LETTER

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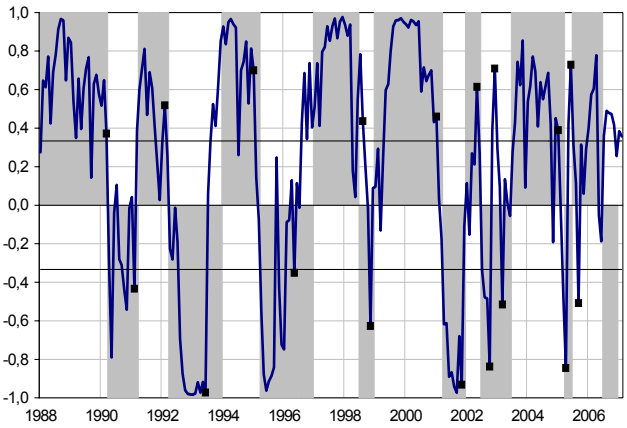
TRÉSOR-ECONOMICS

Do financial variables yield greater insight into the economic situation in real time?

This study was prepared under the authority of the Treasury and Economic Policy General Directorate and does not necessarily reflect the position of the Ministry of the Economy, Finance and Employment.

- There are several methods for dating past economic cycles, but it is harder to define where we are in the cycle in real time. The difficulty in detecting turning points sufficiently quickly can give rise to substantial forecasting errors, generally common to the entire forecasting community.
- The practice, in that case, consists in consulting business tendency surveys and, in the past ten years or so, qualitative indicators known as "turning point indicators". Even so, these failed to alert forecasters sufficiently early in 2002, when the shock to the financial markets sparked by the Enron affair prompted a wave of mistrust and hesitancy on the part of economic agents and finally aborted the fledgling recovery.
- According to economic theory there is a link between financial markets and business activity. That is because markets determine agents' financing terms and their wealth, while asset prices reflect agents' expectations as to the level of economic activity. However, this link appears to be very loose as soon as one tries to validate it empirically in Europe.
- Here we seek to utilise this theoretical link in a purely qualitative fashion by enriching the customary indicators of turning points with financial variables. The result fails to match either what theory suggests or the intuitive view that the shocks to which our economy is subjected are increasingly financial in nature. Admittedly, the indicators "enriched" by financial variables are better at capturing growth rates, but the improvement is marginal and the dates of the turning points are barely captured more accurately. In particular, they would not have avoided the mistake made in 2002.
- These findings do not invalidate the link between financial markets and the real economy, but they do suggest that businesses' replies to the surveys already include a large portion of the relevant financial data.

DGTPE coincident indicator incorporating financial variables



Source: DGTPE caculations.

DGTPE
DIRECTION GÉNÉRALE DU TRÉSOR
ET DE LA POLITIQUE ÉCONOMIQUE

1. It is hard to read the economic cycle in real time, and indicators of a turning point based on survey data alone are not always informative enough

1.1 We only discover where we are in the economic cycle after the event

Business activity fluctuates cyclically around broad trends. Consequently we can define business cycles as alternating periods of expansion and contraction or even recession.

In the United States, the NBER reference dates separating these periods serve as an almost "official" system of dating. There is no equivalent in France: the literature contains numerous dating systems, most of them based on methods inspired by Bry and Boschan (1971)[1], or Harding and Pagan (2002)[2] for quarterly data. When using this type of method, the turning points may be viewed as local maxima (peaks) and minima (troughs), whose alternation allows us to distinguish phases of growth (between a trough and a peak) from phases of contraction (between a peak and a trough). This procedure requires that we first define a minimum duration for phases and cycles, each being delimited by two peaks or two troughs: Harding and Pagan fix a minimum duration of two quarters for the different phases and five quarters for cycles[3].

One can apply this method to the level of GDP (in which case it is akin to the "business cycle" as studied by forecasters), or to variations in it (in which case the peaks and troughs delimit those periods in which GDP growth is either above or below its trend growth rate). **Applying this method yields highly heterogeneous results**[4] : the dates identified as peaks and troughs can vary by several quarters, depending on the series utilised and the way the method is specified.

