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IMPACT ASSESSMENT

Accompanying the document

**Proposal for a Directive of the European Parliament and of the Council on electronic
invoicing in public procurement**

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Introduction

A shift towards paperless public administration is an important objective for the European Union and the Member States. The Digital Agenda for Europe¹ includes a call to increase the use of e-Government by EU citizens and businesses. The Annual Growth Survey for 2013² also calls on Member States to give priority to ensuring that exchanges between administrations and enterprises can be done digitally, with a view to increasing administrative efficiency. In order to stimulate the transition to e-government, the European Union has undertaken a variety of initiatives, one of which aims to make the use of electronic procurement mandatory across the EU.

Another particularly promising area to help achieve these objectives is e-invoicing, which the Commission has called for to become the predominant invoicing mode in the EU by 2020³. In addition to its potential contribution to the digitisation of public administration across the EU, e-invoicing holds the promise of significant economic and environmental benefits. Increased use of e-invoicing by Member State governments would make the broadly understood public procurement process more efficient, cheaper, and more transparent for the parties involved as well as for the taxpayer. A preliminary estimate indicates that savings of approximately EUR 1.5 to 2.3 billion per year could potentially be achieved if all public procurement invoices were submitted in electronic format. E-invoicing is also expected to reduce the administrative burden for firms, as well as the use of paper, waste, and CO2 emissions from transport.

The widely-acknowledged benefits of e-invoicing have incited several EU Member States (Denmark, Austria, Sweden, and Finland) to require the submission of e-invoices in public procurement in all or part of the public sector. However, these bottom-up initiatives are for the most part based on national standards, most of which are not interoperable. As such, they lead to an increase in complexity and costs for firms wishing to participate in cross-border procurement, and thereby generate market access barriers. The overall result is that the adoption of e-invoicing in Europe is still very limited, accounting for 4 to 15%⁴ of all invoices exchanged. A possible initiative in the area of e-invoicing in public procurement would prevent the further fragmentation of the Internal Market and facilitate the uptake of e-invoicing. Considering the fact that public procurement covered by the Directives represents roughly 3.7% of EU GDP⁵, the implementation of an initiative which would eliminate market access barriers in e-invoicing in public procurement would make the public sector a 'lead market' in this area and spearhead its wider use in the economy.

Over the last couple of years, a significant number of actors have called for action at the European level to stimulate the e-invoicing market across the EU, especially with regards to invoices submitted to public bodies. The occasion therefore seems ripe to undertake the proposed initiative on e-invoicing in public procurement and effectively remove the market access barriers caused by insufficient e-invoicing interoperability. As such, action on promoting the uptake of e-invoicing in public procurement is now seen by the Commission as

¹ "A Digital Agenda for Europe", European Commission Communication, COM(2010) 245.

² "Annual Growth Survey 2013", Communication from the Commission, COM(2012) 750 final.

³ "Reaping the benefits of e-invoicing for Europe", European Commission Communication, COM(2010) 712.

⁴ Detailed explanations provided in Section 2.1.4.2.

⁵ „Public Procurement Indicators 2010“, European Commission, Brussels, 4 November 2011.

a priority. This is reflected in the inclusion of an initiative on e-invoicing in public procurement in the “*Single Market Act II*” as one of its Key Actions⁶.

A potential proposal in this area would also complement the on-going modernisation of EU public procurement rules⁷, a key action under the “*Single Market Act I*”⁸, in particular with regards to the proposal on a full transition to e-procurement.

The current impact assessment therefore looks at the effects of a possible EU initiative which would enhance e-invoicing interoperability in public procurement⁹ across the European Union, in order to eliminate the fragmentation of the Internal Market and remove existing obstacles to the broader use of e-invoicing.

1. PROCEDURAL ISSUES AND CONSULTATION OF INTERESTED PARTIES

1.1. Procedural issues

The project is led by Directorate C of the Directorate General Internal Market and Services.

Action on promoting the uptake of e-invoicing in public procurement is seen by the Commission as a priority for the near future. This is reflected in the inclusion of an initiative on e-invoicing in public procurement in the recently-published “*Single Market Act II*” as one of its Key Actions. The initiative has therefore also been included in the “*Commission Work Programme for 2013*”, which was announced on 23 October 2012¹⁰.

This Impact Assessment was preceded by the publication of a Roadmap, which was published as part of the Commission Work Programme for 2013.

The Steering Group for this Impact Assessment was formed by representatives of a number of services of the European Commission, namely the Directorate General Internal Market and Services, the Secretariat General, the Directorate-General for Economic and Financial Affairs, the Directorate General Regional Policy, the Directorate General for Communications Networks, Content and Technology, the Directorate General Environment, the Directorate General for Employment, Social Affairs and Inclusion the Directorate General for Informatics, the Directorate General for Justice, the Legal Service, the Directorate General for Taxation and Customs Union and the Directorate General Enterprise and Industry.

This Group met four times: on 14 September 2012, 19 December 2012, 6 February 2013 and 18 February 2013.

⁶ “*Single Market Act II - Together for new growth*”, Communication from the Commission, COM(2012) 573 final.

⁷ Proposal for a Directive of the European Parliament and of the Council on public procurement, COM/2011/896 final, and Proposal for a Directive of the European Parliament and of the Council on procurement by entities operating in the water, energy, transport and postal services sectors, COM(2011) 895 final I.

⁸ “*Single Market Act - Twelve levers to boost growth and strengthen confidence, Working together to create new growth*”, Communication from the Commission, COM(2011) 206 final of April 2011

⁹ This initiative would only concern public procurement covered by Directives 2004/17/EC, 2004/18/EC, and 2009/81/EC.

¹⁰ “*Commission Work Programme 2013*”, Communication from the Commission, COM(2012) 629 final.

The first meeting of the Impact Assessment Board (IAB) took place on 20 March 2013. During this meeting, the IAB raised a number of issues which in the board's opinion would need to be addressed further, and requested a resubmission of the Impact Assessment. The second – positive – opinion on the revised Impact Assessment was issued on 8 May 2013. The main modifications in response to the first and second opinions of the IAB are presented in Annexes 1.1 and 1.2.

1.2. External expertise and consultation of interested parties

This Impact Assessment builds on the analysis of external research and consultations with stakeholders.

Two meetings of the European Multi Stakeholder Forum on e-invoicing (EMSF)¹¹ were held in Brussels (on 26 September 2012 and 7 March 2013) and provided an important forum for discussing the building blocks of the potential EU initiative on e-invoicing in public procurement. The discussion papers of four Activity Groups of the EMSF¹² provided practical feedback from the representatives of national multi-stakeholder forums and practitioners, such as service providers and firms. Additionally, a questionnaire was circulated among the members of the EMSF which attempted to gather data on existing e-invoicing systems, and their effectiveness, costs and benefits. The 20 replies which were received (19 from national fora and one from a standard-setting body) were also extensively used in this Impact Assessment.

The content of the initiative was presented and discussed with the Advisory Committee for Public Contracts (ACPC), comprising of Member State representatives, during a meeting on 19 September 2012. More informal bilateral meetings also took place with representatives of various industry associations, including the European E-invoicing Service Providers Association (EESPA), Business Europe and the European Association of Craft, Small and Medium-sized Enterprises (UEAPME).

Finally, an on-line consultation via the Interactive Policy Making tool (IPM) was held between 22 October 2012 and 14 January 2013 to gather information on current usage of e-invoicing and opinions concerning a potential EU initiative in this area. The public response to the consultation was very positive, with more than 700 replies submitted.

The various consultations with stakeholders provided the Commission with a good cross-section of the views held by the different stakeholders.

1.2.1. Summary of the public consultation

707 replies to the public consultation were received, with a very good geographical and sectoral spread of participants: every Member State and every group of stakeholders was represented¹³. The questionnaire asked participants about their experience with using electronic invoicing and their opinions concerning a possible EU initiative to promote the

¹¹ http://ec.europa.eu/internal_market/payments/einvoicing/index_en.htm

¹² The interim reports of Activity Groups 1 to 4: (http://ec.europa.eu/enterprise/sectors/ict/e-invoicing/benefits/invoicing_forum_en.htm).

¹³ The following groups of stakeholders were represented: policy makers, contracting authorities, firms (large companies / SMEs), IT service providers, business/industry associations (industry consultants), other associations (e.g. associations of regional or local government), private individuals / citizens.

uptake of e-invoicing and enhance interoperability between existing systems. The responses reveal broad support for EU action in e-invoicing in public procurement; no single category of stakeholder or nationality was outright opposed to EU action in this field. Support for an EU initiative to promote the uptake of e-invoicing in the EU by making governments act as the front-runners is overwhelming – almost 9 in 10 respondents are in favour. There is also strong support for increasing the interoperability of e-invoicing systems, with more than 4 out of every 5 stakeholders supporting EU action to achieve this objective. Finally, the vast majority of respondents wish to see a rapid EU intervention in the area of e-invoicing in public procurement: 90% of stakeholders call for making it mandatory before the end of 2017.

When looking individually at the different groups of stakeholders, the greatest supporters of EU action in e-invoicing in public procurement are the e-invoicing service providers, followed by Member States, contracting authorities, and finally, enterprises. Yet even for enterprises, support hovers around 80%.

The full synthesis report of the responses can be found in Annex 1.11.

2. POLICY CONTEXT, PROBLEM DEFINITION AND SUBSIDIARITY

2.1. Background and context

2.1.1. Key concepts

This Impact Assessment refers to a possible initiative that lies at the intersection of two policy areas: the public procurement policy and the use of electronic means of communication for invoicing. These two concepts are presented below.

2.1.1.1. Public procurement

Public procurement refers to the acquisition of goods, works or services by government institutions and public sector organisations. The EU procurement legislation applies common principles of transparency, open competition and sound procedural management to public contract award procedures which are likely to be of interest to suppliers across the Internal Market. Open and well regulated procurement markets are expected to contribute to a better use of public resources¹⁴.

The procedures to be applied for the award of contracts by contracting authorities¹⁵ are provided in Directive 2004/18/EC. Firms which are active in the utilities markets (contracting entities) are subject to the provisions of Directive 2004/17/EC. Procurement in the field of security and defence is regulated by the Defence and security procurement Directive 2009/81/EC.

The three above mentioned legal acts (hereinafter referred to as “the Directives”) regulate the organisation of tender procedures for high value contracts (i.e. contracts falling above certain

¹⁴ “*Evaluation Report - Impact and Effectiveness of EU Public Procurement Legislation*”, Commission Staff Working Paper, SEC(2011) 853 final.

¹⁵ In this Impact Assessment, the term “contracting authorities” will be used to refer to contracting authorities or entities, within the meaning of Article 1(9) of Directive 2004/18/EC, Article 2 of Directive 2004/17/EC and/or Article 1(17) of Directive 2009/81/EC.

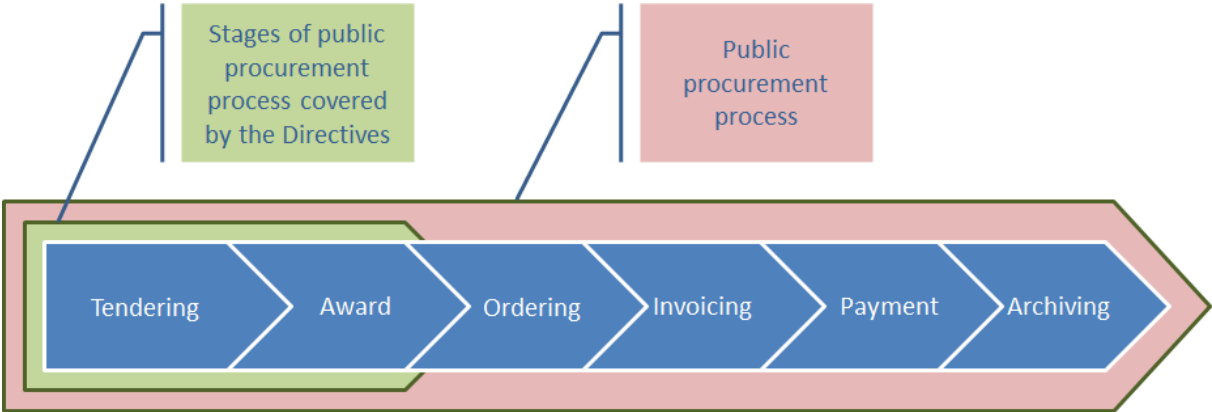
monetary thresholds¹⁶). The Directives also contain a number of exclusions (e.g. Directive 2004/18/EC does not apply to *inter alia* contracts requiring special security measures, secret contracts or to service concessions)¹⁷.

In line with the general principles of the Directives, contracts of values falling below the monetary thresholds set out in the Directives (i.e. national procurement not covered by the Directives) and contracts excluded from the scope of the Directives will be out of the scope of this initiative.

In December 2011, the European Commission adopted proposals to modernise Directives 2004/18/EC and 2004/17/EC, containing provisions that relate to the transition towards electronic procurement (e-procurement)¹⁸. If the Commission's proposals are accepted during the legislative process, the vast majority of procurement procedures covered by the proposals will be carried out using electronic means of communication by mid-2016.

While the rules of the Directives do not go beyond the award stage, the **public procurement process or cycle**¹⁹ is a broader concept. It consists of a number of steps which take place before and after a successful bidder has been selected: tendering, award, ordering, invoicing, payment and archiving of the procurement documentation. The key elements of public procurement process are presented below (Figure 1).

Figure 1): The scope of the Directives and public procurement process



Source: DG Internal Market and Services

¹⁶ Commission Regulation (EU) No 1251/2011 of 30 November 2011.
¹⁷ Articles 13 to 18 of Directive 2004/18/EC.
¹⁸ These provisions foresee a phased introduction of the mandatory use of electronic means of communication in public procurement, covering the electronic notification of procurement notices (e-notification), the electronic access to tender documents (e-access) and the electronic submission of bids (e-submission).
¹⁹ The term “procurement cycle” is used by OECD in its Procurement Toolbox: “*The procurement cycle describes the entirety of the process through which public organisations identify, prepare and execute the acquisition of goods, services and works. The procurement cycle comprises of three main phases: pre-tendering (including needs assessment, planning and budgeting, definition of requirements and choice of procedures); tendering (including the invitation to tender, evaluation and award); and post-award or post-tendering (including contract management, order and payment)*”; (<http://www.oecd.org/governance/procurement/toolbox/keyterminology.htm>).

This initiative takes into account the complete public procurement process and analyses the interactions between its components. Such a broad approach addresses the recently observed integration of procurement process which has been driven by IT developments. It is also in line with the scope of various other initiatives concerning electronic procurement, which acknowledge that all elements of the procurement cycle have become much more integrated. For example, the PEPPOL project defines e-procurement as a process encompassing all steps from e-sourcing to e-payment²⁰. The Commission's 2004 "*Action Plan on e-procurement*"²¹ also referred to the entire procurement chain, including the pre-award and post-award phases. The Commission Communication "*A strategy for e-procurement*"²² from 2012 recognises that: "[t]he ultimate goal is 'straight through e-procurement' with all phases of the procedure from notification (e-notification) to payment (e-payment) being conducted electronically." Finally, the on-going revision of the public procurement Directives addresses, among other elements, e-catalogues, which is also an important element of the post-award procurement process.

2.1.1.2. E-invoicing

An invoice is a document certifying the delivery of a product or the provision of a service, showing the date of accrual and the amount payable in consideration for the product or service provided. It is the central element of a procurement process once a contract has been awarded, and its creation is a prerequisite for the supplier to receive payment for supplied goods or services.²³ In Europe, invoicing rules are governed by Directive 2006/112/CE, as amended by Directive 2010/45/EU²⁴, which establishes equal treatment between paper and electronic invoices.

E-invoicing is the electronic transfer of invoicing information between business partners (supplier and buyer). It is an essential part of an efficient financial supply chain and it links the internal processes of enterprises to their payment systems²⁵.

Several competing definitions of electronic invoicing coexist. In its broadest sense, e-invoicing is understood as any method of invoice submission which does not include the physical presence of paper. This implies that any form of invoice sent by electronic means (e.g. email with a scanned invoice as an attachment) constitutes e-invoicing²⁶. However, in recent years a more restrictive definition appears to be gaining broad support. According to this view, e-invoicing can only truly be referred to as such if the message containing the invoice is structured in such a way that its receipt and processing does not require any human

²⁰ http://www.peppol.eu/peppol_components

²¹ "*Action plan for the implementation of the legal framework for electronic public procurement*", Communication from the Commission, Brussels, 13.12.2004.

²² "*A strategy for e-procurement*", Communication from the Commission, COM(2012) 179 final.

²³ This is one of the reasons why the proposed initiative will address e-invoicing and not any of the other of the post-award processes. It should be noted, however, that some of these processes have to some extent already been addressed by other Commission initiatives. More detailed information is provided in Annex 0.

²⁴ Council Directive 2010/45/EU of 13 July 2010 amending Directive 2006/112/EC on the common system of value added tax as regards the rules on invoicing.

²⁵ (http://ec.europa.eu/internal_market/payments/einvoicing/index_en.htm)

²⁶ Unstructured e-invoices are essentially an electronic image of the paper invoice, which implies that their further processing in the recipient's IT systems can only take place after they are encoded manually or using an alternative process, which is generally costly and not fully automated.

intervention²⁷. The view that only structured invoices can be seen as full e-invoices is shared by many stakeholders (e.g. the results of the EMSF consultation confirm that neither PDFs nor unstructured invoices are seen as full e-invoices²⁸). Structured e-invoicing offers greater opportunities for the full automation of invoicing procedures and allows other elements of the post-award supply chain process to be automated²⁹ (e-ordering, e-payment, and e-archiving, etc.). Although the existence of non-structured invoice documents cannot be ignored, their role (and that of various hybrid solutions³⁰) is generally perceived as temporary³¹, or as a step towards full automation.

In summary, the definition which sees e-invoicing as fully-structured electronic invoicing messages seems by far the most appropriate and this Impact Assessment will **only consider structured invoices** as e-invoices.

In terms of the stakeholders involved, e-invoicing can take place between two businesses (B2B), between business and government (B2G), between business and the consumer (B2C), and finally between government and the consumer (G2C). By its very nature, public procurement transactions concern **invoices submitted by businesses (suppliers) to public authorities (buyers)**, i.e. B2G invoicing. The other sectors (B2B, B2C and G2C) therefore fall outside the direct scope of this Impact Assessment, except insofar as the introduction of e-invoicing in the B2G sector may generate spill-over effects to these sectors.

2.1.2. *Benefits of e-invoicing*

The benefits of e-invoicing when compared with paper-based invoicing are numerous and widely acknowledged. Electronic processing of invoices generates operational savings due to less complex processes and shorter processing times; it increases transparency, improves the security and auditability of data; and it can reduce administrative burden for enterprises. It is also better for the environment.

