Temporary Agency Work as a leading economic indicator

Marcel Canoy, Peter Donker van Heel and Erwin Hazebroek[1]

ECORYS Netherlands

Temporary agency work can be seen a good pragmatic, broad usage leading indicator since it is easy to understand, performs reasonably well in statistical analysis, while data are made available on a regular basis. The most plausible hypothesis is that temporary agency work and GDP correlate in real time. But since temporary agency work can be measured much more frequently, it can still function as a de facto leading indicator, in particular in those countries that collect information on a regular basis. In countries where temporary agency work is less developed or where it is heavily used as a stepping stone for permanent jobs, it becomes less relevant as a leading indicator.

Leading indicators

In turbulent economic weather it is key to have the best possible information on the way the economy develops. For this purpose it is essential to have early warning signals. Indicators that adjust before the economy has changed, so called leading indicators, can perform this early warning function. Examples of leading indicators are building permits, unemployment insurance claims, money supply and stock prices. Leading indicators are used e.g. by the ECB and the Fed before deciding on interest rates.

But the usage of leading indicators is much broader than just by central banks. The media, trade unions, policy makers, the business community and forecasting agencies: they are all interested in leading indicators for different purposes. Because the purposes differ, it makes sense to rely on more than one indicator[2].

The European Commission also has a major interest in up-to-date knowledge on the business cycle. This is relevant in general for its “more and better jobs” strategy and more specifically for monitoring the impact of the current economic crisis on the labor market in the frame of its “New skills for new jobs” initiative.

A good leading indicator should satisfy certain criteria, such as (i) consistent timing of peaks and troughs with a rather constant lead time; (ii) conformity to the general business cycle (i.e. have good forecasting properties not only at peaks and troughs); (iii) economic significance (i.e. being supported by economic theory either as possible causes of business cycles or as quickly reacting to shocks); (iv) statistical reliability of data collection; (v) prompt availability without major later revisions; (vi) smooth evolution (i.e. being free of major high frequency movements)[3].

These requirements make sense, since failing them makes the leading indicator impractical, unreliable, or less likely to yield broad acceptance.

A valid question is: leading indicator of what? The business cycle itself, defined as a fluctuation in aggregate economic activity, is also a multi-headed animal. The cycle consists of simultaneous

1 Canoy is managing partner and chief economist of ECORYS, as well as professor in economics, University of Tilburg; Donker van Heel is managing partner and one of the leading temporary agency work (TAW) experts in the Netherlands; Hazebroek is junior consultant and just completed his master’s thesis on TAW. Technical assistance by Mathijn Wilkens was appreciated.

2 And because there is not a single ‘optimal’ leading indicator available.

3 Massimiliano Marcellino (2005) Leading Indicators: What Have We Learned? CEPR Discussion Paper No. 4977.

expansions in many economic activities, followed by similarly general contractions. But there is more than one way to define an indicator for business cycles. While GDP is the usual suspect, one can also consider employment cycles, or even composite indicators (such as used by central banks). For this note, we employ a pragmatic approach, and will vary according to the points which we want to make.

Temporary Agency Work as a potential leading indicator?

The question is whether Temporary Agency Work (TAW) could be a candidate for a leading indicator. There could be practical merit in having an indicator such a TAW instead of more complicated (and potentially more sophisticated) composite leading indicators, because of its frequent availability and simplicity. Put differently, if the difference in forecasting power between TAW and more sophisticated indicators is relatively small, there is merit in going for the simple one.

There are three broad reasons why TAW could be a candidate for a leading indicator, a common sense one, a practical one and an econometric one. We will deal with each of these reasons in general terms in this section, and provide more detail in subsequent sections.

The common sense argument is important for political and broad acceptance reasons. If an indicator is econometrically ultrasound but obscure for a broad public, it cannot be used by broad groups and is not likely to be picked up by the media. This will limit such a leading indicator to professional users with substantial technical support such as central banks.

