	EM-KFS-joint, $r = 2$	0.74	VA-GPC-MID, $r = 6, q = 5$	0.16*
9		VA-GPC-MAR, $r = 5, q = 1$	0.60*	EM-KFS-MAR, $r = 5$	0.74	VA-GPC-MID, $r = 5, q = 5$	0.16*
10		VA-GPC-MAR, $r = 1, q = 1$	0.60*	EM-KFS-MAR, $r = 6$	0.76	VA-GPC-MID, $r = 6, q = 6$	0.16*
11		VA-GPC-MAR, $r = 5, q = 4$	0.60*	EM-KFS-MID, $r = 4$	0.76	EM-KFS-MAR, $r = 3$	0.16*
12		EM-KFS-joint, $r = 2$	0.61*	EM-KFS-MID, $r = 3$	0.79	EM-KFS-MID, $r = 1$	0.17*
13		VA-GPC-MAR, $r = 4, q = 3$	0.61*	EM-KFS-joint, $r = 3$	0.79	EM-KFS-MID, $r = 2$	0.17*
14		EM-KFS-joint, $r = 7$	0.62*	EM-KFS-MID, $r = 6$	0.80	VA-GPC-MID, $r = 6, q = 2$	0.18*
15		VA-GPC-MAR, $r = 3, q = 3$	0.62*	VA-GPC-MID, $r = 1, q = 1$	0.82	VA-GPC-MID, $r = 4, q = 4$	0.18*

Note: The fifteen models are the best models according to their relative MSE in each evaluation period. Their ranking is also determined by the relative MSE. Details on the factor specifications and model abbreviations can be found in Section 2.2 and Table 1 in the main text.

pooling of single nowcast models as an alternative to using single models.

2 Technical specifications and restrictions in the empirical application

Below, we describe the technical implementation of the MIDAS regressions and factor models in the empirical exercise.

2.1 MIDAS regressions

In the exponential lag polynomials of the MIDAS regressions, the maximum lag order was set to $K = 12$. The empirical estimation results show that longer lags typically play no role, so the choice of K is not restrictive. Concerning the NLS estimation of MIDAS equations, we use a large variety of initial parameter specifications, and compute the residual sum of squares (RSS). The parameter set with the smallest RSS then serves as the initial parameter set for NLS estimation. The parameters of the exponential lag function are restricted to $\theta_1 < 2/5$ and $\theta_2 < 0$ (Ghysels *et al.*, 2007).

2.2 Factor approaches

VA-GPC The estimation technique based on generalized principal components by Forni *et al.* (2005) proceeds in two steps: Estimation of the dynamic common components and idiosyncratic components as well as their covariances is carried out in a first step, and the static factors are estimated in a second step. Let T_{mb} denote the balanced sample size of monthly indicators obtained from realignment applied to all the N time series $\tilde{\mathbf{X}}_{t_m}$ for $t_m = 1, \dots, T_{mb}$; see (6) in Section 2.2 of the main text:

1. Covariances of the common and idiosyncratic components: To estimate the q dynamic shocks, Forni *et al.* (2005) propose dynamic principal component analysis in the frequency domain. Let $\hat{\Gamma}(k) = T_{mb}^{-1} \sum_{t_m=1}^{T_{mb}} \tilde{\mathbf{X}}_{t_m} \tilde{\mathbf{X}}'_{t_m-k}$ be the k -lag estimated autocovariance of the vector of time series. An estimator of spectral density of $\tilde{\mathbf{X}}_{t_m}$ is then given by $\hat{\Sigma}(\theta_h) = \sum_{k=-M}^M w_k \hat{\Gamma}(k) e^{-ik\theta_h}$ at frequency $\theta_h = 2\pi h/(2H)$ for $h = 0, \dots, 2H$, and with Bartlett lag weights $w_k = 1 - |k|/(M+1)$. For each frequency, compute the dynamic eigenvalues and eigenvectors of $\hat{\Sigma}(\theta_h)$, and denote $\Lambda(\theta_h)$ as the $(q \times q)$ diagonal matrix with the largest q dynamic eigenvalues on the main diagonal, and the $(N \times q)$ matrix $\hat{\mathbf{P}}(\theta_h) = (\hat{\mathbf{P}}_1(\theta_h), \dots, \hat{\mathbf{P}}_q(\theta_h))$ of the corresponding eigenvectors. The variance of the common components is then given by $\hat{\Sigma}_\chi(\theta_h) = \hat{\mathbf{P}}(\theta_h) \Lambda(\theta_h) \hat{\mathbf{P}}^*(\theta_h)$, where a star denotes complex conjugates. The covariance of the idiosyncratic components can be obtained by $\hat{\Sigma}_\xi(\theta_h) = \hat{\Sigma}(\theta_h) - \hat{\Sigma}_\chi(\theta_h)$. Inverse discrete Fourier

transform provides time-domain autocovariances of the common components $\widehat{\mathbf{\Gamma}}_{\chi}(k) = (2H + 1)^{-1} \sum_{h=0}^{2H} \widehat{\mathbf{\Sigma}}_{\chi}(\theta_h) e^{ik\theta_h}$ for $k = -M, \dots, M$. The autocovariance of the idiosyncratic component $\widehat{\mathbf{\Gamma}}_{\xi}(k)$ can be obtained accordingly.

2. The factors: The aim is to find the r linear combinations of the time series $\widehat{\mathbf{Z}}'_j \widetilde{\mathbf{X}}_{t_m}$ for $j = 1, \dots, r$ that maximize the contemporaneous covariance explained by the common factors $\widehat{\mathbf{Z}}'_j \widehat{\mathbf{\Gamma}}_{\chi}(0) \widehat{\mathbf{Z}}_j$. As a restriction, Forni et al. (2005) impose the normalization $\widehat{\mathbf{Z}}'_j \widehat{\mathbf{\Gamma}}_{\xi}(0) \widehat{\mathbf{Z}}_i = 1$ for $i = j$ and 0 for $i \neq j$.¹ This optimization problem can be reformulated as a generalized eigenvalue problem $\widehat{\mathbf{\Gamma}}_{\chi}(0) \widehat{\mathbf{Z}}_j = \widehat{\mu}_j \widehat{\mathbf{\Gamma}}_{\xi}(0) \widehat{\mathbf{Z}}_j$, where $\widehat{\mu}_j$ denotes the j -th generalized eigenvalue and $\widehat{\mathbf{Z}}_j$ its $(N \times 1)$ corresponding eigenvector. The factors are obtained as

$$\widehat{\mathbf{F}}_{t_m} = \widehat{\mathbf{Z}}' \widetilde{\mathbf{X}}_{t_m}, \quad (1)$$

where $\widehat{\mathbf{Z}}_j = (\widehat{\mathbf{Z}}_1, \dots, \widehat{\mathbf{Z}}_r)$ denotes the $(N \times r)$ matrix of the eigenvectors corresponding to the r largest generalized eigenvalues.

For the estimation of the factors, the auxiliary variables to be specified by the user are M , H , q and r . To specify the estimation in the empirical application, we use the frequency-domain auxiliary parameters $M = 24$ and $H = 60$ for estimating the spectral density. The ranges of q and r are defined in the main text.

EM-KFS The EM algorithm by Banbura *et al.* (2011) and Banbura and Modugno (2010) has to be initialized. For this purpose, we use standard PC to be applied to the set of monthly indicators. This provides us with a first estimate of monthly factors. To determine the factor dynamics, we estimate a VAR on the estimated factors, which provides the VAR coefficients and the covariance matrix of the VAR residual. To specify completely the factor VAR, a lag order determination is required. For this purpose, we apply the Bayesian information criterion (BIC) with a maximum lag order of $p = 12$ months.