This is what we find when we compare the datings obtained by the *Economic Cycle Research Institute*[5] (ECRI), the one published by the OECD[6], or again that of COE-Rexecode[7] (see table 1). There are other methods, such as the one employed by Cornec (2006)[8], which applies a factorial analysis for the purpose of dating the business cycle, as well as to other variables such as employment or consumption. In the United States, the NBER has built an "official" dating system by comparing expert opinions. But Hamilton (1989)[9] has shown that a simple and easily reproducible model, known as Markovian regime switching model, gives the same results as the NBER.

Table 1: peaks and troughs according to different authors

Peaks					Troughs				
MSM AR(3)	according to COMEC	ECRI	OECD	COE-Rexecode	MSM AR(3)	according to COMEC	ECRI	OECD	COE-Rexecode
							March 1987	1987 T1	
		Feb. 1988							
1990 T1			1990 T1	April1990	1991 T1			1991 T1	
T1 1992	Jan.1992		1991 T4		1993 T4	May 1993	May1993	1993 T3	Nov. 1993
T1 1995	Dec. 1994	Jan. 1995	1995 T1	April1995	1996 T4	April1997	Sept. 1996	1997 T1	Nov. 1996
T2 1998		Jan. 1998	1998 T2		1998 T4		Feb. 1999	1999 T2	
2001 T1	June 2001	May 2000	2000 T4	Nov 2000	2001 T4				
2002 T2					2003 T2		May 2003		June 2003
		June2004							

(1) Bry G., Boschan C. (1971): "Cyclical Analysis of Time Series: Selected Procedures and Computer Programs", *NBER, Technical Paper, no. 20*.

(2) Harding D., Pagan A. (2002): "Dissecting the cycle: a methodological investigation", *Journal of Monetary Economics, 49, pp. 365-381*.

(3) Michaux E., Nguiffo-Boyom M. (2004): "Le secteur des biens intermédiaires peut-il servir d'indicateur avancé de la conjoncture industrielle en France?" (Can the semi-finished goods sector serve as a leading indicator of the industrial cycle in France?), DGTPE, *DPAE no. 35*.

(4) Admittedly part of this heterogeneousness stems from the fact that the datings we have compared were carried out at different dates, the national accounting data having been revised between those dates. But the very nature of the method depends on the different choices made by different experts, e.g. the choice of data series selected to study their extremes, transformation-by level or variation, etc.-, the minimum duration of the phases surrounding these extremes, etc.

(5) This body distinguishes between business cycle and growth cycle, the two relevant datings being downloadable at http://www.businesscycle.com/resources/cycles.

(6) The OECD's dating of the French cycle can be obtained from the OECD website http://www.oecd.org/document/34/0,2340,en_2649_34349_1891106_1_1_1_1,00.html.

(7) The "IARC" indicator can obtained from the COE-Rexecode website http://www.coe-rexecode.fr/fr/authentification.jsv.

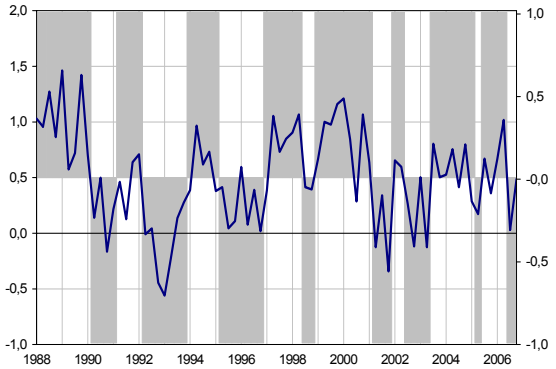
(8) Cornec M. (2006): "Analyse factorielle dynamique multifréquence appliquée à la datation de la conjoncture française", (Multifrequency dynamic factorial analysis applied to the dating of the French business cycle) Economie et Prévision, no. 172.

(9) Hamilton J.D. (1989): "A New Approach to the Economic Analysis of No Stationary Time Series and the BusinessCycle", *Econometrica, 57:2*.

This method has the advantage of requiring only a minimum of initial economic assumptions regarding the definition of the cycle. Each date is linked to a probability of being in one state or another, depending on the regularities in the economy's dynamics. Particular attention is paid to the dates at which this probability changes suddenly, i.e. when GDP growth diverges significantly from what might have been expected in the light of the preceding quarters (for example the sudden appearance of a quarter of contraction coming after several quarters of rapid growth): here, the peaks (or troughs) are identified just before the probability of finding oneself in the low (or high) state becomes greater than that of being in the high (or low) state.