These benefits are among the main drivers for the adoption of e-invoicing. For example, the Austrian government, in announcing its plans to mandate e-invoicing in the public sector transactions, argued that paperless invoicing offers numerous advantages such as time and cost savings, transparency, traceability, error reduction, as well as positive environmental impacts³². In launching their pilot projects, both Belgium and Ireland stressed the savings opportunities presented by e-invoicing.³³ In Greece, it was estimated that both the state and enterprises were losing more than EUR 4 billion annually from illegal invoicing practices; electronic invoicing is expected to effectively combat such practices³⁴. Finally, savings and

²⁷ The invoice would need to adhere to strict semantic and syntactic standards which allows the fully automatic processing of the invoice data by the sender's and recipient's computer systems.

²⁸ "Good practices in the adoption and promotion of e-invoicing in Europe: Results of the EMSF good practices consultation" - ACCA Discussion Paper prepared for Activity Group 2 of the European Multi-stakeholder Forum on e-invoicing, London, August 2012.

²⁹ The benefits of structured invoicing are analysed in Annex 1.3.1.

³⁰ E.g. certain unstructured document formats may partially contain structured information.

³¹ With the exception of business to consumer (B2C) sector, where invoices sent as PDFs may be the most appropriate solution.

³² <http://project.peppol.eu/news/austria-mandates-einvoicing-to-the-public-sector-fostering-peppol-adoption>

³³ <http://presscenter.org/nl/pressrelease/20121213/einde-van-het-tijdperk-van-de-papieren-facturen-in-zicht?lang=fr>; <http://www.oneposting.com/PEPPOL-Ireland.aspx>

³⁴ <http://www.athensnews.gr/portal/8/45720>

transparency motives were also referred to as reasons for the adoption of mandatory e-invoicing by the federal administration in the United States³⁵

The principal operational gains of e-invoicing come from less complex procedures and therefore **shorter processing times**. The invoice-to-pay cycle time in paper-based invoicing may take between 30 and 100 days³⁶. By automating some of the processes and eliminating the need for human intervention, it is estimated that this period can be shortened to around 10 days when invoices are processed electronically³⁷. The shortened invoice-to-pay cycle also means that payment delays would be less frequent, and that contracting authorities could save on late payment interests. E-invoicing could therefore contribute to attaining the objectives of the late payments Directive 2011/7/EU³⁸.

The simpler and shorter processes result in **savings**. For example, the Finnish State Treasury and some Finnish companies have estimated that an incoming paper invoice incurs costs amounting to EUR 30-50 to the receiving company. By moving to electronic invoicing, these costs can be lowered to EUR 10 by semi-automating the invoice process, and to EUR 1 by fully automating the process³⁹. Some service providers estimate that processing of paper invoices is around 60% to 80% more expensive than electronic invoices⁴⁰. The European Association of Corporate Treasurers has reached similar results, estimating that companies could save up to 80% of their current costs by processing invoice data automatically, i.e. removing paper and manual efforts⁴¹.

The electronic processing of invoices **positively influences the transparency of the procurement process**. When a tax audit occurs, e-invoices can be more easily made available to tax authorities than paper invoices, allowing them to check for compliance more easily. Industry publications underline that e-invoicing significantly reduces operational risk of fraudulent invoices and duplicate payments⁴². If e-invoicing is integrated with tax reporting, it can reduce administrative burden, as tax declarations can be generated automatically.

Finally, e-invoicing is more **environmental friendly**, as it reduces the use of paper and the amount of waste generated by public buyers and firms, as well as the CO2 footprint caused by transportation.

More detailed information about the benefits of e-invoicing is provided in Annex 1.3.

2.1.3. Policy context

The potential benefits from the use of e-invoicing are perceived as an opportunity by a wide range of actors, chief among them:

³⁵ <http://www.treasury.gov/press-center/press-releases/Pages/tg1238.aspx>

³⁶ The differences concern the best case/worst case scenario respectively - “*E-invoicing 2010, European market guide*”, Euro Banking Association (EBA) and Innopay, page 15, quoting Celent.

³⁷ “*Financing Innovations*”, Sarah Jones, Bottomline Technologies, April 2010.

³⁸ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:048:0001:0010:EN:PDF>

³⁹ “*Electronic Invoicing Initiatives in Finland and in the European Union – Taking steps towards the Real Time Economy*”, Helsinki School of Economics, B-95.

⁴⁰ <http://www.einvoicingbasics.co.uk/benefits-of-einvoicing/buyer-benefits/>

⁴¹ “*European E-Invoicing Guide for SMEs*”, The European e-Business Lab, November 2009.

⁴² “*European E-Invoicing Guide for SMEs*”, The European e-Business Lab, November 2009.

- Member States, who have called for measures to promote e-invoicing at the Informal Competitiveness Council of February 2012 and in the European Council Conclusions of June 2012⁴³.
- The European Parliament, which called for making e-invoicing compulsory in public procurement by 2016 in a resolution adopted in April 2012⁴⁴.
- Stakeholders (chiefly economic actors and NGOs), which in various fora (conferences, studies, and reports) have highlighted the benefits which e-invoicing could bring with respect to cost savings, increased efficiency, simpler and faster payment processes, or a reduced environmental impact.

An initiative facilitating the use of e-invoicing in public procurement would contribute to achieving the objectives of several existing Commission initiatives, both legislative and non-legislative. These are discussed below.

2.1.3.1. Legislative initiatives

While at present, no EU legislation specific to e-invoicing in public procurement exists, some related legislative acts do address e-invoicing directly or indirectly. Council Directive 2010/45/EU⁴⁵, on the common system of value added tax revises and simplifies the rules for the submission of electronic invoices vis-à-vis traditional invoices, setting both methods on an equal footing with a view to promoting its usage in the context of tax rules. E-invoicing is also indirectly related to objectives of the late payments Directive 2011/7/EU⁴⁶, as it could contribute to shortening the payment processing times. The present initiative would be fully in line with the objectives of both of these Directives. Additionally, the Commission has recently proposed to modernise Directives 2004/17/EC and 2004/18/EC, one element of which is the introduction of mandatory e-procurement. The initiative on e-invoicing would build on these efforts in order to achieve the objective of “straight through e-procurement” as defined in the recent communication “*A strategy for e-procurement*” (see: section 2.1.3.2 below).

Finally, e-invoicing is embedded in a patchwork of legal requirements, which cover rules on accounting, auditing, protection of personal data⁴⁷, archiving and customs issues. The proposed initiative would fully respect all of these requirements.

2.1.3.2. Non-legislative initiatives

A number of non-legislative initiatives dealing specifically with e-invoicing have been adopted, in particular:

⁴³ EUROPEAN COUNCIL 28/29 JUNE 2012 CONCLUSIONS, Brussels, 29 June 2012.

⁴⁴ “*E-Government as a spearhead*”, European Parliament resolution of 20 April 2012 on a competitive digital single market (2011/2178(INI)), T7-0140/2012.

⁴⁵ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:189:0001:0008:EN:PDF>

⁴⁶ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:048:0001:0010:EN:PDF>

⁴⁷ As far the data protection legislation is concerned, such requirements are set out in Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data. The said Directive specifies inter alia when processing of personal data is legitimate, what principles apply to data processing operations and confers various rights on the data subjects. These provisions and in particular the national provisions adopted in the implementation of Directive 95/46/EC will be fully applicable to processing of personal data in the context of e-invoicing.

- The Communication from the Commission "*Reaping the benefits of electronic invoicing for Europe*", COM(2010)71, which outlines the benefits which e-invoicing can bring the Single Market and sets out a plan for increasing its uptake across the EU. It has set as an objective that "*e-invoicing becomes the predominant method of invoicing by 2020 in Europe*".
- The Communication from the Commission "*A strategy for e-procurement*", COM(2012) 179 final, which states that the ultimate goal is "*straight through e-procurement*" with all phases of the procedure from notification (e-notification) to payment (e-payment) being conducted electronically.
- The European Commission's initiative "*A Digital Agenda for Europe*", COM(2010) 245, which gives a prominent role to achieving a single digital market and calls for removing the regulatory and technical barriers which prevent mass adoption of e-invoicing; and
- The Commission proposal for a Connecting Europe Facility (CEF), which foresees support to digital services infrastructures (which will also enable e-invoices).

As mentioned previously, the European Commission has also established the EMSF on e-invoicing, composed of delegates from national e-invoicing fora and key stakeholders from the user side of the market, which could be leveraged in the context of a possible initiative on e-invoicing in public procurement⁴⁸. Finally, the Commission has supported and implemented a number of projects to facilitate the roll-out of e-invoicing in the EU, namely: PEPPOL, e-SENS, and e-PRIOR (more information about the scope and objectives of these projects is provided in Annex 1.7).

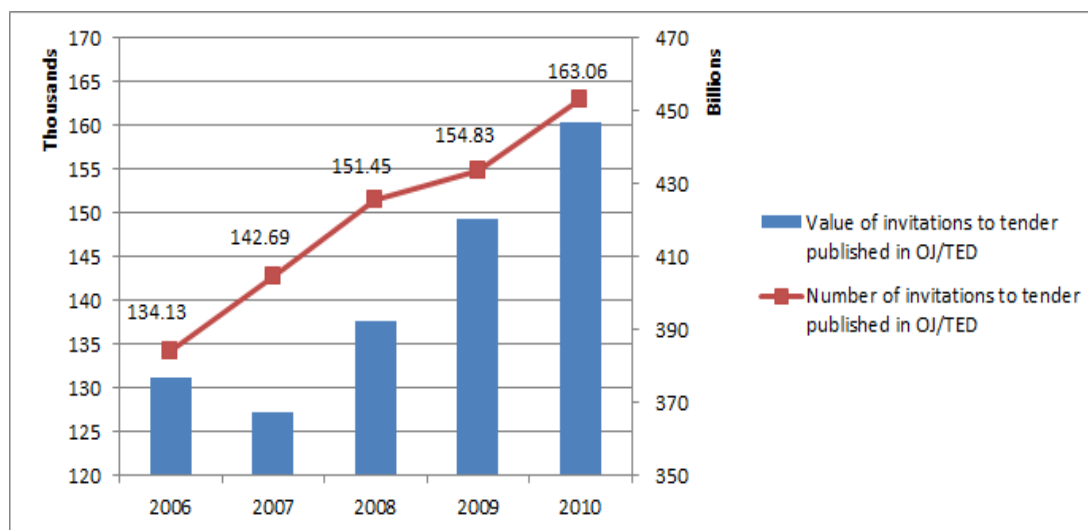
2.1.4. *Nature and size of the public procurement market*

Public buyers are traditionally the largest consumer in the economy. In 2010, the public sector spent over EUR 2 406 billion on goods, services and works – amounting to around 19.7% of EU GDP. As mentioned in Section 2.1.1.1, the majority of public expenditure on goods, works and services is not covered by the Directives – this includes various exemptions, below threshold procurement or large amounts of public expenditure on goods and services to provide health, education and social services. In fact, only 1/5 of total public expenditure on goods and services is covered by the Directives. In 2010, over 160 000 invitations to tender were published in conformity with the Directives in the OJ/TED⁴⁹ website. The estimated value for these contracts was EUR 447 billion (see: Figure 2), representing approximately 3.7 % of the EU GDP.

⁴⁸ It is worth noting, however, that the scope of the 2010 e-invoicing Communication and the EMSF is e-invoicing in general (i.e. broader than B2G e-invoicing).

⁴⁹ Tenders Electronic Daily (OJ/TED) – the Supplement to the Official Journal of the European Union where notices are published for public procurement contracts covered by the Directives.

Figure 2): The size of public procurement market above EU threshold



Source: DG Internal Market and Services, based on OJ/TED data

Within the procurement covered by the Directives, only a relatively small proportion of contracts are awarded to firms from another Member State. Direct cross-border procurement accounted for 1.6% of awards or roughly 3.5% of the total value of contract awards published in OJ/TED during 2006-2009. In addition to direct cross-border procurement, there is a considerable volume of indirect cross-border procurement. For example firms can bid for contracts through their foreign affiliates or subsidiaries. This channel accounted for 11.4% of awards published in OJ/TED and 13.4% by value during 2006-2009⁵⁰.

2.1.4.1. Nature and size of e-invoicing in public procurement

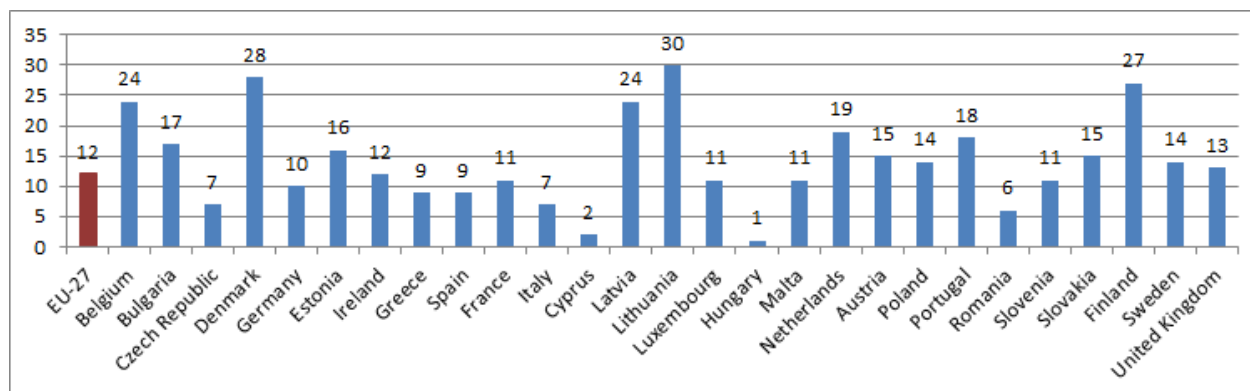
Governments are among the principal recipients of invoices. The public sector is listed as one of top three industries with the highest inbound invoice volumes, estimated at 9-15% of the share of all invoices (other industries mentioned are: retail 10%, healthcare 5-13%)⁵¹.

The above data refers to all invoices. As far as e-invoices are concerned, there are some limitations in the available data, but a rough outline of the usage of e-invoicing by governments in the EU is beginning to emerge. For example, Eurostat provides detailed data on the percentage of enterprises sending/receiving e-invoices in a standard structure suitable for automatic processing and electronic data to/from public authorities, which may be used as a good proxy of structured e-invoicing in public procurement.

⁵⁰ „Cross-border public procurement above EU thresholds”, Rambøll Management, May 2011.

⁵¹ "Global development of Electronic Invoicing" Karri Lehtonen, Basware, 2012.

Figure 3): Enterprises sending / receiving e-invoices in a standard structure suitable for automatic processing and electronic data to/from public authorities in 2011 [%]



Source: Eurostat, E_INV2_ADEGOV

The EU average of 12% confirms that, for enterprises, exchanging e-invoices with public authorities in Europe is still more an exception rather than a rule.

Looking at the data from a different perspective, namely the share of e-invoices in all invoices received (i.e. e-invoicing market penetration), a similar picture emerges. According to a number of recent studies, e-invoicing makes up approximately 4 - 15% of invoicing procedures in the EU⁵². This is in line with the Eurostat data, and there is therefore no reason to assume that the percentage of e-invoicing penetration would be significantly higher in public procurement.

2.1.5. Main stakeholders concerned

The main groups of stakeholders that may be affected by the EU initiative on e-invoicing in public procurement are:

- Member States (understood as policymakers at all levels), who would implement the new initiative (including possibly the transposition of legislation).
- Contracting authorities, as purchasers of goods, works and services, who apply the provisions of the Directives;
- Firms, including SMEs⁵³ (i.e. suppliers), who sell works, goods and services to contracting authorities (i.e. are active on public procurement markets);
- Enterprises providing e-invoicing services (e-invoicing service providers).

⁵² For example: "E-invoicing 2010 – Current status of e-invoicing in Europe", EBA/Innopay, page 25, refers to the e-invoicing adoption rate of 4-15% (2008); "E-invoicing/E-billing, International Market Overview & Forecast", Bruno Koch, Billentis, February 2012 refers to the B2B/ B2G/G2B electronic share of 6-14% (2008 to 2011).

⁵³ In 2006-08 the SMEs' share of public procurement contracts above EU thresholds was estimated to be 60% of the number of contracts awarded, and 34% in terms of total value.

2.2. Problem definition

Based upon research of the e-invoicing market and the results of the public consultation, the existence of multiple non-interoperable (national and proprietary) e-invoicing standards across the EU has been identified as the main problem driver with regards to the exchange of invoices in public procurement. This driver results in an excessive level of complexity, legal uncertainty and additional operating costs for firms when issuing invoices across the EU. As a consequence, firms encounter market access barriers that deter them from bidding on public procurement in other Member States, which in turn translates into inefficiencies in the functioning of the Internal Market.

