

Date 27 February 2004

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Dear Christopher

POLICY LEVERS REQUIRING DETAILED INDUSTRY DATA

When your team met with Vicky Pryce, you asked for more information on the DTI policy levers that require detailed industry data. It has taken a little longer than hoped to canvass users but I am now in a position to respond for DTI.

I have interpreted the question fairly broadly, covering everything from development of policy through assessment of likely effects to management and monitoring of outcomes.

I should stress that the uses described in the document should not be taken as an exhaustive list. Some are examples of a wider set of uses, while one or two are hypothetical but indicate the difficulty we would be in if no data were available, say, below 3 digit level of the SIC.

I am copying this letter to Greg Phillpotts and Colin Mowl, at ONS, as well as Vicky Pryce, Glenn Everett and other colleagues in DTI.

Yours sincerely

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Policy and Delivery Needs for Detailed Industry Data within DTI

The first report of the Allsopp review was largely about the need for better regional statistics, an agenda broadly supported by DTI. However, partly as a means of freeing up resource, it also queried at several points the need for detailed industry data in support of policy and delivery.

This issue is being investigated further for the second Allsopp review, which is principally about the ability of the statistical system to react to structural change within the economy and whether it is “fit for purpose” for the economy as it is now.

The first report posed the question largely about detail within manufacturing industries, but the question has wider relevance; if there were little policy need for detail within manufacturing, why should there be a policy need (which there undoubtedly is) for seeking more detail within services?

Some general comments

One recurring theme is that even 4 digit detail is insufficient for some needs. This is particularly the case for business services and for manufacturing and service activity, which is linked to information, ICTs and content. Some problems with the SIC are probably inevitable; the SIC and its parent classifications are (and will continue to be) quite pragmatic in nature, with different sections being organised in different ways – by market, by material or by process. The latter two cause problems when analytical and policy needs are related to specific markets, as the detail simply is not there.

PRODCOM data help for production industries, but not on productivity. Having said that, users emphatically oppose wholesale reductions in detail from what is currently available for manufacturing.

There is also recognition that accurate classification is not easy to achieve, and that it is important to ensure that this fundamental element of the statistical system is sufficiently resourced.

It is also worth stressing that timeliness is important in many uses of detailed industry data. Not all – the detailed structure of the economy does not change that quickly – but for anything related to detailed markets timely data are essential. A larger ABI, say, which delivered slower results, would be unacceptable to DTI users.

There is also some feeling that the structural change issue is not adequately reflected by considering changes in sectors’ shares of GVA. It is important to bear in mind the outsourcing of “in house service activities” by manufacturing companies, for example. Some transactions may include elements of manufacturing and services, while for others (publishing and some forms of content) there are convergence issues and it is even arguable which they are. The relationships between different sectors of the economy are subtle, and changing. New business processes enables some of these changes in relationships and thus real (or apparent) structural change.

The Productivity Agenda

DTI's policy agenda is strongly focused on productivity. It needs to understand the factors that impact on productivity performance, to ensure that policy contributes as positively as possible. One of the most important factors is industry. There is substantial variation in the productivity performance of 3 digit SIC groups within 2 digit divisions and also often between 4 digit classes within groups (see Annex).

Other drivers of improved productivity performance include innovation practice, use of ICTs, R&D, skills, country of ownership and (in the case of labour productivity) capital stock. The importance and impact of these drivers varies a lot between industry and if their impact is to be understood it is necessary to dig into data in considerable detail.

Some of this can be done through microdata analysis of datasets such as the ABI Respondent Database, combined with data linking, an increasingly important element of the evidence base.¹

Technology policy and innovation are particularly important. There is no doubt from innovation survey results that the level and intensity of innovation varies far more by industry than it does by region.

The Department also needs to be able to assess the likely implications for productivity of possible policy initiatives, including those emanating from the European Commission, and business support schemes and, where possible, to monitor the actual impacts as well.

This requires the availability of a strong evidence base in the form of a good, detailed portfolio of industry statistics.

Cross-sectoral policy

There are many cross-sectoral issues on which government either wishes to develop policy, or where it needs to react to wider developments. Examples include employee skills, e-business, Climate Change Levy and effects of transport congestion.

Each of these can have quite different implications for individual industries. Intensive consumers of energy are more severely impacted by the CCL, for example, and special arrangements have had to be put into place for particular industries, expressed in terms of detailed SIC categories, based in part on analysis by DTI.

¹ It could be argued that this will remain available on the IDBR, come what may, but if classification detail is not used in published statistics, maintaining its quality on the register is unlikely to get much priority.