A regression of each variable on the factors provides a loadings estimate and an initial guess of the variance of the idiosyncratic components. To initialize coefficients related to GDP, we use first time-aggregation to obtain quarterly factor estimates from the monthly factor estimates. A regression of quarterly GDP growth on the factors provides an estimate of the loadings and the variance of the idiosyncratic GDP component, see Banbura and Rünstler (2011) for details. Other ways of initialization like linear interpolation of missing observations led to similar results.

The EM algorithm is expected to have converged, if the absolute change in the likelihood between two EM iterations divided by the average of the likelihood over the

¹The off-diagonal elements of the covariance matrix of the idiosyncratic components are forced to be zero in order to improve the forecasting properties of the model (Forni *et al.*, 2005).

same two iterations becomes smaller than $1e^{-4}$.

3 Multi-country dataset

The dataset covers the countries US, UK, Japan, Germany, France, and Italy. Each country contains seasonally-adjusted quarterly GDP growth and a large set of monthly indicators. Below, we provide more information on the sample length in Section 3.1, the data sources in Section 3.2, the treatment of the data in Section 3.3, and the exact names of variables used in the empirical application in Section 3.4.

3.1 Estimation and evaluation periods

In the exercise, we aim at comparing the nowcast performance of different models, pooling methods, selection methods, and countries over a harmonized set of evaluation periods. For all the countries, we can compare the nowcast performance for GDP growth over the period 2000Q1 – 2009Q4. For the UK and the US, we additionally can evaluate the period 1990Q1 – 1999Q4. Thus, GDP data for each country ends in 2009Q4. The starting periods differ between the countries: For the US, the sample starts in 1982Q1, for the UK in 1980Q1, providing us with an overall sample size of about 30 years for these countries, giving room for the additional evaluation periods as described above. For Japan, Germany, France, and Italy, the samples start in 1991Q1. In each country, the monthly indicators are generally available in the months corresponding to the GDP sample. However, there are differing missing values at the end of the sample, reflecting the different publication lags of the variables. This leads to a ragged-edge structure at the end of the multivariate sample, which serves as a template to replicate the ragged edges in past pseudo real-time periods as described in the main text (Giannone *et al.*, 2008; Marcellino and Schumacher, 2010).

3.2 Data sources

In general, it is difficult to obtain long and large datasets for nowcasting from the literature or from commercial and public data providers. The problem is that some data providers do not immediately publish new observations as soon they become available from official statistical sources. Thus, harmonized multi-country data are often published with an additional delay, which alters the patterns of availability of high-frequency data, leading to distorted ragged edges of the data. As these patterns of availability are crucial to nowcasting, see the argumentation in the introduction of the accompanying paper, we decided to address economists from central banks to provide data. This also ensures the availability of halfway harmonized evaluation samples that facilitate comparisons across countries.

There are some datasets for nowcasting in the literature. However, these datasets in general do not have harmonized evaluation samples, in particular the latest developments are not covered. This also motivates the request of data from central banks' economists.

For the US, the data is an update of the dataset used in Giannone *et al.* (2008), the German data is an update from Marcellino and Schumacher (2010). These datasets are regularly used by the Federal Reserve Board of Governors, and the Deutsche Bundesbank, respectively, for business cycle analysis and nowcasting. For the remaining countries, the datasets have no background in academic research papers, and have been collected by central bank economists for their economies. Due to this decentralized approach, the data coverage differs from country to country, depending on availability and lack of harmonization of statistics. For the US, we have 190 monthly indicators available, for the UK 60, Japan 71, Germany 113, France 167, and for Italy 150 series. However, the national experts who provided the data decided on the appropriateness and relevance of the data included. In almost all cases, the data is regularly used for nowcasting and business cycle analysis as is the case for the US and Germany.

3.3 Preprocessing of data

As all the nowcast methods employed here implicitly require stationary and well-behaved time series, some preprocessing of the data is necessary as typical in the literature (Giannone *et al.*, 2008; Stock and Watson, 2002). Stationarity was obtained by appropriately differencing the time series after taking natural logarithms were for all time series except interest rates. Most of the time series taken from the above source are already seasonally adjusted. Remaining time series with seasonal fluctuations were adjusted using Census-X12 prior to the forecast simulations. Extreme outlier correction for the indicators was done using a modification of the procedure proposed by Watson (2003). Large outliers are defined as observations that differ from the sample median by more than six times the sample interquartile range (Watson, 2003: p. 93). The identified outlier observation is set equal to the respective outside boundary of the interquartile range.

3.4 Names of variables

The subsections below contain the list of variables in the six country datasets as well as the mnemonics used in the storage of datasets.

3.4.1 US

The table below contains the series names of the US data used in the empirical exercise.

Table 4: US

	Name	Code
1	Ind. Prod., Total	IPTOT
2	Ind. Prod., Final Products and non-industrial supplies	IPFPS
3	Ind. Prod., Final Products	IPFP
4	Ind. Prod., Consumer goods	IPCG
5	Ind. Prod., Durable consumer goods	IPDCG
6	Ind. Prod., Nondurable consumer goods	IPNDCG
7	Ind. Prod., Business equipment	IPBE
8	Ind. Prod., Materials	IPMAT
9	Ind. Prod., Materials, nonenergy, durables	IPMAT_NED
10	Ind. Prod., Materials, nonenergy, nondurables	IPMAT_NEND
11	Ind. Prod., Mfg.	IPMFG
12	Ind. Prod., Mfg., durables	IPMFG_D
13	Ind. Prod., Mfg., nondurables	IPMFG_ND
14	Ind. Prod., Mining	IPMINE
15	Ind. Prod., Utilities	IPUTIL
16	Ind. Prod., Energy, total	IPENTOT
17	Ind. Prod., Non-energy, total	IPNETOT
18	Ind. Prod., Motor vehicles and parts	IPMVP
19	Ind. Prod., Computers, comm. Equip., semiconductors	IPCCS
20	Ind. Prod., Non-energy excl CCS	IPNE_XCCS
21	Ind. Prod., Non-energy excl CCS and MVP	IPNE_XCCSMVP
22	Capacity Utilization	CUTOT
23	Capacity Utilization, Mfg.	CUMFG
24	Capacity Utilization, Mfg., durables	CUMFGD
25	Capacity Utilization, Mfg., nondurables	CUMFGND
26	Capacity Utilization, Mining	CUMINE
27	Capacity Utilization, Utilities	CUUTIL
28	Capacity Utilization, Computers, comm. Equip., semiconductors	CUCCS
29	Capacity Utilization, Mfg. excl CCS	CUMFG_XCCS
30	Purchasing Managers Index (PMI)	PMI
31	ISM mfg index: production (Institute for Supply Management)	PMI_PROD
32	Real disposable personal income	DPRI
33	Unemployment rate	URATE
34	Participation rate	PRATE
35	Mean duration of unemployment	MEANUN
36	Persons unemployed less than 5 weeks	UNLT5WKS
37	Persons unemployed 5 to 14 weeks	UN5TO14WKS
38	Persons unemployed 15 to 26 weeks	UN15TO26WKS
39	Persons unemployed 15+ weeks	UN15PWKS

