Discussant remarks on Management Consultancy Papers 2006 Voorburg Conference October 12, 2006

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Outline of remarks

Conceptual framework

- Definition of output
- Determination of the price level
- Sources of change in price level
  - Wages
  - Project realization rates

Sources of possible measurement error

- Changes in labor productivity
- Changes in the average labor mix across all projects in a given industry
- Changes in the project mix or client mix

Outline of Remarks

- Turnover Data, Industry Structure and (Mis)Classification Issues
  - Industry Structure / NAICS and NACE
  - Classification comparability
  - Presence of non-payroll firms
  - Consultation and implementation
  - What is the problem with IT?
  - Changes to turnover definitions
  - Switching across product and industry lines

Conceptual Framework

- The primary output of management consulting firms is the provision of advice and assistance on management and general business issues and problems.
- Management consultants provide objective information, advice and guidance to clients, and, when requested, assist in the implementation of their recommendations.
- Business areas about which management consultants frequently provide advice include high level strategic and organizational planning, business financing, budgeting, employee hiring, benefits, and compensation issues, marketing, and production and logistics.
- Consulting outputs are typically delivered in the form of written and verbal studies, advice and recommendations.
- Is there agreement on this definitional framework for the output of management consulting?

Conceptual Framework

Let P(t) = price index for consultancy services at time t for a fixed level of output

Let L(i,t) = number of units of labor of type i, assuming that there exists a measurable distribution of labor by skill or occupational category.

Let H(i,t) = total number of hours per unit of labor of type i.

Let W(i,t) = wage rate per hour of labor of type i.

Let ARR(t) = equal the average realization rate for the fixed level of output of management consultancy services at time t.

Conceptual Framework

Ignoring travel and other costs, the price level at time t can be expressed as:

$$P(t) = \left(\sum_{i} H(i,t) * L(i,t) * W(i,t) \right) * ARR(t)$$

- Does this conceptual context generally agree with the pricing methods adopted in these country papers?
  - U.S. and Germany both provide descriptions of pricing and the industry practice of discounting or realization rates that correspond closely to this conceptual framework.

Conceptual Framework

- France describes its pricing mechanism as a ‘fixed price’ method, but in elaborating on this, notes that the price is a product of three factors:
  - Qualifications needed, remuneration for each qualification, amount of labor, and the number of days of work.
- In summarizing their experience with personal visit data collection, the French paper notes that respondents can provide daily realized rates, either by each qualification or as a rate applied across all qualifications.
- The foregoing formulations hold, I believe, without loss of generality if one converts the data to daily rates.

Conceptual Framework

- France also notes two other pricing practices that exist but are not very common: success fee pricing and time-spent invoicing.

- Statistics Canada ‘does not currently produce an explicit price index for the consultancy services industry.’

Conceptual Framework

The change in the price index from one time period to the next can be expressed as a total differential of this expression.

$$dP(t) = \left(\sum_i dH(i,t) * L(i,t) * W(i,t)\right) * ARR(t) \quad (\Delta \text{ labor productivity})$$

$$+ \left(\sum_i H(i,t) * dL(i,t) * W(i,t)\right) * ARR(t) \quad (\Delta \text{ labor quality})$$

$$+ \left(\sum_i H(i,t) * L(i,t) * dW(i,t)\right) * ARR(t) \quad (\Delta \text{ wages})$$

$$+ \left(\sum_i H(i,t) * L(i,t) * W(i,t)\right) * dARR(t) \quad (\Delta \text{ avg realization rates})$$

Conceptual Framework

Average Realization Rate:

At the base period of measurement, the average realization rate is the ratio of the sum of actual charges across projects in a specific management consultancy industry to the sum of listed charges that could be applied across the same projects.

Across projects, there is a mix of labor skill categories (i) within each project and client types (j) across projects.

Conceptual Framework

The U.S. paper by Baer notes that a change in the average realization rate can be the result of three sources:

1. The realization rate for any given project in an industry, holding the labor mix constant (implying changes in realization rates for at least one labor type (i)).

