Introducing the Agents' scores

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Each month, the Bank's twelve Agents make quantitative assessments of economic conditions as seen from their respective countries and regions. These scores provide numerical measures of the intelligence that the Agents gather from month to month, and cover some areas of the economy where there are no official statistics. The scores are also timely and some have a high correlation with subsequently published ONS data. As such, they can be useful indicators of the current economic conjuncture. This article examines the scores that have been used in the regular MPC process since 1997. From January 2006, the scores will be published on the Bank's internet site.

Introduction

The Bank of England has twelve regional offices, or Agencies. Their main function is to provide economic intelligence to the Monetary Policy Committee (MPC) ahead of its interest rate decision.[1] The Agencies have around 8,000 contacts drawn from the business community. Each month they talk to around 700 contacts, or about 60 per Agency, with a cross-section of companies in terms of sector, location and size, in order to get a reasonably balanced view of the latest economic developments. The specific details of the individual meetings and companies are confidential; the Agencies report inferences about the broader economy based on their discussions. The information has the advantage of being both timely and relevant to the current economic conjuncture. And because the Agents hold fairly lengthy discussions with their contacts, they can provide some real-world insight into recent developments. They also gather information on future prospects.

How the Agents inform monetary policy

There are two main channels by which information from the Agencies is passed on to the MPC. The first is through the Agents' regular presentations to the Committee at the monthly pre-MPC meeting with Bank staff. This meeting discusses the latest economic data ahead of the MPC's interest rate meeting: Lambert (2005) discusses the policy process in more

detail. There are often two presentations from the Agency network: one giving a regular update on the economy over the past month; and the other on a topic of special interest, commissioned previously by the MPC.

The second channel is via a regular monthly economic report (MER) for each region. The MERs include assessments of the latest trends in output, demand, employment and costs and prices in the economy as seen from the respective regions. The twelve regional reports are distilled into a national summary, the *Agents' Summary of Business Conditions,* which is subsequently published alongside the MPC *Minutes.*[2]

The Agencies' MERs also include a statistical annex. This is made up of a series of scores, or quantitative judgements, for various economic factors. The scores have three main benefits. First, they are an attempt to quantify the intelligence that the Agencies gather from month to month in a systematic way. For example, the scores show whether the Agents believe that employment intentions have picked up or fallen over recent months. Second, they cover some areas of the economy where there are no official data. And finally, like the accompanying Agents' reports the scores are very timely — the MPC receives them ahead of official data and most business surveys.

From time to time, the number and definition of scores has changed as the Bank has reviewed their usefulness.

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(1) See Eckersley and Webber (2003).
(2) These summaries are available on the Bank's website at www.bankofengland.co.uk/publications/agentssummary/index.htm.

At the time of writing, the Agencies provided 25 different scores each month on the following:

- Retail sales values
- Consumer services, professional and financial services, and other business services turnover (one score for each of the three categories)
- Manufacturing output for domestic and export markets (one score each)
- Construction output
- Investment intentions of manufacturers and service sector companies (one score each)
- Materials costs
- Costs of imported finished goods
- Total labour costs per employee in manufacturing and services (one score each)
- Manufacturers' domestic prices
- Retail goods prices
- Retail services prices
- Business to business services prices
- Pre-tax profitability in the manufacturing and service sectors (one score each)
- Recruitment difficulties
- Employment intentions in the manufacturing, business services, and consumer services sectors (one score for each category)
- Capacity constraints in the manufacturing and service sectors (one score each)

Most of the scores are based on an annual comparison of the most recent three months compared with the same period a year earlier. The exceptions are investment intentions, employment intentions, and capacity constraints, which are forward looking. However, all of the scores reflect the Agents' views over a few months, rather than a single month's meetings with contacts. So the scores try to track the underlying trend in economic factors, rather than more volatile movements from month to month. Some of the scores' definitions have changed slightly over time: for example, the 'recruitment difficulties' score was previously defined in terms of 'skill shortages'. But by and large, where the precise definitions have changed, there is normally some overlap between the old and new classifications.