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	Name	Code
40	Employment on nonag payrolls, Total	PYRL_TOT
41	Employment on nonag payrolls, Total private	PYRL_TOTPR
42	Employment on nonag payrolls, Goods-producing	PYRL_GP
43	Employment on nonag payrolls, Mining	PYRL_MINE
44	Employment on nonag payrolls, Construction	PYRL_CONS
45	Employment on nonag payrolls, Manufacturing	PYRL_MFG
46	Employment on nonag payrolls, Manufacturing, durables	PYRL_MFGD
47	Employment on nonag payrolls, Manufacturing, nondurables	PYRL_MFGN
48	Employment on nonag payrolls, Service-producing	PYRL_SP
49	Employment on nonag payrolls, Transportation and warehousing	PYRL_TPWH
50	Employment on nonag payrolls, Utilities	PYRL_UTIL
51	Employment on nonag payrolls, Retail trade	PYRL_RET
52	Employment on nonag payrolls, Wholesale trade	PYRL_WHOLES
53	Employment on nonag payrolls, Financial activities	PYRL_FINANC
54	Employment on nonag payrolls, Professional and business services	PYRL_PBS
55	Employment on nonag payrolls, Education and health services	PYRL_EHS
56	Employment on nonag payrolls, Leisure and hospitality	PYRL_LHOSP
57	Employment on nonag payrolls, Other services	PYRL_OTHSER
58	Employment on nonag payrolls, Government	PYRL_GOVT
59	Avg. weekly hrs. of production of nonsupervisory workers, Total private	AVGHRS_TOTPR
60	Avg. weekly hrs. of PNW, Mfg.	AVGHRS_MFG
61	Avg. Weekly overtime hrs. of PNW, Mfg.	AVGOVERHRS_MFG
62	ISM mfg index, employment	PMI_EMPL
63	Sales, Mfg. & Trade, Total (mil of chained 96\$)	SALES_TOT
64	Sales, Mfg. & Trade, Mfg., total (mil of chained 96\$)	SALES_MFG
65	Sales, Mfg. & Trade, Mfg., durables (mil of chained 96\$)	SALES_MFGD
66	Sales, Mfg. & Trade, Mfg., nondurables (mil of chained 96\$)	SALES_MFGND
67	Sales, Mfg. & Trade, Merchant wholesale (mil of chained 96\$)	SALES_MERCH
68	Sales, Mfg. & Trade, Merchant wholesale, durables (mil of chained 96\$)	SALES_MERCHD
69	Sales, Mfg. & Trade, Merchant wholesale, nondurables (mil of chained 96\$)	SALES_MERCHND
70	Sales, Mfg. & Trade, Retail trade (mil of chained 96\$)	SALES_RETAIL
71	PCE, Total (bil of chained 96\$)	PCETOT
72	PCE, Durables (bil of chained 96\$)	PCED
73	PCE, Nondurables (bil of chained 96\$)	PCEND
74	PCE, Services (bil of chained 96\$)	PCESER
75	PCE, Durables - MVP -New autos (bil of chained 96\$)	PCE_NEWAUTO
76	Privately-owned housing, started, Total (thous)	HSTARTS
77	New privately-owned housing authorized, Total (thous)	HAUTH
78	New 1-family houses sold, Total (thous)	HSOLD
79	New 1-family houses - months supply current rate	HMSUPPLY
80	New 1-family houses for sale at end of period (thous)	HFORSALE
81	Mobile homes - mfg. shipments (thous) (SA)	HMOBILE
82	Construction put in place, Total (mil of current \$)	CON_TOT
83	Construction put in place, Private (mil of current \$)	CON_PR
84	Inventories, Mfg. & Trade, Total (mil of chained 96\$)	INVTOT
85	Inventories, Mfg. & Trade, Mfg. (mil of chained 96\$)	INVMFG
86	Inventories, Mfg. & Trade, Mfg., durables (mil of chained 96\$)	INVMFGD
87	Inventories, Mfg. & Trade, Mfg., nondurables (mil of chained 96\$)	INVMFGND

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<i>continued from previous page</i>		
	Name	Code
88	Inventories, Mfg. & Trade, Merchant wholesales (mil of chained 96\$)	INVMERCH
89	Inventories, Mfg. & Trade, Retail trade (mil of chained 96\$)	INVRETAIL
90	ISM mfg index, inventories	PMI_INVEN
91	ISM mfg index, new orders	PMI_NO
92	ISM mfg index, suppliers deliveries	PMI_DELIV
93	New Orders, All manufacturing industries (mil of \$)	ORD_ALLMFG
94	New Orders, All manufacturing industries w/unfilled orders (mil of \$)	ORD_MFGWUNF
95	New Orders, Durable goods industries (mil of \$)	ORD_MFGD
96	New Orders, Nondurable goods industries (mil of \$)	ORD_MFGND
97	New Orders, Nondefense capital goods (mil of \$)	ORD_NDFCAP
98	Unfilled Orders, All manufacturing industries (mil of \$)	UNFO_ALLMFG
99	Wilshire composite index	WILSH
100	NYSE composite index	NYSE_COMP
101	NYSE, industrial	DJ_IND
102	NYSE, utilities	DJ_UTI
103	S & P composite	SP_COMP
104	S & P dividend yield	SP_DIVYIELD
105	S & P P/E ratio	SP_PERATIO
106	Spot Euro/US (2)	EURO
107	Spot SZ/US (2)	SWFRANC
108	Spot Japan/US	YEN
109	Spot UK/US	UKPOUND
110	Spot CA/US	CANDOLLAR
111	Commercial paper month-end outstanding, Total (mil of \$)	CPOUT
112	Interest rate, federal funds rate	FFR
113	Interest rate, U.S. 3-mo. Treasury (sec. Market)	THRMOTREAS
114	Interest rate, U.S. 6-mo. Treasury (sec. Market)	SIXMOTREAS
115	Interest rate, 1-year Treasury (constant maturity)	ONEYRTREAS
116	Interest rate, 5-year Treasury (constant maturity)	FIVEYRTREAS
117	Interest rate, 7-year Treasury (constant maturity)	SEVENYRTREAS
118	Interest rate, 10-year Treasury (constant maturity)	TENYRTREAS
119	Bond yield, Moodys AAA Corporate	AAA
120	Bond yield, Moodys BAA Corporate	BAA
121	Primary market yield on 30-year fixed mortgage	MORTG
122	M1 (mil of \$)	M1
123	M2 (mil of \$)	M2
124	Monetary base (mil of \$)	MBASE
125	Depository institutions reserves, Total (mil of \$)	TOTRES
126	Depository institutions, nonborrowed (mil of \$)	NONBRES
127	Loans and Securities, commercial banks	LSTOT
128	Loans and Securities, comm. Banks, Securities	LS_SEC
129	Loans and Securities, comm. Banks, Securities, U.S. govt.	LS_SECGOVT
130	Loans and Securities, comm. Banks, Real estate loans	LS_REST
131	Loans and Securities, comm. Banks, Comm. And Indus. Loans	LS_CI
132	Loans and Securities, comm. Banks, Consumer loans	LS_CONS
133	Delinquency rate on bank-held consumer installment loans	DELIN
134	New car loans at auto finance companies (NSA), loan to value ration	CAR_LTOV
135	New car loans at auto finance companies (NSA), Amount finance	CAR_AMT

