Improving statistical timeliness or short-term forecasts? A French institutional experience

Alain Chappert, Éric Dubois, Benoît Heitz
Institut national de la statistique et des études économiques
Paris, FRANCE

Those responsible for making economic policy obviously wish to be informed as quickly as possible about developments in the economic situation. This explains why statistical institutes are being urged to speed up the production of their indicators. Considerable progress has been made in this respect, particularly in Europe, over the last ten years or so. However, this progress must obviously not go hand in hand with deterioration in quality: Economic policy would gain nothing from taking a lead from indicators that were likely to undergo significant revision. That said, given the efforts already made to speed up processes, there is reason to fear that we are now in a situation of decreasing returns. The cost of tightening deadlines further could be high in budgetary terms and/or in terms of the burden on businesses, whilst the results would not be of the highest quality. The question under consideration here is whether a purely statistical approach is the right one and whether work that is more akin to forecasting, which would be less costly, might be able to cater for the needs of policymakers. The line between the two approaches is a fine one, at least in terms of the result produced: Is an estimate for quarter Q, which is made in the first few days of quarter Q+1, a forecast or a statistic? The answer obviously depends on the method used. But we know that at the moment it is of little importance to policymakers: the most important thing for them is to have a reliable indication of the economic situation.

Against this backdrop, this paper proposes a description of an original institutional experience, that of France; within the statistical institute we produce not only classic short-term quarterly indicators, in particular for national accounts, but also qualitative business climate surveys (especially business tendency surveys) and short-term forecasts. We will first of all make a summary description of this institutional framework. We will then describe the business tendency surveys, their costs, advantages and how they can be used (composite indicators, turning point indicators, benchmarking). Finally we will describe how, using business tendency surveys and within the framework of the quarterly national accounts, short-term forecasts are made. In the process we will see that the

development of economic analyses had led Insee to adopt an original method for producing quarterly national accounts.

1 An original institutional framework: Producing both statistics and forecasts

Since the time it was set up in 1946, Insee, as its name indicates (National Institute for Statistics and Economic Studies), has been given the task of carrying out a conventional activity as well as monitoring economic developments. This is because traditionally it has been part of the Ministry for Economic Affairs, thus giving the institution easier access to certain information (tax, customs) and providing its managers with career opportunities both at Insee and in the more « traditional » departments of the Ministry. This twofold mission was facilitated by another original characteristic: Insee's senior managers are trained at a school, Ensae, which for a fairly long time held in France a near monopoly on formalised approaches to economic analysis.

The combination of the two activities is embodied in a particularly clear way by one of the directorates of Insee, the Economic Studies and National Accounts Directorate, which has a threefold remit:

- National accounts
- Qualitative business tendency surveys and short-term forecasts
- Economic studies (modelling, structural studies)

It is the first two activities which are of interest to us first and foremost in this paper, although they both benefit from the third type of activity (especially macroeconomic modelling).

2. Business tendency surveys

Unlike in other large European countries (in particular Germany and Italy), it is the statistical institute which is in charge of « European » business tendency surveys in France. This is the result of a long tradition: Insee carried out its first business tendency survey in 1957. These surveys are useful for the following reasons: Business tendency surveys provide complementary information to that contained in quantitative statistical surveys and they do so more quickly and at a modest cost (part 2.1); they benefit from

considerable synergies both with statisticians and forecasters (part 2.2); finally, and stemming from the first two points, they provide valuable indicators about the state of the economy at a time when quantitative statistics cannot be made available (part 2.3).

2.1. Cheap, rapid and unrevised information

Insee carries out business tendency surveys in the main sectors of economic activity: industry, services, retail trade, wholesale trade, construction, public works… These surveys are mostly carried out on a monthly basis. Their results are available very quickly (around the 25th of the month of collection).

We therefore have at our disposal valuable, rapidly available indicators relating to the recent past and short-term prospects based on the opinions of business leaders.