We applied this method to French GDP (see Box 1) and obtained a dating that differs from those already obtained (which are older and frequently concern series other than GDP). But this dating is very simple and conveys an idea of what might be achieved from a synthesis of these expert opinions if they were compared with each other as per NBER: according to this approach, the French economy experienced twelve regime switches between 1987 and 2005-six transitions to a state of low activity, and six to a state of high activity (see Chart 1). What emerges from this is that the phases of high activity identified are those where quarterly GDP growth exceeds 0.5% (which is roughly the potential growth rate), and that the phases of low activity are those where growth falls below that figure.

Chart 1: quarterly GDP growth rate and dating of the cycle



Interpretation: grey zones correspond to the different phases of the cycle: +1 high state and –1 low state (righthand scale). We use the Quarterly National Accounts published in May 2007.

1.2 Dating in real time is based on business tendency surveys published instantaneously with little revision

Dating in real time is of particular interest to forecasters: when forecasters fail to perceive turning points in the economic cycle this can lead to massive forecasting errors by the entire forecasting community. This can occur either through excessive optimism as in summer 1992 for 1993 (Consensus Forecast announced +2.4% in September versus an outturn of –0.9%), and summer 2000 for 2001 (+3.3% forecast, versus an outturn of +1.8%), or to undue pessimism, as in summer 1993 for 1994 (+1.2% forecast versus an outturn of 2.2%), and summer 1999 for 2000 (+2.8% forecast, versus an outturn of +3.9%).

Yet GDP dating is possible only once the national accounting series have been published, i.e. nearly two months after the end of the quarter concerned. Further, INSEE's quarterly accounts may be revised over time in the light of subsequent information[10].

That is why the use of business tendency surveys came to be viewed as essential in order to overcome this problem of identifying growth regimes in real time: these, after all, are available at the end of the month in question and undergo very little revision. Since the end of the 1990s, Grégoir and Lenglart[11] have shown that it is possible build a so-called "turning point" indicator based on the manufacturing industry business tendency survey, using a method based on Markovian regime switching models.

For each date, this type of indicator gives the probability of being in a "high" or "low" state of activity. It is called a "turning point" indicator because one expects to see a sudden change in this probability when economic players change their answers to the questions asked substantially and in the same direction. It can be shown that when these answers change, this is generally a clear sign of a change in the GDP growth regime (Grégoir and Lenglart, 1998) as identified in the final published accounts.

At the time of the forecasting errors in 1992 and 1995, however, the turning point indicators had not yet become part of the forecasters' arsenal. This was no longer the case in 2002, but INSEE's turning point indicator, based on six balances of opinion resulting from the manufacturing industry survey, moved into negative territory only belatedly, in September, after moving into "neutral territory" in July (there was no reading in August). It then switched back to a high state in November-wrongly: these signals misled forecasters for the year as a whole.

This serves as a reminder that an inherent potential defect in the methodology using survey-based turning point indicators is that they are not explicitly designed to identify the cycle, but to reveal discontinuities of behaviour in responses to surveys: in other words, it is one survey interpretation method among others, one that extracts a qualitative signal from businesses' responses. However, if we are looking for a method of interpretation that is relevant not only for a business tendency survey but also for the purpose of detecting business cycle inflections in real time, then we need to consider possible ways to adapt this method to our aim.

(10) The accounts become "final" only after 3 years.

(11) Gregoir S. and Lenglart F. (1998): "Un nouvel indicateur pour saisir les retournements de conjoncture" (A new indicator for identifying business cycle turning points) *Économie et Statistique, no. 314, pp. 39-60.*

Box 1: **dating the French cycle**

We have adopted the Hamilton approach (1989) for the purpose of dating the business cycle, modelling the real GDP growth rate with a Markovian regime switching model on the process mean, written MSM AR (3):

$$y_t = \mu_{s_t} + \sum_{i=1}^{3} a_i (y_{t-i} - \mu_{s_{t-i}}) + \sigma_{s_t} \varepsilon_t$$

where designates the process mean, which depends on the variable S_t. This represents the state of the economy. Activity is assumed to be situated in one of two states: "low" or "high". It is assumed that, between moment t and moment $t+1$, activity may switch from initial state $S_t=I$ to state $S_{t+1}=j$ with a certain degree of probability $P_{i,j}$, which depends only on state i and, notably, and not on what happened before moment t (we then say that the probabilities $P_{i,j}$ obey a Markov chain of order 1): $P(S_t=i/S_{t-1=j}) = p_{i,j}$, independently of t.