The Business Process Agenda

Some of the surveys that deal with business processes, such as innovation, e-commerce and use of ICTs, have been designed through international collaboration. Sub-national analysis has had a much lower profile in these developments than industrial. It would be harder to get such surveys off the ground if a regional dimension added to their cost and complexity, making it harder to make worthwhile international comparisons on these key issues.

Sectoral Policy

Not all policy issues necessarily arise from within DTI itself. Some emanate from European legislation, for example on recycling. The Department has to attempt to influence the development of such legislation, to avoid undesirable impacts on the relevant UK industries or products. In order to produce the mandatory regulatory impact assessment, it is important to have data on the importance of the industry, over and above those available from business demographics. A regulation on the explosives industry could not be evaluated using data at 3 digit level (see *Relationship Management* below).

Tariffs, other trade barriers and anti-dumping issues can also arise. These may impact on tightly defined product groups. Again, sudden developments may result in a sizeable employer, or even an entire industry, being under threat.

Whether or not intervention is contemplated, it is absolutely certain that there will be calls for action from interested parties, and it is unrealistic to suppose that these could be ignored. It is important that the issues can be discussed with industry and others in the light of good and relevant information on the state of the market and the health of the industry. This usually requires detail for both industry and product. It is worth noting that such data cannot simply be acquired through quick top-ups to official inquiries, or through commissioning a survey from contractors, as the need is usually for a dynamic picture with several years' back data. Joining up or comparing ad hoc sources is resource intensive and relatively unfruitful, as the sources are unlikely to be consistent.

There are examples of policy initiatives where lack of official data have resulted in very different "estimates" of market size from different parties, or in the commissioning of assessments from consultants which have still proved contentious.

The Regional Agenda

DTI welcomes the call for better estimates of regional GVA and of GVA per head. However, the question then arises of the policy implications that should be drawn from the improved figures. Is a region lagging (in cash terms) because of labour market differences? Because it has a shortfall in high productivity industries? Because it has low investment or has been slow adopting new business processes?

It seems unlikely that the "productivity ranking" of detailed industries varies that much between regions. Models of innovation and other change would also be expected to have much the same effect on a detailed industry, wherever situated. It is also worth noting that it will always be possible to analyse national data in more depth than regional. If a regional dimension is included in collection and analysis even where it explains little, the downside would be less of depth in other dimensions, or a narrower coverage of productivity-related topics altogether.

There may be a case for accepting this downside. The counter argument is that regional policy might be better served through detailed investigation of the drivers of productivity at national level, and mapping the results onto other information available at regional level, such as the extremely detailed business demographics available from the IDBR. The argument is not clear-cut, but the existence of a trade-off has to be recognised.

We agree with the comments in paragraph 4.13 of the first Allsopp report, in the context of the flexibility agenda (adjusting to shocks): -

“It is not obvious in which circumstances a regional response would be better than a sectoral one. This would require markets to be segmented, or products differentiated, by region. Where there is a local market failure preventing a market from clearing, there is a case for regional information. But such market failures, or externalities, are not easily measured. Nor is there any reason to presume they would naturally fit with the standard regional geographies.”

The impact of a sectoral problem, and the resultant policy response, may well be delivered regionally, but the analysis underlying policy decisions is essentially sectoral, using national data.

Relationship Management

DTI's relationships with businesses and trade associations are generally handled through sector units, whose coverage does not always map well onto the SIC. The responsibilities of a typical unit combine 4 or 5 digit industries from different parts of the SIC. Some units have expressed a desire for more detail, while others have expressed bafflement that existing detail should be under threat. Examples could be taken from most industries, but to take two within the chemicals area (SIC 24): -

- It would be hard to do a competitiveness analysis or make any other use of overall data for SIC 24.6 (Manufacture of other chemical products. Its component SIC classes are: -
 - 24.61 Explosives
 - 24.62 Glues and gelatines
 - 24.63 Essential oils
 - 24.64 Photographic chemical material
 - 24.65 Prepared unrecorded media (tapes, disks)
 - 24.66 Other chemical products n.e.s. (itself somewhat eclectic).

- Within SIC 24.4, it is important to distinguish between 24.41 (basic pharmaceutical products, essentially part of speciality chemicals) and 24.42 (pharmaceutical preparations, “big pharma” and bioscience).

Some elements of sectors are key – the unit has to understand them fully, and has close relationships with leading firms – while others are on a “watching brief” basis. The delineation between sectors, and the distinction between key and other, can change, for either policy or externally driven reasons.