Business tendency surveys have another advantage: they provide a fairly complete, consistent picture of an industry, shedding light on areas covered on a very lagged basis (if at all) by conventional statistics. For example, the monthly Industry Survey gives a view of activity in each sector tracked and explanations for the trends observed (production, stock levels, change in order books, etc.)—which is useful for short-term forecasting.

Lastly, INSEE's business tendency surveys are one component of a harmonised European mechanism. Their results can therefore be compared with those of surveys conducted by other European Institutes (identical questions, frequency, survey periods, and publication dates).

Indicators developed from the survey results using very simple procedures provide timely signals on activity, employment, and other economic aggregates of crucial importance to short-term economic analysis.

For each qualitative question asked, business tendency surveys supply a distribution of enterprises into three groups: (1) enterprises giving a positive response (increasing, above normal), (2) enterprises giving an "intermediate" response (unchanged, normal), and (3) enterprises giving a negative response (decreasing, below normal). Experience shows that we can simply focus—with a limited loss of information—on the algebraic difference between the two percentages concerning the diametrically opposing opinions (increase and decrease, above normal and below normal). This difference—i.e., the balance of opinion—is more legible and offers a fairly clear reflection of business cycles.

2.2 Considerable synergies with producers of quantitative statistics and economic analysts

At Insee business tendency surveys benefit from their proximity to both the statistics producers and the economic analysts (cf. part 3), who use them to analyse the prevailing state of the economy and make short-term forecasts.

This proximity has a twofold dimension. By adapting the point of view put forward by Coase (1937), who explained that large businesses existed as a result of the reduction in transaction costs, we can say that conferring on the same institute the task of producing statistics, business tendency surveys and carrying out detailed short-term economic analyses facilitates at a given moment in time exchanges, or even cooperation, between the producers of these surveys, producers of statistics or economic analysts.

The person in charge of a survey can call upon the expertise of a business statistics specialist to resolve a technical issue and ensure consistency of methods when it comes to sample drawing, implementing a classification change, using structural data for weightings or processing seasonally-adjusted figures. By harmonising the methods used by the different producers, the data is more comparable and therefore more useful to the end user.

He will liaise with an economic analyst when developing new forecasting tools or tools designed to help interpret data.

Within the framework of a dynamic system, the fluidity of career progression, with staff moving between statistics production, study and survey coordinator posts, is another way of harnessing these synergies. By way of an example, the current head of the unit in charge of producing business surveys used to be head of the unit responsible for industrial production prices (therefore a statistics producer), while his predecessor previously worked for the Ministry of Finance where she was head of the office responsible for external trade forecasts and analyses (therefore an economist and an economic analyst).

2.3 Valuable indicators about the state of the economy at a time when quantitative statistics cannot be made available

The advantages of having statisticians, survey producers and economic analysts working in close proximity are not merely theoretical: they are reflected in the ability of business tendency surveys to describe and anticipate the French business cycle; they are also reflected in the publication of sometimes original indicators which are useful tools for helping to make detailed short-term economic analyses.

2.3.1. Business tendency surveys provide quality benchmarks

Exploiting the strong correlations existing with the corresponding quantitative indicators, INSEE uses their results every quarter as a basis for short-term macroeconomic forecasting (manufacturing production and industrial employment…) in the preparation of the Institute's serial publications entitled *Notes de Conjoncture* and *Points de Conjoncture*.

The exercise carried out by Sédillot and Pain (2003) for the 7 large countries of the OECD provides valuable confirmation of the usefulness of business tendency surveys when it comes to forecasting growth in France: It is in France that the contribution made by business tendency surveys is most visible. Sédillot and Pain note the following: « But there are some notable differences with the pattern of results found in other countries. For the current quarter forecasts, the performance of a pure hard indicator model becomes comparable with that of a pure survey model only once two months of information are available. (The lag is shorter elsewhere.) For the one-quarter ahead forecasts, there is marked improvement in the performance of the pure survey models relative to that of a time series model after two months of information become available in the quarter prior to the one being forecast".