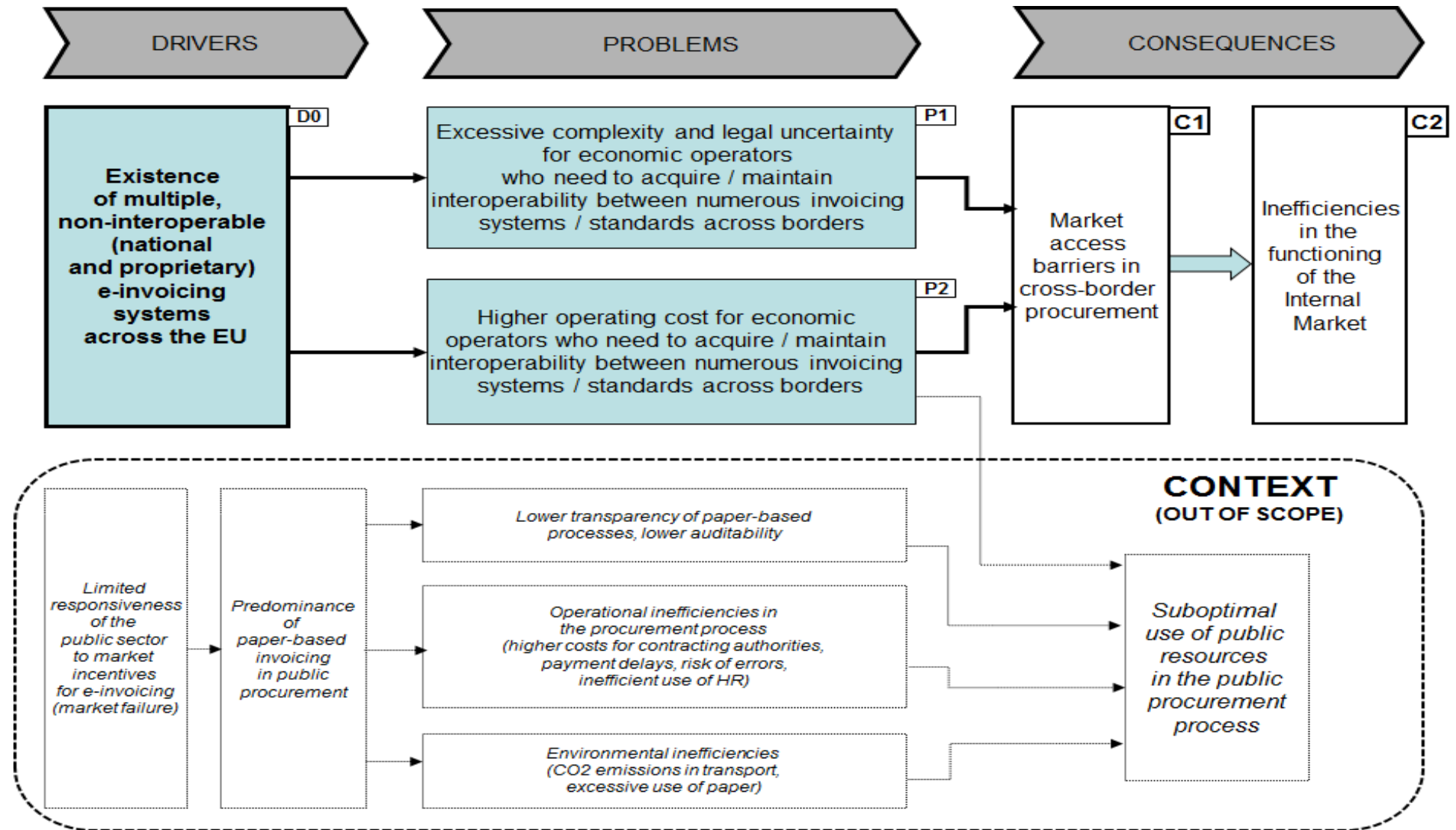
However, the identified problems must also be placed in a broader context, where despite efforts to stimulate and promote the use of e-invoicing across the EU, and despite the broad acknowledgment of the economic, environmental, and other benefits of its use, the public sector across the EU has been quite unresponsive. As mentioned earlier in this Impact Assessment, the use of e-invoicing in the EU remains limited, particularly in public procurement. This appears to be to some extent a case of market failure, where market forces have not been sufficient to drive forward changes in public procurement processes which offer significant potential benefits to all stakeholders. The reasons for this can only be guessed at, but most likely include a mixture of bureaucratic inertia, the difficulties of process change, and the effects of the short-term nature of the political cycle.

The above situation results in the continued predominance of inefficient paper-based invoicing processes in EU public procurement, with all the negative side-effects which this implies. The scale of these inefficiencies corresponds to the potential benefits which are foregone due to the fact that e-invoicing is not being used⁵⁴.

The problem tree which summarises the above finding is presented in Figure 4), where problem drivers, problems, and their consequences are presented together with the context of the low uptake of e-invoicing in public procurement.

⁵⁴ These benefits are presented in Annex 1.3.

Figure 4): Problem tree



2.2.1. Problem driver (D0)

The e-invoicing market in Europe is characterised by the existence of many (national and proprietary) standards. Examples of e-invoicing standards used in the EU are provided in Table 1) below.

Table 1): Examples of e-invoicing standards

Common global and regional standards	Industry specific standards	National standards
UN/CEFACT Cross Industry Invoice (CII) version 2	ODETTE	Facturae (Spain)
UN/EDIFACT	PIDX	ebInterface (Austria)
ANSI X12	CIDX	OIOUBL (Denmark)
eCOM (includes GS1 EANCOM and GS1 XML)		Svefaktura (Sweden)
ebXML		ZUGFeRD (Germany)
UBL		
RosettaNet		

Source: "European e-invoicing guide for SMEs" European e-business lab, pages 54-56 and DG Internal Market and Services research.

These and probably quite a few more global, regional, and industry-specific standards coexist in the EU. Most of these standards are not interoperable and none of them appear to be dominant.

Paradoxically, the multiplicity of standards and lack of a dominant technical solution creates a “vicious circle” situation, where even more new standards appear on the market. As one of the e-invoicing service providers has pointed out, “*lack of information about existing standards has resulted in the re-invention of dozens of niche standards (domestic or industry focus)*”⁵⁵.

Despite the co-existence of many non-interoperable standards on the market, a number of Member States, who have recognised the economic benefits of e-invoicing, have decided to make it mandatory (*de facto* or *de jure*) in public procurement within their national administrations⁵⁶. However, in a situation where no clear indication exists on which standard to use, when making the decision to facilitate or mandate the use of e-invoicing, governments (both national and local) frequently decide to come up with their own technical solutions, based on a separate national standard.

For example, e-invoicing is currently mandatory in Denmark and Sweden, and it will become mandatory in Austria as of 2014. In these three countries only, three different technical solutions have been chosen: Denmark requires the use of OIOUBL (based on UBL 2.0),

⁵⁵ "Global development of Electronic Invoicing" Karri Lehtonen, Basware, 2012.

⁵⁶ An overview of the implementation of e-invoicing in the EU is provided in Annex 1.6.

Sweden recommends the use of the *Svefaktura*, while Austria has opted for PEPPOL solutions.

This process of fragmentation is continuing, as even more standards are appearing or will soon appear on the market driven by government initiatives:

- Spain currently makes it possible for the central government to accept electronic invoices on a voluntary basis, and has established a national standard to facilitate the exercise (known as *Facturae*).
- Italy has passed basic laws on mandatory e-invoicing, and is planning to introduce mandatory e-invoicing “in the near future” on the basis of an XML-based national standard.
- The Czech Republic allows their governmental departments to mandate e-invoicing if they so choose and a non-mandatory national standard exists (ISDOC based on UBL 2.0).
- The German national e-invoicing forum (*Forum elektronische Rechnung Deutschland* or FeRD), supported by the German Ministry of Economy and Technology, has recently unveiled a German national standard, known as ZUGFeRD.
- Belgium is preparing a pilot project, allowing the submission of e-invoices to certain departments and/or regions. A UBL-based standard will be mandatory.
- The Netherlands has established an e-invoicing portal (*Digipoort*) and obliges central government bodies to accept e-invoices if they are submitted via this portal. One of two specific standards (UBL and a Dutch version of an XML-based standard) must be used to do so.

Additionally, e-invoicing is being used by some government departments, public sector organisations, and localities across the EU, although no specific laws regulating the practice currently exist.

The above clearly highlights the problem: if at some point in the future all Member States decide to switch to e-invoicing and each of them chooses its own e-invoicing standard, a huge number of combinations of standards would be possible when sending and receiving e-invoices (e.g. even if only the 15 e-invoicing standards mentioned in Table 1 are considered, this results in more than 100 different combinations). To combat the problem of these multiple matches, translation between the standards is necessary – a process known as ‘mapping’. In theory, the mapping can be carried out by any market operator, but in practice, most of this work has been delegated to service providers.

The multiplicity of e-invoicing standards and the need to map them has resulted in a number of models which are applied to the exchange e-invoices. These are usually categorised as: bilateral exchange, 3-corner models, and 4-corner models⁵⁷. Due to the fact that it allows each of the parties to an e-invoicing transaction to work through its own service provider, the 4-

⁵⁷ More detailed description of the e-invoicing models is provided in Annex 0.

corner model is generally considered to be the most efficient and flexible system for exchanging e-invoices. However, such a system is still based on a bilateral exchange (in this case between two service providers) and it therefore still requires a large number of bilateral agreements on the method of communication to be used between them.

A report by EBA/Innipay summarises the difficulties of the current organisation of the e-invoicing market based on the above data exchange models, stating that “*these market developments have resulted in a tendency towards separation and segmentation, often described as “silos”*”⁵⁸. A similar diagnosis of the current situation can be found in a Deutsche Bank Research document, which stresses that “*e-invoicing providers who offer their services as external contractors have not established a market standard to date. Also the high number of more than 400 e-invoicing providers in Europe has contributed to the existing siloed solutions. [...] sending invoices electronically between clients of different providers is frequently impossible because of technical disparities.*”⁵⁹

The proliferation of e-invoicing standards therefore requires significant investments from service providers to be able to support them and elevated operating costs in order to perform the mappings. The degree of difficulty – and therefore of the associated costs – to a significant extent depends on the service providers’ ability to sign interoperability agreements. Several attempts have recently been made to simplify this process; however, due to the fact that all of these efforts have focused on a bilateral approach, none of them have resolved the problem of the multiplicity of potential combinations of standards. Even where interoperability can be ensured by means of a bilateral agreement, considering the number of such players on the market (in excess of 400) and the number of different standards, several thousand different agreements would be required in order to ensure full general interoperability. This is, for obvious reasons, very resource-intensive and, until now, has not been feasible.

Concluding, the **multiplicity of non-interoperable standards (D0)** dominates the EU e-invoicing landscape. Member States are co-responsible for the observed spur of e-invoicing solutions, as several of them have required that invoices submitted to the public sector must comply with specific – frequently national and non-interoperable – standards.

2.2.2. *Problem (P1) – excessive complexity and legal uncertainty for firms*

The existence of many different e-invoicing requirements and standards across the EU results in **an excessive level of complexity and legal uncertainty (P1)** for firms when issuing invoices to another Member State. This situation is not only burdensome for suppliers, but presents a risk that their e-invoices might not be accepted by buyers in other Member States. The fact that cross-border e-invoicing is problematic is confirmed in various publications. For example, the Euro Banking Association underlines the fact that barriers to adoption of e-invoicing persist, especially in the area of legal/tax rules and a lack of EU-wide harmonisation and clarity, which complicates intra EU-invoicing⁶⁰.

Similar views have been collected within the PEPPOL project, where a representative of an enterprise currently using e-invoicing in public procurement has stated the following: “*We currently support many different standards, versions of standards and formats and this is not*

⁵⁸ “*E-invoicing 2010, European market guide*”, Euro Banking Association (EBA) and Innipay.

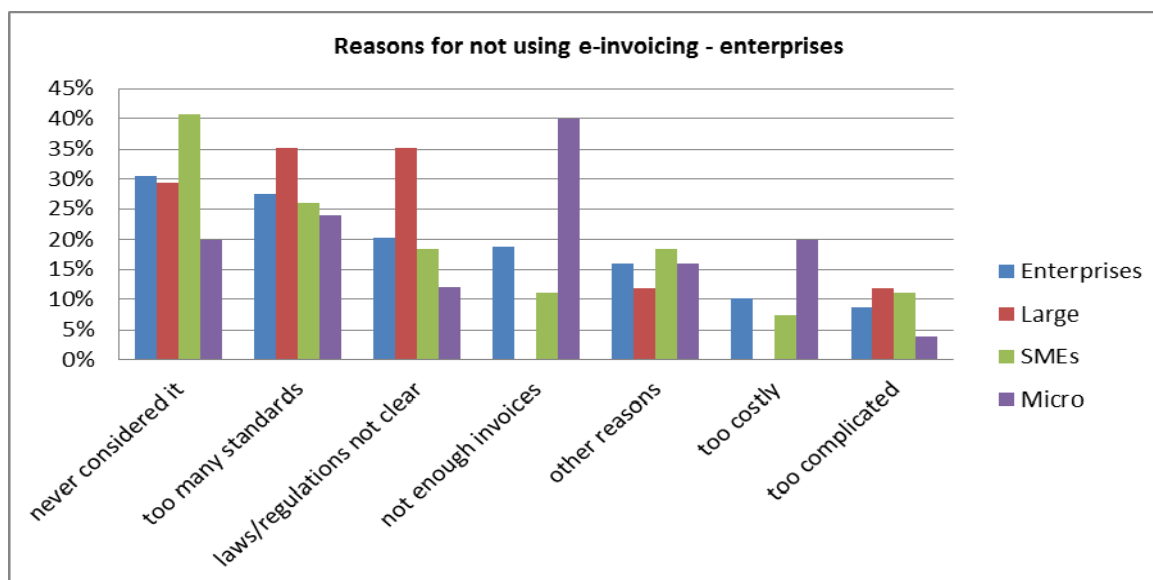
⁵⁹ “*E-invoicing - Final step of an efficient invoicing process*”, Deutsche Bank Research, May 3, 2010.

⁶⁰ “*E-invoicing 2010, European market guide*”, Euro Banking Association (EBA) and Innipay.

sustainable anymore. If you look at the cost benefits of automation, supporting 4 different standards represents a break-even point for us [...]. Every new format or standard requires training, learning the codes, developing and testing new code, and then maintaining it. It is a serious investment and maintenance cost.”⁶¹

In the public consultation concerning this initiative, the multiplicity of standards/requirements in e-invoicing was identified as one of the main barriers to the adoption of e-invoicing by firms.

Figure 5): Reasons for not using e-invoicing – public consultation results



Source: DG Internal Market and Services

The results of the above-mentioned consultation also show that a lack of clarity concerning applicable laws and regulations is the third most frequently mentioned reason which discourages firms from e-invoicing (see: Figure 5).

Complexity and legal uncertainty concerning the acceptance of an invoice in different Member States was also mentioned by SMEs in a survey on the use of e-invoicing in Europe⁶². For example, the fear of lack of acceptance of invoices abroad was mentioned by as many as 47% of firms from Austria and 21% from Italy. In Spain and Finland this concern was mentioned less frequently, but around one in ten firms still perceived it as a problem (see: Table 2).

⁶¹ “Supplier perspectives on the challenges of eInvoicing with the public sector” by Roman Weber, PEPPOL.

⁶² The survey was conducted in 2008 by PricewaterhouseCoopers (PwC) in Finland, Austria, Italy and Spain. The number of replies received: 694 (FI), 126 (AT), 60 (IT) and 34 (ES); source: Annex 2 of „European E-Invoicing Guide for SMEs”.

Table 2): Survey of SMEs – problems of e-invoicing

What do you regard as potential problems of electronic invoicing? [in %]	AU	FI	IT	ES
Complexity	27,0	18,9	23,9	21,4
Expensive/high investment required	12,3	17,5	15,6	11,1
Concerns over return on investment	14,2	9,2	13,9	14,8
Readiness/compatibility of internal systems	30,4	34,6	36,0	20,0
Customer compatibility/readiness	36,0	51,8	23,9	20,7
Legal uncertainty concerning the acceptance of the invoice in different Member States	46,8	9,4	21,4	12,0
There are no barriers	10,3	11,6	20,8	15,0
Other	23,7	10,3	0,0	15,4

Source: "European e-invoicing guide for SMEs"

In practice, the risk of non-acceptance abroad is typically driven by the existence of different technical standards. This is also confirmed by the fact that a lack of “customer compatibility” scores high on the list of problematic issues for SMEs (e.g. mentioned by 51% firms in Finland). Uniform technical requirements would undoubtedly simplify the e-invoicing processes as compatibility between buyers and sellers would be ensured.

2.2.3. Problem (P2) – higher costs for firms

As mentioned above, the existence of multiple requirements, standards, solutions, and networks/platforms across the EU results in a very complex situation. Since these standards and systems are not interoperable, and as no common standard is available on the market, firms which want to carry out cross-border procurement activities are often required to support, in one way or another, a new invoicing standard each time they access a new market. This in turn generates additional costs, irrespective of whether the invoices are submitted directly (which requires additional expenditure on creating new mapping possibilities) or through service providers (which will charge higher fees). Whether done via service providers or directly, the need to introduce new interoperability requirements **increases operating costs for economic operators (P2)**, i.e. the costs of doing business cross-border.

The problems of these excessive costs are also recognised by firms participating in public procurement: *“There are several fee structures that service providers typically use for e-Invoicing: from free for suppliers, a fixed subscription fee, a fixed fee per invoice to a percentage fee on the amount of the invoice. So, in addition to the technical complexities we also have to evaluate the fee structure when deciding to support a customer’s request for e-Invoicing or not. Some service providers have acceptable fee structures but there are others that for example charge a percentage of the amount of the invoice, so the exchange of a large invoice could cost us 1.500 Euro or more, even though it is exactly the same process whether you exchange a 100 Euro or a 1 million Euro invoice. This simply does not make sense*

*economically. In such case we will contact the customer and revert back to a 100% manual process for a large invoice. This obviously defeats the whole purpose of automation for both customer and supplier but it allows us to save a significant amount of money.”*⁶³

The exact amount of additional costs for firms generated by the need to adapt to multiple standards is difficult to quantify, since as mentioned above, service providers use various business models and pricing schemes, which typically depend on the volume of invoices generated by the supplier. It is evident, however, that the need to support each additional e-invoicing standard leads to additional operating costs for firms. In passing, it should be noted that these higher operating costs may be especially burdensome for SMEs, and in particular for microenterprises.

Finally, it is important to note that it is not only suppliers that are faced with the problems stemming from the multiplicity of e-invoicing standards across the EU. The higher operating costs for these firms, which result from the need to support several different standards, indirectly also have a negative effect on the buyers. In order for the firms to make the same level of profit, higher prices need to be charged for their products or services, and these higher prices are ultimately paid by the contracting authorities. This aspect links the problems with the contextual aspects, such as the suboptimal use of resources in public procurement.

2.2.4. Consequences (C1, C2)

The need to adapt to multiple interoperability requirements generates excessive complexity and legal uncertainty (P1) and increases the operating costs (P2) for firms doing business cross-border.

The divergent legal or technical requirements, which are either “non-standardised” or adopted in the form of national standards, can constitute **market access barriers in cross-border public procurement (C1)** - in the same way as any other unknown legal or administrative requirements. These divergent requirements could be perceived as technical barriers to trade⁶⁴ and generate investment risk. In the worst-case scenario, the two above-mentioned problems might deter firms from bidding in public procurement in other Member States, meaning that enterprises would pass up on potential business opportunities due to specific e-invoicing requirements which they cannot support (or which they judge too expensive to support)⁶⁵.

According to a survey held in 2011 by Rambøll Management⁶⁶, for 71.5% of firms, legal requirements leading to market entry barriers in the awarding country are perceived as relevant or highly relevant obstacles to cross-border bidding in public procurement (i.e. high relevance for 47.6% and medium relevance for 23.9% respondents). “*Unfamiliar formal*

⁶³ “*Supplier perspectives on the challenges of eInvoicing with the public sector*” by Roman Weber, PEPPOL.