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	Name	Code
136	PPI, finished goods	PPI_FG
137	PPI, finished goods less food and energy	PPI_FGXFE
138	PPI, finished consumer goods	PPI_FCG
139	PPI, intermediate materials	PPI_INTMAT
140	PPI, crude materials	PPI_CRUDEMAT
141	PPI, finished goods excl food	PPI_FGXF
142	PPI, crude nonfood materials less energy	PPICRUDEFMATXE
143	PPI, crude materials less energy	PPICRUDE_X_EN
144	CPI, all items (urban)	CPITOT
145	CPI, food and beverages	CPIFB
146	CPI, housing	CPIHOUS
147	CPI, apparel	CPIAPP
148	CPI, transportation	CPITRSP
149	CPI, medical care	CPIMED
150	CPI, commodities	CPICOMM
151	CPI, commodities, durables	CPICOMMD
152	CPI, services	CPISERV
153	CPI, all items less food	CPIXF
154	CPI, all items less food and energy	CPIXFE
155	CPI, all items less shelter	CPI_X_SHELTER
156	CPI, all items less medical care	CPI_X_MEDICAL
157	Price of gold (\$/oz) on the London market (recorded in the p.m.)	GOLD
158	PCE, chain weight price index, Total	PCEPTOT
159	PCE prices, total excl food and energy	PCEPXFE
160	PCE prices, durables	PCEPD
161	PCE prices, nondurables	PCEPND
162	PCE prices, services	PCEPSER
163	Avg. hourly earnings, Total nonagricultural (\$)	HRLYEGS_TOTPR
164	Avg. hourly earnings, Construction (\$)	HRLYEGS_CONS
165	Avg. hourly earnings, Mfg. (\$)	HRLYEGS_MFG
166	Avg. hourly earnings, Transportation (\$)	TRSPWH
167	Avg. hourly earnings, Retail trade (\$)	RET
168	Avg. hourly earnings, Wholesale trade (\$)	WHOLES
169	Avg. hourly earnings, Finance, insurance, and real estate (\$)	FINAN
170	Avg. hourly earnings, Professional and business services (\$)	PBS
171	Avg. hourly earnings, Education and health services (\$)	EHS
172	Avg. hourly earnings, Other services	OTHSERV
173	Total merchandise exports, total census basis (mil of \$)	EXPORT
174	Total merchandise imports, total census basis (mil of \$)	IMP_CUST
175	Total merchandise imports (CIF value) (mil of \$) (NSA)	IMP_CIF
176	Index of consumer confidence	CONF_CFB
177	Michigan Survey, Index of consumer sentiment	CONF_UM
178	Outlook, General activity	PHBOS_GA
179	Outlook, New Orders	PHBOS_NO
180	Outlook, Shipments	PHBOS_SHP
181	Outlook, Inventories	PHBOS_INV
182	Outlook, Unfilled orders	PHBOS_UNFO
183	Outlook, Prices paid	PHBOS_PP
184	Outlook, Prices received	PHBOS_PR
185	Outlook, Employment	PHBOS_EMP
186	Outlook, Work hours	PHBOS_HRSW
187	Federal govt. deficit or surplus (bil of \$) (NSA)	DEFICIT

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	Name	Code
188	Chicago Fed Midwest Mfg. Survey, General activity	MFG_MIDW_IND
189	Gross Domestic Product PI	GDPPI
190	Sales, Retail & food services, total (mil of \$)	SALES_RETAIL_NOM

3.4.2 UK

The table below contains the series names of the UK data used in the empirical exercise.

Table 5: UK

	Name	Code
1	Gfk consumer confindece, aggregate balance	GFKBALSA.M
2	Balance of payment, total trade in goods	BOKI.M
3	Import price index, finished manufactures	ELAR.M
4	Balance of payment, manufactures	ELBJ.M
5	Exports, total trade in goods	BQKQ.M
6	Imports, total Trade in goods	BQKO.M
7	UK FTSE all share dividend yield	conv2ma(FTALLSH_DY.B)
8	UK FTSE all share price index	conv2ma(FTALLSH_PL.B)
9	UK FTSE 100	conv2ma(FTSE100_PL.B)
10	Exchange rate, Yen/£	A_JYS.M
11	Exchange rate, USD/£	A_USS.M
12	3 month £ interbank rate	A_AMIJ.M
13	Bank of England Repo Rate	A_BEDR.M
14	Overnight £ interbank rate	A_VOMA.M
15	6 month £ interbank rate	A_VSMA.M
16	Treasury bills, average discount rate	ONS.UK.INT.AJNB.M
17	VRP spot rate, 5 month average	conv2ma(VRSPOT(NOM,UK,5))
18	VRP spot rate, 10 month average	conv2ma(VRSPOT(NOM,UK,10))
19	European industrial production, manufacturing	DST.E1.ADO.EMOCIOPEG.M
20	US industrial production, automobile	DST.US.ADO.USIP336VG.M
21	US industrial production, automotive products	DST.US.ADO.USIPMAUPG.M
22	US industrial production, durable consumer goods	DST.US.ADO.USIPMDUCG.M
23	US industrial production, nondurable consumer goods	DST.US.ADO.USIPMNOCG.M
24	US industrial production, manufacturing	DST.US.ADO.USOCIPMNG.M
25	US employed, nonfarm industries	DST.US.LAB.USEMPNAGE.M
26	US unemployed, total	DST.US.LAB.USUNEMP_P.M
27	US Consumer Sentiment, index	USUMCONSH.M
28	US CPI, all items	USCP_____F.M
29	Total claimant count	BCJD.M
30	Claimant count rate	BCJE.M
31	Employment	MGRZ.M
32	Unemployed	MGSC.M
33	Total weekly hours worked	YBUS.M
34	AEI (including bonuses), whole economy	LNMQ.M
35	Total liabilities to private sector	AVAB.M
36	Industrial production	CKYW.M
37	Industrial production, mining & quarrying	CKYX.M
38	Industrial production, manufacturing	CKYY.M
39	Industrial production, electricity, gas and water supply	CKYZ.M
40	Industrial production, food, drink & tobacco	CKZA.M
41	Industrial production, textile products	CKZB.M

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<i>continued from previous page</i>		
	Name	Code
42	Industrial production, leather products	CKZC.M
43	Industrial production, wood products	CKZD.M
44	Industrial production, printing industries	CKZE.M
45	Industrial production, fuels	CKZF.M
46	Industrial production, chemicals	CKZG.M
47	Industrial production, plastic products	CKZH.M
48	Industrial production, non-metallic mineral products	CKZI.M
49	Industrial production, basic metals	CKZJ.M
50	Industrial production, machinery & equipment	CKZK.M
51	Industrial production, electrical & optical equipment	CKZL.M
52	Industrial production, transport equipment	CKZM.M
53	Survey, CBI trends enquiry, order book above normal	CBIORD.M
54	Survey, CBI exp. sales	CBIEXP.M
55	Survey, CBI trends enquiry, trend of output volume	CBIOUT.M
56	PPI	PLLA.M
57	PPI, output of manufactured products	PLLU.M
58	Survey, CBI trends enquiry, prices for domestic orders	CBIPR.M
59	RICS Housing Market Survey, prices	RICSPR.M
60	Ratio of RICS sales to RICS stock series	RICSSASTK.M

3.4.3 Japan

The table below contains the series names of the Japanese data used in the empirical exercise.