2. The mix of labor within projects.

3. The mix of projects, each with its unique realization rate. In the U.S. paper it is noted that there is often a relationship between the type of client and the realization rate that is charged – for example, larger clients often receive larger discount rates.

Conceptual Framework

These concepts can be expressed as:

$$ARR(t) = \sum_{j}\sum_{i}(AC(i,j,t) \;/\; \sum_{j}\sum_{i}(LC(i,j,t))$$

Rearranging terms,

$$ARR(t) = \sum_{j}\sum_{i}\{[(AC(i,j,t) / (LC(i,j,t)] * [(LC(i,j,t)) / \sum_{i}(LC(i,j,t))] * [\sum_{i}(LC(i,j,t)) / \sum_{j}\sum_{i}(LC(i,j,t))]\}$$

Conceptual Framework

These formulation can be simplified and rewritten as:

$$ARR(t) = \sum_{j} \sum_{i} ARRij * Sij * Sj$$

Where:

ARRij is the realization rate for labor type i in project j

Sij is the share of listed costs of labor type i in project j

Sj is the share of listed costs of project j across all projects

Conceptual Framework

$$ARR(t) = \sum_{j} \sum_{i} ARRij * Sij * Sj$$

$$d\,ARR(t) = \sum_{j} \sum_{i} d\,ARRij * Sij * Sj$$

Changing realization rates

$$+ \sum_{j} \sum_{i} ARRi * dSij * Sj$$

Changing labor mix

$$+ \sum_{j} \sum_{i} ARRi * Sij * dSj$$

Changing project mix

Conceptual Framework

- The previous slide shows that the change in the average realization rate can come from 3 alternative sources:
  - Changes in the realization rate of each project
  - Changes in the share of labor of each type within projects
  - Changes in the mix of projects
- As a result the average realization rate can change due to either a change in the discount applied to each project (price change) or a change in composition of either labor inputs or project mix.

Sources of measurement error

$$dP(t) = \left(\sum_i dH(i,t) * L(i,t) * W(i,t)\right) * ARR(t) \quad \text{labor productivity change}$$

$$+ \left(\sum_i H(i,t) * dL(i,t) * W(i,t)\right) * ARR(t) \quad \text{labor quality change}$$

$$+ \left(\sum_i H(i,t) * L(i,t) * dW(i,t)\right) * ARR(t) \quad \text{wage change}$$

$$+ \left(\sum_i H(i,t) * L(i,t) * W(i,t)\right) * dARR(t) \quad \text{avg realization rate change}$$

Where:

$$dARR(t) = \sum_j \sum_i d\,ARRij * Sij * Sj + \sum_j \sum_i ARRij * dSij * Sj + \sum_j \sum_i ARRij * Sij * dSj$$

Sources of measurement error

- The repricing of a management consultancy contract asks the respondent to provide two types of data – one that they directly observe – wage rates for each labor type – and the other that they can 'hopefully' easily estimate – the average realization rate for all projects within the specific industry type.

- The previous formulation suggests various sources of measurement error – ones that are harder to measure in a regular repricing production cycle:

Sources of measurement error

$$dP(t) = \left(\sum_i dH(i,t) * L(i,t) * W(i,t)\right) * ARR(t) \quad \text{labor productivity change}$$

$$+ \left(\sum_i H(i,t) * dL(i,t) * W(i,t)\right) * ARR(t) \quad \text{labor quality change}$$

$$+ \left(\sum_i H(i,t) * L(i,t) * \mathbf{dW(i,t)}\right) * ARR(t) \quad \text{wage change}$$

$$+ \left(\sum_i H(i,t) * L(i,t) * W(i,t)\right) * \mathbf{dARR(t)} \quad \text{avg realization rate change}$$

Where:

$$dARR(t) = \sum_j \sum_i \mathbf{dARRij} * Sij * Sj + \sum_j \sum_i ARRij * dSij * Sj + \sum_j \sum_i ARRij * Sij * dSj$$

Sources of measurement error

- **Changes in labor productivity**
- Changes in the average labor mix across all projects in a given industry.
- Changes in the project mix or client mix.
- Selective substitution of average realization rates with project specific realization rates.