2.3.2. Composite indicators are a fairly faithful reflection of the business cycle in France

Since business tendency surveys contain multiple information, it is useful to summarise this information using a single unidimensional statistic. This is the principle used when developing what is referred to as the « business climate index », also known as the « common factor ».

The principle of the common factor consists in tracking the common change in these balances, allowing a more convenient overall reading of the survey.

The common factor model expresses the notion that each balance may be decomposed into two orthogonal terms:

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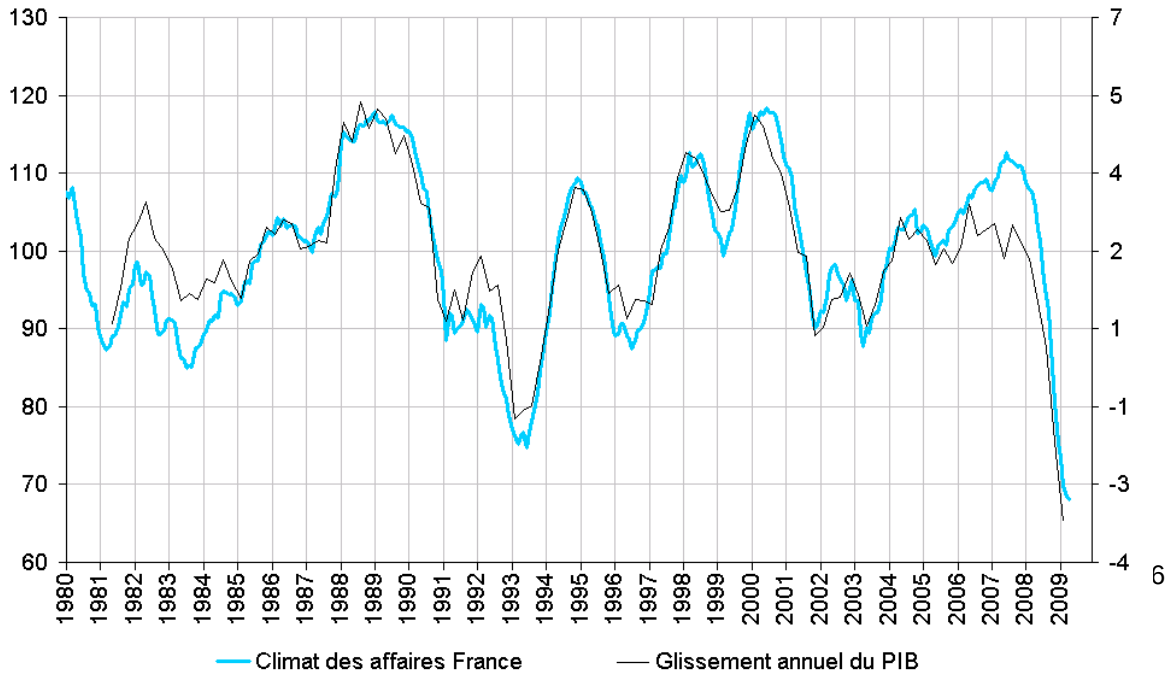
- a residual term commonly called “specific component” as it reflects the portion of the balance whose dynamic is not common to the balances.

Using the work of Doz and Lenglart (1989) as a basis, Insee has progressively developed its range of composite indicators, initially for each of its sectoral surveys, then recently for the whole of the economy, using the main variables from the main business tendency surveys (Clavel and Minodier, 2009). This indicator is updated and published by Insee every month since January 2009.

The quality of this last indicator can be assessed by measuring its ability to reflect the cyclical fluctuations of the French economy: this would appear to be very satisfactory (cf. graph 1).

It should be noted in passing that based on the results of the April 2009 business tendency surveys, this indicator suggests that the economic situation in France is no longer deteriorating, but the economy has been severely damaged: the business climate index in France remains at an all-time low of 69. This stabilisation of the overall business climate is due to an improved business climate in industry, whilst in other sectors, particularly the construction sector, the climate is deteriorating.