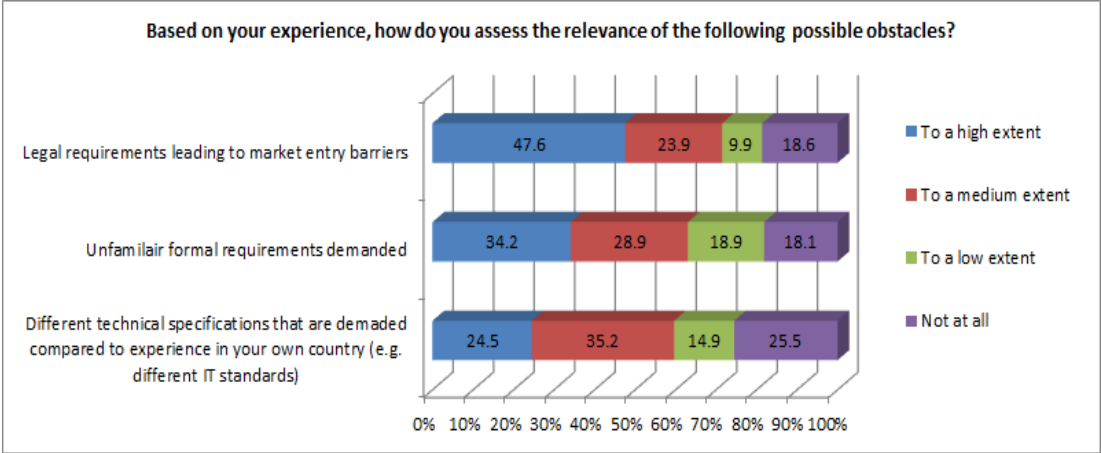
⁶⁴ The World Trade Organisation recognises that regulations and product standards, if set arbitrarily, could be used as an excuse for protectionism (source: http://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm).

⁶⁵ “[A]s long as it is unclear which e-invoicing standard will establish itself in the market some companies will shy away from making any long-term investments. After all, with specific investments it is not only the direct expenditure but also indirect costs that play a part. The company decides on a particular e-invoicing solution. This could rule out business associates who do not adopt this system and this may raise the barriers when looking for new suppliers or customers. These indirect costs would not be incurred if interoperability between e-invoicing providers were to be achieved.” “*E-invoicing - Final step of an efficient invoicing process*”, Deutsche Bank Research, May 3, 2010.

⁶⁶ “*Cross-border procurement above EU thresholds*”, Rambøll Management, May 2011.

requirements demanded’ were important or very important for 63.1% of firms. The detailed results of the survey are provided in Figure 6.

Figure 6): Businesses' views on several possible obstacles to cross-border bidding

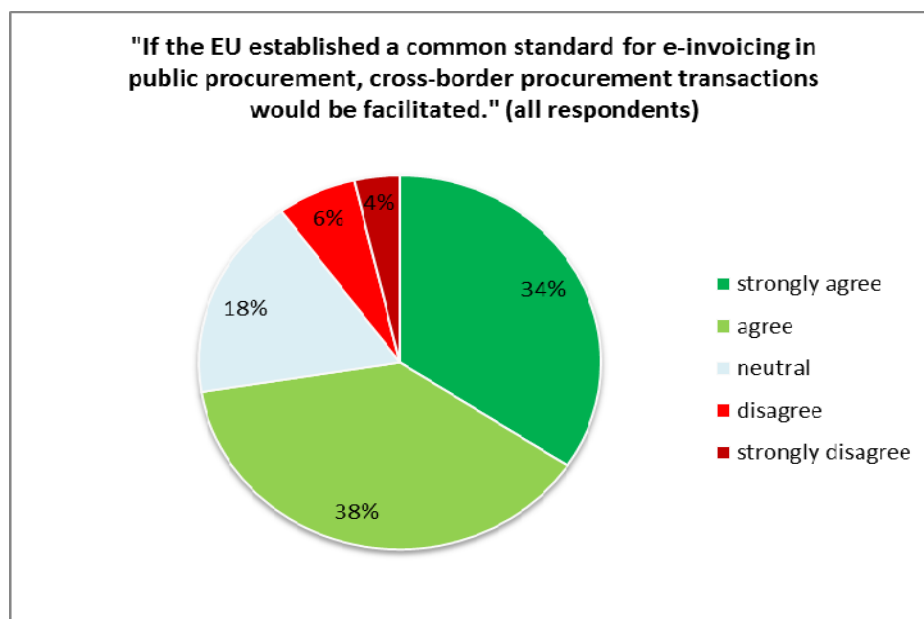


Source: "Cross-border procurement above EU thresholds", Ramboll Management, May 2011

If the above examined legal uncertainty (P1) and higher costs (P2) resulting from different e-invoicing requirements were to be classified respectively under the headings “legal requirements” and “unfamiliar formal requirements” in the above survey, its findings would then show that the persistence of these obstacles discourages firms from participating in cross-border public procurement.

Similarly, the connection between e-invoicing and cross-border public procurement is confirmed by the results of the public consultation, where 72% of 661 respondents either agreed or strongly agreed with the statement: "If the EU established a common standard for e-invoicing in public procurement, cross-border procurement transactions would be facilitated". Only 10% disagreed or strongly disagreed. The proportion was almost identical for enterprises, i.e. the stakeholders most directly concerned: 71% either agreed or strongly agreed with the statement while a mere 8% disagreed or strongly disagreed (out of 122 firms which replied).

Figure 7): Impact of EU common standard for e-invoicing on cross-border procurement



Source: DG Internal Market and Services – results of the IPM public consultation, Dec 2012 – Jan 2013

Finally, the risk of emergence of market entry barriers in cross-border public procurement due to functional as well as technical IT characteristics was identified as early as 2004 in the Commission Communication *“The Action plan for the implementation of the legal framework for e-procurement”*. This Communication recognises that *“barriers for businesses may emerge in cross-border tendering, if design of IT standards is incompatible. Diversity and incompatibility of technical solutions can render suppliers’ access to e-procurement systems impossible or discourage their participation because of additional difficulties or increased costs”*⁶⁷.

To summarise, both the higher operating costs for enterprises and the excessive complexity/legal uncertainty generated by the need to acquire and maintain interoperability between various invoicing systems are a potential source of **market access barriers in cross-border procurement (C1)**, which ultimately leads to a situation where e-invoicing regimes are still delineated along national borders. Where it does take place in the EU, e-invoicing is for the most part limited to separate – often national – networks, creating 'islands of e-invoicing' in the Internal Market. The domination of national e-invoicing regimes and national technical solutions/standards means lower cross-border bidding, fewer participating companies, and therefore lower competition, which in turn translates into an **inefficient functioning of the Internal Market (C2)**.

2.3. Developing a baseline scenario

The baseline scenario consists of the EU undertaking no additional measures with regards to e-invoicing in public procurement beyond those which have already been implemented.

⁶⁷ *“Action plan for the implementation of the legal framework for electronic public procurement”*, Communication from the Commission, Brussels, 13.12.2004.

The EU's policy towards e-invoicing is currently set-out in the 2010 e-invoicing Communication⁶⁸, in which the use of e-invoicing was recommended and self-regulation on the basis of a number of guidelines was urged. This Communication recognises that if the full benefits of e-invoicing are to be realised, public sector initiatives in the Member States are critical to accelerate its uptake and market penetration. In order to achieve this, the Commission recommends that Member States should develop national strategies *"to promote e-invoicing at national level, including by setting targets for the adoption level of e-invoicing"*.

The Communication also recognises the drawbacks of the multiplicity of standards for e-invoicing. In particular, it points out that *"the diversity of data and usage requirements, and very different approaches to their implementation, have led to market fragmentation"* and that *"as a consequence, market players, such as enterprises, software companies and financial service providers nowadays need to support multiple formats, necessitating the need for substantial mapping and conversion exercises to cope with data expressed in different syntaxes."*

In order to overcome this fragmentation, the 2010 e-invoicing Communication asked international and European standard-setting bodies to undertake efforts to facilitate convergence on and implementation of the chosen data model. However, the Communication stated that it should be left to the market to define how this data model is subsequently adapted to suit specific business needs. In line with this approach, the Commission has also implemented or funded projects of its own to promote the use and interoperability of e-invoicing at European level, with a particular focus on the B2G/public procurement domain (e.g. the e-PRIOR and PEPPOL projects; see Annex 1.7 for details).

Three years on from the publication of the 2010 e-invoicing Communication, the situation is less than optimal. Although a small number of Member States have taken some steps towards implementing e-invoicing in public procurement and a few others are considering action in this direction, these initiatives are uncoordinated and inconsistent.

As mentioned previously, Denmark, Finland, and Sweden had already required the submission of e-invoices before the 2010 e-invoicing Communication was adopted, and a number of other Member States have recently launched projects (e.g. Austria, Ireland, Belgium, the Czech Republic, Germany) to introduce e-invoicing in the public sector, which could be considered as their response to the recommendations published in 2010.

However, this gradual and uncoordinated progress in the adoption of e-invoicing by Member States (including via a mandatory approach) only aggravates the interoperability problem described in Section 2.2, as ever more technical standards and requirements need to be supported by suppliers in order to be able to send e-invoices to Member States' public administrations across the EU. These initiatives are therefore bringing further complexity and fragmentation to the Internal Market. So far, only three EU Member States have opted to implement inter-operable solutions based on EU co-funded projects: PEPPOL in Austria and foreseen in Ireland, and e-PRIOR, currently being implemented by the Belgian Federal administration.

⁶⁸ http://ec.europa.eu/internal_market/payments/docs/einvoicing/com712_en.pdf

In undertaking no new EU action, it can be expected that in the foreseeable future, the adoption of e-invoicing in public procurement in the EU would continue at a slow and steady pace, with more and more national standards appearing on the market. Even if some Member States opt for interoperable solutions, there is no guarantee that this will be the case everywhere. Indeed, recent experience suggests otherwise.

As a consequence, achieving EU-wide interoperability of e-invoicing systems in public procurement risks becoming increasingly complex and costly, despite the Commission's ongoing support for this objective. Service providers (or buyers and suppliers that choose to communicate directly) would have to cater for a growing number of national requirements and standards. The associated costs would ultimately be borne by suppliers – either directly in peer-to-peer transactions or in the way of fees, if service providers handle the format conversions. In other words, market access barriers would not only continue to exist but could in fact increase, preventing the Internal Market from functioning correctly.

2.4. The EU's right to act and justification

2.4.1. Legal basis

The EU's right to take action to ensure the functioning of the Internal Market stems from Article 114 of the Treaty on the Functioning of the European Union (TFEU), which provides the tools for achieving the objectives set out in Article 26 TFEU.

Article 114 TFEU would therefore constitute the legal basis for a potential EU initiative on e-invoicing in public procurement.

As mentioned in Section 2.1.3, no specific legislation at EU level has until now dealt with the post-award part of procurement. The current approach to address the post award stage is clearly driven by IT developments in the area of public procurement. For a long time and until recently, invoicing could easily be thought of simply as one of the consequences/outcomes of public procurement rather than an integral part thereof, with very little impact on the actual procurement itself. As such, it was simply not relevant enough to figure significantly in public procurement policy. However, the recently observed adoption of electronic procurement methods and tools has significantly changed the procurement processes, which have become much more integrated and the digitalisation of all elements of the procurement cycle is nowadays a reality⁶⁹. The above IT-driven changes in the public procurement process have necessitated a reassessment of the pre-award / post award division.

The fact that a number of Member States have introduced electronic tools and processes into invoicing and that several of them have made it mandatory, means that these practices are the source of new market access barriers in cross-border public procurement. As has been shown in Section 2.2.1, the existing or planned national rules are based on different national standards which are not interoperable. There is now a real risk of an enterprise not participating in cross-border public procurement due to the inability to meet e-invoicing requirements of a particular Member State⁷⁰; hence the introduction of electronic invoicing

⁶⁹ For example the PEPPOL project targeted both the pre-award and post-award stages of procurement process (in the pre-award phase: e-signatures, a Virtual Company Dossier, e-catalogues; in the post-award phase: e-catalogues, e-orders and e-invoicing).

⁷⁰ Put differently, if a public contract requires electronic invoicing in a particular format, and an enterprise in another Member State interested in participating does not currently support that standard, it is faced

has recently started to have a direct impact on public procurement. As has been argued in Section 2.2.4, these new technological market access barriers (unknown e-invoicing standards, non-interoperable functional requirements, etc.) hinder the efficient functioning of the Internal Market.

There is therefore an urgent need to address the emerging problem of market access barriers before additional Member States enact their own unique national standards for e-invoicing in public procurement. Article 114 TFEU provides the most appropriate legal basis for a legislative act harmonising the *de facto* and *de jure* actions undertaken by Member States in the area of e-invoicing.

2.4.2. *Subsidiarity and proportionality*

EU action in the area of e-invoicing in public procurement is justified on grounds of subsidiarity and proportionality.

(1) Necessity Test

As described in Section 2.2, the number of existing standards, requirements, and solutions remains very large and e-invoicing networks appear to be growing more, not less, entrenched along national boundaries. The bottom-up initiatives from Member States have aggravated the interoperability problem, as more e-invoicing standards have emerged on the market, further increasing the costs and complexity of ensuring interoperability. The fact that uncoordinated standardisation activities at Member State level can lead to conflicting national standards and impediments to the functioning of the Internal Market has already been recognised in the *acquis*⁷¹. European standards therefore play a very important role within the internal market⁷², and such standardisation by nature requires coordination at the EU level.

In the particular context of public procurement, actions undertaken by Member States, which frequently involve the introduction of national standards, are not sufficient to ensure e-invoicing interoperability in cross-border procurement.

(2) EU added value

The rationale for an EU action stems from the transnational nature of the problem of insufficient interoperability between national (and proprietary) e-invoicing systems. Given the cross-border nature of public procurement transactions covered by the Directives and the lack of any meaningful efforts on the part of the Member States to resolve the interoperability issues, an EU action on e-invoicing in public procurement seems to be the only solution available to co-ordinate their actions and to prevent further fragmentation of the Internal Market. Furthermore, only the EU can act as an unbiased arbiter in the discussion on interoperability and objectively recommend the best approach to eliminating market barriers.

with two choices: either it undertakes an investment which will allow it to invoice using that particular standard, or it passes on bidding on the public contract in question. Either way, a barrier to cross-border public procurement is created.

⁷¹ Recital (14) of Regulation (EU) 1025/2012: “*Within the Union, national standards are adopted by national standardisation bodies which could lead to conflicting standards and technical impediments in the internal market.*”

⁷² Recital (5) of Regulation (EU) 1025/2012.

There is little indication that, without EU action, the current situation concerning e-invoicing in public procurement will change or improve in the foreseeable future.

(3) Proportionality

Under the principle of proportionality (Article 5(4) TEU), the content and the form of EU action shall not exceed what is necessary to achieve the objectives of the Treaties. The potential EU initiative considered in this Impact Assessment will be limited only to those aspects of e-invoicing in public procurement that Member States cannot achieve satisfactorily on their own, with the aim of respecting the heterogeneity of requirements and invoicing traditions among industries, geographies and jurisdictions, as well as the existence of legacy IT systems currently used by some Member States. The proportionality of the different policy options has been assessed and the result of this assessment is described in the relevant part of this Impact Assessment (see, in particular, Sections 5 and 6.1).

2.4.3. *Justification for EU action on e-invoicing in public procurement*

The existence of the problems and consequences described in sections 2.2.1 to 2.2.4 is widely recognised by stakeholders, as has been shown in these sections by quoting their views or citing the results of various surveys. The majority of the stakeholders share the view that action at EU level should be undertaken to facilitate interoperability in e-invoicing (e.g. 85% of respondents to the IPM consultation support a possible EU initiative to enhance interoperability in e-invoicing)⁷³. For many – especially firms which consider using e-invoicing – “*government policy emerges as the most important determinant of progress in e-invoicing adoption*”⁷⁴. The latter statement also links the problem definition with the context of the low uptake of e-invoicing in the public sector, as stakeholders would very much appreciate seeing governments as front-runners in this area.

EU intervention concerning e-invoicing in public procurement is also justified despite the relatively low level of cross-border procurement in the EU⁷⁵, as market access barriers driven by insufficient e-invoicing interoperability can influence firms’ propensity to bid on public procurement in other Member States. As a result, it can be argued that this low level is actually a result of the existing barriers. Such an assessment is also in line with WTO practice⁷⁶: where differences in technical regulation and standards may be recognised as potential unnecessary obstacles to trade, the volume of the cross-border procurement is incidental, since any potential barrier to trade may have an impact on the market. Therefore theoretically, if barriers to cross-border e-invoicing were removed, the volume of cross-border procurement could rise significantly.

⁷³ Summary of stakeholders views are presented in Annex 1.11.

⁷⁴ “*Good practices in the adoption and promotion of e-invoicing in Europe: Results of the EMSF good practices consultation*” - ACCA Discussion Paper prepared for Activity Group 2 of the European Multi-stakeholder Forum on e-invoicing, London, August 2012.

⁷⁵ In 2006-2009 direct cross-border procurement accounted for around 1.6% of the number of contracts awarded and around 3.5% of their value, see: section 2.1.4

⁷⁶ World Trade Organisation, http://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm.

3. OBJECTIVES

3.1. General objective

The primary objective of this initiative would be to improve the functioning of the Internal Market by introducing mechanisms that would diminish market access barriers in cross-border public procurement, generated by insufficient interoperability of e-invoicing technical requirements or standards.

3.2. Specific objectives

The specific objectives contributing to the achievement of the general objective would be the following:

- **Reduce complexity and improve clarity and legal certainty for economic operators** (to combat problem P1), by enabling firms to send invoices in standards with which they are familiar and which will be widely accepted;
- **Lower operating costs for economic operators participating in cross-border public procurement** (to combat problem P2), such as cost of supporting multiple e-invoicing standards and systems.

3.3. Operational objective

Considering the main problem driver highlighted in Section 2.2, as well as the general and specific objectives described above, the following operational objective has been identified:

- **Create conditions for the emergence of (a) technical solution(s) for e-invoicing in public procurement which would ensure cross-border interoperability** – in other words, create conditions in which communication and mapping between e-invoicing systems will be less resource-intensive, allowing buyers and sellers to exchange invoices in public procurement at the lowest cost and with minimal complexity.

It is proposed to implement this initiative within as short a period of time as possible for all contracting authorities which award public procurement contracts covered by the Directives. Taking into consideration the necessity of developing a common standard and the time which this requires, the most realistic deadline for the introduction of a technical solution that would ensure cross-border interoperability appears to be between 2017 and 2018. Such a deadline would be coherent with the 2010 e-invoicing Communication⁷⁷, which called for e-invoicing to become the predominant method of invoicing in Europe by 2020.

4. POLICY OPTIONS

With a view to achieving the above-stated objectives in the most effective and efficient manner, the following policy options are proposed:

⁷⁷ "Reaping the benefits of e-invoicing for Europe", European Commission Communication, COM(2010)712.