Sources of measurement error

- Changes in labor productivity
  - The challenge of measuring labor productivity owes to the difficulty the establishment may have in answering the theoretical question:
  - If the management consulting contract drawn at data initiation were specified today, and assuming an unchanged labor mix, how many hours of labor of each skill type would be required?

Sources of measurement error

- Changes in labor productivity
  - A question to raise with each author is to what extent do you believe that respondents could accurately update their estimate of the number of hours of labor of each type that would be required to produce the fixed level of service (with unchanged quality)?
  - Also, can the data collection protocol support this additional level of inquiry on a episodic basis, say once a year or every two years, for example?

Sources of measurement error

- Changes in labor productivity
  - In the case of Germany, the statement is made that for ‘Quality adjustment methodology, … the FSO evaluates that productivity changes in the market for management consultancy in Germany occur at a very slow pace.”
  - Note that this statement treats productivity and labor quality in an equivalent manner, while the structure defined above suggests that the concepts, if having measurable impact, should be treated separately.

Sources of measurement error

- Changes in labor productivity
  - In the U.S. paper labor productivity is also treated in a manner that suggests it is equivalent to labor quality.
  - In the section on quality adjustment methodology, the problem of maintaining constant ‘output’ quality is viewed through the lens of changing average realization rates.
  - Two examples are given to show when the use of average realization rates may not be appropriate -- ‘changes in the mix of clients who purchase services or the mix of hours billed by different consultants.’

Sources of measurement error

- Changes in labor productivity
  - In the formulation given above, neither example is one changing labor quality.
  - The change in the mix of clients is a heterogeneity factor affecting the average realization rate.
    - One could interpret the mix of clients as a change in the quality of output produced by the industry, but it is still a compositional effect which does not measure the change in quality of a given project that has been sampled.
  - The change in the mix of hours is consistent with productivity changes.

Sources of measurement error

- Changes in labor productivity
  - Overall, what is the impact in terms of measurement error, of not capturing changes in labor productivity?
  - From a labor theory point of view, the change in hours needed from one or more types of labor (i) to produce a fixed level of management consulting services implies that the mix of labor needed may change.
  - This may be accompanied by a change the average realization rate for the industry if there is a general productivity change affecting all projects.
  - And given ss/dd conditions, one could imagine there would be an impact on the wages paid in order to restore the ratio of wages to the ratio of their marginal products for every pair of labor types.

Sources of measurement error

$$dP(t) = \left(\sum dH(i,t) * L(i,t) * W(i,t) \right) * ARR(t)$$ labor productivity change

$$+ \left(\sum H(i,t) * dL(i,t) * W(i,t) \right) * ARR(t)$$ labor quality change

$$+ \left(\sum H(i,t) * L(i,t) * dW(i,t) \right) * ARR(t)$$ wage change

$$+ \left(\sum H(i,t) * L(i,t) * W(i,t) \right) * dARR(t)$$ avg realization rate change

Where:

$$dARR(t) = \sum_j \sum_i d\,ARR_{ij} * S_{ij} * S_j + \sum_j \sum_i ARR_{ij} * dS_{ij} * S_j + \sum_j \sum_i ARR_{ij} * S_{ij} * dS_j$$

Sources of measurement error

- **Changes in labor productivity**
- **Changes in the average labor mix across all projects in a given industry.**
- Changes in the project mix or client mix.
- Selective substitution of average realization rates with project specific realization rates.

Sources of measurement error

- **Changes in the average labor mix across all projects in a given industry.**
  - Obvious impact on the average realization rate.
  - U.S. method is to substitute from an average realization rate to a project specific rate.
  - Does this address the true measurement error?
  - If there is a substantial industry wide change in the labor mix used to produce a given type of management consulting services.
  - Then it seems likely that the labor quality term and the dARR(t) term will be correlated.

Sources of measurement error

- **Changes in the average labor mix across all projects in a given industry.**

- That is, given shifts in average labor mixes, if the same contracted management service were sampled today as when first sampled, the observed labor mix would be significantly different.

