Cross-cutting topics – Part 1: SPPI – Time-based methods

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Overview

• Introduction to time-based methods
• Weaknesses with methods
• UK application of methods and problems
• Dutch experience of testing alternative methods
• Conclusions and discussion
Introduction to time-based methods

• Aim to capture price of time spent providing service

• Can be applied as:
  – Hourly charge out rate
    • Weighted average of hourly rates
    • Realised hourly rates
  – Hourly list rates
  – Wages rates
Reasons for the use of time-based methods

• The service cannot be adequately defined.
• The service is tailored uniquely to customers and cannot be repeatedly priced.
• The pricing mechanism adopted by the respondend is related to time worked.
• The compliance cost of other methods is high
• Generally used a last resort!
Weaknesses of time-based methods

There is a risk that:

• Resulting volume measures give the time devoted to service provision rather than the volume of services themselves

• changes in labour productivity are not captured.
  – No change in the product is determinable apart from changes in staffing structure.
  – Changes of roles and duties occur within staffing levels. This is explicitly a change in the quality of labour provided – in contradiction to the presuppositions.
Weaknesses of time-based methods: example...

• Productivity = \( \text{real output} - \text{real intermediate consumption} \) \\
  \( \text{hours worked} \)

• Assumptions:
  – Audits in periods \( t \) and \( t+1 \) are comparable
  – No quality changes: reason for reduction of hours worked is due to knowledge of the case from the previous period
  – Income=output=value added (no intermediate consumption)
Weaknesses of time-based methods: example...

<table>
<thead>
<tr>
<th>Period</th>
<th>Hours worked</th>
<th>Invoiced price (income)</th>
<th>Realized hourly rate</th>
<th>Price-index</th>
<th>Real value added</th>
<th>Productivity</th>
<th>Productivity growth</th>
</tr>
</thead>
<tbody>
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alternative: Specification of a specific auditing service for model pricing

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Best Practice

• Ensure consistency between prices and labour input
• Time-based methods should be applied in “bands of expertise”
• Try to capture changes in duties, roles and responsibilities within “bands” and try to quantify them
• Identify changes in coverage of billable hours
• Determine whether rates have been influenced by changing technology, administrative reorganisation, changes in billing structure...
• Detect and measure changes in productivity in individual service industries
UK Approach to time-based methods

- Methods introduced in 2010 for professional services.
- We collect:

<table>
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<th>Number of chargeable hours billed in the quarter</th>
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<td></td>
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UK Approach to time-based methods

- Base price: Fees billed (including discounts) for chargeable hours worked in the base period

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UK Approach to time-based methods

- Second period:

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<td>9,000</td>
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1 – Realisation ratio – ratio of fees actually billed to standard rates

=0.982
UK Approach to time-based methods

2 – Re-price base period hours

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=£180,000
UK Approach to time-based methods

3 – Adjust using realisation ratio:
Price = £180,000 * 0.982
= £176,747

4 – Calculate price relative
PR = 176,747/165,000
= 1.07
UK method – accounting for productivity

- Some productivity captured by methods alone
- For example – new member of staff

<table>
<thead>
<tr>
<th>Hours worked</th>
<th>Chargeable hours in current quarter</th>
<th>Price index using UK method</th>
<th>Company income</th>
<th>Productivity</th>
</tr>
</thead>
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Assumptions:
- Standard hourly rates are constant and no discounts are offered
- Hours worked remains constant
- Income=output=value added
UK method – accounting for productivity

• Some productivity captured explicitly on questionnaire:

Section B - Additional Information

It is important that we capture any changes to your business that may impact prices or the service offered to ensure price changes are measured on a comparable basis. Please use this space to provide any relevant additional information about the data that you have supplied, for example:

• changes that are likely to impact productivity such as the introduction of new technology, system changes or training
• revisions to grading structure previously provided
• reasons for any changes in standard hourly rates / fees earned since the previous period, such as increases in labour costs or higher level of discounting due to increased competition in the market
• changes to main area / ownership of business
• change to the currency used in your quoted price

(Providing this additional information may eliminate the need for us to contact you later).
UK problems

• Mismatch between hours worked and hours billed
• Large numbers of staff grades
• Coverage of total fees charged
• Operational difficulties
Time based methods in Dutch SPPI

Methods in Dutch SPPI

- Model prices: 31%
- Real transaction prices: 34%
- Realised hourly rates: 6%
- Imputation: 29%

Examples:
- 52.2 Support services for transportation
- 61 Telecommunications services
- 62 Computer programming, consultancy
- 69.2 Accounting, bookkeeping and auditing
- 70.2 Management consulting services
- 71.12 Engineering activities
- 73.1 Advertising services
- 78 Employment services
Example: 69.2 Accounting and bookkeeping

Problems in practice:
- Mixes of functions etc.
- Improper seasonality
- Productivity issues
- Businesses shifting to other models
Example: 69.2 Accounting and bookkeeping

Tax offices:
- CBS contacted an umbrella organisation (Dutch Association for Administration and Tax Offices, NOAB)
- NOAB conducted an own yearly questionnaire on basis of hourly rates, but has stopped doing this
- Reasons: tax offices are shifting to other activities (e.g. consultancy)
- Billing not based on hours worked but e.g. on subscriptions or ‘value pricing’

Conclusion: realised hourly rates do not seem to work anymore and we have to look for alternatives
Alternatives

• Obvious choices for alternatives (but in most cases not available in practice):
  - Real transaction prices
  - Model prices
  - Unit values

• Less obvious alternatives (to be discussed in poster session later this week):
  - Direct inquiry
  - Other alternatives
Methods matrix

- **Number of PDC’s**
- **Degree of repetition**

**Quadrants:**
- **I:** Direct inquiry?
- **II:** Alternative methods?
- **III:** Time based methods
  - Unit value methods
- **IV:** Model pricing
  - Repeated services
Discussion

• Small group discussion – 15-20 mins
• Spokesperson – feeds back to whole group afterwards

• Questions to discuss:
  – Are time-based methods fit for purpose?
  – Do you have any different problems with time-based methods?
  – Do you have any ideas on how to adapt methods to overcome these problems?
  – What pricing method would you use for the Dutch Tax offices?!