Graph 1



Business climate index in France and year-on-year GDP

2.3.3. Turning point indicators are a valuable tool for making analyses

Another objective sought by economic analysts is to try to detect as early as possible the moment when there is a turning point in the economic situation. The work carried out at Insee, which is based on research by Gregoir and Lenglart (2000), has enabled the development of this type of tool using business tendency surveys.

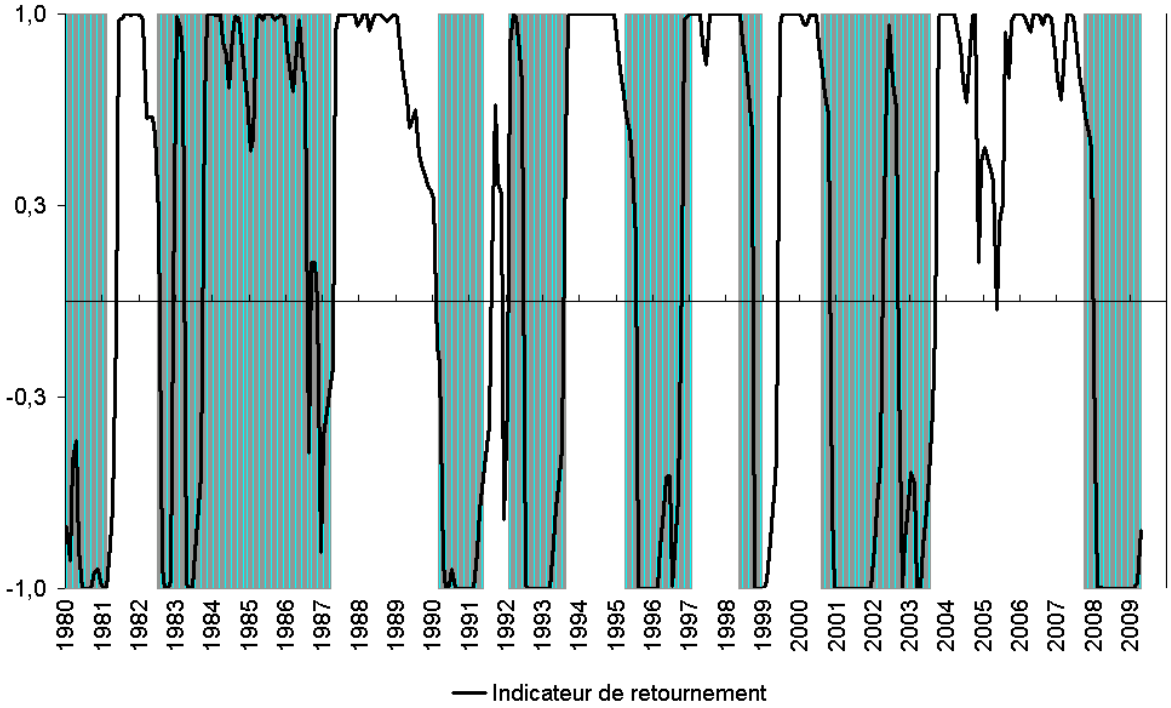
The curve therefore fluctuates between -1 and +1. We can interpret it as follows. When the point is very close to +1 (or -1), the cyclical phase is deemed to be clearly favourable (or unfavourable); economic activity is in a period of sharp acceleration (or sharp deceleration, or even contraction). When the point is close to 0, the probabilities that the phase is either favourable or unfavourable tend to converge. }

Insee has recently started to provide a turning point indicator for the whole of the French economy, which was constructed using several variables from different business tendency surveys (Bardaji and Tallet, 2008). Based on the results of the April 2009 business tendency surveys, this indicator contains some fairly interesting properties (cf. graph 2). Not only does it fairly accurately reflect past fluctuations in economic activity (which could not be taken for granted *apriori*), but above all it also heralded the 2008 system change and did so from the beginning of the year: having moved into the unfavourable zone in January, it has remained there ever since; from March onwards, even though the available « hard » data was still favourable (French first-quarter growth, which was published in mid-May, still stood at 0,6%!), the indicator made it possible to state fairly confidently that growth was starting to fall well below its potential rate. Thus, even before the bankruptcy of the investment bank Lehman Brothers, the indicator was stating that the French economy had entered a risk zone.