  – This raises the possibility that the substitution from an average realization rate to a project specific one may address the potential measurement error in the dARR(t) term, but it will not address the measurement error in the labor quality term.

- In addition, a significant shift in average labor mixes implies relative ss/dd shifts for labor of different skill types, so that there is also a correlation between the dARR(t) term and changes in observed wages dW(i,t).

Sources of measurement error

$$dP(t) = \left(\sum dH(i,t) * L(i,t) * W(i,t) \right) * ARR(t)$$ labor productivity change

$$+ \left(\sum H(i,t) * \mathbf{dL(i,t)} * W(i,t) \right) * ARR(t)$$ labor quality change

$$+ \left(\sum H(i,t) * L(i,t) * \mathbf{dW(i,t)} \right) * ARR(t)$$ wage change

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Where:

$$dARR(t) = \sum_j \sum_i d\,ARR_{ij} * S_{ij} * S_j + \sum_j \sum_i ARR_{ij} * dS_{ij} * S_j + \sum_j \sum_i ARR_{ij} * dS_{ij} * S_j$$

Sources of measurement error

- **Changes in labor productivity**
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Sources of measurement error

- Changing client mix
  - If significant changes in the client mix are the source of error contributing to a change in the average realization rate
  - There is no necessary connection to the labor mix that is used for any given project.
  - As a result, moving from a average realization rate to a project specific one would effectively remove the potential source of measurement error.

Sources of measurement error

$$dP(t) = \left(\sum dH(i,t) * L(i,t) * W(i,t) \right) * ARR(t)$$ labor productivity change

$$+ \left(\sum H(i,t) * dL(i,t) * W(i,t) \right) * ARR(t)$$ labor quality change

$$+ \left(\sum H(i,t) * L(i,t) * dW(i,t) \right) * ARR(t)$$ wage change

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Where:

$$dARR(t) = \sum_j \sum_i d\,ARR_{ij} * S_{ij} * S_j + \sum_j \sum_i ARR_{ij} * dS_{ij} * S_j + \sum_j \sum_i ARR_{ij} * dS_{ij} * S_j$$

Sources of measurement error

- **Changes in labor productivity**
- Changes in the average labor mix across all projects in a given industry.
- Changes in the project mix or client mix.
- **Selective substitution of average realization rates with project specific realization rates.**

Sources of measurement error

- One final observation on measurement error associated with average realization rates
  - The U.S. paper's assertion that the discount rate may be positively correlated to size raises the possibility that the practice of substituting average realization rates with project specific realization rates may introduce an unintended bias.
  - To what extent is the substitution practice correlated with factors influencing the size of the discount factor such as size of firm?
  - If the substitution occurs with greater likelihood among larger firms, then the U.S. assertion on the size/discount rate relationship implies a downward bias in price levels and change.

Sources of measurement error

- One final observation on measurement error associated with average realization rates
  - It would be prudent to collect data on the characteristics of sampled units for which the substitution of an average realization rate for a project specific rate is made.
  - Also, are there other characteristics of firms that have a well behaved correlation with the size of project specific discount rates (short vs. long contracts, for example)?
  - Developing a behavioral model of the discount rate practice could shed some light on this source of measurement error.

Sources of measurement error

$$dP(t) = \left(\sum dH(i,t) * L(i,t) * W(i,t) \right) * ARR(t)$$ labor productivity change

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$$+ \left(\sum H(i,t) * L(i,t) * W(i,t) \right) * \mathbf{dARR(t)}$$ avg realization rate change

Where:

$$dARR(t) = \sum_j \sum_i d\,ARR_{ij} * S_{ij} * S_j + \sum_j \sum_i ARR_{ij} * dS_{ij} * S_j + \sum_j \sum_i ARR_{ij} * dS_{ij} * S_j$$

Turnover Data, Industry Structure and (Mis)Classification

- Industry Structure / NAICS and NACE
- Classification comparability
- Presence of non-payroll firms
- Consultation and implementation
- What is the problem with IT?
- Changes to turnover definitions
- Switching across product and industry lines