- **Option (1) - No new EU action** (“no change”): no new action would be undertaken at the EU level; the Commission would continue to monitor the implementation of the 2010 e-invoicing Communication, expecting self-regulation among stakeholders or the conclusion of multilateral agreements between e-invoicing service providers;
- **Option (2) - Free-choice approach**: the EU would propose a European e-invoicing standard to the market, but its use would not be obligatory (i.e. the EU would recommend it, but the final decision would be left to the stakeholders);
- **Option (3) – Selective conversion to e-invoicing**: the EU would propose a European e-invoicing standard to the market; the Member States or contracting authorities which have already made or which subsequently make e-invoicing mandatory would be obliged to accept invoices submitted in this standard; exchanging e-invoices in other standards would still be allowed if both parties of the transaction so agree;
- **Option (4) - Obligatory acceptance**: the EU would propose a European e-invoicing standard to the market; the acceptance of invoices submitted in this standard would be obligatory for all contracting authorities; exchanging e-invoices in other standards would still be allowed if both parties of the transaction so agree;
- **Option (5) - Full harmonisation**: the EU would propose a European e-invoicing standard to the market, which would become the only means of exchanging invoices in public procurement; exchanging e-invoices in other standards would no longer be allowed.

As explained in Section 2.1.1, the above proposals would apply to public procurement covered by the Directives. In all Options, firms would be allowed to send paper invoices unless the Member State or the contracting authority decides to ban paper invoicing; the introduction of mandatory sending of e-invoices is not considered in the Options analysed in this Impact Assessment.

An overview of key differences between the above proposed Options is presented in Table 3).

Table 3): Key differences between Options

	A new European standard is proposed to the market	Member States must accept invoices compliant with the new European standard	Only the new European standard is allowed
Option (1): No new EU action	<i>NO</i>	<i>NO</i>	<i>NO</i>
Option (2): Free-choice approach	YES	<i>NO</i>	<i>NO</i>
Option (3): Selective conversion to e-invoicing	YES	<i>NO/YES</i> (<i>YES</i> - only if a Member State or a contracting authority mandates the use of e-invoicing)	<i>NO</i>
Option (4): Obligatory acceptance	YES	YES	<i>NO</i>
Option (5): Full harmonisation	YES	YES	YES

With the exception of the baseline scenario (i.e. Option (1) “No new EU action”) which follows the recommendations of the 2010 e-invoicing Communication⁷⁸, the remaining Options foresee that a specific instrument (a European e-invoicing standard) would be proposed to the market to facilitate interoperability.

The above raises a key question, namely which technical solution should be chosen as the backbone of the new interoperability framework. Theoretically, the operational objective defined in this Impact Assessment could be achieved in one of two ways:

- (a) choosing one of the existing standards and proposing it to the market, or
- (b) developing a new standard and proposing it to the market, e.g. a European standard (EN).

These alternatives could constitute sub-options of each of the four above-mentioned main Options (i.e. the five Options less the baseline scenario). However, for a number of technical and practical reasons, such an approach has not been used. The principal reason is that there is currently no adequate solution available on the market which could ensure cross-border

⁷⁸ http://ec.europa.eu/internal_market/payments/docs/einvoicing/com712_en.pdf

interoperability at the EU level. As such, the development of a European standard remains the only viable solution. The justification for the above decision is presented in more detail in Annex 1.9.

Finally, the proposed new European standard should cover only the elements that are necessary to ensure cross-border interoperability in e-invoicing. The exact scope of the EN should be left to the relevant European Standardisation organisation and follow the standardisation process as defined in Regulation (EU) No 1025/2012. However, at this stage of analysis it seems that the new European standard should above all focus on the semantic alignment⁷⁹ of various national standards / technological solutions used in e-invoicing across the EU.

4.1. The choice of coercive or non-coercive instruments

The proposed menu of options ranges from options which would be implemented using soft law measures, to options where legal instruments would be necessary. A question arises if coercive instruments should be at all considered in this Impact Assessment, knowing that in the public consultation the majority of respondents (52%) preferred voluntary instruments to be used in order to enhance interoperability, while 42% chose mandatory and 6% voted for both.

Firstly, the majority in favour of voluntary instruments only slightly outweighs the number of supporters of mandatory actions at the EU level. Secondly, the options proposed in this Impact Assessment that envisage some mandatory enforcement of common rules to facilitate e-invoicing interoperability in public procurement are actually a mixture of coercive and non-coercive measures. For example Option (3) foresees coercive measures only with regards to the Member States or contracting authorities which have mandated or will mandate the use of e-invoicing. For the remaining stakeholders, the use of e-invoicing would be voluntary. Similarly, Option (4) would contain certain mandatory elements (i.e. an obligation to accept invoices if compliant with the new European standard), but the uptake of e-invoicing would depend on the decisions made by firms participating in public procurement, and therefore it would have a partially non-coercive character.

Taking into account the fact that the results of the public consultation do not show a clear or overwhelming opposition to mandatory action at the EU level and that the proposed initiatives to facilitate e-invoicing interoperability in public procurement contain in practice a mixture of voluntary and mandatory elements, the proposed menu of options is fully justified and should be maintained.

5. ANALYSIS OF IMPACTS

A specificity of a potential initiative on e-invoicing in public procurement is that most, if not all, of its impacts would be observed irrespective of the Option chosen, the only difference being their size and the speed with which they would materialise. For this reason, before the impacts of each Option are analysed, an overview of the common impacts is presented below.

⁷⁹ As defined in European Interoperability Framework (EIF) for European public services, Annex 2 to the Communication from the Commission “*Towards interoperability for European public services*”.

5.1. The expected common impacts

The removal of market access barriers is expected to generate impacts that are mainly economic in nature, both in terms of the costs and the benefits. The economic costs for both firms and public bodies will be limited to the expenditures necessary for the introduction of e-invoicing systems (e.g. acquisition of relevant software and/or hardware). The economic benefits, on the other hand, will primarily consist of (i) lower operating costs, as well as more clarity and legal certainty for firms active in public procurement; and (ii) lower processing costs and lower prices for contracting authorities due to more intense competition (i.e. more bids submitted in part due to increased participation of firms from other Member States). Any social and environmental costs would be limited. These impacts will be referred to in this Impact Assessment as ‘primary impacts’.

The above primary impacts will be supplemented by additional ‘secondary’ or ‘side effect’ impacts, as improved interoperability would most probably translate into increased uptake of e-invoicing by both contracting authorities and firms. The secondary impacts of the initiative will be economic, social, and environmental. In some Options, these secondary impacts are highly probable, since the availability of an interoperable European standard in e-invoicing could encourage many market players – which until now have been hesitant – to switch to e-invoicing. Although the wider adoption of e-invoicing is not an objective of this initiative, the secondary impacts will nevertheless be analysed for each Option, as they may be significant.

The division into primary and secondary impacts to a significant extent reflects the split between the key problems and the context identified in section 2.2 (i.e. primary impacts relate to the key problems, while the secondary ones to the context of the low e-invoicing uptake by the public sector). An overview of these common impacts is provided below. The extent to which they would materialise will depend on the Option chosen (as analysed in section 5.4).

5.2. Primary impacts

As mentioned in the previous section, the removal of market access barriers to cross-border e-invoicing would have mainly economic impacts. The main stakeholders concerned would be firms active in public procurement and contracting authorities. The scale of these impacts would depend on the Option chosen - the more users align to a single solution, the fewer market access barriers would remain.

5.2.1. Impacts on firms

The establishment of a common standard would solve the interoperability problem for firms dealing with contracting authorities which adhere to the new rules (voluntarily or due to the mandatory nature of the new provisions). Specifically, the availability of one interoperable and commonly acceptable standard would **attenuate the complexity of doing business abroad and provide more legal certainty for enterprises**. It would also **reduce costs for firms** which result from the need to support many different e-invoicing standards.

The availability of a single standard would be beneficial for both large enterprises and SMEs. These expected benefits are also recognised by the firms themselves – according to one supplier active in public procurement, *“dealing with 2 or 3 standards would put us in a very good position, but having to support one single standard would result in huge savings, as we would realise the real benefits of business automation with minimal setup and maintenance*

costs”⁸⁰. Similar views were shared by the contributors to the European Committee for Standardisation (CEN) workshop agreement (CWA 16461)⁸¹, who pointed out that” *since a large number of different formats are in use, a reduction to a small number of common format specifications (if not one), i.e. standards, could make it much easier for an SME to get started with structured data exchange and to address the majority of their customers (especially the large enterprises) with one common format.*”

SMEs also confirm that they would appreciate the resolution of the interoperability problem by the emergence of a common standard. Their opinions were collected in a survey conducted within the third Working Group of the EMSF⁸² and are provided below.

Table 4): SME adoption drivers (1=least helpful; 5 = most helpful)

Models	Mean	Median
Integration with SMEs’ accounting software	4.01	4.00
Affordability	3.99	4.00
A common national standard for invoice content	3.93	4.00
Peace of mind on VAT compliance	3.75	4.00
A common EU standard for invoice content	3.67	4.00

Source: “Good practices in the adoption and promotion of e-invoicing in Europe” ACCA Discussion Paper

As presented in Table 4), the availability of a common e-invoicing standard is mentioned among the most helpful drivers for the adoption of e-invoicing in SMEs.

The introduction of a new European standard could potentially be the source of some costs of adoption. These could include the cost of purchase of new software and IT equipment, business disruption due to process change, the costs of retraining staff, or potential service provider fees for suppliers.⁸³ However, considering recent developments in information technology and the nature of the software required, heavy investments should not be necessary. The availability of cloud-based and ‘software-as-a-service’ solutions mean that in many cases, no installation of software would even be necessary, and users could be charged on a per-use basis.

Furthermore, it is important to note that any such costs would be borne only once, as only one new standard would need to be introduced. The risk of suppliers having to bear such costs a number of times due to the need to support numerous other e-invoicing standards would be eliminated. The ‘avoided costs’ can effectively be considered as an overall cost reduction or

⁸⁰ „Supplier perspectives on the challenges of eInvoicing with the public sector” by Roman Weber, PEPPOL.

⁸¹ “Electronic invoice processes in Europe and enablement of SMEs to use them efficiently”, CEN Workshop Agreement (CWA) 16461.

⁸² “Good practices in the adoption and promotion of e-invoicing in Europe” ACCA Discussion Paper.

⁸³ The service providers use different pricing models, from those who charge a fixed fee per invoice or a monthly rate dependant on the average number of invoices exchanged, to the recently emerging cases where the service itself is provided free of charge.

as potential savings. The scale of the potential savings can vary greatly depending on, among other factors, the type of solution chosen, the business model and pricing schemes of service providers, and the volume of invoices generated by the supplier. The huge variety of e-invoicing business models⁸⁴ and cost structures⁸⁵ that exists on the market makes any attempt to provide a precise aggregate figure difficult.

Finally, further potential savings for firms may come from some adaptations of the pricing schemes and market structures for e-invoicing transmission, since the e-invoicing service providers would have to modify their business models to support the new interoperable standard. The availability of a common solution may for example reduce the roaming (i.e. e-invoice transfer) fees. This observation is shared by stakeholders: during discussions in the EMSF, the opinion was voiced that a common standard would simplify communications between service providers by removing the need for them to constantly agree on which standard is to be used. Similarly, according to Deutsche Bank Research, “*Interoperability would [...] further expand and promote the existing competition between providers with its positive impact on innovation activity and the value for money offered*”. This should help to reduce the operating costs for suppliers even further.

Summarising, the introduction of a single interoperable solution would be beneficial for enterprises, both large and SMEs: they would need to invest only once in the adaptation to the common EU e-invoicing standard, whereby their costs would be proportionately reduced.

5.2.2. *Impacts on contracting authorities*

Any measure requiring the use of a new European e-invoicing standard would impact the way contracting authorities carry out procurement, and would therefore generate operational costs for contracting authorities and/or Member States. Depending on whether Member States and/or contracting authorities react positively, a recommendation to take up the new standard could have a similar effect. As mentioned in section 5.2.1 above, however, it seems that that these costs would not be excessive and would in any case be outweighed by the expected benefits (i.e. operational savings from e-invoicing and lower prices in public procurement due to enhanced competition).

Several examples of estimated costs to public administrations – based on existing projects to introduce e-invoicing in the public sector – are provided below. Although the available data do not allow to distinguish between the savings from operational enhancements and savings due to increased competition in all cases, the figures for estimated savings are provided as an indication of the possible economic benefits resulting from the take up of e-invoicing⁸⁶. They all show a positive cost-benefit ratio.

- Estimates made in 2004 by officials in the Scottish Executive showed that the introduction of e-invoicing would reduce administrative costs by around £5.4 million during the first four years of implementation. The total cost of

⁸⁴ For example buyer’s own platform, value-added network run by a service provider, four-corner model, web portal for SMEs, etc.

⁸⁵ For example free for recipients, free for senders, cost per invoice, monthly fee, initial implementation fee, etc.

⁸⁶ Additional information concerning the potential benefits of e-invoicing is provided in Annex 0.

implementing such a project were estimated at around £600 000 during the first two years⁸⁷.

- Belgium estimates that the costs of implementation of its e-invoicing pilot project in the federal government will amount to approximately 370 000 EUR for basic infrastructure and support services, while yearly savings in excess of 3 million EUR will be generated (not including the judicial sector)⁸⁸.
- In Spain the costs and benefits of an introduction of e-invoicing in the central government administration and related bodies (excluding the social security agency) are estimated to be about 100 000 EUR per annum, based on the creation of a central management model/platform to receive all e-invoices submitted to the central government administration. Savings to the central government from the move towards e-invoicing are estimated to be about 2.5 million EUR per annum⁸⁹.
- Norwegian municipalities estimated that a requirement to switch to structured e-invoicing based on a common standard for all incoming invoices would generate costs for suppliers peaking at some NOK 400 million (about 54 million EUR at current exchange rate) per annum 3 years after the introduction of the scheme. Then costs would steadily decrease and savings accruing to suppliers would exceed their costs by the 4th year. The total NPV of the benefits accruing to suppliers were estimated to be NOK 2077 million over a 10 year period (about 280 million EUR). A similar assessment of the introduction of mandatory e-invoicing in the Norwegian central government administration made in 2008 also concluded that there would be a net present value for suppliers, estimated at 178 million NOK (about 24 million EUR at current exchange rates)⁹⁰.

The available data thus indicates that the cost-benefit balance of the adoption of e-invoicing by public administrations is generally positive. In other words, the costs generated by any measure where the contracting authorities or Member States would be asked either to align to a new European standard or to adapt to e-invoicing more broadly would be outweighed by its expected benefits.

Additionally, the removal of market access barriers should also result in more cross-border bids submitted by firms and therefore lead to **increased competition** (or at least increased competitive pressure) in public procurement.

As explained in section 2.2.4, currently some potential suppliers wishing to bid on a public procurement contract in another Member State might decide not to do so if the contract requires the subsequent submission of e-invoices in a standard which they do not support. However, if such barriers were removed, these suppliers may decide to participate. This would result in more bids (more competition) and should in principle lower the prices paid by contracting authorities for goods, works and services that they purchase.

⁸⁷ “*e-Invoicing Benefits*”, Efficient Government Fund - expression of interest, <http://www.scotland.gov.uk/Publications/2005/07/1292532/25341>.

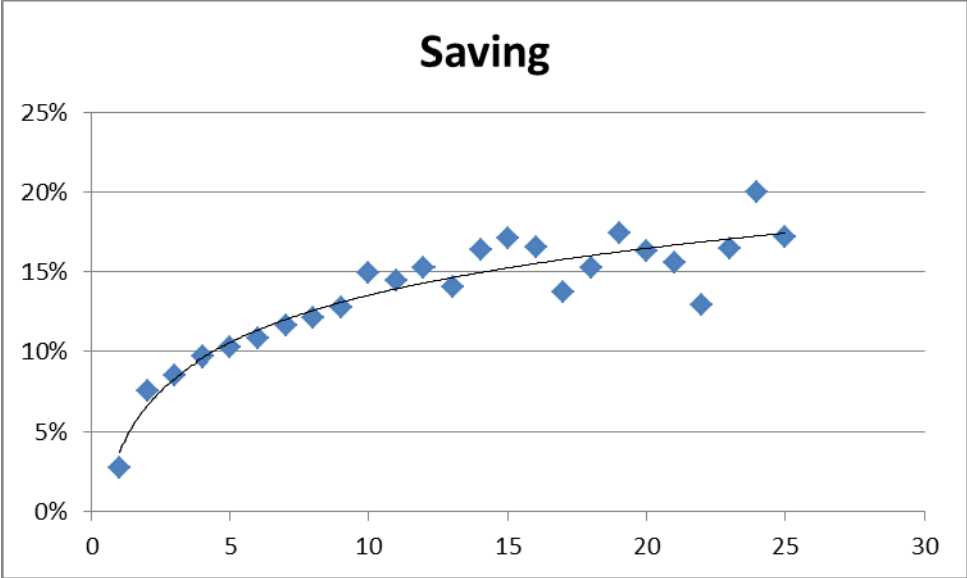
⁸⁸ Internal document from the Belgian Government.

⁸⁹ Information provided by the Spanish administration.

⁹⁰ „*AGFA - vurderinger og anbefalinger om elektronisk faktura i staten*” Rapport fra arbeidsgruppe for elektronisk faktura (2008).

As presented in Figure 8) below, based on aggregated data available for 2011, a positive relationship can be observed between the number of tenders received and the extent of savings: the higher the number of bids received on a given public procurement tender, the greater the savings realised. For example, if a contracting authority receives two bids instead of one, the typical saving per contract raises from 3% to 8%.

Figure 8): Relationship between the number of tenders received and savings over expected expenditure



Source: 2011 average saving (as % of estimated price) on public procurement contracts in the EU compared with the number of bids received, estimates by DG Internal Market and Services based on OJ/TED data.

The above example shows that increased competition induced by the removal of market access barriers in public procurement is likely to translate into tangible savings for contracting authorities.

5.3. Secondary impacts

As mentioned in the introduction to the impacts chapter, the adoption of a new EU e-invoicing standard may generate secondary impacts through the increased uptake of e-invoicing in public procurement. This increase in the use of e-invoicing (which is highly probable in some Options) would be the source of certain economic, social, and environmental impacts.

5.3.1. Economic, social, and environmental impacts

The economic impacts of an increased uptake of e-invoicing would be basically linked to savings to the economy generated by the expected savings in the public procurement cycle, i.e. reduction of operating costs for buyers and sellers, increased transparency, faster payment processing times. However, as far as secondary impacts on firms are concerned, it is assumed that these impacts are more positive if firms are allowed to switch to e-invoicing at their own speed.⁹¹

⁹¹ Since firms are exposed to market forces, it is assumed that they would switch to e-invoicing as soon as they see that such decision produces benefits.