The score for each economic indicator ranges from -5 to +5, with -5 typically denoting a rapidly falling level and +5 representing rapid growth. So a score of +5 for retail services prices would indicate rapid price inflation for those services. And a zero score for retail sales would indicate that the value of retail sales was thought to be broadly unchanged over the past three months compared with a year ago.

How the scores are created

Each month, the Agents and Deputy Agents in each region review the information they have gathered on economic conditions, and take a view on whether conditions have changed to an extent that warrants changing one of their scores. The individual judgements on what value to score are ultimately subjective ones, rather than being based on scientific models or methods. Instead, the scores are a simple way of translating the information from Agents' contacts into a quantitative assessment of the economy over time, as seen through the eyes of the Agents. Unlike data produced by the Office for National Statistics (ONS), the whole sample of companies on which the scores are based changes each month. In addition, the scores are not based on a mechanical method for taking into account the business size of the Agents' contacts, although the Agents do try to make the sample representative, and place more weight on larger firms.

It is important to note that the scores are not designed to be self-standing. Rather, they should be interpreted alongside the more detailed qualitative analysis of economic events, published each month in the *Agents' Summary of Business Conditions.*

Aggregating the individual scores

In total, the Agencies send 300 scores to the Bank's head office each month. The individual scores from each Agency are then weighted together to produce a set of aggregate scores for the UK economy. The weights are based on the nominal share of Gross Value Added (GVA) in each country and region: these data are published annually by the ONS, so the weights can change from year to year.[1] Chart 1 shows the weights for 2002, the latest available at the time this article was finalised. So developments in Greater London (19% of GVA) have a much larger impact on the aggregate scores than those in Northern Ireland (2%). The analysis in this article is based on these aggregate scores for the economy as a whole.

The Agents' scores were introduced in the mid-1990s. But the data were first introduced into the regular MPC

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(1) The Agents' regions do not match the broad ONS regional definitions, so county-level GVA data are required to construct the weights. These data are available on the internet at www.statistics.gov.uk/StatBase/Product.asp?vlnk=10904.

Chart 1
GDP weights in 2002 by Agency region

8.2%

3.4%

2.3%

10.2%

7.4%

6.4%

9.4%

12.3%

3.9%

18.8%

6.8%

10.9%
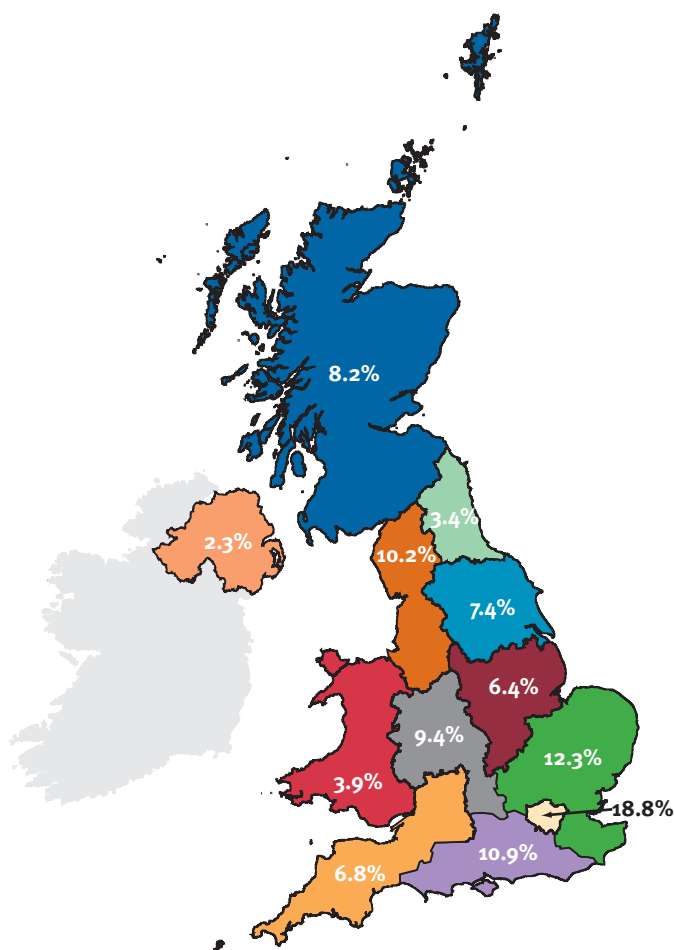
process in September 1997, soon after the MPC was given responsibility for monetary policy. Some of the scores, including those for capacity constraints, were introduced during 1998 and a few others, including the retail prices of goods and services, began in 2000. And in January 2005, a further set of changes were made, with the introduction of several new scores. So the back-run of data is shorter than for most surveys, particularly for some series. This limits the usefulness of any statistical analysis, as at most there are around eight years of data. From January 2006, each month the Bank will publish the aggregated Agents' scores, together with the back data for the series, on its website alongside the regular *Agents' Summary of Business Conditions*.[1]