There is an interest in the totality of each sector unit's industries (not least for DTI's own business planning) but considerably more in the detail, because discussions with key business partners concern that business's own activities. Discussions with trade associations often concern detailed markets too. The sector units are under pressure to

ensure that policy is evidence-based and can be related to the productivity agenda. They need detailed statistics such as ABI and PRODCOM in order to do so.

Innovation and Growth Teams

Innovation and Growth Teams have been established in some sectors. The IGTs are intended to draw on the expertise of all major stakeholders in a sector, including the RDAs, with the aim of identifying the key issues which will shape the future of their industry and how the UK can best respond to the competitive challenges it will face. Typically this might involve addressing productivity both directly and, through its drivers, indirectly. It is important to have available agreed and sufficiently detailed statistics for the sector, as a basis for analysis and development of the strategy for the industry.

Sector Competitiveness Analyses

The Department conducts or commissions Sector Competitiveness Analyses, sometimes in conjunction with the establishment of an IGT, and often for quite detailed niches, with obvious implications for data needs. Productivity and international competition are generally central. The framework for these analyses is now quite rigorous; there had been criticism previously that some had been too anecdotal in nature, or reliant on quick unscientific data gathering exercises. The absence of detailed data would make it more difficult to preserve rigour.

Even with 4/5 digit detail available, it is quite common for the industry itself to comment that the data are insufficiently detailed to enable an understanding of productivity and competitiveness in specific markets. The identification of data gaps is often one of the outputs of a Sector Competitiveness Analysis.

The Department is also commissioning a cross-sectoral exercise which will bring together as much internationally comparable data relevant to the calculation of labour productivity and, perhaps more optimistically, TFP. The outputs from this exercise should provide bedrock data for all the above.

Business Support

DTI is in the process of revising and greatly simplifying its business support schemes. The industry dimension is relevant in four ways:

Policy decisions about the design of business support products, and about resource allocation across the different types of intervention, require a strong evidence base, for which detailed analysis of the factors driving productivity performance is essential.

Data need to be at a very disaggregated sector level for this purpose to allow researchers to control for industry specific characteristics.

The successor product to Regional Selective Assistance requires a market appraisal, either by DTI sector units or (for smaller applications) by the RDAs. Market appraisal has to relate to the specific product or service set out in the application, implying a need for detail. Part of the data requirement being discussed for use by RDAs is national GVA/head data at 4 digit level, though even that will sometimes be too broad. Another example of the use of *national* data to inform decisions made in a *regional* context.

There is a requirement to monitor the destination of grants paid, in both geographical and industry terms, and to be aware of and understand divergences from overall business demography. This is important to ensure that the support programmes we offer

are successful in addressing the problem and being promoted to the right people. This information is also required for European Commission purposes as we attempt to draw down European Structural Funds in support of some of the new DTI products. Finally, the impact of support schemes upon productivity has to be monitored. A key part of our approach to this is through linking DTI information on recipients to ONS data, and assessing through microdata analysis whether the scheme has had significant positive effects (see comments under Productivity Agenda above).

ANNEX: The importance of industry detail – one approach

It would be wrong to claim that there were no existing SIC 4 digit classes that could be dispensed with, at least in the UK context. From the point of view of understanding economic performance, a class might be thought relatively unimportant if there was little difference from the 3 digit group average in

- GVA/head;
- Capital stock/head;
- Productivity drivers such as innovation, R&D;
- Growth in GVA and employment;
- Growth in GVA/head;
- Inputs as percentage of GVA;
- Composition of inputs;
- Degree of international competition;
- Vulnerability to trade barriers;
- Treatment under legislation (e.g. recycling requirements);
- Relevance of new technologies
- ... and so on.

The potential list is probably huge, and comparatively few can be investigated from the ABI alone.