Table 6: Japan

	Name	Code
1	Corporate Goods Price Index	ppi
2	Consumer price index	cpior
3	Consumer price index, excluding food and energy	cpioeor
4	Consumer price index, excluding fresh food	cpixfor
5	Import Price Index	p_einfuhr
6	Export Price Index	p_ausfuhr
7	Corporate Services Price Index	cspi
8	Employed persons	ew
9	Unemployed persons	alo
10	Unemployment rate	aloq
11	Regular employment index	short
12	Active job openings to applicants ratio	jobopen
13	Job openings	jobo
14	Active applicants	joba
15	Placements	jobp
16	Index of total cash earnings per employee	wageb
17	Index of hours worked per employee	hw
18	Money market ratem, Call money, Uncollateralized Overnight	ist
19	Money market rate, Call money, Uncollateralized 1 month	is1m
20	Interest Rates on Certificates of Deposit, 90 - 179 Days	is3m
21	Newly Issued Government Bonds Yield (10 years)	r_bnd
22	Foreign exchange rates, USD / Yen	dmdoll
23	Nominal effective exchange rage	ern
24	Real effective exchange rage	err
25	M1	M1
26	M2	M2

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<i>continued from previous page</i>		
	Name	Code
27	Spread, between 1 and 2 years	zdiff12
28	Spread, between 2 and 3 years	zdiff23
29	Spread, between 3 and 4 years	zdiff34
30	Bank of Japan Overseas Commodity Index	hwwa
31	Industrial production, Final demand goods	pr_fd
32	Industrial production, Capital goods	pr_cap
33	Industrial production, Construction goods	pr_const
34	Industrial production, Consumer goods	pr_cons
35	Industrial production, Producer goods	pr_prod
36	Industrial production, General machinery	pr_masch
37	Industrial production, Electrical machinery (old class.)	pr_elek2
38	Industrial production, Transport equipment	pr_fahr
39	Industrial shipments, Final demand goods	sh_fd
40	Industrial shipments, Capital goods	sh_cap
41	Industrial shipments, Construction goods	sh_const
42	Industrial shipments, Consumer goods	sh_cons
43	Industrial shipments, Producer goods	sh_prod
44	Industrial shipments, General machinery	sh_masch
45	Industrial shipments, Electrical machinery (old class.)	sh_elek2
46	Industrial shipments, Transport equipment	sh_fahr
47	Machinery orders received	mo
48	Machinery orders received, machines excluding ships	mo_mac
49	Machinery orders received, domestic	mo_d
50	Machinery orders received, foreign	mo_f
51	Machinery orders received, domestic manufacturing	mo_dm
52	Machinery orders received, domestic non-mfg	mo_dnonm
53	Machinery orders received, domestic non-mfg, excluding ships	mo_dnonmx
54	Machinery orders received, electric and com. equipment	mo_elec
55	Machinery orders received, motor vehicles	mo_veh
56	Production	pr
57	Index of Tertiary Industry Activity, Retail	act_retail
58	Index of Tertiary Industry Activity, Wholesale	act_wholesale
59	Orders received for construction	a_hoch
60	New dwellings started	a_wobau
61	Building construction starts, private	a_nowobau
62	Hours worked, Construction	hw_hoch
63	Index of Consumption Expenditure Level	consm1
64	Index of Consumption Exp. Level, not including housing, automobiles	consm2
65	Retail sales value	ehndel_insg
66	Large-scale retail store sales value, Household electric appliance	ehndl_elek
67	Sales of large-scale retail store	retail_large
68	BOP Exports	export
69	BOP Imports	import
70	BOP Services, Net	dlstg
71	BOP Earnings and property income, Net	ev_eink

3.4.4 Germany

The table below contains the series names of the German data used in the empirical exercise.

Table 7: Germany

	Name	Code
1	producer price index without energy	ppioe

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<i>continued from previous page</i>		
	Name	Code
2	consumer price index	cpi
3	consumer price index without energy	cpioe
4	consumer price index energy	cpie
5	import prices index without energy	p_einoe
6	import prices	p_eine
7	export prices	p_ausfuhr
8	employees and self-employed	ew_inland
9	employees and self-employed	ew_inlaend
10	unemployed	alo
11	unemployment rate	aloq
12	employees, short-term	short
13	vacancies	vac
14	employees, industry	besch_ind
15	hours worked, industry	stunden_ind
16	money market rate, overnight deposits	ist
17	money market rate, 1 month deposits	is1m
18	money market rate, 3 months deposits	is3m
19	bond yields on public and non-public long term bonds with average maturity from 1 to 2 years	il12
20	bond yields on public and non-public long term bonds with average maturity from 5 to 6 years	il56
21	bond yields on public and non-public long term bonds with average maturity from 9 to 10 years	il910
23	CDAX share price index	cdax
23	DAX German share index	dax
24	REX German bond index	rex
25	exchange rate US dollar/Deutsche Mark	dmdoll
26	monetary aggregate M1	M1
27	monetary aggregate M2	M2
28	monetary aggregate M3	M3
29	yield spread: bond yields with maturity from 1 to 2 years minus 3 months money market rate	zdiff12
30	yield spread: bond yields with maturity from 5 to 6 years minus 3 months money market rate	zdiff56
31	yield spread: bond yields with maturity from 9 to 10 years minus 3 months money market rate	zdiff910
32	production: energy	pr_en
33	production: intermediate goods industry	pr_vorl
34	production: capital goods industry	pr_inv
35	production: durable and non-durable consumer goods industry	pr_cons
35	production: steel	pr_stahl
37	production: mechanical engineering	pr_masch
38	production: electrical engineering	pr_elek
39	production: vehicle engineering	pr_fahr
40	production: cars	pr_pkw
41	production: trucks	pr_last
42	export turnover: intermediate goods industry	ui_vorl
43	domestic turnover: intermediate goods industry	ua_vorl
44	export turnover: capital goods industry	ui_inv
45	domestic turnover: capital goods industry	ua_inv
46	export turnover: durable and non-durable consumer goods industry	ui_cons

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	Name	Code
47	domestic turnover: durable and non-durable consumer goods industry	ua_cons
48	export turnover: mechanical engineering	ui_masch
49	domestic turnover: mechanical engineering	ua_masch
50	export turnover: electrical engineering industry	ui_elek
51	domestic turnover: electrical engineering industry	ua_elek
52	export turnover: vehicle engineering industry	ui_fahr
53	domestic turnover: vehicle engineering industry	ua_fahr
54	orders received by the intermediate goods industry from the domestic market	ai_vorl
55	orders received by the intermediate goods industry from abroad	aa_vorl
56	orders received by the capital goods industry from the domestic market	ai_inv
57	orders received by the capital goods industry from abroad	aa_inv
58	orders received by the consumer goods industry from the domestic market	ai_cons
59	orders received by the consumer goods industry from abroad	aa_cons
60	orders received by the mechanical engineering industry from the domestic market	ai_masch
61	orders received by the mechanical engineering industry from abroad	aa_masch
62	orders received by the electrical engineering industry from the domestic market	ai_elek
63	orders received by the electrical engineering industry from abroad	aa_elek
64	orders received by the vehicle engineering industry from the domestic market	ai_fahr
65	orders received by the vehicle engineering industry from abroad	aa_fahr
66	industrial production	pr
67	orders received by the construction sector: building construction	a_hoch
68	orders received by the construction sector: civil engineering	a_tiefbau
69	orders received by the construction sector: residential building	a_wobau
70	orders received by the construction sector: non-residential building construction	a_nowobau
71	man-hours worked in building construction	std_hoch
72	man-hours worked in civil engineering	std_tief
73	man-hours worked in residential building	std_wobau
74	man-hours worked in industrial building	std_wibau
75	man-hours worked in public building	std_öbau
76	turnover: building construction	u_hoch
77	turnover: civil engineering	u_tief
78	turnover: residential building	u_wobau
79	turnover: industrial building	u_wibau
80	turnover: public building	u_öbau
81	production in the construction sector	pr_bau
82	ifo svy., bus. sit., capital goods producers	lage_inv
83	ifo svy., bus. sit., producers durable consumer goods	lage_gebr
84	ifo svy., bus. sit., producers non-durable consumer goods	lage_verbr
85	ifo svy., bus. sit., retail trade	lage_ehandel
86	ifo svy., bus. sit., wholesale trade	lage_ghandel
87	ifo svy., bus. exp., next 6m, producers capital goods	gerw_inv
88	ifo svy., bus. exp., next 6m, producers durable consumer goods	gerw_gebr