The social impacts are expected to be neutral – they may involve some reassignments or redundancies in selected sectors (e.g. public administration, postal services, paper production) but these should be marginal and would most likely be counterbalanced by job creation due to the identified savings. The environmental impacts are expected to be positive – they would above all translate into a reduced use of paper and lower CO2 emissions. A more detailed analysis of economic, social and environmental impacts of increased uptake of e-invoicing is provided in Annex 1.3.

5.3.2. *Reduction of administrative burden*

The broader uptake of e-invoicing would also contribute to the reduction of administrative burden through the automation of invoicing procedures, including validation and processing of invoice data. By definition, this will reduce the burden of dealing with invoices on both the sender's and the recipient's side. Additionally, the availability of invoice data electronically would simplify auditing and tax collection by the Member States' tax authorities, as well as the preparation of any reports which need to be provided by the company. This would in turn reduce the administrative burden on enterprises. Importantly, due to the fact that such administrative requirements usually weigh more heavily on smaller enterprises, the reduction of administrative burden resulting from the introduction of electronic invoicing would be particularly beneficial to SMEs.

Due to the high potential of e-invoicing in public procurement to reduce administrative burdens, the initiative has been included on the list of actions with a potentially significant positive impact on administrative burden reduction, contained in Annex II of the Commission Work Programme for 2013⁹². The recent Communication "*Entrepreneurship 2020 Action Plan – Reigniting the entrepreneurial spirit in Europe*"⁹³ also mentions this initiative.

5.3.3. *The scale of secondary impacts*

The overall secondary impacts of each Option would to a large extent depend on the expected scope of e-invoicing adoption – the extent to which the appearance of an interoperable e-invoicing solution influences a wider adoption of e-invoicing across the EU will have the greatest impact on the macro scale. Clearly, the wider the adoption, the greater the economic and environmental benefits from e-invoicing (the more significant the impacts). Similarly, the faster the adoption, the sooner the secondary impacts of wider e-invoicing uptake would emerge.

The expected scale of secondary impacts will be analysed separately for each Option.

5.4. **Impacts of defined options**

As mentioned in the introduction to Section 5, the common impacts are expected to materialise in all Options, but to a varying degree depending on the case. In order to discuss these differences, the impacts of each Option will be compared using the following grid:

- Primary impacts – generated by the removal of market access barriers in cross-border public procurement / enhanced interoperability (economic);

⁹² Commission Work Programme 2013, Annex II "*Simplification and Regulatory Burden Reduction*" http://ec.europa.eu/atwork/pdf/cwp2013_en.pdf

⁹³ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0795:FIN:en:PDF>

- Secondary impacts – generated by potential ‘side effects’ of the availability of an interoperable technical solution in e-invoicing, which may lead to an increase in the uptake of e-invoicing (economic, social, and environmental).

5.4.1. Option (1): No new EU action

The baseline scenario was described in section 2.3. The current situation confirms that the objectives of this initiative would not be fully met if Option (1) were retained.

Table 5): Impacts of Option (1)

Primary impacts (related to improved interoperability)	Interoperability would not be ensured – market access barriers would most probably remain and/or worsen.
Secondary impacts (related to increased uptake of e-invoicing)	Some secondary impacts may appear, but because of the voluntary nature of this Option, the scale of these impacts is uncertain.

5.4.2. Option (2): Free-choice approach

The second Option would be similar to the “no EU action” approach, as market users would retain their freedom to choose any technical solution that they find best suited to their needs. However, a new (interoperable) European e-invoicing standard would be developed and made available to the market, with a recommendation (but without any obligation) to use it in public procurement.

With the introduction of the new e-invoicing standard merely recommended and not required, several significant risks remain which may prevent the objective of interoperability from being achieved. The acceptance of e-invoices in the European standard would remain at the discretion of each Member State and/or contracting authority, who may decide not to accept it. This could lead to the continued co-existence of several e-invoicing standards across the EU, or even within an individual Member State. There is therefore a high likelihood that the cost burden on enterprises would not decrease, as they would be forced to maintain numerous e-invoicing standards at the same time in order to be able to meet various technical requirements of other Member States (especially if mandatory e-invoicing is required by the public buyer). Should they choose not to do so, potential business opportunities would be foregone.

As far as the objective of this initiative is concerned, it would not be achieved, as interoperability would remain problematic. An impediment to the effective operation of the Internal Market would remain.

Due to the very large number of agreements required between invoicing parties in order to ensure a satisfactory level of interoperability, the self-regulation process is practically certain to be much more time consuming and more costly than standardisation by CEN.

Secondary impacts would be observed only to the extent to which a switchover to e-invoicing occurs. It can be expected that the availability of a common standard might encourage some market players to make this decision (presumably more than would be the case if no common standard were available), but due to the voluntary nature of this Option, the scale of this process is difficult to predict.

Table 6): Impacts of Option (2)

Primary impacts (related to improved interoperability)	Interoperability would be only partially facilitated (depending on the scale of uptake of the new European standard); numerous e-invoicing standards would still co-exist on the market, so the cost burden on enterprises would remain. The self-regulation approach is more costly than the CEN process and its results are uncertain.
Secondary impacts (related to increased uptake of e-invoicing)	Some secondary impacts may appear, but because of the voluntary nature of this Option, the scale of these impacts is uncertain.

5.4.3. Option (3): Selective conversion to e-invoicing

In this Option, contracting authorities and/or Member States which on their own initiative mandate the submission of e-invoicing in public procurement, would be required to accept electronic invoices in the agreed European standard as of that point in time. While not imposing the use of a new European e-invoicing standard in public procurement on all contracting authorities, this Option would nevertheless have some positive impacts: among those Member States / contracting authorities which have made (or will make) e-invoicing mandatory, the interoperability issues would effectively be resolved. Nevertheless, the possibility of different legal interpretations of the future e-invoicing provisions may become a source of complexity and legal uncertainty, which undermines the achievement of one of the two specific objectives. On the other hand, for Member States / contracting authorities which do not make e-invoicing mandatory, the effects of this Option would be identical to those of Option (2) – i.e. there is no guarantee that the objective of the initiative would be achieved.

Overall, the main benefit of this Option would be that interoperability would be facilitated: its implementation would lower the costs and complexity of e-invoicing for enterprises, which could now expect to be able to send electronic invoices in a single standard to any contracting authority which mandates e-invoicing. However, two risks would remain that it would not be ensured entirely: firstly, if some Member States delay the introduction of mandatory e-invoicing (perhaps as a result of the implementation of this Option); secondly, when e-invoicing is required *de facto*, but not mandated in the legal sense (*de jure*). The implementation of this Option may therefore involve legal uncertainty for firms.

As far as the broader policy context is concerned, this Option might have some negative side-effects. On the one hand, Member States / contracting authorities which have already required the transition towards e-invoicing in public procurement would be negatively affected because the obligation to adapt to the new standard would at first only concern them. On the other hand, Member States / contracting authorities which have no plan to switch to e-invoicing would not face any specific new obligations. This ‘asymmetric’ treatment of Member States (obligation put only on the front-runners vs. lenient treatment of laggards) might act as a disincentive: since any such move would require the (additional) introduction of the new European standard, it could discourage those Member States which have not yet adopted e-invoicing from doing so quickly. Moreover, leaving the option to “do nothing” to Member States that currently do not use e-invoicing in public procurement also calls into question whether this option constitutes a real harmonisation measure.

The scale of the secondary impacts of this Option is difficult to predict. Even if all Member States do eventually decide to opt for e-invoicing the process might take a very long time. As a result, the potential benefits of greater cost efficiency in public procurement would not materialise or would do so only very slowly. Nonetheless, even if only some Member States introduce mandatory e-invoicing and therefore take up the EU standard, this would generate net savings for all stakeholders.

Table 7): Impacts of Option (3) – summary

<p>Primary impacts (related to improved interoperability)</p>	<p>Interoperability would be facilitated as invoices sent in the European standard would have to be accepted by all public buyers which mandate e-invoicing, but the implementation of this Option may involve some legal uncertainty.</p> <p>The costs of the process would be proportionate as existing e-invoicing systems would not be replaced by the new solution.</p>
<p>Secondary impacts (related to increased uptake of e-invoicing)</p>	<p>The asymmetric treatment of contracting authorities / Member States may deter some potential ‘candidates’ from switching to e-invoicing.</p> <p>As the overall balance of indirect/secondary impacts is positive, these benefits will materialise, but probably at lower speed than with the two following Options.</p>

5.4.4. Option (4): Obligatory acceptance

In Option (4), a new, European standard would be developed and made available for use by all market operators. In this scenario, acceptance by all contracting authorities of e-invoices compliant with this standard would be required in public procurement, without however replacing other existing technical solutions (i.e. the invoice could still be sent in another standard if both parties so choose).

This Option would ensure that the operational objective of the initiative would be met rapidly: the requirement to accept e-invoices compliant with the European standard would effectively ensure interoperability and hence remove market access barriers as of the day when the provisions enter into force. The actual uptake of the proposed measures would depend on firms’ decisions to use e-invoicing and adhere to the new European standard. It is however expected that their response would be satisfactory, as the new standard would be the only one that involves the additional incentive of technical acceptance in public procurement across the EU. Additionally, the availability of a single technical solution / standard was frequently mentioned by firms as a prerequisite for the adoption of e-invoicing⁹⁴, therefore the appearance of the European standard on the market is expected to prompt the hesitant economic operators to switch to e-invoicing.

Option (4) may provide a ready-made solution and guidance for those Member States which have not yet implemented e-invoicing but are considering doing so. This Option could act as a stimulus for Member States to prepare the necessary systems early on. The fact that they could also keep using their own national systems should minimise any potential transitional costs in Member States which have already developed national e-invoicing systems (for example, firms which never enter into cross-border contracts could continue to use existing,

⁹⁴ See: Table 4) in section 5.2.1.

familiar solutions for all their business with the public sector). Other Member States could use the common standard as a basis for developing their national e-invoicing systems, taking a significant proportion of the risk and cost out of developing national solutions.

For enterprises, this option would create the certainty that any necessary efforts and initial expenditures will not go to waste and will be amortised within a fairly short period of time. Finally, the knowledge that an investment into one single solution will allow the sending of e-invoices to any contracting authority in any Member State should prove to be a convincing factor for enterprises – including SMEs – to launch the process of switching over to e-invoicing.

Furthermore, the fact that i) only one (additional) standard would need to be supported both by firms and by contracting authorities/contracting entities, and ii) the existing e-invoicing systems/standards would not be replaced by the new European standard, but could continue to be used if the parties agree, means that the costs of implementing this option would not be excessive, especially considering the expected benefits.

Social and environmental impacts would be observed only to the extent to which a switchover to e-invoicing occurs. Nevertheless, it can be expected that the availability of a European standard would encourage more market players to make this decision than if no common standard were available. Although the scale of this process is difficult to predict, it would be most probably be more significant than in the previous Option. The secondary impacts would therefore very likely materialise to a large extent.

Table 8): Impacts of Option (4) – summary

<p>Primary impacts (related to improved interoperability)</p>	<p>Interoperability would be ensured as invoices sent in the European standard would have to be accepted by all public buyers. For firms, the costs and complexity of interoperability would decrease.</p> <p>The costs of the process would be proportionate as existing e-invoicing systems would not be replaced by the new solution.</p>
<p>Secondary impacts (related to increased uptake of e-invoicing)</p>	<p>The availability of an interoperable European standard and obligation to accept invoices sent in such a standard if a successful firm opts for it, may significantly increase the uptake of e-invoicing. As the overall balance of secondary impacts is positive, the implementation of this Option would allow these benefits to materialise.</p> <p>The speed of adoption of e-invoicing would be at the discretion of firms, so no excessive costs are expected.</p>

5.4.5. Option (5): Full harmonisation

This last option differs from the previous one in the sense that invoices in currently existing formats/standards would no longer be permitted. In practice, this would mean that the standardisation efforts would need to go beyond the semantic level and would address also the syntax level. This approach would therefore result in a full harmonisation of e-invoicing within above-threshold procurement in the EU, and would therefore reduce the associated complexity and costs as of the day when the provisions enter into force. All of the primary impacts would therefore be certain to materialise.

As the uptake of e-invoicing would almost certainly increase due to the great simplification and reduced cost of its use, the secondary impacts can be expected to materialise to an important extent. However, this approach would also mean significant additional effort and expenditure to implement the new standard in those Member States which have already made large investments to develop functioning e-invoicing systems, as existing systems would need to be replaced. Any such previous investments in these Member States would effectively have been wasted. Such an approach would to a large extent negate the economic benefits of greater uptake and meet strong political opposition from Member States which already have e-invoicing systems in place.

For economic reasons, this approach would also be highly disruptive and costly for the service providers, as they would have to entirely redesign their systems.

Considering that in implementing this option a significant amount of resources will have been wasted, such an approach would not be in agreement with the principle of proportionality, as the same goals could clearly be achieved by less intrusive means.

Table 9): Impacts of Option (5) – summary

<p>Primary impacts (related to improved interoperability)</p>	<p>Interoperability would be ensured as invoices sent in the European standard would have to be accepted by all public buyers. Interoperability costs and complexity for firms would decrease, but the implementation costs for Member States and contracting authorities who currently use other e-invoicing systems/standards would be disproportionately high.</p> <p>This Option raises concerns with regards to the proportionality principle.</p>
<p>Secondary impacts (related to increased uptake of e-invoicing)</p>	<p>The obligation to exclusively accept e-invoices sent in the European standard would most probably increase the uptake of e-invoicing, but the benefits of broader use of e-invoicing would be counterbalanced by the expected cost of this option.</p>

6. COMPARING THE OPTIONS

An analysis of the options identified in Section 4 is presented below in terms of achieving the stated objective and in terms of their impacts on the different groups of stakeholders.

6.1. Comparing the options against the operational objective

In order to select the most appropriate approach, the different Options will be compared using the criteria of effectiveness, efficiency and coherence. The evaluation of the effectiveness of the Options will be analysed taking into account the extent to which they solve the interoperability problem (i.e. whether or not market access barriers to cross-border procurement are effectively removed), as this is the main objective of this initiative.

Within the comparison of the efficiency aspects of the analysed Options, the cost-benefit ratio of the proposed implementation methods will be analysed. As explained in section 5.4.4, it is proposed to develop a new European e-invoicing standard to facilitate interoperability. In order to ensure the technological neutrality of this new standard and the transparency of the

standardisation process⁹⁵, the European Standards Organisations appear to be the most appropriate bodies to implement this task at the EU-level. Considering the content of the future European standard (and the work which has already been undertaken within its working groups to facilitate e-invoicing interoperability⁹⁶), the issuing of a mandate to CEN to draw up a new European standard on e-invoicing is proposed as the optimal way to proceed. As mentioned in Annex 1.9, it seems that the only alternative approach that might possibly be considered is self-regulation by stakeholders. Self-regulation is the essence of Option (1) and it constitutes one of two parallel processes in Option (2) – the other being standardisation by CEN with the voluntary adoption of the results by stakeholders.

As far as the third criterion is concerned, coherence will be evaluated above all with regards to the expected secondary impacts of the increased uptake of e-invoicing, which are in line with the objectives of the "*Digital Agenda for Europe*"⁹⁷ and the 2010 e-invoicing Communication⁹⁸ from the Commission. Additionally, it is assumed that the broader adoption of e-invoicing would also be coherent with the Commission policies concerning e-procurement, especially the Commission proposal on the revision of public procurement rules from 2011⁹⁹ and the objectives of the late payment Directive (2011/7/EU)¹⁰⁰.

⁹⁵ The CEN standardisation process is described in Annex 0.

⁹⁶ More information on the options for standardisation and the CEN standardisation process is provided in Annexes 0 and 0.

⁹⁷ "*A Digital Agenda for Europe*", European Commission Communication, COM(2010) 245.

⁹⁸ "*Reaping the benefits of e-invoicing for Europe*", European Commission Communication, COM(2010)712.

⁹⁹ http://ec.europa.eu/internal_market/publicprocurement/modernising_rules/reform_proposals_en.htm

¹⁰⁰ <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:048:0001:0010:EN:PDF>

Table 10): Comparing the options against the operational objective

Policy options	Objective - improve/facilitate e-invoicing interoperability in public procurement		
	EFFECTIVENESS	EFFICIENCY	COHERENCE ¹⁰¹
Option (1): No new EU action	0	0	0
Option (2): Free-choice approach	(+ / ?) Interoperability would be facilitated only partially (depending on the scale and timing of the adoption of the new European standard).	(≈) The self-regulation approach is more costly than the CEN process and its results are uncertain. Timely achievement of the objective cannot be ensured.	(?) Some secondary impacts may appear, but their scale and timing is uncertain because of the voluntary nature of this approach.
Option (3): Selective conversion to e-invoicing	(+) Interoperability would be facilitated, as invoices sent in the European standard would have to be accepted by all public buyers which mandated e-invoicing, but the implementation of this Option may involve some legal uncertainty.	(+) The CEN process to establish a standard is the optimal way to achieve the objective (the costs of the introduction of the new standard are proportionate). Timely achievement of the objective can be expected.	(- / ?) The asymmetric treatment of contracting authorities / Member States may deter “candidates” from switching to e-invoicing (hence some potential benefits could be lost). Some secondary impacts may appear, but their scale is uncertain. It is not clear whether or not this Option constitutes a harmonisation measure.
Option (4): Obligatory	(+ +) Interoperability would be ensured as invoices	(+) The CEN process to establish a standard is the optimal way	(+ / ?) Positive secondary impacts of e-invoicing would

¹⁰¹ Coherence is evaluated by taking into account also the secondary impacts (i.e. impacts generated by the increased uptake of e-invoicing) and the extent to which the Options are coherent with other EU policies (especially the e-procurement initiative and the objectives of the late payment Directive).

acceptance	sent in the European standard would have to be accepted by all public buyers.	to achieve the objective (the costs of the introduction of the new standard are proportionate). Timely achievement of the objective can be expected.	materialize to the extent to which the switchover occurs. The adoption of e-invoicing would be at firms' own speed, so no excessive costs expected.
Option (5): Full harmonisation	(+ +) Interoperability would be ensured as invoices sent in the European standard would have to be accepted by all public buyers.	(- -) The CEN process to establish a standard is the optimal way to achieve the objective (the costs of the introduction of the new standard are proportionate). Disproportionately high implementation costs for Member States and contracting authorities who use other e-invoicing systems which would have to be abandoned. Timely achievement of the objective can be expected.	(≈) Positive secondary impacts of e-invoicing would materialise to the extent to which the switchover occurs. The above benefits would be counter-balanced by concerns with regards to the proportionality principles.