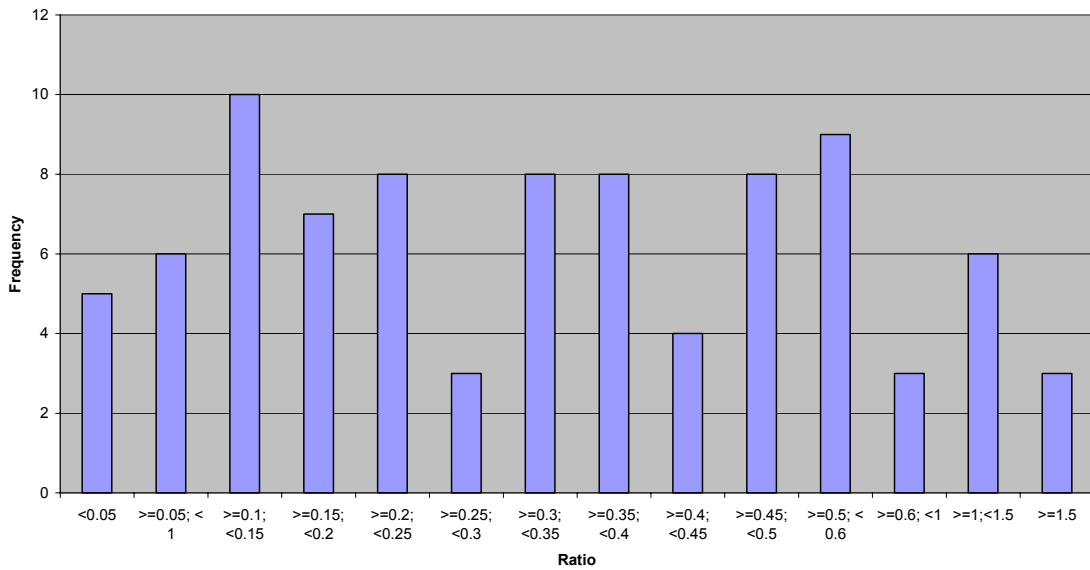
As a first step, we have looked at differences in GVA/head within 3 digit groups. The indicator I have chosen is the **maximum divergence** at class level from the group average, divided by the group average itself.

Thus if average GVA/head in a group is 50K, and in its component classes 45K, 30K, 55K and 75K, the maximum divergence would be 25K, and the ratio to the group average **0.5**.

[An alternative metric might be maximum/minimum – in this case 75/30, that is **2.5**. Thus a ratio for the chosen indicator as high as 0.5 means very substantial variation within group.]

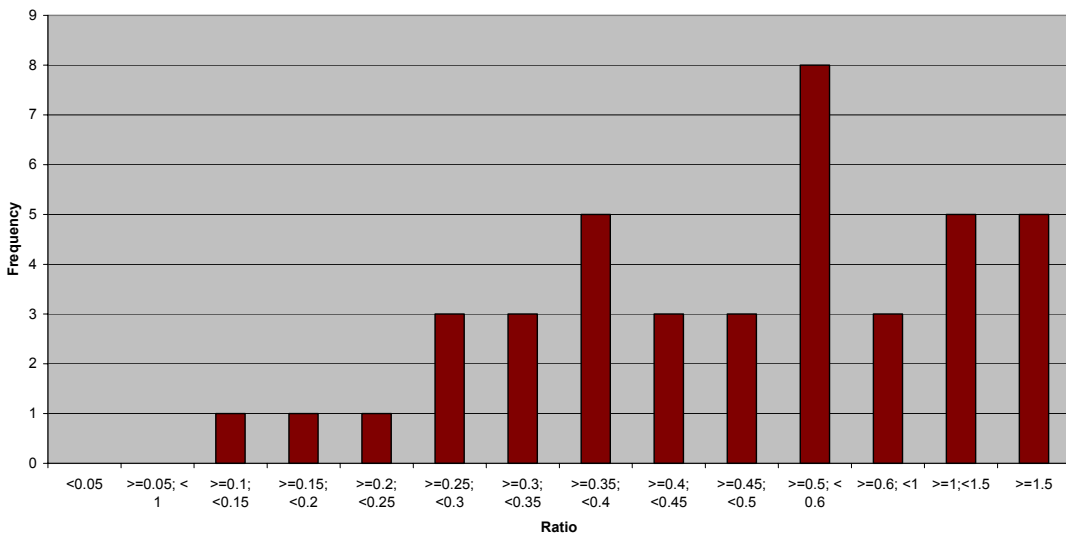
The first chart shows that the majority of ratios are greater than or equal to 0.2 (which could imply a range from 40K to 60K). The median is around 0.3. These are substantial variations, based on the average of calculated GVA/head figures over 1998-2001 (so they are unlikely to reflect biased samples). Other factors, such as regional differences and differences in the size structure, could be at play. This has not been examined. It is **not** being suggested that detail could be dropped for the ones at the left; there are many other analytical criteria to examine, let alone direct user need. The second chart shows the same ratio, but this time calculated within 2 digit class. This is for

Variation in GVA/head between 4 digit classes within 3 digit group - ratio of maximum divergence to group average - based on averages of published ABI data 1998-2001



comparison, as dropping 3 digit detail is very unlikely to be proposed. Not surprisingly, the typical ratio is higher.

Variation in GVA/head between 4 digit classes within 2 digit division - ratio of maximum divergence to division average - based on averages of published ABI data 1998-2001



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