Industry Structure: NAICS

NAICS Code	Title	NAICS Code	Title
5416	Management, Scientific and Technical Consulting Services	**541614**	**Process, Physical Distribution and Logistics Consulting Services**
54161	**Management Consulting Services**	**541619**	**Other Management Consulting Services**
541611	**Administrative Management and General Management Consulting Services**		
541612	**Human Resource and Executive Search Consulting Services**	54162	Environmental Consulting
541613	**Marketing Consulting Services**	54169	Other Scientific and Technical Consulting Services

Industry Structure: NACE

NACE Code	Title	NACE Code	Title
741	Title roll up 74.11 – 74.15		
74.11	Legal Activities	74.12	Accounting, Book-keeping and Auditing Activities; Tax Consultancy
74.13	Market Research and Public Opinion Polling	74.14	Business and Management Consultancy Activities
74.15	Management Activities of Holding Companies		

Classification Comparability

- My suggestion for the sector paper is to include a discussion of two aspects of the classification systems used in this area of Management Consultancy:
  - To what extent is the industry scope between NAICS 54161, Management Consulting Services and for NACE 74.14, Management and Business Consultancy Services, similar, and what are the key differences (for example, executive search firms, public relations firms)?
  - Similarly, would it be useful to construct a list of product service lines that would be covered under NAICS 54161 and for NACE 74.14?
  - The product line listing given in Table 2 of the Canada is an excellent model.

Classification Comparability

- For example, a product line listing would indicate that the high degree of comparability between the U.S. and Canada despite the fact that their industry structure does not break out 541613-Marketing Consultation and 541614-Process and Physical Distribution Consultation, so that these industries and their associated product lines are captured in 541619, Other Consultation.

- In the Germany and French papers, it is noted that 'NACE 74.14 contains business and management consultancy activities and public relations services.'

  - Are public relations firms derived from the 5 digit or lower classification level detail under 74.14? And if so, should the industry description provide more turnover breakouts beyond the shares of business and management consultancy (90-93% share) and public relation services (7-10%)?

Presence of non-payroll firms

- Substantial presence of owner operated, non-payroll firms:
  - In 2002 in the U.S., ‘there were four times as many nonemployers (464,605) as there were employers (116,159)’ in NAICS 5416: Management, Scientific and Technical Consulting Services.
  - Canada, in 2004, 30% of the firms in the industry were unincorporated, yet they generated as little as 16% of total operating revenue, as much as 43% of its total operating profit.

Presence of non-payroll firms

- Substantial presence of owner operated, non-payroll firms:
  - In France, “58% of businesses have no salaried employees … 60% of people are employed within the 41,200 businesses that have less than 10 salaried employees; the four biggest players in the sector generate 13% of total turnover.’
  - In Germany, ‘the market for management consulting is dominated by (a) few large market players… Small and medium sized enterprises of management consulting services put their focus mostly on niches of activity, capable of providing services in specific areas, industries and markets.’

Presence of non-payroll firms

- For the sector paper, it would be useful to develop a table showing size class detail within each NAICS / ISIC category with data on # establishments, total employment, and revenue measures.

- It would also be helpful to see some analysis that describes both the limitations and the associated implications of the fact that the universe files in each country do not permit sampling firms without salaried employees.

- The economic behavior of small non-payroll consulting firms and their potential impact on price levels and changes could be usefully described.

Presence of non-payroll firms

- Do small firms tend to serve as subcontractors to larger firms? Do there exist data that provide a description of the degree to which the operating revenue of small firms comes from such subcontracting relationships?

- To what extent do small and large firms compete for the same customers? And if so, to what extent does the competition for business serve to lower prices or price change?

- Or to what extent do these small 'niche' firms, to use Germany's (and France's) description, carve out service lines that are distinct from the markets served by large (or medium sized firms)?

Consultation and Implementation

- Like Germany, France draws the following distinctions between large/medium/small size firms:
  - Large firms tend to provide both consultancy and implementation services
  - Medium sized firms tend to provide consultancy services only
  - Small sized firms are distinct from the point of view that tend to be niche firms that specialize in very specific management consultancy areas.