TAW has the potential to cater for broad groups since the basic mechanics are relatively easy to explain. Suppose the economy is doing well. Firms hire extra staff, but because of unexpected positive shocks in demand, they also hire temporary staff. If the boom continues, firms start to increasingly use TAW instead of regular jobs; this to avoid lock-in effects should the tide turn. If the boom has reached its top and the business cycle goes down, temporary staff is the first to go; this to avoid more expensive layoffs. Later on in the downturn TAW increases again to fill some gaps that are the result of layoffs. Of course there are nuances to be made, but this is the basic mechanism why TAW and the cycle are correlated.

Another angle to this is that a broad usage leading indicator should be immediately obvious in a graph. Figures 1, 2 and 3 show the case for France, the Netherlands and Belgium. For France, it can be seen that the growth in TAW correlates strongly with economic development. In the first years TAW fluctuations were in advance of economic development, but in the period from 1996-2007 both series more of less coincide. For Belgium something similar applies. For the Dutch case we refer to the next section.

The practical reason for considering TAW as a leading indicator lies in the data availability. In a number of countries (e.g. France, Belgium and the Netherlands) data are available on a monthly basis, which makes it convenient since it creates more timely observations.

The econometric reason is that available evidence points at strong correlation between TAW and the business cycle, however measured. The next sections provide more detail on this.

The Netherlands as a benchmark

The Netherlands forms a very useful benchmark. The Netherlands arguably has a long tradition in TAW, starting from 1960. It also has a long tradition of economic research on TAW, both from a labor market and business cycle perspective. Moreover the penetration rate of TAW is large by international standards (see Table 1). Therefore it forms a good benchmark against which to draw inferences that are also useful for other member states.

The literature on the relation between TAW and the business cycle addresses both GDP and employment criteria. It concludes[4] that indeed TAW (measured in numbers of hours worked) is a leading indicator for both employment and GDP, using a variety of methods and different periods.

A key question is what the lead time is. Different studies come to different conclusions varying from several years to real time. There are three reasons, in our view, why the last observation (i.e. GDP and TAW correlate in real time) seems the most plausible.

The first reason is an econometric one. Using the most precise data and the most sophisticated econometrics, De Groot and Franses[5] find a long term relation between temporary agency work and GDP for the period 1977-2003. They show that TAW and GDP correlate in real time. The results were confirmed by Den Reijer (2006) using a composite indicator for the business cycle[6].

Notice that the real time correlation of TAW and GDP does not disqualify TAW as a leading indicator. TAW is still a de facto leading indicator because GDP is published later and/or less frequently than TAW data. This still renders TAW as useful, since relevant information is available at an earlier stage than it would be otherwise. This certainly holds for the Netherlands where monthly TAW figures are available.

The second reason for favoring the real time hypothesis is a pragmatic business argument. Dr F.J.D. Goldschmeding[7], did an economic analysis on the issue.[8] Combining statistical and business information he came to conclusion that growth of TAW from one year to the other at any moment in time was a very decent leading indicator for GDP. And since temporary work agencies have (virtually) real time information on this growth number, they are able to anticipate the business cycle. The curious situation occurs that while the causality goes from GDP to TAW growth, TAW growth can still be a leading indicator for GDP since it is measured more frequently.

The third reason relates to international comparisons. Figures 1 and 3 reveal that the correlation between GDP and TAW in Belgium and France is almost perfect, yet another indication for the real time hypothesis.

The overall econometric picture of correlation between TAW and GDP is confirmed by survey type studies and interviews. A large scale telephonic survey in 2008 among more than 8.000 employers in the Netherlands shows that the most important motive to attract temps is to deal with peaks in production. The next one is recruitment. Other motives are temporary replacement of workers because

4 Moolenaar, D. (2002), The Dutch market for temporary agency work. PhD thesis, University of Amsterdam. De Graaf-Zijl, M. and E.E. Berkhout(2007), Temporary agency work and the business cycle. Discussion paper 51, SEO Economic Research. T.J.A. Dunnewijk, Ontwikkelingen op de uitzendmarkt. Personeelsbeleid, jrg. 3, 1987, pp. 112-114. Den Butter, F.A.G., J. Koeman and J.C van Ours(1996), Uitzendarbeid als indicator voor de arbeidsmarkt. ESB, 81e jaargang, nr. 4044, februari 1996, p117-121.

5 De Groot, B. and P.H. Franses (2005), Real time estimates of GDP growth. Econometric Institute Report 2005-1, Erasmus University Rotterdam.

