Supply of statistical services in the field of public sector accounting

Collection of additional and updated information related to the potential impacts of implementing accruals accounting in the public sector

8 July 2016

Service contract number: 02113.2015.005-2015.798
Agenda

Task 2

.a Collection of additional and updated information related to the potential impacts of implementing accruals accounting in the public sector

.b Estimate the opportunity costs of not adopting harmonized standards

.c Summarize the impacts of the development of EPSAS

.b Provide up to date information on planned financial reforms
We have built on the works undertaken by the Task Force and previous consultant studies conducted over the last five years, to develop a model monetizing the economic benefits of an harmonization of public accounting standards within the EU Member States (MS).

Our first results suggest that the harmonization of public accounting standards decreases sovereign yields through an improvement of public finance transparency and comparability. This, in turn, ensures long-term economic benefits for MSs, measured in terms of GDP per capita.
A step further

**Previous work**

1. A score measuring the accounting transparency per MS
2. Identification of the expected effects of improved transparency
   - Improved functioning of financial markets
   - Long-term benefits measured in economic aggregates
   - Enhanced democratic accountability
3. Assessment of implementation costs

**PwC 2014 study**

**Challenge for the current study**

Monetize the long-term benefits from EPSAS
## The approach

<table>
<thead>
<tr>
<th></th>
<th>Causality analysis</th>
<th>Scenario calibration</th>
<th>Opportunity costs estimation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>Assess relationships between current accounting transparency levels of MSs and indicators of benefits</td>
<td>Calculate the likely evolution of indicators under differing scenarios regarding EPSAS adoption</td>
<td>Monetize the long-term benefits of EPSAS adoption and alternative scenarios, and in turn, calculate the opportunity costs</td>
</tr>
</tbody>
</table>

**Working group presentation**

8 July 2016
Causality analysis
From transparency levels to indicators

Differing degrees of accounting maturity across MS

Score PwC

Improved functioning of financial markets
Interest rates
ECB

Long-term benefits measured in economic aggregates
GDP per capita
Eurostat

Enhanced democratic accountability
Corruption index
Transparency International

Data
Average levels over 2010-2014

Statistical analysis
Provide a parametric relationship between MS accounting maturity (captured by Score PwC) and likely benefits
Causality analysis
Defining the effects of Score PwC on economic variables

Method

Stepwise regression:
P-value < 10%

Explanatory variables that may explain interest rates variation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Score PwC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflation rate</td>
<td></td>
</tr>
<tr>
<td>Corruption index</td>
<td>Budget Balance</td>
</tr>
<tr>
<td>Public debt to GDP</td>
<td>Standard deviation of Score PwC</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>Member of Euro Zone</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>Dummy for some MSs</td>
</tr>
</tbody>
</table>

Explanatory variables often used to model interest rates. Modelling similar in spirit to IMF (2006)
1. Causality analysis
   Selected model

Public sector accounting
Maturity vs Interest rates

- Statistical relationship
- Echo the results of other studies
- No relationship between Score PwC and:
  (i) Corruption index, (ii) GDP per capita

**Model specification**

- Dependent variable: Interest rate
- Explanatory variables:
  - Score PwC
  - GDP per capita
  - Budget balance
  - Dummy variable for Greece

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### Scenario calibration
**Measuring the opportunity costs**

<table>
<thead>
<tr>
<th>Opportunity Cost</th>
<th>Scenario 1</th>
<th>Scenario 2*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Adopting EPSAS</td>
<td>Non-harmonized adoption of accrual accounting</td>
</tr>
<tr>
<td><strong>Benefits</strong></td>
<td>Benefit 1</td>
<td>Benefit 2</td>
</tr>
<tr>
<td><strong>Opportunity cost</strong></td>
<td>(Benefit 1 – Benefit 2)</td>
<td></td>
</tr>
</tbody>
</table>

*According to PwC (2014), in the absence of EPSAS, MSs will move towards accrual accounting in a non-harmonized way provides scenarios*
Scenario calibration
Three differing scenarios of non-adoption of EPSAS

Scenario 1
Adopting EPSAS

Minimum level of Score PwC for all MS
100%

Scenario 2
Non-harmonized adoption of EPSAS

Scenario description
Full-scale harmonization at IPSAS level

At least 90%
Important efforts in reforming

At least 80%
Moderate efforts in reforming

At least 70%
Partial / non-harmonized move toward accrual accounting
Measuring economic benefits

Using an existing macroeconomic model of ECB, simulate the long term benefits for EPSAS adoption and alternative options

Period: 1970-2011
Number of explanatory variables: 12

Measuring opportunity costs

Estimate the opportunity costs of not having EPSAS, relatively to three alternative options (90%, 80% and 70%)