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	Name	Code
89	ifo svy., bus. exp., next 6m, producers non-durable consumer goods	gerw_verbr
90	ifo svy., bus. exp., next 6m, retail trade	gerw_ehandel
91	ifo svy., bus. exp., next 6m, wholesale trade	gerw_ghandel
92	ifo svy., stocks of finished goods: producers of capital goods	lager_inv
93	ifo svy., stocks of finished goods: producers of durable consumer goods	lager_gebr
94	ifo svy., stocks of finished goods: producers of non-durable consumer goods	lager_verbr
95	GfK consumer surveys: income expectations	gfkeinc
96	GfK consumer surveys: business cycle expectations	gfkebus
97	GfK consumer surveys: propensity to consume: consumer climate	gfkcons
98	GfK consumer confidence	gfkconss
99	GfK consumer surveys: price expectations	gfkepric
100	ZEW financial market survey: business cycle expectations	zew
101	retail sales turnover	ehndel_okfzsa
102	new car registrations by private owners	kfz_privat
103	delivery of fuel oil,	heiz
104	delivery of motor fuels,	benz
105	current account: exports, nominal	export_nom
106	current account: imports, nominal	import_nom
107	current account: exports, real	export_real
108	current account: imports, real	import_real
109	oil price Brent GB	p_brent
110	HWWA raw material price index	hwwa
111	HWWA raw material price index without energy	hwwa_oenerg
112	HWWA raw material price index: food	hwwa_agrar
113	HWWA raw material price index: industrial raw materials	hwwa_ind

3.4.5 France

The table below contains the series names of the French data used in the empirical exercise.

Table 8: France

	Name	Code
1	Consumer conf. svy., summary indicator	ICONFMEN
2	Consumer conf. svy., past financial situation	SFPPASS
3	Consumer conf. svy., future financial situation	SFPPREV
4	Consumer conf. svy., past standard of living in France	NIVPASS
5	Consumer conf. svy., future standard of living in France	NIVPREV
6	Consumer conf. svy., timeliness to make major purchases	OPPACHA
7	Consumer conf. svy., future development of unemployment	CHOMPREV
8	Consumer conf. svy., past price developments	PRIXPASS
9	Consumer conf. svy., future price developments	PRIXPREV
10	Household consump., manufactured goods	CONSO_MANUF
11	Household consump., commercial industrial products	CONSO_COMM
12	Household consump., motor vehicles	CONSO_AUTO
13	Household consump., consumer durables	CONSO_BD
14	Household consump., textiles and leather	CONSO_TEXT
15	Household consump., other manufactured goods	CONSO_AUTR
16	Household consump., furniture	CONSO_AMEUB
17	Household consump., electric domestic appliances	CONSO_ELECMEN

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	Name	Code
18	Household consump., consumer electronics	CONSO_ELEC
19	Exchange rate USD/EUR	EUUSD
20	Svy, gds-prod. ind., Expected trend in output	PRODPREV_MANUF
21	Svy, gds-prod. ind., Total orders received	CARNET_MANUF
22	Svy, gds-prod. ind., Orders received from abroad	CARNET_ETR_MANUF
23	Svy, gds-prod. ind., Stocks of finished products	STOCKNIV_MANUF
24	Svy, gds-prod. ind., Expected development of sale prices	PRIXPREV_MANUF
25	Svy, gds-prod. ind., anticipated development of ind. output	VOLPREV_MANUF
26	Svy, gds-prod. ind., Composite climate indicator	ICA_I
27	Registrations of industrial vehicles	VU_ENS
28	Svy, services sec., Past trend in business activities	ACTPASS_SERV
29	Svy, services sec., Past trend in employment	EFFPASS_SERV
30	Svy, services sec., Expected trend in employment	EFFPREV_SERV
31	Svy, services sec., Expected trend in prices	PRIXPREV_SERV
32	Svy. of services, Composite indicators	ICA_SERV
33	Oilbrent	brentspotdollar
34	Industrial production, Construction	IPI_CONST
35	Household consump., Registration of passenger cars	immat
36	Svy, sales, last 3m., Retail trade excluding pharmaceutical goods	VP_C
37	Svy, sales, last 3m., Retail sale	VP_CNS
38	Svy, sales, last 3m., Retail sale of food	VP_CNSEA
39	Svy, sales, last 3m., Retail sale of non-food	VP_CNSENA
40	Svy, sales, last 3m., Retail trade in spec. stores ex. Pharm. Gds.	VP_CS
41	Svy, orders, next 3m., Retail trade excluding pharmaceutical goods	IC_C
42	Svy, orders, next 3m., Retail sale	IC_CNS
43	Svy, orders, next 3m., Retail sale of food	IC_CNSEA
44	Svy, orders, next 3m., Retail sale of non-food	IC_CNSENA
45	Svy, orders, next 3m., Retail trade in spec. stores ex. Pharm. gds	IC_CS
46	Svy, stock, curr. year, Retail trade excluding pharmaceutical goods	ST_C
47	Svy, stock, curr. year, Retail trade	ST_CNS
48	Svy, stock, curr. year, Retail sale of food	ST_CNSEA
49	Svy, stock, curr. year, Retail sale of non-food	ST_CNSENA
50	Svy, stock, curr. year, Retail trade in spec. stores ex. Pharm. gds	ST_CS
51	Svy, price, next 3m., Retail trade excluding pharmaceutical goods	PXF_C
52	Svy, price, next 3m., Retail sale	PXF_CNS
53	Svy, price, next 3m., Retail sale of food	PXF_CNSEA
54	Svy, price, next 3m., Retail sale of non-food	PXF_CNSENA
55	Svy, price, next 3m., Retail trade in spec. stores ex. Pharm. gds	PXF_CS
56	Svy., sales, last 2m., wholesale	VENTE_CG
57	Svy., orders, next 2m., wholesale	INTCOM_CG
58	Svy., inventory, curr. Year., wholesale	STOCK_CG
59	Svy., overall outlook, next 4m., wholesale	PERSPACT_CG
60	Svy., exports, last 2m., wholesale	EXP_CG
61	Svy., deliveries from abroad, last 2m., wholesale	IMP_CG
62	Svy., price trend, next 4m., wholesale	TENDFUTPX_CG
63	Svy., price trend, last 2m., wholesale	TENDRECPX_CG