Correlations with ONS data

How can we judge the accuracy of the Agents' scores? One way is to compare them to official data published by the ONS. However, this will not be a perfect test; for example, some ONS series may currently be mismeasured, and could be subsequently revised over time.[2] Furthermore, the match between some scores and ONS data is not perfect: they do not measure exactly the same thing. But comparing scores with ONS data can offer guidance on whether the scores are picking up the same broad trends in the economy.

Most of the scores are based on the Agencies' assessment of economic conditions over the past three months compared with those prevailing a year ago. So when comparing the scores to ONS data, it is sensible to look at both on a comparable basis.[3] In some instances, the Agents' scores appear to lead official data, for example in the case of investment intentions.

Table A shows the correlations for some of the Agents' scores with comparable ONS data.[4] The correlation coefficients show how closely together the scores and the ONS data move over time. A correlation of +1 indicates the series move in perfect lockstep together; a correlation of 0 indicates that movements in the series appear to be unrelated. The table also shows whether the Agents' scores 'lead' ONS data, based on the timing between the two series that yielded the highest correlation. For example, the highest correlation between ONS data on consumer services output and the Agents' score for consumer services turnover occurs between ONS data in the latest quarter and the Agents' score in the previous period: so on this basis the Agents' score 'leads' the official data by one quarter.

A number of the scores in Table A are highly correlated with official data, particularly those for material costs and retail sales values.[5] Yet while correlations summarise the relationship between the two series, it is also important simply to look at the data. Charts 2 and 3 show the Agents' scores for retail sales and materials costs, alongside the corresponding ONS series in Table A. Chart 2 shows that, while there is a relationship between the scores and the official data, the

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(1) More detail on the definitions of the scores will also be available on the Bank's internet site.
(2) For example, see Castle and Ellis (2002). Note that the Agents' scores are not typically revised.
(3) By construction, the ONS series will be serially correlated, as discussed in Barnes and Ellis (2005). This must be borne in mind when interpreting the results presented in this article and the Agents' scores themselves.
(4) At the time this article was finalised, quarterly ONS data were generally only available to 2005 Q3, while some monthly data were published for October 2005.
(5) Note that several scores exhibit 'bias', so that a zero score from the Agencies does not correspond exactly to zero growth in official estimates. But positively correlated scores can still shed light on whether growth is rising or falling.

Table A
Correlations between ONS data and the Agents' scores

Agents' scores	ONS series[a]	Sample period[b]	Correlation	Leads
Manufacturing output				
Domestic	Manufacturing output, 3-on-12	July 1997–Sep. 2005	0.66	*0*
Export	Goods export volumes, 3-on-12	July 1997–Sep. 2005	0.52	*1*
Services turnover				
Consumer	Customer services output,[c] 4Q	1997 Q3–2005 Q3	0.51	*1*
Business	Business services output,[d] 4Q	1997 Q3–2005 Q3	0.66	*2*
Retail sales values	Retail sales values, 3-on-12	July 1997–Oct. 2005	0.76	*0*
Investment intentions[e]	Business investment, Q4	1997 Q3–2005 Q3	0.73	*2*
Employment intentions[f]	Private sector jobs,[g] 4Q	1997 Q3–2005 Q2	0.71	*0*
Materials costs	Manufacturing input prices, 3-on-12	July 1997–Oct. 2005	0.90	*0*
Manufacturers' output prices				
Domestic	Manufacturing output prices, 3-on-12	July 1997–Oct. 2005	0.72	*0*