In addition to an estimation of the parameters, the estimation of this model gives us the probability of being in one state or another at each moment in time. The vector of these probabilities, estimated on a sample covering the period Q1 1978 to Q4 2003 (the last available final accounts) has enabled us to identify the phases of strong growth (high state) and those of low growth (low state) for the French economy.

2. Financial variables are good candidates for supplementing survey data in order to identify growth regimes in real time

2.1 Why utilise financial information? Several kinds of theoretical foundation…

The first type of link between the real economy and the financial sphere is macroeconomic: certain financial data influence agents' behaviour and hence business conditions.

- This is so for the price of oil and the exchange rate where, all other things being equal, an increase will act as a brake on the economy, the former via its inflationary impact, and the latter by harming competitiveness.
- It is also so in the case of share prices: the link between share prices and future activity via the wealth effect's impact on consumption (Ando and Modigliani[12]), or via the influence of a firm's stock market value in relation to its equity (*Tobin's Q*) on decision to invest.

The second type of link between the financial sphere and the real economy takes place via agents' expectations in the formation of interest rates and asset prices-share prices foremost among them. For example:

- the utilisation of the yield slope to forecast activity is based primarily on the fact that this variable is thought to reveal markets expectations of future activity trends (Estrella and Mishkin[13] ; Sédillot[14]);
- other metrics are built explicitly to capture investor optimism or concern, notably regarding future activity trends: this is the case with the "VIX" (Volatility Index)[15], an index of implicit volatility. We do not have a sufficiently long series for the French or European options markets, but the index calculated from options on the SP500 traded on the Chicago Board Options Exchange is publicly available and covers a sufficiently long period.

2.2 … whose customary empirical validations suggest that the link is non-linear

In general, it is hard to identify a classical, quantitative and linear econometric link between financial variables and real activity:

- Traditionally, the impact of oil prices or exchange rates on activity is captured rather in behavioural equations: for instance, a rise in the price of oil would tend to push up household and intermediate consumption prices. This would subsequently tend to depress household consumption and output. Given the lead times involved, this channel is not really suited to forecasting short-term trends.
- Empirical validations of the linkage between share prices and the real economy generally conclude that the effect-assuming it exists in France-is very weak (OECD[16]; Note de Conjoncture Internationale[17]; Epaulard[18]).
- The same applies to the link between the yield slope

(12) Ando, Modigliani (1963): "The Life Cycle Hypothesis of Saving: Aggregate Implications and Tests", *American Economic Review.*

(13) Estrella, Mishkin (1998): "Predicting U.S. Recessions: Financial Variables as Leading Indicators", *Review of Economics and Statistics, vol. 80, no.1, pp. 75-61.*

(14) (1999): "La pente des taux contient-elle de l'information sur l'activité économique future?" (Does the yield slope contain information about future economic activity?), NER no.67, Banque de France.

(15) The VIX measures short-term stock market volatility. The higher the metric, the greater investors' perceptions of risk, or, put differently, the greater their uncertainty as to the future direction of the market.

(16) Kennedy, Pigott, Terrible (1998): "Asset Prices and Monetary Policy", *OECD Working papers no. 188.*

(17) Direction de la Prévision (2000): "La consommation des ménages des principaux pays industriels aurait bénéficié d'importants effets de richesse au cours des années récentes", *Note de Conjoncture Internationale, June 2000, pp. 26-38.*

and activity. Admittedly Dubois and Janci[19] identified a link in 1994; but this link has presumably changed with the advent of the eurozone, making it hard to estimate, and Sédillot has identified a far weaker link from 1999 onwards.

The fact that theoretical links exist and that empirical validations are practically always conclusive, but also consistently disappointing (their results are generally statistically significant, but weak), suggests the need to clear up the initial assumptions behind the validation methodology, according to which the link between financial variables and activity is linear, and indeed measurable.

