PRICING SERVICES OF CONSULTING ENGINEERS - UPDATE OCTOBER 1992

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Last year the paper presented to the conference on the launching of a survey to measure price changes for the outputs of consulting engineers listed a number of questions which future experience might supply some answers to. This note describes what has been learned since then in the conduct of this survey.

Behaviour of prices over time:

From the data available at this time, the best estimate of price movements is as follows: (1991 = 100)

1989	1990	1991	1992(1st half)
92.7	97.4	100.0	100.9

The figures for 1989 and 1992 are based on less data than the other two years. For comparison, the estimated movement of average weekly earnings in this industry over the time period are shown below:

	1989	1990	1991	1992(1st half)
Average weekly earnings, all employees	86.2	93.9	100.0	103.2

(Source: Survey of employment, earnings and hours, architects, engineers and technical services)

Because so much of engineering activity is labour, it is to be expected that these series would move similarly. That the earnings figures move up more quickly when the economy slowed down in 1991 and 92 may be explained in part by the behaviour of the employment numbers from the same source as the earnings figures:

	1989	1990	1991	1992(1st half)
Total employees	89.2	99.2	100.0	86.4

Employment actually peaked in the third quarter 1990, and fell sharply after that, except for a brief recovery in the middle of 1991. The data suggest that companies reacting to a drop in demand tended to adjust their prices and employment quickly, even though the earnings of heir continuing staff continued to rise on average. In fact the average earnings

may have continued to increase even though rates did not, as less experienced and less well-paid workers were being shed. The figures also suggest that to base deflation on earnings figures may lead to misleading measures of real output.

Last year's paper suggested that there were three questions to be examined concerning the behaviour of prices: what differentiates price movements, are changes due to changes in market conditions captured, are changes due to productivity changes captured?

Different price movements: Although the survey is being modified to capture more moderately sized companies most price comparisons at present are from large companies whose projects cover several different services as classified by the CPC. Both from the figures and from supporting comments, the evidence is that in large projects where several different types of service are included the price change for each type of service is the same. This was to be expected in the impact of changes in the multipliers, but in the calculation of changing direct labour costs, the estimates are much the same for all kinds of labour within one company. Where projects from the same company differ in price movement it is normally because the projects are in different fields or in different parts of the country.

There is evidence of different price movements for different fields of specialisation, (particularly between those that are in the private rather than the public sector), but the greatest diversity of price movement so far has been by market - between domestic and foreign, and in different parts of Canada. Prices have been firmer in the west and in Quebec than in Ontario. In Ontario prices have been falling since 1990; this is not true in the rest of the country, although prices in Quebec have barely risen in the last year. In those cases where individual respondents have offices in several parts of the country they have confirmed this.

Changes in market conditions: On the question of whether reaction to market conditions is being captured, the evidence obtained indicates that price movements slowed in 1991 and 1992 which corresponds to expected behaviour in the recent market. Sometimes the price changes reflected explicitly lower multipliers, while in other cases the labour component had shown little movement. Price changes were still rather higher than for goods prices recently, and they were also higher than for construction prices. This implies that if fees had been expressed as a percentage of construction costs, the percentage would have risen. This does not correspond to expectations nor to the few observations we have based on a percentage of construction costs. Building projects are underrepresented in the sample and may have shown different price movements if more had been included already.

Productivity changes: It is too soon to judge. Creeping productivity improvements should be reflected in lower multipliers, but in these conditions any changes in multipliers are probably being mainly driven by market conditions. Productivity changes that affect technology directly should have an impact on direct costs, for example on the numbers

of hours required for particular bits of work. There have been no cases yet of respondents saying that the way that they would now do that particular old project would be different. There have been some comments that if done again, the project itself would be different, often because regulations covering the work have changed.

Practical repricing problems

The good-will that was evident on the first contacts has been tested more with the repricing. The method requires a good understanding by each individual respondent of what is sought. Even turnover of staff, of which there has been a lot in the last year, disturbs the continuity of this understanding. Furthermore, the survey seeks a lot of detail on what is a hypothetical question. There are cases where an apparently detailed repricing was really just an arithmetic adjustment using the same global adjustment factor. In these cases it would be simpler just to ask for the average wage or salary weight adjustment, and concentrate on getting good multipliers.

The ability to provide estimates which show regional variations depends on whether the company provides value data from regional offices, or a consolidated account. When it is a consolidated account, the head office provides the price information, and regional variations are more difficult to get.

Differences between respondents' expected and actual returns have complicated the initial estimates. The model pricing technique requires respondents to estimate what they would expect to charge for work to be arranged at each survey date. However, in the first comparisons, for 1990 or 1991 companies knew not just what they had expected on those dates, but what had actually happened between the historical date of the project and 1990 or 91, as those dates had already passed. Consequently, the price performance reported for 1989 through 1991 might not be the same as if the survey had already been established.

However, this difference between expected and actual returns may affect continuous surveys also. The model pricing method asks for new order prices. For goods, these may not be the same as prices of shipments, but they will be the prices eventually when the ordered products are shipped. In engineering projects this is not necessarily so. "Upset limits" put a lid on what the client will pay even if the work extends longer than either party had expected. Recently these upset limits have been reached more often, and have been negotiated with more power on the clients' side, so that the actual realised fee has sometimes been less than originally anticipated. There are other instances of projects being renegotiated later as well. It appears that first index estimates will need to be revised on the basis of respondents' later experience.

We must also consider whether to simplify the modelling to make it closer to data that respondents can more easily supply on a continuing basis. Model price estimates are usually built on estimates of direct costs, largely labour, which are inflated by multipliers to get overall estimates. The estimates of multipliers are closely related to accounting information that most companies keep routinely. "Gross margin", the ratio of total fee income to the salary burden, (sometimes including indirects) is a figure which most companies monitor, in varying detail. This is because they have a rule of thumb of what it should be, and they can compare performance to it.

Although the ratio applies to the salary bill, not salary rates, companies' experience of how their performance relates to expectations at a given time must colour their estimate on how much to mark up adjusted salary rates in the repricing exercise. However, many companies claim that this ratio is a better indicator of what is currently happening, than asking for a hypothetical estimate of what might happen. Many have continuing relationships with longstanding clients, and the notional mark-ups are almost traditional. It would be difficult for them to estimate changes in the mark-up at the time of a hypothetical re-estimate, but they can report regularly, and with less inconvenience on the ratio of receipts to direct costs, which reflects current conditions. In many cases these ratios are kept by market and/or specialisation. We are looking carefully at the relationship between these multipliers and the Gross Margin to see if respondents can formally use it in making current estimates.

Conclusion

The results obtained so far suggest that the survey is valuable in providing estimates of price change that are improvements over the average earnings figures. The methodology itself requires some modifications from how it has been used for goods, both to treat the differences and to reduce respondent burden. It may be that a better approach will prove to be to combine separate measures of direct cost changes, mark-ups and direct measures of productivity change, without tying them so tightly to specific detailed projects. This is what we will be examining over coming months.