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<i>continued from previous page</i>		
	Name	Code
64	Svy., building, Past trend in activities	ACTPASS_BAT
65	Svy., building, Expected trend in activities	ACTPREV_BAT
66	Svy., building, orders received	CARNET_BAT
67	Svy., building, Orders received, working months	CARNETM_BAT
68	Svy., building, Past trend in staffing levels	EFFPASS_BAT
69	Svy., building, Expected trend in staffing levels	EFFPREV_BAT
70	Svy., building, Expected price trend	EVPRIX_BAT
71	Svy., mfg., Current reach of orders in weeks	CSEMA_MANUF
72	Svy., mfg., Current order situation	ETCC_MANUF
73	Svy., mfg., orders received in month / M-1	EVCOM_MANUF
74	Svy., mfg., orders received from abroad in month / M-1	EVCOME_MANUF
75	Svy., mfg., deliveries / M-1	EVLIV_MANUF
76	Svy., mfg., prices for primary materials / M-1	EVPRMP_MANUF
77	Svy., mfg., output / M-1	EVPRO_MANUF
78	Svy., mfg., prices for finished products / M-1	EVPRPF_MANUF
79	Svy., mfg., stocks of finished products / M-1	EVSTPF_MANUF
80	Svy., mfg., staffing levels / M-1	EVEFF_MANUF
81	Svy., mfg., Output forecasts M+1	PREVPRO_MANUF
82	Svy., mfg., Stock forecasts M+1	PREVSTPF_MANUF
83	Svy., mfg., Current situation, stocks of raw materials	STMP_MANUF
84	Svy., mfg., Current situation, stocks of finished products	STPF_MANUF
85	Svy., mfg., Staffing forecasts M+1	PREVEFF_MANUF
86	Svy., mfg., Current situation, used capacity	TUC_MANUF
87	Svy., elec. equip., Current reach of orders in weeks	CSEMA_ELEC
88	Svy., elec. equip., Current order situation	ETCC_ELEC
89	Svy., elec. equip., orders received in month / M-1	EVCOM_ELEC
90	Svy., elec. equip., orders received from abroad in month / M-1	EVCOME_ELEC
91	Svy., elec. equip., deliveries / M-1	EVLIV_ELEC
92	Svy., elec. equip., prices for raw materials / M-1	EVPRMP_ELEC
93	Svy., elec. equip., output / M-1	EVPRO_ELEC
94	Svy., elec. equip., prices for finished products / M-1	EVPRPF_ELEC
95	Svy., elec. equip., stocks of finished products / M-1	EVSTPF_ELEC
96	Svy., elec. equip., staffing levels / M-1	EVEFF_ELEC
97	Svy., elec. equip., Output forecasts M+1	PREVPRO_ELEC
98	Svy., elec. equip., Stock forecasts M+1	PREVSTPF_ELEC
99	Svy., elec. equip., Current situation,stocks of raw materials	STMP_ELEC
100	Svy., elec. equip., Current situation, stocks of finished products	STPF_ELEC
101	Svy., elec. equip., Staffing forecasts M+1	PREVEFF_ELEC
102	Svy., elec. equip., Current situation, used capacity	TUC_ELEC
103	Svy., automotive, Current reach of orders in weeks	CSEMA_ATT
104	Svy., automotive, received in month / M-1	EVCOM_ATT
105	Svy., automotive, received from abroad in month / M-1	EVCOME_ATT
106	Svy., automotive, deliveries / M-1	EVLIV_ATT
107	Svy., automotive, prices for raw materials / M-1	EVPRMP_ATT
108	Svy., automotive, output / M-1	EVPRO_ATT
109	Svy., automotive, prices for finished products / M-1	EVPRPF_ATT
110	Svy., automotive, stocks of finished products / M-1	EVSTPF_ATT
111	Svy., automotive, staffing levels / M-1	EVEFF_ATT
112	Svy., automotive, Output forecasts M+1	PREVPRO_ATT
113	Svy., automotive, Stock forecasts M+1	PREVSTPF_ATT
114	Svy., automotive, Current situation, stocks of raw materials	STMP_ATT
115	Svy., automotive, Current situation, stocks of finished products	STPF_ATT

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<i>continued from previous page</i>		
	Name	Code
116	Svy., automotive, Staffing forecasts M+1	PREVEFF_ATT
117	Svy., automotive, Current situation used capacity	TUC_ATT
118	Svy., trans. equip., Current order situation	ETCC_TRANSP
119	Svy., trans. equip., received in month / M-1	EVCOM_TRANSP
120	Svy., trans. equip., received from abroad in month / M-1	EVCOME_TRANSP
121	Svy., trans. equip., output / M-1	EVPRO_TRANSP
122	Svy., trans. equip., Output forecasts M+1	PREVPRO_TRANSP
123	Svy., trans. equip., Current situation, stocks of finished products	STPF_TRANSP
124	Svy., trans. equip., Current situation used capacity	TUC_TRANSP
125	Svy., other ind., Current reach of orders in weeks	CSEMA_AUT
126	Svy., other ind., Current order situation	ETCC_AUT
127	Svy., other ind., demands received in month / M-1	EVCOM_AUT
128	Svy., other ind., orders received from abroad in month / M-1	EVCOME_AUT
129	Svy., other ind., deliveries / M-1	EVLIV_AUT
130	Svy., other ind., prices for raw materials / M-1	EVPRMP_AUT
131	Svy., other ind., output / M-1	EVPRO_AUT
132	Svy., other ind., prices for finished products / M-1	EVPRPF_AUT
133	Svy., other ind., stocks of finished products / M-1	EVSTPF_AUT
134	Svy., other ind., staffing levels / M-1	EVEFF_AUT
135	Svy., other ind., Output forecasts M+1	PREVPRO_AUT
136	Svy., other ind., Stock forecasts M+1	PREVSTPF_AUT
137	Svy., other ind., Current situation, stocks of raw materials	STMP_AUT
138	Svy., other ind., Current situation, stocks of finished products	STPF_AUT
139	Svy., other ind., Staffing forecasts M+1	PREVEFF_AUT
140	Svy., other ind., Current situation, used capacity	TUC_AUT
141	Svy., agri., food, Current reach of orders in weeks	CSEMA_IAA
142	Svy., agri., food, Current order situation	ETCC_IAA
143	Svy., agri., food, orders received in month / M-1	EVCOM_IAA
144	Svy., agri., food, orders received from abroad in month / M-1	EVCOME_IAA
145	Svy., agri., food, deliveries / M-1	EVLIV_IAA
146	Svy., agri., food, prices for raw materials / M-1	EVPRMP_IAA
147	Svy., agri., food, output / M-1	EVPRO_IAA
148	Svy., agri., food, prices for finished products / M-1	EVPRPF_IAA
149	Svy., agri., food, stocks of finished products / M-1	EVSTPF_IAA
150	Svy., agri., food, staffing levels / M-1	EVEFF_IAA
151	Svy., agri., food, Output forecasts M+1	PREVPRO_IAA
152	Svy., agri., food, Stock forecasts M+1	PREVSTPF_IAA
153	Svy., agri., food, Current situation, stocks of raw materials	STMP_IAA
154	Svy., agri., food, Current situation, stocks of finished products	STPF_IAA
155	Svy., agri., food, Staffing forecasts M+1	PREVEFF_IAA
156	Svy., agri., food, Current situation used capacity	TUC_IAA
157	Svy., ret. trade, sale of new motor vehicles	IVOL_AUTONV
158	Svy., ret. trade, sale of used cars	IVOL_AUTOOC
159	Svy., ret. trade, textiles and clothing	IVOL_TEXT
160	Svy., ret. trade, footwear	IVOL_CHAUS
161	Svy., ret. trade, furniture	IVOL_MEUB
162	Svy., ret. trade, electric domestic appliances	IVOL_EMEN
163	Svy., ret. trade, consumer electornics	IVOL_ELEC
164	Svy., ret. trade, hardware	IVOL_QUINQ
165	Svy., ret. trade, books and papers stationery	IVOL_LIVR
166	Svy., ret. trade, watches and jewellery	IVOL_HORLOG
167	Svy., ret. trade, total	IVOL_ENS

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Name	Code
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3.4.6 Italy

The table below contains the series names of the Italian data used in the empirical exercise.