Magnitude of impact as compared with the baseline scenario (the baseline is indicated as 0): ++ strongly positive; + positive; -- strongly negative; - negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

From the table above, it becomes evident that, when compared with the baseline scenario, Option (4) appears to be the most effective and efficient in achieving the operational objective of this initiative. It is also coherent with other objectives of EU policy and its overall cost-benefit balance is the most favourable.

The effects of Option (3) would be slightly less effective and efficient in terms of achieving the operational objective of this initiative (facilitating interoperability). However, its coherence remains negative to uncertain (-/?), since the proposed provisions could be contrary to the objectives of other EU policies, as they might discourage Member States from switching to e-invoicing in the future. Finally, this Option may be too selective to be classified as a harmonisation measure.

The net balance of scores allotted to the remaining Options for all elements under the analysis is less favourable than the baseline scenario.

6.2. Comparison of options across all stakeholder groups

The different options presented above will have different impacts on the different groups of stakeholders. With the exception of the baseline scenario, which implies the continuation of current policy, these are summarised in **Table 11)** and analysed below.

Table 11): Comparison of options across stakeholder groups

Stakeholders Policy options	Member States and / or contracting authorities WITHOUT mandatory e-invoicing	Member States and / or contracting authorities WITH mandatory e-invoicing	Firms(including SMEs)	Service providers
Option (1): No new EU action	0	0	0	0
Option (2): Free-choice approach	(?)	(?)	(-)	(? / +)
Option (3): Selective conversion to e-invoicing	(?)	(≈ / -)	(+)	(≈ / +)
Option (4): Obligatory acceptance	(+)	(≈ / -)	(+ +)	(≈ / +)
Option (5): Full harmonisation	(+)	(- -)	(- -)	(- -)

Magnitude of impact as compared with the baseline scenario (the baseline is indicated as 0): ++ strongly positive; + positive; -- strongly negative; - negative; ≈ marginal/neutral; ? uncertain; n.a. not applicable

6.2.1. *Member States / contracting authorities*

The impacts of the different Options on Member States (understood here as the policymakers) are analysed together with contracting authorities directly involved in public procurement, as the initial analysis has shown that the emerging patterns for these two groups of stakeholders are very similar. Instead, a different distinction has been made, namely between those Member States / contracting authorities which have already introduced mandatory e-invoicing and those which have not (yet) done so.

6.2.1.1. Member States / contracting authorities WITHOUT mandatory e-invoicing

For those Member States / contracting authorities which have not yet mandated e-invoicing, all the Options where the introduction of a common standard is expected to broaden the uptake of e-invoicing receive a positive score. The implementation of e-invoicing systems would imply some costs, but it would also mean that savings could be generated through operational efficiencies in the procurement cycle, simplification of tax collection and auditing, and reduced environmental impacts.

The voluntary nature of Option (2) would not guarantee that an invoice in the European standard is accepted by the recipient. This means that the impacts for Member States or contracting authorities are uncertain, as the decision to support the new standard would be at their discretion.

As Option (3) leaves room for manoeuvre for Member States / contracting authorities which do not yet have mandatory e-invoicing, the effect of this Option is difficult to assess due to the uncertainty of the progress of implementation of the new standard (they will not be obliged to implement it, but may do so on a voluntary basis). Overall, the impacts of Option (3) for those Member States are marked as uncertain.

Options (4) would be efficient for the Member States / contracting authorities which have not yet mandated e-invoicing, as they would not require investments in parallel e-invoicing standards – they would be only obliged to ensure that invoices compliant with one standard (i.e. the European standard) are accepted / read by their IT systems.

Options (4) and (5) score better than Option (3) due to a greater certainty that the benefits would be realised, and a significant possibility that they would be larger due to the additional efficiency and savings resulting from the adoption of e-invoicing (secondary impacts).

6.2.1.2. Member States / contracting authorities WITH mandatory e-invoicing

Option (2) would leave the decision on whether or not to support the new standard to the Member States / contracting authorities. The ultimate uptake of the standard by stakeholders who have their own e-invoicing systems in place is difficult to predict – if they adopt the new standard, there is no way of knowing whether they would abandon their own technical solution entirely or expand the functionalities of their IT systems to read both standards in parallel. Therefore the impacts of this Option for Member States or contracting authorities are marked as uncertain.

For Member States / contracting authorities which currently have mandatory e-invoicing in place, Options where the introduction of a common standard could broaden the uptake of e-

invoicing would effectively have no impact, since they already have a functioning e-invoicing system in place. In other words, the benefits of e-invoicing are not considered in case of Member States with mandatory e-invoicing, as the benefits which would be generated are already present in these countries (i.e. Options (3), (4) and (5)). The need to implement technical solutions to enable the acceptance of the new European standard in parallel to its own national standard (e.g. Options (3) and (4)) would generate some implementation costs. However, as demonstrated in section 5.5.2., it is expected that the benefits from increased competition in public procurement would outweigh the additional costs of the introduction of the new European standard.

Strongly negative impacts appear only when these Member States would be forced to entirely switch to the new European standard (Option (5)) for all above-threshold procurement. This Option would imply significant additional expenditures in order to replace the current e-invoicing systems with the new European standard. Any legislative efforts and expenditures already undertaken will effectively have been wasted.

6.2.2. *Firms (including SMEs)*

The selection of Option (2) would be negative for firms, as it would mean that there would be no assurance that an interoperability framework would allow them to use – and therefore to invest in – a single standard for all of their invoicing activities. While the recommendation of a common standard could convince Member States take it up, there would be no guarantee that this would be the case. This implies a high risk that enterprises would in one way or another need to support the many different standards used by their customers, which means that the complexity and higher costs of taking part in cross-border public procurement would continue.

The impacts of Options (3) and (4) on enterprises would overall be positive, as they would no longer need to support several e-invoicing standards while remaining free to make the decision at their convenience on whether or when to introduce e-invoicing capabilities. Firms would also be certain that the introduction of the ability to invoice electronically using the common standard would mean that they could seamlessly send invoices to any contracting authority throughout the EU – in Member States which made e-invoicing mandatory for Option (3) and all contracting authorities in Option (4). This could potentially open a number of new business opportunities which they would not have considered before. In addition, the mandatory acceptance of e-invoices across the EU would mean that any initial investments would be more quickly amortised by the potential savings, meaning that Option (4) would be slightly more positive.

Finally, Option (5) would bring certain benefits to enterprises, since even though they would need to bear the investment costs associated with the introduction of the new standard, potential costs of using multiple e-invoicing standards would have been avoided. However, those enterprises which have already introduced e-invoicing on the basis of existing national and or proprietary standards would need to replace these with the new, common standard. This would mean that any investments undertaken previously would have been wasted. Although the uncertainties of insufficient interoperability would be remedied, the coercive nature of Option (5) in terms of the exclusive use of one only solution may result in excessive burden, especially for SMEs and microenterprises, who may not be technologically ready to adapt to “across the board” solutions. As a result, this Option generates significant additional costs without creating any new benefits and is scored as a strongly negative choice.

6.2.3. *Service providers*

The impact of Option (2) on service providers is expected to be uncertain to positive. On the one hand, a recommendation to use the new European standard might over time lead to a greater uptake of e-invoicing across the EU, and therefore to increased business opportunities for service providers. If the recommendation of a common standard results in at least some Member States taking it up, this would mean that a lower number of standards would need to be supported and mapped to, and that the need to constantly agree on a common standard to use in exchanging invoices would be eliminated. The result would be lower operating and investment costs on the one hand, but potentially also lower income due to a reduced need for mapping on the other. On the contrary, if the voluntary uptake of a common standard ends up having a limited impact on the market and a proliferation of national standards, this would potentially be a source of more investments for service providers, but equally a potential source of additional income. Since the aspect of potential use of the new standard and a consequent increase in e-invoicing uptake is very difficult to assess in advance, the impacts of this Option cannot be easily predicted, hence the (? / +) score.

Theoretically, any Option that increases the probability of a wider uptake of e-invoicing in public procurement would potentially be positive for service providers as it would increase their business. Following this approach, the impact on service providers of Options (3) and (4) should be judged as positive. However, while on the one hand business can be expected to increase due to increased uptake of e-invoicing which these Options may trigger, there is a potential that some market operators will stop using the services offered by the service providers as they could opt for bilateral models based on the common standard. Additionally, while the availability of one common standard would reduce the investments which would need to be undertaken by the service providers, the threat of enterprises sending their invoices either directly to contracting authorities or through other service providers (of which the great majority would certainly wish to support the new standard) would drive down the fees which would be charged for the mapping. As a result, Options (3) to (4) would most probably be only slightly beneficial to the service providers.

Finally, the full harmonisation proposed in Option (5) would have a significantly negative effect on service providers. As all standards with the exception of the new, common one would disappear, so would the need for mapping between different standards. This implies that the service providers would lose a significant portion of their business. Although there would still be some demand for their services by those market operators which prefer not process invoices directly, there is a risk that a significant proportion of the currently over 400 - 500 service providers might go out of business altogether.

6.3. The preferred option

From Table 10 in section 6.1, it is possible to see that Options (4) and (5) ensure that the objective of the initiative will be met (i.e. they are fully and equally effective). All Options would require some cost and effort to develop the new standard, but Option (5) has the additional significant drawback of requiring that all work already undertaken at a national level would need to be abandoned. The score of Option (2) is relatively low, even on the effectiveness criterion. Option (3) could constitute a viable solution, as its score is positive for the effectiveness and efficiency criteria, but its coherence remains problematic.

As far as the impacts on stakeholders are concerned, Option (4) is the most advantageous for enterprises, and consistently rates as one of the two most favourable Options for all remaining stakeholders.

Therefore, overall the most appropriate solution appears to be Option (4):

- firstly, it would require that all contracting authorities must accept electronic invoices if they are sent in a new, common EU invoicing standard as of a particular date, thus overcoming the fragmentation inherent in the current patchwork of national e-invoicing systems and guaranteeing the integrity of the Single Market;
- secondly, the transition to e-invoicing would occur on a firm's initiative, thus not generating unnecessary costs, especially for SMEs; the non-intrusive ('at market speed') nature of such provisions would also respect the subsidiarity and proportionality principles; it is expected that actual uptake of the proposed measures would be satisfactory, as the new European standard would be the only one that involves the additional incentive of technical acceptance in public procurement across the EU;
- thirdly, there is a high probability that this Option would induce a broader transition to e-invoicing for contracts covered by the Directives, thus capturing the full efficiency gains and economic savings offered by e-invoicing;
- finally, it would allow both firms and contracting authorities to continue using existing national invoicing systems, thus reducing the cost and disruption of the transition for both groups.

The chosen approach would combine the strong stimulus of an obligation to ensure interoperability in e-invoicing in public procurement with a more flexible approach as to the most appropriate means of ensuring the use of e-invoicing as such. The recipients of invoices would have full flexibility as to how they would ensure their acceptance – directly, or using a three-corner or a four-corner model. The introduction of the new standard and the requirement to accept all invoices which use it would reduce the compliance costs, thereby greatly improving the chances for a broad take-up and spill-overs into other sectors (B2B, below-threshold procurement, etc.).

6.3.1. Timeframe

In line with the calls by the Member States and by the European Parliament (Section 2.1.3) as well as by stakeholders (results of public consultation presented in section 1.2.1 and Annex 1.11), it is proposed to implement this initiative for all contracting authorities within as short a deadline as possible. Taking into consideration the necessity of developing a common standard and the time which this requires (see: Section 6.3.3 below), the most realistic deadline for the introduction of an obligation to accept the new European e-invoicing standard appears to be between 2017 and 2018. This timeframe is also consistent with the 2010 e-invoicing Communication, which called for e-invoicing to become the predominant method of invoicing by 2020 in Europe, and with the expected date of the launch of mandatory electronic public procurement, which is contained in the draft revised public procurement directives currently under discussion in the European Parliament and the Council. Linking the

implementation timelines of these two closely related initiatives would multiply the benefits identified in both by further streamlining the entire public procurement process and increasing the level of digitalisation of Member States' public authorities.

The approach presented above would be closely aligned with the views of stakeholders presented during the public consultation. The obligation for contracting authorities to accept e-invoices reflects the wish of stakeholders to see mandatory steps undertaken to increase the use of e-invoicing in public procurement. While the provision of a common European standard would lower the costs and complexity for suppliers and contracting authorities (the main expected benefits identified in the consultation), the ability to continue to submit paper invoices and e-invoices in existing formats as long as this is permitted by the Member States reflects the wish of stakeholders for voluntary instruments to enhance interoperability. The goal of implementation within the 2017-2018 timeframe reflects the wish of stakeholders to move forward quickly, while taking into consideration the restrictions imposed by the need to develop a new standard. Finally, the application of the initiative to contracting authorities at all levels and the inclusion of invoices in all relevant sectors but stemming only from above-threshold public procurement are once again reflective of the opinion of the majority of the stakeholders.

6.3.2. Participation of microenterprises

The Impact Assessment has brought to light a couple of elements related to the use of e-invoicing by microenterprises. Microenterprises represent only a small fraction of firms which participate successfully in public procurement¹⁰². In light of the above, the question arises whether the initiative on e-invoicing in public procurement should also cover microenterprises.

After an analysis of the potential costs and benefits to microenterprises of the current initiative, it is proposed to include them in its scope. This decision is based primarily on the consideration of the impact of the chosen Option on those microenterprises which do wish to take up e-invoicing. In a case where they would be excluded, microenterprises would be the only firms (contrary to all larger firms) without guarantee that contracting authorities would have to accept their e-invoices. Additionally, by including microenterprises in the scope of this initiative, they would gain access to new business opportunities by ensuring that they would not be excluded from participating in cross-border public procurement only due to different e-invoicing requirements.

On the other hand, there would be no negative impacts on microenterprises which do not wish to use e-invoicing. If Option (4) is implemented, the decision whether or not to send e-would be up to each firm. As such, those microenterprises which wish to remain with paper would not be negatively impacted in any way.

An exclusion of microenterprises from this initiative would also place additional burden on contracting authorities, which would need to monitor the size of enterprises with which they are dealing. This would not only increase costs and complexity, but might lead to errors and a risk of legal challenges. These risks are even more significant considering that the size of a company can change through time – sometimes quite rapidly. Finally, there do not appear to

¹⁰² The share of micro enterprises winning public procurement contracts above EU thresholds was estimated at 18% in terms of the number of contracts and 6% in terms of value (2006-2009 data).

be any clear benefits for contracting authorities from the exclusion of microenterprises from the current initiative.

6.3.3. Regulatory form

As to the form of a possible legislative act which would implement the chosen option, a directive appears to be the most appropriate choice. The proposal envisaged under Option (4) only imposes on the Member States an obligation to achieve certain results, while leaving them the choice of how to do so (e.g. regarding the governance arrangements or technical infrastructures that will be used to implement the new e-invoicing standard in public procurement). These choices may need to be developed in national legislation transposing the legislative proposal (draft directive) envisaged under the preferred Option.

The choice of legal form for the Commission's legislative proposal is determined both by the chosen legal basis and by the content of the proposal. As mentioned previously, Article 114 TFEU is the appropriate legal basis for this proposal. In principle, this article leaves open the choice of either a directive or a regulation as the legal form of a proposal. However, since the scope of the proposal envisaged under the preferred Option would match that of the Directives, it may also be necessary to use the other legal bases of the Directives (i.e. Articles 54.1 and 62 TFEU). This would imply that the only possible legal form would be a directive. This point will be explored further during the preparation of the proposal.

6.3.4. Development of the new standard

As far as the development of the new technical standard is concerned, substantial work has already been done to develop specifications and a multilateral inter-operability framework, within the context of CEN BII¹⁰³ and UN/CEFACT (the latter at an international level). The PEPPOL project has also contributed by developing a number of specifications (based on CEN BII) and open-source software components for cross-border e-invoicing. Moreover, the EMSF on e-invoicing is also making progress in developing an architecture that supports the adoption of e-invoicing in 'communities' (whether in the public or private sectors) and the underlying business requirements, while allowing for the electronic exchange of invoice information between communities where relevant. The EMSF is also expected to provide recommendations about the elements of this architecture which should be developed into formal European standards (ENs) in order to allow for optimal adoption and implementation. Discussions with stakeholders (i.e. in the EMSF and in the CEN Workshop BII) show that there is a growing consensus and that this is both necessary and feasible in the short-term. Moreover, the possible Commission proposal would build on the recommendations of the EMSF and the future mandate would list a number of minimum requirements which the new standard would need to fulfil. The proposal would also set dates by which the EN would need to be developed. Thus a clear framework would be provided, and Member States would be given sufficient time to introduce the new standard into their e-invoicing systems once it is published.

¹⁰³ CEN/ISSS Business Interoperability Interfaces for Public procurement in Europe.

7. OVERALL IMPACTS OF THE CHOSEN OPTION

The expected impacts of the proposed Option have already been touched upon in several parts of this Impact Assessment. In order to provide a conclusion, the scenario is once again presented below.

7.1. Primary impacts

In the preferred Option (4), a new European standard for e-invoicing would be introduced and, by a certain date, all contracting authorities which award public procurement contracts according to the provisions of the Directives would have to accept e-invoices complying with this common standard. Several results can then be expected. Firstly, for enterprises the introduction of a common standard would lower the costs and complexity generated by the need to support several different e-invoicing systems. Market access barriers inhibiting the proper functioning of the Internal Market would effectively be removed as firms active in public procurement would be able to send electronic invoices in a single standard to any contracting authority in any Member State. This would be particularly beneficial to SMEs, for whom the initial investment to support many e-invoicing standards is relatively speaking more significant. In time, if sufficient numbers of enterprises and Member States take up the new standard, it may become the preferred one across the EU, potentially also in the B2B sector.

7.2. Secondary impacts

As the availability of a common interoperable standard may provide a potential solution and guidance for those Member States which have not yet implemented e-invoicing but are considering doing so, the e-invoicing uptake is expected to increase across the EU.

The gradual uptake of e-invoicing by ever greater number of market actors, induced by the emergence of the new standard, might generate some secondary impacts. As explained in previous sections, Option (4) may ultimately lead to the hoped-for situation, where e-invoicing interoperability in public procurement would be achieved in parallel with a broader uptake of e-invoicing. The latter is in turn expected to be a source of multiple benefits, such as operational savings, faster payments, environmental gains, improved transparency, the reduction of administrative burden, etc. However, it should be mentioned that the level of potential benefits depends to a significant extent on the level of e-invoicing uptake, an increase of which is highly probable but not certain under the preferred Option.