It can be seen that the indicator is still in the unfavourable zone to this day, even though it is starting to pick up a little and there are no signs, at least in the short term, of a return to a favourable cyclical phase.

Graph 2

Turning point indicator for France and GDP dating



NB: the dark areas (respectively white areas) represent the periods when GDP growth was below (respectively above) the medium-term trend.

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All in all these examples illustrate the usefulness of business tendency surveys to policymakers, especially at times when, regardless of the progress achieved by statisticians in the future, quantitative data will never be available. In our opinion, these examples also demonstrate the very quality of the surveys and the importance for a statistical institute of having its own survey production and economic analysis activities.

3. Short-term forecasting

Although other European statistical institutes also carry out business tendency surveys, to the best of our knowledge Insee is the only one that makes economic analyses and short-term forecasts. This is a very competitive area for which a statistical institute does not in theory have an obvious comparative advantage. However, once again the synergies that can be mobilised fully justify Insee allocating some resources to this area.

3.1. The mechanism

Insee makes short-term forecasts four times a year. These forecasts give rise to the publication of 3 *Notes de conjoncture* and one *point de conjuncture*, which is an abridged version of the *Note*. These publications aim to present as exhaustively and transparently as possible the forecast that has been made.

In addition, and in order to ensure transparency, the main tools used for the forecast are presented, as they are progressively developed, in the *Notes de conjonctures*[1].

Thus, after a very short one-page summary, followed by a presentation (amounting to a few pages) of the main outline of the forecast, the *Notes de conjoncture* contain a detailed presentation of the forecast for the main headings for GDP (consumption, investment, external trade…), production in market branches, household income, the labour market and business results. In addition, the account underlying the forecast is annexed to the publication.

Several types of methods are used in order to take account as well as possible of all the short-term economic information available, whether this be survey data, measured data which is only available for part of a period (for example, at the time of publishing the *note de conjuncture* we have data relating to the industrial production index for only one month of the quarter underway) or data that is intrinsically annual in nature (such as some types of agricultural production) and is broken down into quarterly data in the quarterly accounts.

As indicated earlier, a first group of forecasting methods consists of benchmarks made using information from business tendency surveys. These forecasts are made directly by the survey coordinators, who have the most in-depth knowledge of the raw data, its strengths and its weaknesses.

Macroeconomic modelling can also be used. They can be used to make forecasts for aggregates, such as employment or household consumption, where business tendency surveys used in isolation are of limited use, or to throw a different light on the forecasts made on the basis of the benchmarks stemming from business tendency surveys.

[1] In the « dossier » section of the *Note* or in articles devoted to the topic written inside boxes.

Finally, techniques are also used which require sound knowledge of accounting mechanisms, for example in order to produce the household income account or the revenue account for non-financial corporations. In the latter case, those in charge of quarterly accounts provide their expertise on these issues.

For a given magnitude, several of these methods can be used. The different forecasts obtained can be compared and then a decision can be taken depending on their convergence or divergence, their consistency with the overall scenario or the past performances of the different tools.

The timeframe chosen for these forecasting exercises is fairly short: It is limited to the quarter underway, plus the next one to two quarters. This is because business tendency surveys only provide relevant information for very short periods of time. Beyond this timeframe, the nature of the forecasting exercise would change and different methods would need to be used.

3.2. Ensuring consistency with the quarterly accounts method: the safeguard

As it has been presented here, this mechanism is very similar to other business climate services, even though it does have a technical, and especially an econometric, dimension that is a little more advanced than the average. However, what is really unique about Insee's short-term economic forecasts is that they dovetail with the accounting framework for the quarterly accounts.