Table 9: Italy

	Name	Code
1	passenger car registrations	itcar...p
2	car registrations, light commercial vehicles	itlcvregp
3	exports, motor vehicles, trailers & semi-trailers	itxptmota
4	new orders, manufacturing, motor vehicles	iteso29mg
5	new orders, manufacturing, motor vehicles & trailer bodies	iteso29bg
6	new orders, manufacturing, motor vehicles, trailers & semi-trailers	itesovemg
7	commercial vehicle registration	conveid
8	electricity consumption total	cemttid
9	electricity consumption fs	cemfsd
10	electricity consumption turin	cemtod
11	electricity consumption milan	cemmid
12	electricity consumption venice	cemved
13	electricity consumption florence	cemfid
14	electricity consumption rome	cemrmd
15	electricity consumption neaples	cemnad
16	electricity consumption palermo	cempad
17	electricity consumption caglioari	cemcad
18	real effective exchange rate, cpi based	itocc011
19	real effective exchange rate index, labor cost	iti..reue
20	italian lire to us \$	itxrusd.
21	indicator of competitiveness	itgloppi
22	italy t-bill auct. gross 3 month, middle rate	itbt03g
23	italy t-bill auct. gross 6 month, middle rate	itbt06g
24	italy t-bill auct. gross 12 month, middle rate	itbt12g
25	it benchmark 10 year ds govt. Index, clean price index	bmit10y
26	it 3-month interbank rate on deposits nadj	itoir076r
27	mny mkt, 3-month frankfurt banks, middle rate	bdmny3m
28	germany benchmark bond 10 yr (ds)	bdbryld
29	bond 5 years	y5
30	bind 10 years	y10
31	cig in manufacturing	cigiss
32	cig ordinaria	cigord
33	cig nelledilizia	ciged
34	hours of extra time, manufacturing	strtiss
35	money supply, m1	itm1....a
36	money supply, m2	itm2....a
37	money supply, m3	itm3....a
38	loans to household, consumer credit	conscr
39	loans to household, for house purchase	houscr
40	loans to household, other credit	othrcr
41	loans to non financial corporation, total	totimp
42	loans to non financial corporation, less than 1 year	impl1
43	loans to non financial corporation, more than 1 year	impol

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<i>continued from previous page</i>		
	Name	Code
44	credit to private sector, total	totcr
45	loans to household, consumer credit	conscr_defl
46	loans to household, for house purchase	houscr_defl
47	loans to non financial corporation, less than 1 year	impl1_defl
48	loans to non financial corporation, more than 1 year	impol_defl
49	loans to household, other credit	othrcr_defl
50	credit to private sector, total	totcr_defl
51	loans to non financial corporation, total	totimp_defl
52	new orders	itneworde
53	new orders, domestic	itnordome
54	new orders, foreign	itnorfore
55	industrial turnover	itsaltote
56	sales, domestic	itsaldome
57	sales, foreign	itsalfore
58	new orders	itneworde_defl
59	new orders, domestic	itnordome_defl
60	new orders, foreign	itnorfore_defl
61	industrial turnover	itsaltote_defl
62	ppi, linked & rebased	itpropraf
63	cpi including tobacco	itconpref
64	baltic exchange dry price index	balticf
65	composite price index, food	wdi76exdf
66	market price index, primary commodities	dc76axdf
67	export price, non fuel primary commodities index	wdi76nfd
68	industrial production	itiptot.g
69	industrial production, manufacturing	itipman.g
70	industrial production, consumer goods	itipcngdg
71	industrial production, consumer goods - durable	itipcgdrg
72	industrial production, consumer goods - non-durable	itipcngdg
73	industrial production, investment goods	itipinvtg
74	industrial production, intermediate goods	itipintmg
75	industrial production, energy	itipengyg
76	industrial production, chemical products & synthetic fibres	itipchemg
77	industrial production, coke manufacture & petroleum refining	itipfuelg
78	industrial production, extraction of minerals	itipmingg
79	industrial production, food, drink & tobacco	itipfoodg
80	industrial production, machines & mechanical apparatus	itipmachg
81	industrial production, means of transport	itiptrnsg
82	industrial production, metal & metal products	itipmetlg
83	industrial production, rubber items & plastic materials	itiprubrg
84	industrial production, textile & clothing	itiptextg
85	industrial production, wood & wood products	itipwoodg
86	manufacture of computer, electronic and optical products	itipci0eg
87	manufacture of electrical equipment	itipcj0qg
88	manufacture of basic pharmaceutical products	itippharg
89	electricity, gas, steam and air conditioning	itip350eg
90	other manufacturing, repair and installation	itipcmomg
91	ip in construction	ipcomd
92	ftse italia mib storico, price index	itmhist
93	italy-ds banks, price index	banksit
94	italy-ds pharm & bio, price index	pharmit
95	italy-ds telecom, price index	telcmit
96	italy-ds industrials, price index	indusit

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	Name	Code
97	italy-ds insurance, price index	insurit
98	italy-ds tch h/w & eq, price index	infohit
99	italy-ds oil & gas, price index	oilgsit
100	italy-ds electricity, price index	electit
101	italy-ds media, price index	mediait
102	italy-ds eltro/elec eq, price index	eltnctit
103	italy-ds automobiles, price index	autosit
104	italy-ds market, per	totmkit
105	italy-ds market, dividend yield	totmkit_dy
106	isae business confidence indicator	itcnfbusq
107	isae business svy., order books, domestic	itdomordr
108	isae business svy., order books, export	itforordr
109	isae business svy., order books	ittotordr
110	isae business svy., stocks of finished goods	itlevinvr
111	isae business svy., production level	ittotprdr
112	isae business svy., order books, next 3m	itexpordr
113	isae business svy., production, next 3m	itprdxpr
114	isae business svy., selling price, next 3m	itbsinsbr
115	isae business svy., economy, next 3m	itbsinevr
116	isae bus.svy., intermed., order books, domestic	itintobbr
117	isae bus.svy., intermed., order books export	itintexor
118	isae bus.svy., intermed., order books	itintordr
119	isae bus.svy., intermed., stocks of fin.gds.	itintsfgr
120	isae bus.svy., intermed. gds., production	itintprdr
121	isae bus.svy., investment, order books, domestic	itinvobbr
122	isae bus.svy., investment, order books export	itinvexor
123	isae bus.svy., investment, order books	itinvordr
124	isae bus.svy., investment, stocks of fin.gds.	itinvsfgr
125	isae bus.svy., investment, production	itinvrprdr
126	isae bus.svy., consumer goods, order books, domestic	itconobbr
127	isae bus.svy., consumer goods, order books export	itconexor
128	isae bus.svy., consumer goods, order books	itconordr
129	isae bus.svy., consumer goods, stocks of fin.gds.	itconsfgr
130	isae bus.svy., consumer goods, production	itconprdr
131	isae bus.svy., intermed., order books, next 3m	itintfobr
132	isae bus.svy., intermed., production, next 3m	itintfpr
133	isae bus.svy., intermed., price, next 3m	itintfspr
134	isae bus.svy., intermed, economy, next 3m	itintfecr
135	isae bus.svy., inv.gds, order books, next 3m	itinvfobr
136	isae bus.svy., inv.gds., production, next 3m	itinvfpr
137	isae bus.svy., inv.gds., price, next 3m	itinvfspr
138	isae bus.svy., inv.gds., economy, next 3m	itinvfecr
139	isae bus.svy., cons.gds., order books, next 3m	itconfobr
140	isae bus.svy., cons.gds., production, next 3m	itconfpr
141	isae bus.svy., cons.gds., price, next 3m	itconfspr
142	isae bus.svy., cons.gds., economy, next 3m	itconfecr
143	isae business svy., order books	ittotordq
144	isae business svy., order books, domestic	itdomordq
145	isae business svy., order books, export	itforordq
146	isae business svy., order books, next 3m	itordexpq
147	isae business svy., stocks of finished goods	itlevinvq
148	isae business svy., production	ittotprdq
149	isae business svy., production, next 3m	itprdxpq

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<i>continued from previous page</i>		
	Name	Code
150	isae business svy., price, next 3m	itprcexpq

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