6 Den Reijer, A. (2006), The Dutch business cycle: which indicators should we monitor? De Nederlandsche Bank

7 The founder and former CEO of Randstad

8 In: Motoriek van de Economie, Hoe kan het bedrijfsleven inspelen op economische golfbewegingen? (2004) p37-52

of sickness, pregnancy and holidays, and – to a lesser extent - working with temps one a structural basis[9].

Of course, some caveats need to be considered. First of all, while the real time hypothesis seems most plausible, there are other lead times observed in the literature.[10] Second, the forecasting power of TAW for employment becomes a bit weaker in recent years because TAW is increasingly used as a permanent recruitment motive. I.e. firms hire staff on a temporary basis with the idea to give them an open-ended contract if they perform in a satisfactory way. This blurs the statistical picture somewhat, since such a motive is less related to business cycles than other motives. If this motive were to become a dominant motive, it will render TAW less relevant as a leading indicator. Third, there can be differences across countries, a topic of the next section. Finally, the picture may look different if employment is considered as a measure for the business cycle. For the Dutch case, TAW growth then seems to be a leading indicator for employment growth but with a lag rather than real time (see figure 2).[11]

International comparisons

Member states obviously differ in the general functioning of the labor markets, in scale of usage of TAW, in the sectors where TAW is used, and in the availability and frequency of data. Still it is possible to look at leading indicators despite these differences. The issue is not to compare countries per se, but to verify within each country whether TAW can be used as a leading indicator. For those countries that collect data and have some minimum scale of TAW, the Dutch results seem to hold as well. For instance for Germany, Spain and the U.K. (after 2000) the correlation is quite strong. In Belgium TAW was also used as a leading indicator[12].

From Table 1 it can be inferred as well that for member states with low numbers or little TAW tradition, the correlation is either much weaker or simply absent. Since for countries with TAW scale, TAW seems a useful leading indicator also in the interest of the business community, it seems a good advice that countries with low frequency data gathering consider to increase the frequency.

Even though the use of temporary agency work is by nature cross-sectoral, it also goes without saying that for those countries where its usage is more concentrated on some specific sectors (e.g. in France TAW is mostly used in the manufacturing and construction sectors) more specific indicators (such as industry output) could lead to more accurate matches.

Looking beyond Europe, also in the U.S. temporary employment is seen as a leading (jobs) indicator. The former president's Council of Economic Advisers mentioned in its report sent to Congress in February 2004: '*Looking ahead, temporary-help services employment—a leading indicator for the labor market—suggests substantial further employment growth. Average growth in temporary help services employment over a six-month period has a striking positive correlation with growth in overall employment over the subsequent six months … Statistical analysis suggests that an increase of one job in temporary help services corresponds to a subsequent rise of seven jobs in overall employment.*"[13]

9 Donker van Heel, P.A., M. van der Ende en E. Hazebroek (2008), Vacatures in Nederland (Job vacancies in the Netherlands), CWI, Amsterdam.
10 See footnote 4.
11 See also Den Butter, F.A.G., J. Koeman and J.C van Ours(1996), Uitzendarbeid als indicator voor de arbeidsmarkt. ESB, 81e jaargang, nr. 4044, februari 1996, p117-121.
12 Peeters, A. (1999), Labour turnover costs, employment and temporary agency work. PhD thesis, University of Leuven.
13 Economic Report of the President (February 2004) at p. 94.

The influential Oregon Index of Economic Indicators considers taking temporary work in their mix. [14]