In order to achieve this, when producing its *Notes de conjuncture*, Insee uses a tool known as the « safeguard ». This tool aims to replicate as far as is possible, in a simplified form and incorporating the forecasts made, the mechanism used to produce quarterly accounts. This is possible as the french method to build quarterly national accounts is based upon a formalised econometric tool. The simplifications are mainly achieved by aggregating branches of activity: the forecasts are made at a far more aggregated level than for the production of quarterly accounts and the safeguard is constructed at the same level of aggregation. It can be noted in passing that this tool also makes it possible to accurately chain the account produced.

A basic pre-requisite for the forecast is that it checks the commodity balances both in terms of volume and value. This must be done at both aggregated level (GDP account) and at the level pf the sub-sectors covered by the forecast. It is therefore necessary to

construct disaggregated commodity balances, which particularly entails determining the matrix for intermediate disposition. In order to do this, the safeguard replicates the technical coefficients used by the quarterly accounts to produce the table of intermediate inputs, but at a more aggregated level.

The safeguard also makes it possible to break down certain aggregates from the overall economic table by institutional sector (for example, non-financial corporations and individual entrepreneurs) by using a methodology that is similar to the one used for quarterly accounts.

Thus, the safeguard does not only serve to ensure consistency of the forecasts made for the different aggregates or for the different sectors of the economy by guaranteeing that the forecast leads to a balanced GDP account; it also makes it possible to balance each of the sub-sectors under consideration by using methods that are as similar as possible to those that will be used to produce the quarterly accounts.

There are two types of advantages to this approach: on the one hand, at the time of each short-term economic forecasting exercise, Insee's economic analysts are led to read the results of the accounts in the light of the economic analysis. They are thus obliged to examine the results of the accounts. This obviously also applies to other economic analysts, but their proximity to the producers means that the examination is easy to perform and is done in far more depth. As with the business tendency surveys, both have a shared culture: accountants assimilate more easily the economic dimension of their work, whereas the economic analysts benefit from a more thorough knowledge of the data, which enables them to make better forecasts and thus to better inform the decision-makers and the general public.

In a world in which requests for early economic information are increasing, but where the cost of speeding up the production of accounts can quickly become prohibitive, using a mechanism such as the one that has just been presented, which ensures consistency of information of a diverse nature within an accounting framework that is similar to that used for national accounts, is certainly an avenue to be explored.

4. Conclusion

We do not conclude that an original experience stemming from a long tradition should become standard practice. That would be arrogant. But it is perhaps possible to draw on this experience.

1. Qualitative surveys are an essential aspect of relevant information about economic developments because they are rapid, because they are not revised, because they are reliable and because they are not costly.
In practice, they are also used widely by policymakers and the financial markets.
Statistical institutes cannot ignore these surveys at a time when questions about the business cycle are being increasingly asked.

2. If these surveys have become essential, it is because they contain information. Statistical institutes might ask themselves whether this information could be used to produce their data. This would entail a two-fold « culture shock »: Agreeing to use « soft data ». Agreeing to use econometric techniques. But in order to provide rapid information, they have to extrapolate information which is by its very nature insufficient. It is no more shocking to use an econometric relationship between a piece of partial information and the variable that we wish to observe than it is to use a proportionality rule (cross-multiplication) or an ARIMA model.

3. Very short-term forecasts are part of the panoply of information used by policymakers. A very thorough knowledge of statistical indicators is an important asset when it comes to making these forecasts. It is therefore not necessarily the role of statistical institutes to make use themselves of the knowledge they have of these indicators (French experience). Their role is to ensure fully transparency of this information: Fragilities, exceptional events…
At a push, the transparency of the methods used to construct the quarterly accounts should be such that any user could simulate them by drawing conclusions himself from his own analysis of the missing information.

4. Statistical institutes should avoid creating « statistical rumours » by providing rapid information, the short-term variations of which may be devoid of all meaning. It is better to have partial, but meaningful information rather than global information which « drowns » the meaningful information in simple trend extrapolations.

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