(a) '3-on-12' denotes the percentage change over the past three months compared with a year ago, and '4Q' denotes the four-quarter percentage change. Where the correlations are based on quarterly data, the end-month score in each quarter has been used.
(b) The sample was adjusted for leads (quarters or months) where applicable.
(c) Defined here as the sum of distribution, hotels and catering and recreational and other personal services.
(d) Defined here as the transport and communications and business services and finance sectors.
(e) Weighted average of manufacturing and services scores, where the weights are based on business investment shares.
(f) Weighted average of sectoral scores, where the weights are based on Workforce Jobs data. Note that before 2005 this score reflected actual employment, rather than intentions.
(g) Defined here as whole-economy jobs excluding the public administration, health and education sectors.

series are more closely related in terms of turning points rather than the precise size of any pickup in sales growth. However, the relationship for materials costs is closer (Chart 3) — although, again, a 'no change' reading on the score does not appear to correspond to zero growth in the official data. There have been occasions when the material costs score has picked up more rapidly than ONS data, notably in 2002 and 2004. In part, this could reflect the fact that — unlike the ONS input price series — the score covers more than just the manufacturing sector. For example, it will also include the construction sector, where the CIPS survey suggests that input costs have risen rapidly in recent years.
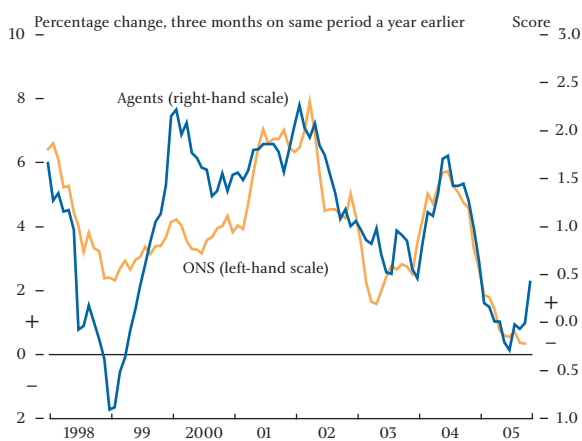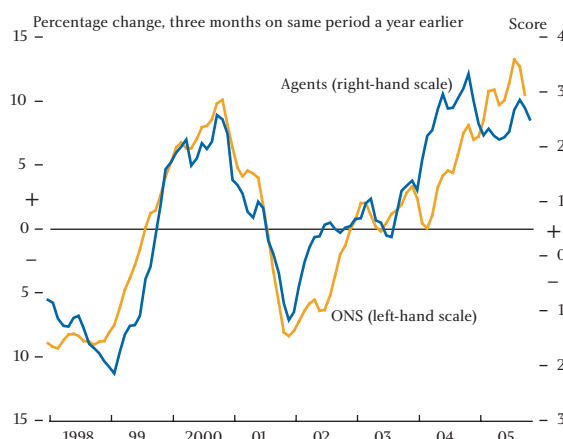
Chart 3
Measures of materials costs

Percentage change, three months on same period a year earlier

Chart 2
Measures of retail sales values

Percentage change, three months on same period a year earlier

A few of the scores are most highly correlated when they lead the official data by one or two periods. In the case of business investment (Chart 4), that is unsurprising, given that the score should reflect investment intentions.[1] However, in other instances the lead between the score and ONS data is more puzzling — such as for business services output — though some business surveys also appear to lead ONS data.[2]

Chart 5 plots a combined score for the services, manufacturing and construction sectors against a measure of private sector output. This aggregated score is reasonably well correlated with the output data — the

(1) The manufacturing and services scores have been weighted together by sectoral investment shares.
(2) See Ashley *et al* (2005).

correlation is 0.60 over the sample shown. Given that the scores are available before the ONS data, this suggests they can generally be a useful guide to activity. In the recent past, the scores have suggested a less marked slowing in growth than ONS data.