Conclusions

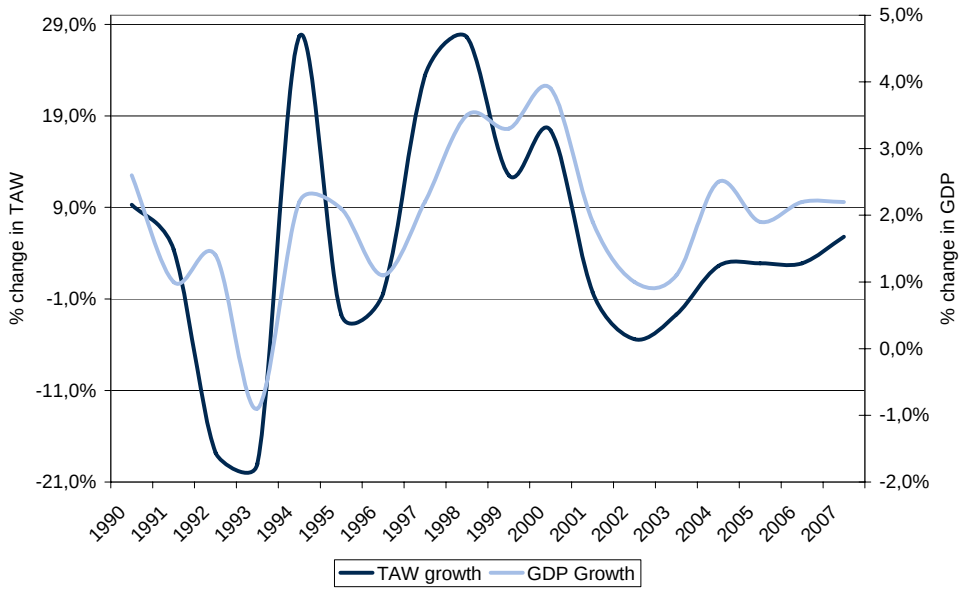
Our reading of the literature results in concluding that TAW is a wide usage leading indicator for the business cycle in those countries where TAW has some critical mass and data is collected on a timely and regular basis.

For countries with scale but with low frequent collection of data, TAW loses some of its appeal since econometric and business analysis reveal that it is likely that TAW and GDP correlate in real time. This implies that the usage of TAW as a leading indicator comes from the timing and-or frequency of TAW data gathering. For countries such as the Netherlands, Belgium and France TAW provides interesting opportunities.

The current economic crisis accentuates the need for collecting timely information, not only for the temporary agency work industry itself, but also for policy makers, trade unions and other stakeholders.

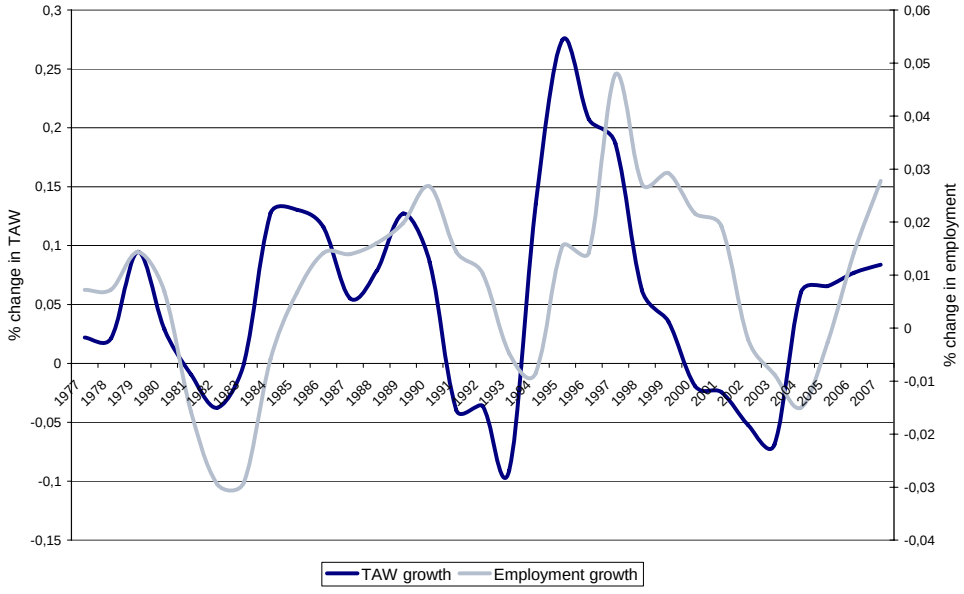
14 http://www.oregon.gov/DAS/OEA/docs/oili/oili_method_fall03.pdf