In that case, if we are looking for a qualitative link, then we ought rather to seek to capture the moment when those exogenous variables that have a theoretical impact on activity undergo an inflection that cannot be regarded simply as series "noise", and to compare this information with that already captured by firms. **This would amount to creating a turning point indicator mingling survey data with financial data**: this has been done already for the United States with convincing results (Bellone, Gauthier, Le Coent[20]).

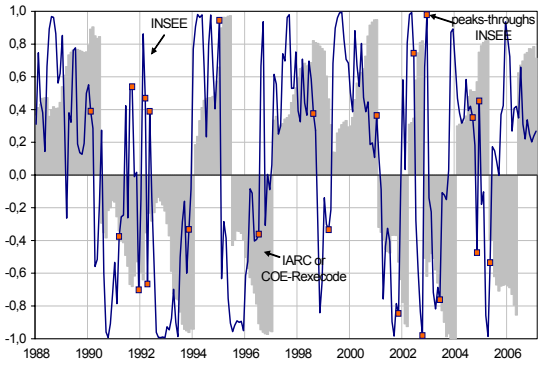
2.3 It is possible to adopt a strategy for the selection of financial variables closely reflecting growth regimes

In the case of France, one would expect a signal-even a qualitative one- to be weaker, if only because all of the studies seeking a quantitative and linear link conclude that the financial sphere is less important for the real economy than in the USA. The reasons for this are not hard to find: household wealth is more tied up in property than in financial assets; there are no mortgage refinancing or equity withdrawal mechanisms; and the financing of the economy is less dependent on stock market capitalisations.

The COE has calculated a turning point indicator based on this idea of using financial data: the Paris stock market index, the eurozone yield slope, along with other survey indicators and the US business cycle leading indicator. This dating serves to identify turning points in activity as defined by this body. The profile of this indicator is very different from the one based on the INSEE survey; and it appears to have reacted belatedly compared with the INSEE indicator in 1992-1993, 1995-1996, and since 2002 (Chart 2).

We have therefore introduced methodological innovations (see Box 2) designed to capture as accurately as possible the signal contained in financial variables trends, by adopting statistical criteria for choosing from among all the possible combinations of the variables selected, so that the indicator can estimate the state of GDP as accurately as possible. We have selected different indicators depending on whether the aim was to estimate the state of GDP in real time, three months ahead, or six months ahead[21].

Chart 2: comparison between the INSEE and the COE indicators



Source: INSEE, COE

3. Financial variables yield a better estimation of the growth regime than opinion surveys alone, but the improvement they offer is disappointing

3.1 The best indicators combine survey with financial variables, but always including the price of Brent

The results show in the first place that regardless of the horizon at which one seeks to reproduce business activity growth regimes, **financial variables improve the quality of the signal derived from the balance of business tendency surveys, but without substituting for it**. Indeed the survey balances continue to provide the most relevant information. That is because the best indicator is the one that dates the cycle "in real time", not ahead of time; it comprises three survey balances and a single financial variable, namely the price of oil (Table 2). The presence in all the selected indicators of variables, such as the price of oil or the nominal effective exchange rate, may come as a surprise, especially given that their quantitative link with activity is ambiguous. But that means that the qualitative information they provide is not already fully reflected in business responses given at the same time.

(18) Epaulard (1999): "L'apport du Q de Tobin à la modélisation de l'investissement en France" (What Tobin's Q contributes to the modelling of investment in France) *Économie et Prévision, no. 109*.

(19) Dubois E., Janci D. (1994): "Prévision du PIB par la courbe des taux : une constatation empirique en quête de théorie" (Using the yield curve to forecast GDP: an empirical observation in search of a theory) *Économie et Prévision, no. 112, pp. 29-43*.

(20) Bellone B., Gautier E. and Le Coent S. (2005): "Les marchés financiers anticipent-ils les retournements conjoncturels ?" (Do the financial markets anticipate cyclical turning points?), Banque de France, NER no.128.

(21) This methodology has been implemented with DEREC, used on Gauss by J. Bardaji and F. Tallet (memo n°225/G121/INSEE).

Similarly, when it comes to characterising the state of GDP three or six months hence, American (but not French) share prices improve signal quality. That means that **American share prices contain specific information about future shocks to the French economy**, information that French economic players fail to discern (or not as quickly). Finally, the French yield slope does indeed contain a specific item of very leading (six months in advance) information concerning growth expectations; while it has never been possible to identify a very strong quantitative link, this item does nevertheless appear to be of qualitative interest.