Chart 4
Business investment and intentions
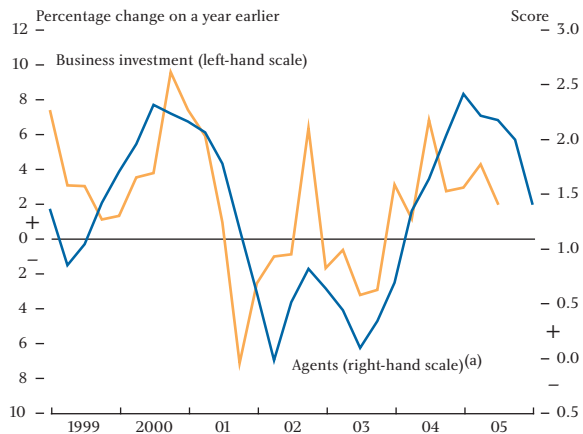
(a) Weighted average of manufacturing and services intentions, moved forward two quarters. The end-month score in each quarter is plotted, apart from the last observation, which is the score for November 2005.

Chart 5
Measures of private sector activity
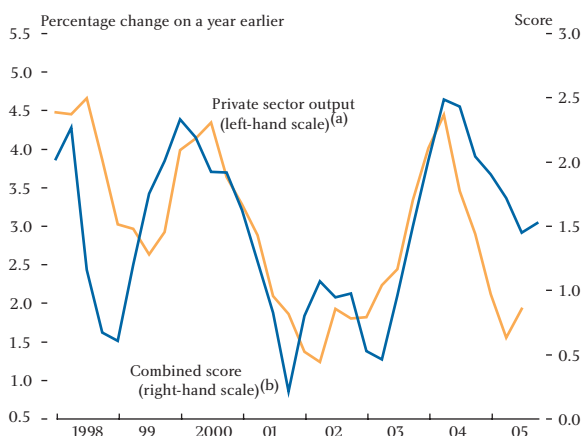
(a) Defined as the sum of the manufacturing, construction and private services sectors.
(b) Services, manufacturing and construction scores, weighted by GDP shares. The end-month score in each quarter is plotted, apart from the last observation, which is the score for November 2005.

So far, we have examined those scores that are reasonably well correlated with ONS data. But it is worth noting that other scores are less well correlated with ONS data, as shown in Table B. In particular, the Agents' score on construction output is uncorrelated with official ONS data. And the scores for retail goods prices and retail services prices are negatively correlated with official estimates of inflation rates. These scores are therefore less likely to provide an accurate read on

the corresponding official data. So far, we have been unable to explain these weak or contrary relationships.

Table B
### More correlations between ONS data and the Agents' scores

Agents' score	ONS series[a]	Sample period	Correlation
Construction output	Construction output, 4Q	1997 Q3–2005 Q3	–0.02
Retail goods prices	CPI goods prices, 3-on-12	May 2000–Oct. 2005	–0.29
Retail services prices	CPI services prices 3-on-12	May 2000–Oct. 2005	–0.15

(a) '3-on-12' denotes the percentage change over the past three months compared with a year ago, and '4Q' denotes the four-quarter percentage change. For construction, where the correlations are based on quarterly data, the end-month score in each quarter has been used.

Recruitment difficulties and capacity utilisation

Some of the scores relate to economic factors that are not measured by the ONS, such as recruitment difficulties and capacity utilisation. These two variables are of interest to the MPC, as they are the guides to the pressure of demand on potential supply, and hence underlying inflationary pressure, in the economy.[1] Charts 6 and 7 show the scores for capacity utilisation and recruitment difficulties.

Chart 6
Agents' scores for capacity constraints over the next six months[a]
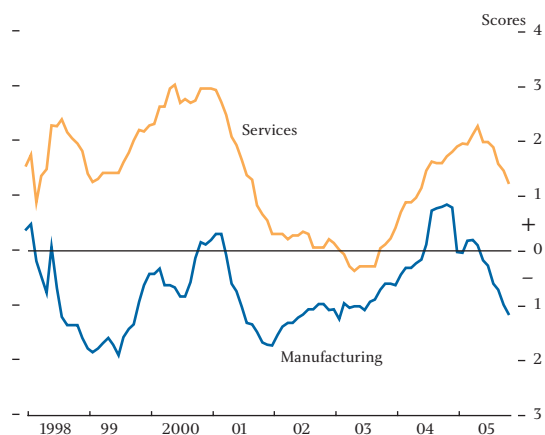
(a) Capacity utilisation relative to normal before January 2005.