<table>
<thead>
<tr>
<th>Description</th>
<th>Option 1: Adopting EPSAS</th>
<th>Option 2: Not adopting EPSAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benefits</td>
<td>Benefit 1</td>
<td>Benefit 2</td>
</tr>
<tr>
<td>Opportunity cost</td>
<td>(Benefit 1 – Benefit 2)</td>
<td></td>
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</tbody>
</table>
Task 2c – Summarize the impacts

**Case studies of impacts of EPSAS on 3 EU policies**

- The development of a capital market union (CMU) within the E.U.
- The achievement of sustainable economic growth driven by investments
- Improvement of democratic accountability and scrutiny, making governments more accountable for decisions they make regarding public finances

**Task 2.a**

- Improved functioning of financial markets
- Long-term benefits measured in economic aggregates
- Enhanced democratic accountability

**Diagram**

- Improved functioning of financial markets
- Long-term benefits measured in economic aggregates
- Enhanced democratic accountability

- Score PwC
- Interest rates
- GDP per capita
- Corruption indices
Task 2b - Objectives and methodology

Objective
To assess the progress in the implementation of accrual accounting since January 2014 in six EU member states: Germany, Greece, Italy, Luxembourg, Malta and the Netherlands

Methodology
► Structured review of existing literature
► Data collection during interview sessions with representatives of the public sector among all six selected countries taking into consideration central, regional and local government levels
► Usage of standardized questionnaire
Summary of the on-going or planned national accounting/financial management reforms

Malta
► Since 2014 Malta is actively seeking to modernize its accounting methods, however, the whole process moving towards IPSAS is still at a preparation stage
► Government of Malta appointed an IPSAS Project Board and an IPSAS Project Team that have been committed to the implementation of IPSAS for all government departments and ministries by 2019

Italy
► Since January 2014 no changes have been made with regards to accrual principles implementation in Italy - modified cash accounting system is used as a primary public accounting, while accrual information has a role of complementing budgetary accounting data
► In 2015 the Ministry of Finance of Italy has established a working group in order to analyze the current Italian accounting legislation with regard to its compliance with EPSAS implementation
Summary of the on-going or planned national accounting/financial management reforms

**Luxembourg**
- Since January 2014 no changes have been made with regards to accrual principles implementation in Luxembourg – a modified cash accounting system is used as governmental accounting system
- Luxembourg would agree to implement changes leading to accrual based public accounting if a common decision is made on the EU level

**The Netherlands:**
- Since 2014 most central government executive agencies have reverted from application of accrual based accounting to modified cash based accounting by governmental decision
- Currently the potential advantages and disadvantages of adding elements of an accrual accounting system are being analyzed by a study group of representatives of the Ministry of Finance and the Court of Audit
Summary of the on-going or planned national accounting/financial management reforms

Greece
- Since 2014 a plan has been approved to implement more harmonized accounting system including a single chart of accounts concerning the entire General Government
- Greece is using the modified cash accounting and only plans the implementation of accrual accounting system across both central and local governments in the future
  Interview results are to be validated with Government Accounting Office in Greece

Germany
- Since January 2014 no changes have been made with regards to accrual principles implementation in Germany – there is still diverse situation related to implementation of accrual based accounting across all three levels of government
- There are large disparities within the same level of government, e.g. Federal state of Bavaria has not yet made a decision to implement accrual accounting, while the Federal state of Hamburg has already successfully adopted the accrual-based accounting system and assumes that it is well-prepared to move towards implementation of EPSAS
Annexes
Task 2a – Descriptive analysis – Data

Mature MS with scores above 50%

Less mature MS with scores below 40%
## Annexes

**Task 2a – Literature review**

<table>
<thead>
<tr>
<th>Author</th>
<th>Date</th>
<th>Title</th>
<th>Contribution to the report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kopits and Craig</td>
<td>1998</td>
<td>Transparency in government operations</td>
<td>How accruals accounting promotes fiscal transparency</td>
</tr>
<tr>
<td>Tanzi</td>
<td>1998</td>
<td>Corruption around the world</td>
<td>Long-term economic benefits derived from transparency</td>
</tr>
<tr>
<td>IMF</td>
<td>2007</td>
<td>Manual on fiscal transparency</td>
<td>How accruals accounting promotes fiscal transparency</td>
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<tr>
<td>Heald</td>
<td>2003</td>
<td>Fiscal transparency: concepts, measurement and UK practice</td>
<td>How accruals accounting promotes fiscal transparency</td>
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<tr>
<td>Heald</td>
<td>2013</td>
<td>Surmounting obstacles to fiscal transparency</td>
<td>How accruals accounting promotes fiscal transparency</td>
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<td>Constâncio</td>
<td>2012</td>
<td>Contagion and the European Debt Crisis</td>
<td>Fiscal instability in a E.U. Member State can affect other Member States</td>
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<tr>
<td>Missio and Watzka</td>
<td>2011</td>
<td>Financial Contagion and the European Debt Crisis</td>
<td>Fiscal instability in a E.U. Member State can affect other Member States</td>
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<tr>
<td>Bellanca and Vandernoot</td>
<td>2014</td>
<td>IPSAS Implementation in the EU Member States</td>
<td>Long-term benefits at E.U. level of having an harmonized public sector accounting system</td>
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<tr>
<td>Kilpatrick</td>
<td>2001</td>
<td>Transparent framework, fiscal rules and policy-making under uncertainty</td>
<td>Long-term economic benefits derived from transparency</td>
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<tr>
<td>Alt and Dreyer Lassen</td>
<td>2003</td>
<td>Fiscal transparency, political parties and debt in OECD countries</td>
<td>Long-term economic benefits derived from transparency</td>
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<tr>
<td>Frunza</td>
<td>2014</td>
<td>The Cost of Non-Europe of an incomplete Economic and Monetary Union to prevent future crises</td>
<td>General “top-down” methodology Long-term benefits at E.U. level of having an harmonized public sector accounting system Opportunity cost of not having European stability mechanism Fiscal instability in a E.U. Member State can affect other Member States</td>
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<tr>
<td>Teig</td>
<td>2006</td>
<td>Fiscal transparency and economic growth</td>
<td>Long-term benefits derived from transparency</td>
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## Annexes
### Task 2b – List of interviewees