Consultation and Implementation

- A potential problem with this distinction is the undefined nature of what services are offered by small ‘niche’ firms.
  - One can imagine that a niche firm offers both specialized consultancy services and either implementation services or ‘assists’ in providing implementation services – so that implementation may not be the sole province of large firms as France seems to imply.
  - Do data exist that can shed light on this issue?

Consultation and Implementation

- Regardless, whoever offers implementation services--large, medium or small firms--the implementation service may be in an industry (IT, for example) that is outside the management industry originally selected, such as IT services.

- Another possibility is that 'implementation' may in fact be management consultation in a more specific service line.

  – One can imagine that general management consultation results in identifying the need to focus on a specific service line such as physical distribution processes.

  – In this view, 'implementation' may in fact be the next natural phase of management consultation, albeit in a more specific area.

What are the issues with IT?

- It is clear from the country papers that the industry coding structures being used intend to exclude the implementation of IT ‘solutions’ that may have been identified in the management consultation process.

- The issue with IT identified in the country papers is that increasingly firms are providing both management consultation and IT implementation services, and which side of the house provides the plurality of revenue may switch (even back and forth) over time for companies.

What are the issues with IT?

- This raises the possibility of a growing likelihood that at the time of data initiation the sampled unit, coded originally on the universe file as a management consulting firm, is now properly coded as a computer systems design firm (NAICS 541512).

- An economic behavioral implication of viewing consultation and implementation as a joint product is that pricing strategies for the joint project may affect the time series trend of the price indexes for each alone.

  – For example, do firms treat the consultation step as a loss leader to obtaining a more lucrative contract for implementation services?

What are the issues with IT?

- Another possibly more subtle issue is the idea that the distinction between IT consultation and IT implementation is not well understood.

- At the heart of many IT projects in need of ‘advice’ is a need for management consultation services such as how to organize to implement extreme programming or the use of the Rational Unified Processes or some other overarching managerial approach to organizing and implementing an IT project.

What are the issues with IT?

- Should this form of consultation advice be viewed as a form of management consulting? This is how Germany treats this product line, stating that "…the field of IT consulting is engaged in management consulting projects with integrated aspects of IT services; software development is expressly excluded."

- And perhaps more importantly, to what extent do firms offering this kind of advice also provide implementation services?

Changes to turnover definitions

- In the U.S. turnover paper, pages 5-6, a list is provided of product lines under Management Consulting **and Implementation** Services planned for collection in the 2007 Economic Census.

- The product lines each contain the phrase 'and implementation services'

  - Strategic management consulting and implementation services
  - Financial management consulting and implementation services
  - Marketing management consulting and implementation services
  - Human resources management consulting and implementation services
  - Operations and supply chain management consulting and implementation services

Changes to turnover definitions

- Are the implementation services that are being included in and given industry interpretations that properly belong to that industry?
  - For example, if financial management consulting is followed by the implementation of a new payroll system, does this implementation correctly belong to IT design?
  - Or is the word implementation really meant to mean ‘assistance’ so that in the previous example, when the financial management consultants assists a firm on the next step, they are still acting as financial management consultants and not IT implementers.

Switching across product and industry lines

- The concept here is based on the idea that within a sufficiently homogeneous set of industries falling under a higher level aggregate, firms can switch their product line offerings in response to changing economic incentives.

- More practically stated, a strategic management consultant can become a marketing or a human resource consultant as the economic winds change the relative terms of trade.

Switching across product and industry lines

- Or, citing compositional effects, and consistent with the views in the U.S. paper, is that larger firms with more diverse product lines (who already offer strategic, marketing and human resource consulting) will quickly adapt their relative shares as the relative terms of trade change.

- Offering an alternative view, the Canadian paper notes that …'there is a significantly higher rate of industry classification error in the consulting industry' and they partly attribute this to:

Switching across product and industry lines

- “smaller businesses may change their line of business and service offerings more rapidly and frequently, to adapt to changing market conditions in comparison to larger and more established enterprises.”