3.2 Cyclical turning point signals do not appear to be materially better than those derived from the survey alone

We can define the indicators' peaks and troughs, as we have done for GDP, just before a change in the indicator's sign (i.e. just before the most probable state changes). But that leads us to describe as a turning point one in six (or even one in five in the case of the "six-month leading" indicator). In other words, dating based on indicators is more volatile than that based on GDP.

As a result, we generally define an "uncertain zone", where the indicator lies between –1/3 and +1/3; we only speak of a turning point in the case of a change from the favourable to the unfavourable zone (or vice-versa), with a passage of varying length via the "uncertain zone" in the intervening period (see Chart 3 next page). It can be shown that, for the "three-month leading" indicator, this passage via the neutral zone lasts two months on average, and three months on average for the others. In other words, on average, forecasters must wait at least two months before they can announce that an indicator has turned.

Table 2: composition of the different indicators

	Survey balances	Financial variables
DGTPE-0 coincident indicator	3: Personal production outlook, past production, foreign order books	1: Price of Brent
DGTPE_3 3-month leading indicator	2: Personal production outlook, foreign order books	4: Price of Brent, real effective exchange rate, SP500, US yield slope
DGTPE_3 6-month leading indicator	3: Personal production outlook, past production, total order books	5: Price of Brent, real effective exchange rate, SP500, US yield slope, French yield slope, VIX indicator of implicit volatility

Box 2: **statistical measurements of an indicator's quality**

The turning point indicators whose relevance we have tested are based on the methodology of Gregoir and Lenglart (1998), which is described in Ferraton[a].

Starting from a very high number of possible combinations of variables (2,047) for building our turning point indicator (if we have n candidate variables, there are 2n–1 possible combinations), we have adopted a series of statistical criteria for choosing from among all the possible combinations so that the indicator can predict *GDP* turning points as accurately as possible, based on the *GDP* dating described above. These criteria are: one based on a measurement of the distance between the indicator and the dating of the cycle (the *QPS*), which needs to be reduced to a minimum; and, for a statistically equivalent *QPS*, a criterion (*RCM*) to make the indicator easier to interpret.

$$QPS = \frac{1}{T}\sum_{t=1}^{T}(R_t - P_t)^2$$

QPS is a quantitative tool designed to determine a variable's position in the cycle and is defined by the following formula:

where R_t is the dating of *GDP* and is worth 1 in an expansionary phase and 0 otherwise, and P_t the probability of being in a high state at moment t.

$$QPS_h = \frac{1}{T}\sum_{t=1}^{T}(R_t - P_{t-h})^2$$

For the purpose of measuring a turning point indicator's lead relative to the cycle, we have calculated a mean quadratic error that allows for a possible lag h between this indicator and the dating:

Thus for *h* positive the turning point indicator leads the cycle, while *h* negative represents a lag in detection of the cycle.

Moreover, *RCM* is a classification measurement given by:

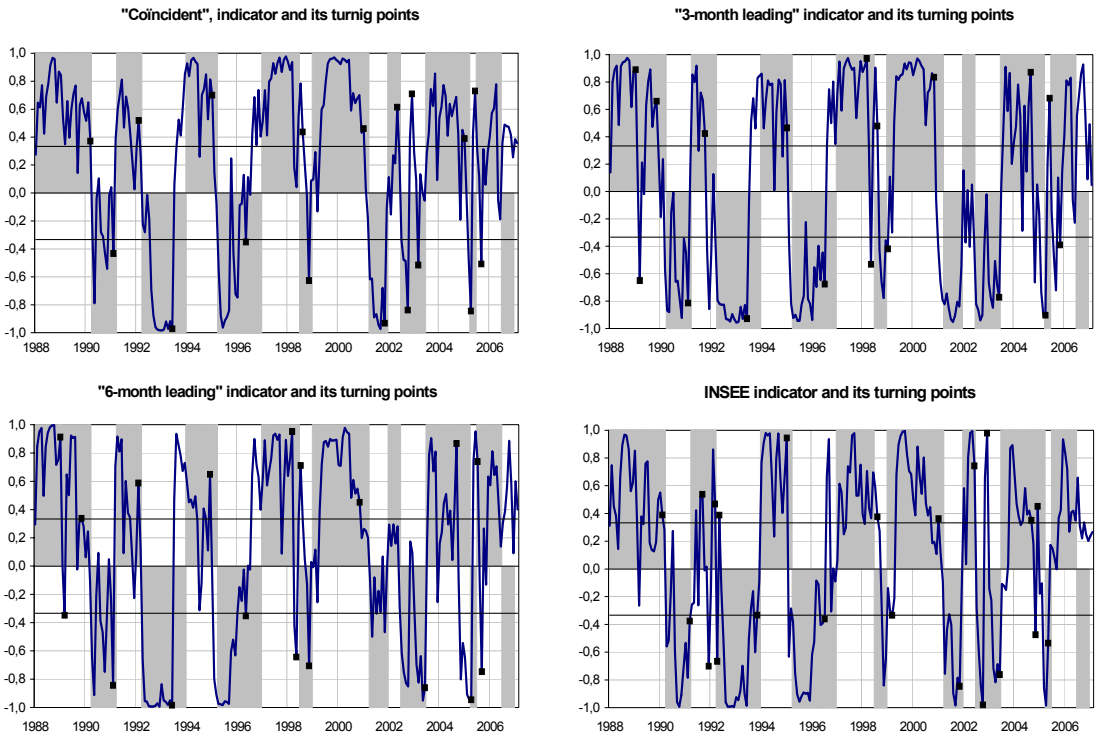
$$RCM = \frac{4}{T}\sum P_t(1-P_t)$$

where 4 is a normalising constant. This magnitude measures the interpretability of the information given by the turning point indicator. That is because, in the ideal case where the probabilities of being in a high state (and, in an equivalent manner, of being in a low state) at each moment in time are worth 0 or 1, this indicator is worth 0. And in the most unfavourable case, where at each moment in time we find a probability of being in a high or low state, i.e. ½, in that case the indicator is perfectly illegible and the *RCM* indicator takes its maximum value of 1.

With the help of *QPSh* we have recovered the combination that minimises this criterion for each *h* (in this study we look at the lead, which is given by the index *h*, *h* = {0,3,6}). Then, by testing the equality of this criterion for the different combinations of variables, we have selected the best combinations with a non-significantly different mean error. Finally, among these combinations we have selected the combination that minimises the *RCM* indicator and hence that is easiest to interpret.

a. Ferraton P.E. (2006): "Les indicateurs de retournement: des compléments utiles à l'analyse conjoncturelle" (Turning point indicators: useful adjuncts for business cycle analysis), *DPAE no.98*.

Chart 3: turning point indicators at different time horizons



Interpretation: the grey areas correspond to the different phases of the cycle: +1 high state and-1 low state. The square dots represent the dates of the turning points.

Table 3: the quality of turning point signals delivered by the different indicators

	DGTPE-0	DGTPE-3	DGTPE-6	INSEE
Good signals	11	9	9	11
False signals	2	4	4	6
Ambiguous signals	1	1	1	1
Number of signals	14	14	14	18
Missing signals	0	2	2	1

Good signals	79%	64%	64%	61%
False signals	14%	29%	29%	33%
Ambiguous signals	7%	7%	7%	6%

By proceeding thus, we arrive at a dating of indicator turning points fairly close to that of GDP. Detailed scrutiny of the results shows first of all that, regardless of the financial variables it includes, the most frequent case is that the indicators date the GDP turning point at the time it occurs. Indeed, even if, by construction, one has selected the indicators that signal the states that "coincidentally" come closest to those for GDP, with a three-month or six-month lead, this concordance is rarely found in the turning points.

In general, the indicator that delivered the fewest false signals is the "coincident" indicator with survey data and the price of oil (Table 3). Combined with the fact that this is the indicator that most closely indicates the states of the cycle, this suggests that it ought to be given priority. Nevertheless, no indicator is immune to giving false signals (Table 3). These may be defined as moments when the indicator signals a turning point while GDP remains in the same growth regime, or as moments when the indicator is hesitant and signals several contrary turning points very close together, even though GDP turns only once.