However, we must be careful when interpreting these scores. The Agents themselves often comment that capacity pressures can be hard to judge, especially given that many firms are increasingly able to 'flex' capacity by changing shift patterns or using temporary workers. In recent months, the MERs have reported that many service sector firms face little or no capacity pressure. By and large, the exceptions are in one subsector,

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(1) See the box on pages 24–25 of the February 2005 *Inflation Report* and the box on pages 28–29 of the May 2005 *Inflation Report*.

namely professional and financial services. The main capacity constraint for these companies is the lack of enough skilled workers to meet demand. And over the course of this year, the Agents' reports have noted that professional and financial service companies have found it hard to recruit suitable staff in the face of strong demand growth. So the positive capacity score for the service sector partly reflects developments in one component of the service sector, rather than more widespread capacity pressures. This illustrates that the scores should always be interpreted in the light of reading the *Agents' Summary of Business Conditions.*

Chart 7
Agents' score for recruitment difficulties(a)

(a)   Skill shortages before January 2005.

Further work on the scores

The scores provide additional information about the economy on top of official data. But in some instances, they track similar variables to some of the key economic surveys, such as the *CBI Distributive Trades Survey*. Do the scores perform as well as these surveys against ONS data?

Chart 8 shows official data on retail sales values, together with the aggregate Agents' score and the CBI survey. All three series have been adjusted to fit on one axis.(1) The chart suggests that the Agents' scores are as closely related to ONS data as the CBI survey.

We could replicate this analysis for other scores. But a better test would be to see if a combination of the

Agents' score and survey data perform better than either the score or the surveys by themselves (see for example Ashley *et al* (2005)). That is an avenue for future work.

Chart 8
Measures of retail sales
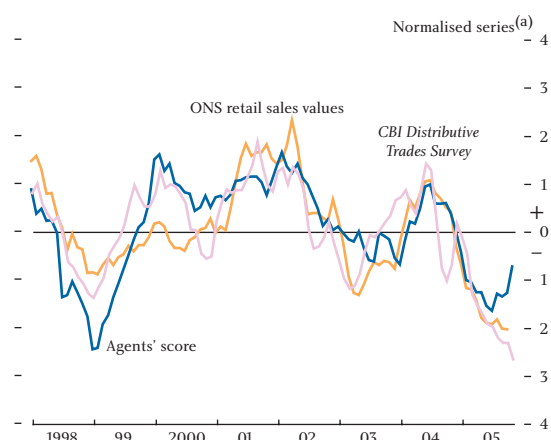
(a)   The average value of each actual series over the sample shown has been subtracted, and the result divided by the standard deviation of each actual series.

Conclusion

The Bank's twelve regional Agencies play an important role in informing monetary policy. Each month the Agencies report on economic conditions ahead of the MPC's interest rate decision, based on confidential visits with companies. As part of these regular monthly reports, the Agencies produce a set of 'scores'. These are numerical measures based on the intelligence the Agencies have gathered — they are the Agents' subjective judgements about economic conditions, based on meetings with contacts in their region. The scores try to track the underlying trend in factors such as output or employment intentions, rather than more volatile movements from month to month. Some of the scores correlate well with official data, such as materials costs and investment intentions, though others, such as those for the prices of retail goods and services, are less well correlated. Other scores cover areas of the economy where there are no official data. But the main advantage of the scores is that they are very timely. So they offer the MPC an early gauge on conditions in the economy before official data and most surveys are available. From January 2006, the Bank will publish the scores each month on its website, alongside the regular publication of the *Agents' Summary of Business Conditions.*

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(1)   This process is called 'normalisation': the average value of each series is subtracted from the observed data, and the resulting numbers are divided by the standard deviation of the (observed) series.

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