- The relationship between firm size, product line diversity, and the likelihood of switching product lines (and industries) in management consultancy is an empirical question.

Switching across product and industry lines

- As a general question, does there a exist longitudinal establishment data base that would allow investigation of the empirical trends in such switching behavior in response to changing economic conditions?

- Having a data base to address questions about switching behavior would provide a more quantitative basis for making decisions on levels of aggregation for sampling allocation and publication.

- An intriguing cross sectional snapshot can be seen in the U.S. turnover paper table 2 on page 4.

Switching across product and industry lines

- For example, Marketing Consulting Services constitute 15% of total revenue of NAICS sector 54161 Management Consulting Services.
- However, conditional on having Marketing Consulting Services as a product line, this product line comprises 78.2 percent of total revenues.
- Taken as a ratio of the conditional to the unconditional percentages, the concentration ratio is 78.2/15 = 5.2
- Similarly, the concentration ratios for the other detailed industries under 54161 are shown to be:

Switching across product and industry lines

NAICS	Title	Cond	Uncond	Ratio
54161	Management Consulting	92.5	86.6	1.1
541611	Administrative and General	87.5	53.3	1.6
541612	Human Resource	55.5	8.6	6.5
541613	Marketing	73.8	15.0	4.9
541614	Process, Physical Distribution and Logistics	78.2	7.2	10.9
541619	Other	55.1	2.5	22.0

Switching across product and industry lines

- These concentrations point to a number of intriguing possibilities:
  - The bottom 4 industries are dominated by small, what the German and France papers call ‘niche’ firms who are less likely to switch.
  - The Administrative and General Management Consulting Industry has a greater relative share of medium and larger firms, with a more diverse base of consultancy expertise and more likely to switch.

Summary and questions

- Is there general agreement on the definition of the output of the management consulting sector?
  - The primary output of management consulting firms is the provision of advice and assistance on management and general business issues and problems.
  - Management consultants provide objective information, advice and guidance to clients, and, when requested, assist in the implementation of their recommendations.
  - Business areas about which management consultants frequently provide advice include high level strategic and organizational planning, business financing, budgeting, employee hiring, benefits, and compensation issues, marketing, and production and logistics.
  - Consulting outputs are typically delivered in the form of written and verbal studies, advice and recommendations.

Summary and questions

Does the mathematical context for examining the change in pricing for management consulting provide a useful framework for analyzing potential issues of measurement error?

Should the sector papers include perspectives on likely measurement error in addition to best theoretical and practical data collection practices?

Summary and questions

$$dP(t) = \left(\sum_i dH(i,t) * L(i,t) * W(i,t)\right) * ARR(t)$$ labor productivity change

$$+ \left(\sum_i H(i,t) * dL(i,t) * W(i,t)\right) * ARR(t)$$ labor quality change

$$+ \left(\sum_i H(i,t) * L(i,t) * dW(i,t)\right) * ARR(t)$$ wage change

$$+ \left(\sum_i H(i,t) * L(i,t) * W(i,t)\right) * dARR(t)$$ avg realization rate change

Where:

$$dARR(t) = \sum_j \sum_i d\,ARRij * Sij * Sj + \sum_j \sum_i ARRij * dSij * Sj + \sum_j \sum_i ARRij * dSij * Sj$$

Summary and questions

- Changes in labor productivity
  - A question to raise with each author is to what extent do you believe that respondents could accurately update their estimate of the number of hours of labor of each type that would be required to produce the fixed level of service (with unchanged quality)?
  - Also, can the data collection protocol support this additional level of inquiry on a episodic basis, say once a year or every two years, for example?
- Changes in quality
  - Interpretations of changes in quality being equivalent to:
    - changes in labor productivity (Germany and U.S.)
    - and changes in the average realization rate through changes in the mix of clients – U.S.