Figure 1 Percentage change in TAW and GDP for France



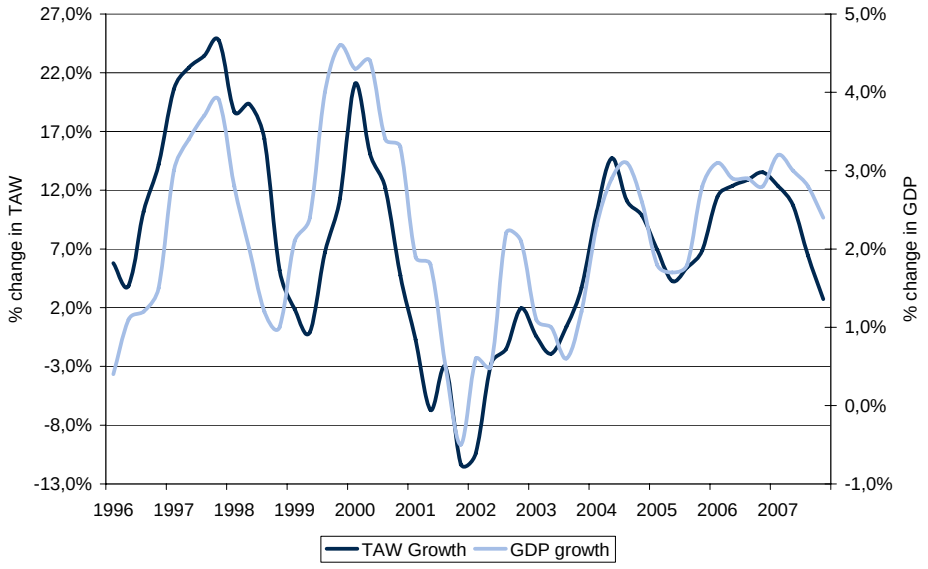
Source: Prisme

Figure 2 Percentage change in TAW and Employment for the Netherlands



Source: CBS

Figure 3 Percentage change in TAW and GDP for Belgium



Source: Federgon

Table 1 Number of agency workers in daily fte divided by total employment (as a %), for 16 European countries

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Austria	0,40	0,49	0,57	0,66	0,81	0,88	0,84	1,00	1,18	1,22	1,50	1,46
Belgium	1,16	1,33	1,55	1,56	1,74	1,68	1,62	1,62	1,76	1,84	2,06	2,17
Denmark	0,19	0,23	0,26	0,26	0,29	0,37	0,37	0,41	0,47	0,62	0,75	0,75
Finland	0,42	0,41	0,40	0,35	0,39	0,46	0,46	0,51	0,59	0,67	0,74	1,12
France	1,32	1,62	2,05	2,26	2,59	2,53	2,38	2,25	2,30	2,34	2,40	2,49
Germany	0,42	0,51	0,57	0,67	0,78	0,79	0,74	0,77	0,90	1,02	1,34	1,61
Ireland	0,23	0,28	0,59	0,62	1,48	1,43	1,41	1,38	1,34	1,28	1,47	1,66
Italy			0,05	0,13	0,33	0,31	0,38	0,60	0,69	0,70	0,87	0,95
Luxembourg	1,21	1,18	1,17	1,70	2,21	2,16	2,13	2,14	2,12	2,07	2,56	2,46
Netherlands	2,09	2,23	2,40	2,42	2,32	2,21	2,07	1,90	1,94	2,17	2,51	2,75
Norway					0,49	0,53	0,48	0,44	0,53	0,66	1,02	1,03
Portugal	0,54	0,61	0,68	0,92	0,90	0,88	0,88	0,88	0,88	0,88	0,87	0,87
Spain	0,47	0,67	0,79	0,91	0,86	0,78	0,74	0,71	0,69	0,69	0,71	0,79
Sweden	0,25	0,35	0,44	0,58	0,99	0,88	0,86	0,67	0,70	0,74	0,84	1,30
Switzerland	0,56	0,64	0,78	0,88	1,01	0,96	0,93	0,91	1,04	1,23	1,51	1,70
UK	2,59	2,89	2,56	2,76	3,75	3,72	3,73	3,96	4,14	4,25	4,37	4,73
Total Europe	0,96	1,02	1,06	1,18	1,42	1,40	1,38	1,44	1,54	1,60	1,74	1,91

Source: Eurociett & SEO Economic research (Number of agency workers), Eurostat (Employment data)