<table>
<thead>
<tr>
<th>Date and method of the interview</th>
<th>Country</th>
<th>Name</th>
<th>Institution</th>
<th>Position</th>
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<tbody>
<tr>
<td>07/04/2016 By phone</td>
<td>Germany</td>
<td>Dr. Jutta Kalabuch</td>
<td>German Federal Ministry of Finance</td>
<td>Head of Unit II A 8</td>
</tr>
<tr>
<td>12/04/2016 In person</td>
<td>Germany</td>
<td>Dr. Frank Hils</td>
<td>Ministry of Finance (Bayerisches Staatsministerium der Finanzen, für Landesentwicklung und Heimat)</td>
<td>Head of Division (Referatsleiter Referat 15)</td>
</tr>
<tr>
<td>12/04/2016 In person</td>
<td>Germany</td>
<td>Stefan Blech</td>
<td>Ministry of Finance (Bayerisches Staatsministerium der Finanzen, für Landesentwicklung und Heimat)</td>
<td>Official in Charge (Sachbearbeiter Referat 15)</td>
</tr>
<tr>
<td>08/04/2016 In person</td>
<td>Germany</td>
<td>Torsten Domroes</td>
<td>Ministry of Finance Hamburg (Finanzbehörde Hamburg)</td>
<td>Head of Division</td>
</tr>
<tr>
<td>08/04/2016 In person</td>
<td>Germany</td>
<td>Klaus Riebau</td>
<td>Ministry of Finance Hamburg (Finanzbehörde Hamburg)</td>
<td>Expert for Financial Accounting / EPSAS</td>
</tr>
<tr>
<td>08/04/2016 In person</td>
<td>Germany</td>
<td>Hans Hinrich Coorssen</td>
<td>Ministry of Finance Hamburg (Finanzbehörde Hamburg)</td>
<td>Head of Finance</td>
</tr>
<tr>
<td>31/05/2016 In person</td>
<td>Germany</td>
<td>Werner Landwehr</td>
<td>Ministry of Finance, State of Northrhine-Westfalia</td>
<td>Project Leader EPOS.NRW and Head of Division</td>
</tr>
<tr>
<td>21/03/2016 In person</td>
<td>Greece</td>
<td>Maria Kafka</td>
<td>Ministry of Finance - General Accounting Office</td>
<td>Employee</td>
</tr>
<tr>
<td>18/03/2016 In person</td>
<td>Italy</td>
<td>Fabrizio Mocavini</td>
<td>Italian Ministry of Economy and Finance, State General Accounting Department, or MEF-SGA</td>
<td>Head of Unit in the Research Division</td>
</tr>
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<tbody>
<tr>
<td>23/03/2016 In person</td>
<td>Luxemburg</td>
<td>Raymond Bausch</td>
<td>General Inspectorate of Finance IGF</td>
<td>Leading Finance Inspector at General Inspectorate of Finance IGF</td>
</tr>
<tr>
<td>23/03/2016 In person</td>
<td>Luxemburg</td>
<td>Clara Muller</td>
<td>Ministry of the Interior</td>
<td>Head of Local Finance Department</td>
</tr>
<tr>
<td>11/03/2016 In person</td>
<td>Malta</td>
<td>Michael Zammit Munro</td>
<td>Ministry of Finance</td>
<td>Director (Government Accounts), Treasury Department</td>
</tr>
<tr>
<td>Filled by representatives themselves and sent by email</td>
<td>The Netherlands</td>
<td>Patrick Schuerman</td>
<td>Ministry of Finance</td>
<td>Senior Economist</td>
</tr>
</tbody>
</table>
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