Summary and questions

- Source of measurement error:
  - Do we agree that changes in labor productivity are correlated with changes in:
    - Average realization rate
    - Changes in labor mix
    - Changes in wages
  - Do we agree that changes in the average labor mix across all projects in a given industry are correlated with changes in
    - Average realization rate
    - Changes in wages

Summary and questions

- Source of measurement error:
  - Do we agree that changing client mix are correlated with changes in
    - Average realization rates
  - Do we agree that selective substitution of average realization rates with project specific realization rates may introduce bias:
    - Correlation of selective substitution with known characteristics of firms such as the relationship between firm size and size of discounts.
    - Should the sector paper (or an additional paper) develop a behavioral model of the discount rate practice to shed some light on this source of measurement error.
    - Would it be useful for countries to collect data on the characteristics of sampled units for which the substitution of an average realization rate for a project specific rate is made.

Summary and questions

- Classification comparability:
  - Suggestion to develop an analysis of the degree of comparability (or lack thereof) of industry detail
  - Suggestion to develop a product line listing along with lines of Table 2 in the Canada paper.
  - Further analysis of the treatment of public relations firms in the Germany and France papers.

Summary and questions

- Presence of non-payroll firms
  - For the sector paper, it would be useful to develop a table showing size class detail within each NAICS / ISIC category with data on # establishments, total employment, and revenue measures.
  - It would also be helpful to see some analysis that describes both the limitations and the associated implications of the fact that the universe files in each country do not permit sampling firms without salaried employees.
  - The economic behavior of small non-payroll consulting firms and their potential impact on price levels and changes could be usefully described—especially their impact on pricing through subcontracting relationships and their role in keeping prices lower through competition.

Summary and questions

- Consultation and implementation
  - Do data exist to shed light on the issue of what kinds of firms do both consultation and implementation?
  - Are smaller firms likely to do both (Canada) or is it more likely a large firm effect (my reading of U.S. turnover data)?
  - To what extent is implementation simply further consultation, reflecting a cognitive interpretation issue?

Summary and questions

- What is the problem with IT?
  - Is there a management consulting component with IT (Germany)?
  - To what extent do current turnover data systems allow us to capture that type of consulting?
  - Or, to what extent is true management IT consulting being captured by turnover and price data in system design industries?
  - And perhaps more importantly, to what extent do firms offering this kind of advice also provide implementation services?

Summary and questions

- What is the problem with IT?
  - An economic behavioral implication of viewing consultation and implementation as a joint product is that pricing strategies for the joint project may affect the time series trend of the price indexes for each alone.
  - For example, do firms treat the consultation step as a loss leader to obtaining a more lucrative contract for implementation services?

Summary and questions

- Turnover classification
  - How is implementation really being handled in the 2007 NAICS?
  - Does the NACE have a similar turnover classification issue with respect to including consulting **and** turnover?
  - Are the implementation services that are being included in and given industry interpretations that properly belong to that industry?
    - For example, if financial management consulting is followed by the implementation of a new payroll system, does this implementation correctly belong to IT design.
  - Or is the word implementation really meant to mean ‘assistance’ so that in the previous example, when the financial management consultants assists a firm on the next step, they are still acting as financial management consultants and not IT implementers.

Summary and questions

- Switching across product and industry lines
  - Do longitudinal establishment data exist to shed empirical light on this issue?
  - To what extent does switching a firm cross industry lines (a marketing consultant becoming a human resource consultant) or to what extent is it a compositional effect within a firm (with changing weights assigned to different product lines associated with management consulting)?

Summary and questions

- Switching across product and industry lines
  - What guidance do we have in terms of sampling allocation plans and publication guidelines?
    - For example, are the specific industry and product lines under NAICS 54161 Management and Consulting, operating under the threat of measurement error as to obviate the ability to publish more detailed industry indexes?

Summary and questions

- Switching across product and industry lines
  - To what extent do the U.S. turnover data support the French and German idea of 'small' niche firms—that in particular, have high concentration ratios in specific industries and are less likely to switch industry lines?
    - Or are smaller firms more likely to switch in response to changing economic conditions (which may be more consistent with the Canadian view of the flexibility of smaller firms).
    - And to what extent is the lower concentration ratio in the U.S. of Administrative and General Management Consulting reflective of a greater likelihood that firms in this industry are more likely to switch product service lines?