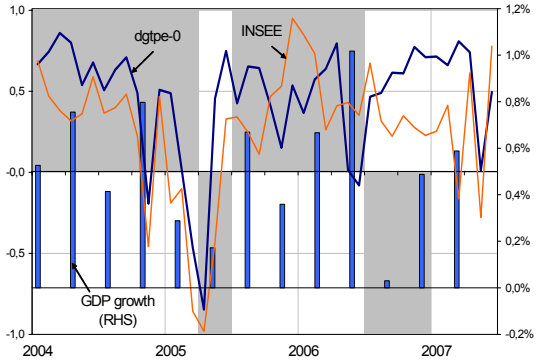
This second case is by far the most frequent, having occurred in 1992-1993, 1998, and 2002. Admittedly in 1992 the addition of financial variables clarified the signals, avoiding the hesitancy of the survey. But this does not seem to have been the case at the other dates, nor on average.

In 2002 in particular, recourse to turning point indicators enriched with financial variables would not have prevented forecasters from missing the summer downturn: at most the "coincident" indicator peaked one month before the INSEE indicator, in May, and might have alerted forecasters in July (the month in which it was already in the unfavourable zone). Moreover, the "three-month leading" and "six-month leading" indicators did not move to the high state in the first half of the year, and therefore never signalled a real recovery.

Yet activity well and truly picked up in that half-year. The year 2002 has been described as an atypical recovery[22], having begun with a recovery, but it not only lacked the vigour one would normally have expected at that phase in the cycle, it was also very short-lived. The shock that hit the economy was a stock market shock (with the collapse of the Internet bubble and a wave of distrust regarding companies' accounts in the wake of the Enron affair at the end of 2001[23]), followed by a currency shock.This means **that businesses and**

economists alike were caught by surprise. However, contrary to what might have been hoped, the financial markets' reactions as a whole were no better than other agents at detecting and revealing the unaccustomed nature of trends in the economy.

Chart 4: the indicator's performance over the past 3 years



Source: INSEE, DGTPE.
Interpretation: the coincident TP indicator and the INSEE TP indicator (lefthand scale); Quarterly GDP change (righthand scale).

3.3 What can we say about the recent period?

At the end of 2004, the INSEE indicator based on the survey alone hesitated (Chart 3-d): in September, it signalled a peak, then a trough in November, followed by a peak in December. But since May 2005, its last trough, the INSEE indicator has been in a high or medium state.

The indicator with financial variables was not as hesitant at the end of 2004 (Chart 4): it signalled a peak in December 2004 only, meaning that activity would have dipped to a low state starting in the first quarter of 2005, after spending a year in the high state. On the other hand, the signal has been less clear since 2005, particular the signal coming from the coincident indicator. May 2005 was the last date at which an indicator was still at a low state. Since then it has been at either a high or a medium state. One can draw two different conclusions from this, and it is hard to decide between them:

- This could be a reminder that there is no perfect turning point indicator… and that clarification of signals regarding the past is no guarantee against subsequent blurring.
- Nevertheless, it could also suggest that the year elapsed was not as buoyant as the surveys said. And indeed, over the recent period, industrial activity has frequently disappointed forecasters by comparison with what their survey-based tools implied. In that sense, the addition of financial indicators would at least have had the merit of drawing attention to the uncertain state of the economy.

The INSEE indicator has remained in a neutral state since the second quarter of 2006. The months of March and May appeared to indicate some hesitancy, but the favourable tone of the June survey confirms that this was merely a temporary setback. On the other hand, our coincident indicator has been signalling favourable conditions since mid-2006[24].

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(22) "Une reprise atypique?, *Projet de Loi de Finances pour 2004, Rapport Économique, Social et Financier (2003), ("An atypical recovery"? 2004 Finance Bill, Economic, Social and Financial Report (2003), Fiche 10.*

(23) See Devilliers M., Monfort B., Ouvrard J.-F (2003): "Retour sur 2002", *dossier de la note de conjoncture de mars 2003 de l'Insee (2002 in retrospect, special feature in INSEE's March 2003 Note de Conjoncture).*

(24) The apparent discontinuity between the vigour of GDP in the third quarter of 2006 and the turning point indicator needs to be viewed with caution, given the provisional state of the accounts for 2006 and the fact that the GDP spurt in Q2 and the sharp slowdown in Q3 were no doubt considerably amplified by the statistical treatment to correct for seasonal variations; the average for the two quarters is 0.5%.

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