8. MONITORING AND EVALUATION

The Commission should review the implementation of any (legislative or non-legislative) proposal on e-invoicing in public procurement with regards to the achievement of policy objectives identified in this Impact Assessment. It shall evaluate in particular whether, and to what extent, the above objectives have contributed to the improvement of the functioning of the Internal Market. A commitment to evaluating the impacts of a legislative act, if proposed, should be included in the draft text.

The indicators proposed to monitor the achievement of policy objectives identified in this Impact Assessment are presented below.

Table 12): Monitoring of specific objectives

SPECIFIC OBJECTIVES	MONITORING INDICATORS	SOURCES OF DATA AND/OR DATA COLLECTION METHODS	DATA COLLECTED ALREADY?	ACTORS RESPONSIBLE FOR DATA COLLECTION
Lower costs for firms	Procurement operating costs borne by contracting authorities and enterprises	A study needs to be launched (a follow up of a survey implemented within “Cost-effectiveness” study in 2011 ¹⁰⁴ ; data from the survey will be used as a benchmark)	NO but benchmark exists	The Commission
Reduce complexity for firms	Perceptions of complexity and willingness to bid cross-border among firms active in public procurement above EU thresholds	A study needs to be launched on perceptions of complexity in cross-border procurement due to invoicing requirements	NO	The Commission

Table 13): Monitoring of operational objectives

OPERATIONAL OBJECTIVES	MONITORING INDICATORS	SOURCES OF DATA AND/OR DATA COLLECTION METHODS	DATA COLLECTED ALREADY?	ACTORS RESPONSIBLE FOR DATA COLLECTION
Enhance interoperability in e-invoicing	The number and value of invoices exchanged cross border in public procurement	A study needs to be launched (e.g. to access data processed in invoicing systems)	NO	The Commission
	The number and value of cross-border awards in public procurement	OJ/TED database (data collected already, developments to be monitored)	YES	The Commission

To avoid putting any additional administrative burden on contracting authorities, firms or Member States due to the collection of information used for monitoring, the proposed indicators mainly rely on the existing data sources (e.g. OJ/TED, Eurostat) or data already collected by stakeholders (e.g. e-invoicing service providers) in their business activities.

¹⁰⁴ „Public Procurement in Europe : Cost and effectiveness”, PricewaterhouseCoopers, London Economics, and Ecorys, 2011.

However, there are some data gaps which will require additional research. This should be done by conducting a targeted study¹⁰⁵. The costs of such a study should be borne by the Directorate General for Internal Market and Services within its operational expenditure (e.g. as support expenditure for operations of the Internal Market policy area). As a result, the proposed monitoring arrangements would not generate additional administrative burden (reporting obligations) for firms, including SMEs.

¹⁰⁵ It is expected that all of the above indicators can be collected within one single research project.

1. ANNEXES

1.1. Modifications following the IAB opinion of 22 March 2013

Further to the negative opinion of the IAB following the meeting 20 March 2013, a number of modifications were introduced into the Impact Assessment report. The changes corresponding to the main recommendations for improvement are presented below:

1.1.1. Strengthen the problem definition

Significant modifications have been made to the problem definition. The problem tree has been revised in order to focus the assessment more on the principal problem of market access barriers. As a result, the problem drivers, problems, and consequences have been reworked. The reasons why current non-legislative efforts have failed and why existing technical solutions are insufficient to resolve the problem have been presented more clearly. The link between the proposed initiative and existing initiative in related fields has been strengthened. It is important to note that the new approach has rendered irrelevant a number of the Board's initial concerns (impact on employment, impact on microenterprises, proportionality, some elements of the cost analysis, etc).

1.1.2. Strengthen the subsidiarity and proportionality analysis

The arguments supporting the necessity for EU action have been reinforced, and the reasons why Member State's current efforts have not resolved the problem have been presented more clearly. The revised approach has made irrelevant the comment concerning the limited impact of the initiative due to the small size of cross-border public procurement – the initiative now focuses much more on the legal aspects of eliminating market access barriers.

1.1.3. Improve analysis of the impacts

An important part of the comments in this section are no longer relevant due to the revised structure of the Impact Assessment. However, additional information has been included concerning the process and timing of the introduction of a new standard, the data on potential costs for contracting authorities has been highlighted, and the assessment of the potential impacts has been broken down into two parts: one concerning Member States which already have a mandatory e-invoicing system in place and those which do not. A justification for the inclusion of microenterprises has been added.

1.1.4. Better present stakeholder views

The sections presenting the views of the different stakeholders on the problem definition and the different options have been revised and improved.

1.1.5. Procedure and presentation

The report has been shortened, and a significant amount of information has been moved to the annex. The presentation of the options was revised and strengthened, and an annex with key definitions has been added.

1.2. Modifications following the IAB opinion of 8 May 2013

The following changes have been introduced to the Impact Assessment report to address the comments included in the second opinion of the IAB:

- the need for an EU action has been analysed in the context of the relatively small scale of cross-border procurement and the stakeholders' views expressed in the public consultation;
- the proportionality of the proposed EU intervention has been further elaborated;
- the choice between a mandatory or voluntary instrument and the nature of the proposed menu of Options have been explained in more detail;
- the potential risk of higher cost to contacting authorities arising from the need to accept e-invoices in different formats has been discussed;
- the likelihood of a low uptake of e-invoicing due to the voluntary nature of the proposed measures has been analysed.

1.3. Benefits and costs of e-invoicing in public procurement

Multiple sources have identified a broad range of drivers for the adoption of e-invoicing. The most frequently mentioned are time-gains, cuts in operating costs, environmental impacts, as well as improved transparency, security, and auditability of data. The broader use of e-invoicing across the EU would therefore have positive economic impacts resulting mainly from savings to the economy. Finally, an initiative in this area would also help to reduce the administrative burden on enterprises.

In a recent survey, respondents (CFOs and other financial professionals, 13% of which came from the public sector) were asked to evaluate current practices surrounding e-invoicing processes. In a question about the extent to which e-invoicing can be associated with achieving overall business goals, the following aspects of e-invoicing were mentioned as the most efficient: improvements of operational efficiency (67%), improvement of environmental practices (e.g. paperless office, 58%) and improved auditing/compliance (34%)¹⁰⁶. In paper-based environment all these potential benefits are lost and turn into persisting inefficiencies of purchasing processes.

Inevitably, the switch to e-invoicing would also generate some costs. Contrary to the benefits, these would be almost exclusively economic (monetary) in nature, but some limited social and environmental costs are nonetheless hypothetically possible. However, a comparison of the costs with the potential benefits of e-invoicing clearly shows that the former are significantly exceeded by the latter.

All of these aspects are discussed below in detail. Due to the specificity of the available data on the economic impacts of e-invoicing, the information on economic benefits is presented for the most part in terms of net benefits (i.e. including implementation and operational costs). An effort is then made to present the economic costs of implementation based on the available

¹⁰⁶ "2012 Global E-Invoicing Study - A shift toward e-invoicing ecosystems", The Institute of Financial Operations & Basware, (<http://www.basware.co.uk/einvoicing-survey-2012>).

data. The data concerning the social, transparency, and environmental impacts can more easily be separated into gross costs and benefits, and is therefore presented as such.

1.3.1. Benefits

The benefits of e-invoicing can be broken down into the (net) economic impacts, as well as the environmental, social, and transparency improvement impacts. The economic benefits would in practice be the result of operational efficiencies at both micro and macro level.

1.3.1.1. Operational efficiencies – micro level

The use of e-invoicing in public procurement could lead to improved operational performance through more efficient sending, reception, and processing of incoming invoices, and could also affect various directly related processes, such as the preparation of payments or storage/archiving. When fully automated, all of these require significantly fewer resources and are therefore less costly than in the case of traditional paper-based processes.

The principal evidence for the observed operational savings comes from the comparison of costs between automated and paper based invoicing. For example, the Finnish State Treasury and some Finnish companies have estimated that an incoming paper invoice incurs costs accounting to EUR 30-50 to the receiver company. By moving to electronic invoicing, these costs can be lowered to EUR 10 by semi-automating the invoice process and to 1 EUR by fully automating the process. Some service providers estimate that processing of paper invoices is around 60% to 80% more expensive than electronic invoices. According to Politecnico di Milano the switch from paper based to automated invoicing may generate benefits of up to EUR 65 per invoice in the case of full integration of the trade process. The European Associations of Corporate Treasurers has reached similar results, estimating that companies could save up to 80% of their current costs by processing invoice data automatically, removing paper and manual efforts.

It should be noted that the additional costs of manual processing of invoices are shared asymmetrically between senders and recipients of invoices, with the latter being more affected by the excessive costs. As a consequence, public authorities' losses due to higher transaction costs are more significant than those of firms participating in public procurement.

However, the operational inefficiencies generated by paper-based invoicing do not concern only the cost associated with this process but also the amount of time which it requires. The most time-consuming parts of the manual processes are invoice processing and query handling. As a result, the invoice-to-pay cycle time in paper-based invoicing may take between 30 and 100 days (in the best-case/worst-case scenario respectively). According to another source, it is estimated that payment processing times can be shortened from 4 weeks' time to around 10 days when invoices are processed electronically. If the assumptions from the two above data sources were combined, then the net gain from the switchover to e-invoicing would be between 20 to 90 days (i.e. paper invoice processing time of 30 to 100 days, less 10 days in case of e-invoicing). The shortened invoice-to-pay cycle also means that payment delays would be less frequent and contracting authorities could save on late payment interests. E-invoicing could therefore contribute to attaining the objectives of the late payments Directive 2011/7/EU.

1.3.1.2. Operational efficiencies – macro level

The overall economic impacts of a broader introduction of e-invoicing in the public sector would be positive. Examples of the scale of potential savings come from the countries that have introduced or consider introducing e-invoicing in their administrations. The U.S. Department of the Treasury estimates that e-invoicing would save taxpayers as much as 450 million USD annually, if it was adopted government-wide. The Danish government estimates benefits of the conversion to e-invoicing in the public sector at about EUR 30 million a year, while the Swedish estimates oscillate around 57 million of yearly net savings.

The overall net benefits of the introduction of e-invoicing in public procurement are estimated at around 1.5 to 2.3 billion EUR annually. This calculation was carried out using two different approaches: (i) comparison with Member States' estimates and (ii) top-down approach.

Using the top-down approach, the overall savings resulting from the adoption of e-invoicing in public procurement can be estimated on the basis of the figures from the B2B sector mentioned in the 2010 e-invoicing Communication. According to the Communication, the mass adoption of e-invoicing within the EU would lead to significant economic benefits and it is estimated that moving from paper to electronic invoices would generate savings of around EUR 240 billion over a six-year period. As mentioned in section 2.1.4, public procurement above EU threshold constitutes approximately 3.7% of GDP. Public procurement below the thresholds is estimated at another 2% of GDP. If the 5.7% share of public procurement in GDP were used as a proxy of the expected benefits, then the global savings generated by the introduction of e-invoicing could be around 2.3 billion EUR per year.

To complete the picture of the top-down calculation, savings that could be achieved can also be extrapolated from data provided by the Member States that either have already introduced e-invoicing or plan to do so. As mentioned above, Sweden estimates that the adoption of e-invoicing can generate savings of 400 million EUR in 7 years for government as a whole. Denmark estimates savings of around 30 million EUR per year. If these national estimates were again extrapolated for the EU on basis of the GDP, the global savings for the EU would be between 1.57 and 1.86 billion EUR.

As indicated above, the two above mentioned calculation methods give a range of annual savings between 1.5 to 2.3 billion EUR per year. It is however important to note, that the actual impact of a Commission initiative in this area might differ from this estimate. It is also important to note, that the maximum level of potential savings will only be achieved if invoicing becomes fully electronic, i.e. if the entire post-award supply chain process is automated.

It is important to note that the distribution of the potential economic benefits would not be evenly spread among the different users. In particular, the costs and efforts of processing invoices are much more significant on the receiving side than on the sending side – whereas the sender only needs to print out the invoice, put it in an envelope and send it off, the recipient must register it, verify it, transfer it to the Accounts Payable, which must match the invoice against an existing purchase order, input the data into the ERP or accounting system, archive it, etc. By eliminating the need for these processes, the potential savings are by default greater for the recipient than for the sender. In addition, savings are obviously greater for large companies and public bodies who deal with a significant volume of invoices than for small companies and localities which process only a few invoices a month or even a year.

1.3.1.3. Environmental gains

The predominance of paper based invoicing results in environmental inefficiencies, such as excessive use of paper by public buyers and firms. The obvious environmental benefits of the broad introduction of e-invoicing are therefore: a significant reduction in the number of trees cut down for the production of paper, a reduction in the amount of solid waste generated, reduced CO2 emissions due to a lower need for road and air transport, and a reduction of other emissions resulting from the production of paper.

Multiple examples and case studies are available to confirm this finding. One invoice service provider provides information about one of its clients, whose transition from paper to electronic invoices has saved 6 million sheets of paper – the equivalent of 700 trees, 85 barrels of oil, 173 000 kilowatts of energy, and more than 2 500 pounds of air pollution¹⁰⁷. According to the Euro Banking Association, 1 000 000 paper invoices require approximately 400 trees¹⁰⁸. The Euro Banking Association estimates that a 1% increased adoption of e-invoicing in Europe (across all industries) could lead to an annual reduction of tree usage of approximately 800 000 trees and towards reduction of CO2 emissions. According to yet another source, sending out around 150 000 e-invoices annually would save 14.4 tonnes of carbon, 57.6 trees, 180 000 litres of water or 1872 kg of solid waste¹⁰⁹ (to put this number in a context, the Norwegian Public Roads Administration receives about 170 000 invoices per year¹¹⁰). Finally, Deutsche Bank estimates that a complete conversion to e-invoicing across Europe would save 12 million trees a year¹¹¹. The latter figure refers to a complete switchover in all market segments (B2B, B2C, etc.), but even if the environmental gains were lower in the B2G sector, they would still be significant and show the scale of inefficiencies of the current paper-based system.

1.3.1.4. Improved transparency

The electronic processing of invoices positively influences the transparency of the procurement process. If e-invoicing were widely adopted, governments would realise additional savings due to lower auditing costs for trading parties and tax authorities. Transparency motives are frequently referred to when mentioning reasons for the adoption of mandatory e-invoicing by governments (e.g. Austria, the US). It is estimated that in Greece both the state and enterprises were losing more than 4 billion EUR annually from illegal invoicing practices - electronic invoicing is expected to effectively combat such practices. Transparency aspects were also among the major drivers for the adoption of e-invoicing in Latin America. For example, in Argentina the introduction of mandatory invoicing is reported to have contributed to a significant reduction in the incidence of VAT fraud. The potential for improved transparency of the process also concerns broadly understood business fraud. Industry publications underline that e-invoicing reduces operational risk through automated matching and approval processes that include controls on the invoice data. Such processes dramatically reduce the risk of fraudulent invoices and duplicate payments. The combination of e-invoicing adoption with a well thought out matching process and strict controls on bank

¹⁰⁷ <http://www.environmentalleader.com/2010/09/08/how-e-invoicing-can-save-a-small-forest/>

¹⁰⁸ E-invoicing 2010, "European market guide", Euro Banking Association (EBA) and Innopay.

¹⁰⁹ <http://www.accountis.com/green-calculator/>

¹¹⁰ „AGFA - vurderinger og anbefalinger om elektronisk faktura i staten”, Rapport fra arbeidsgruppe for elektronisk faktura, 25. mars 2008, Fornyings- og administrasjonsdepartementet.

¹¹¹ "E-invoicing - Final step of an efficient invoicing process", Deutsche Bank Research, May 3, 2010.

account entries are key to eliminating business fraud. In practical terms, when a tax audit occurs, e-invoices can be more easily made available to tax authorities than paper invoices, allowing them to check for compliancy more easily.

All of the above observations are equally valid when invoices are exchanged in public procurement.

1.3.1.5. Social benefits

The main social benefits at enterprise/public authority level will be the potential for employees currently engaged in low value-added, repetitive tasks to be redirected into more productive and more rewarding work. In a broader sense (i.e. in terms of the secondary impacts), society as a whole will benefit from a reduced potential tax evasion by market operators, through better control of invoices (less possibility of data tampering) and improved auditability. This will result in an improved financial situation of the Member States. Additionally, as e-invoicing is expected to induce the digitalisation of public seller's back office, it could also influence the wider digitalisation of government services in general (e-Government), hence creating conditions for the provision of more efficient and citizen-friendly public services.

1.3.2. Costs

The costs of the broader use of e-invoicing are primarily economic, but also to some extent social and environmental in nature. Contrary to the data on net benefits, the data on costs is less easily available. Nevertheless, a general outline of the possible costs of e-invoicing is presented below.

1.3.2.1. Economic (implementation) costs

The introduction of e-invoicing in an enterprise or a public body inevitably has some implementation costs, such as those linked to the purchase of software or hardware, training costs, costs resulting from process change, or fees paid to service providers. However, it is important to keep in mind two considerations. Firstly, the increased availability of software-as-a-service and cloud-based solutions means that important new IT-related investment are no longer necessary, greatly limiting the up-front costs. This is particularly important for SMEs, for whom simple, web-based solutions should be fully sufficient. Secondly, there is on-going innovation in the e-invoicing sector, including through the development of new business models. Some service providers now offer basic e-invoicing services sufficient to meet the needs of smaller companies, in particular micro-enterprises, free of charge, while others with a more traditional business model that charge fees to suppliers tend to provide a free quota of invoices before fees are applied. Thirdly, some Member States have also implemented systems or portals through which suppliers can submit electronic invoices free of charge to contracting authorities, e.g. Denmark, Spain, the Netherlands. Finally, even with the use of structured e-invoicing, solutions exist which make it possible for low-volume users (or those with limited IT capabilities) to participate in e-invoicing – the most obvious one is a web-based platform where suppliers can log on and type in their invoice data directly. Although this would limit some of the benefits for the sender, it is a perfectly viable option if the primary wish is to keep costs to a minimum. The receiver would still be able to profit from all the benefits of automation, as the final invoice would nonetheless be sent in a structured data format.

It should be noted that limited data is available concerning the implementation costs of e-invoicing systems. Only a few Member States have made an attempt to estimate the costs, such as Belgium (cost of €300,000 for the country's pilot project), Spain (€100,000 per year), or Scotland (£500,000 during the first two years of implementation). As previously mentioned, these estimates are significantly smaller than the expected benefits.

In summary, although there are inevitably some start-up costs associated with the use of e-invoicing, methods exist to keep these to a minimum, while the benefits of e-invoicing remain important (and, as explained in section 1.6, are greater the more fully the invoicing process is automated). As a result, even for smaller market operators the benefits of e-invoicing clearly outweigh the costs (the latter would even be negligible for companies that only submit a small number of invoices using free services already available on the market or provided by Member States, e.g. web forms or free software).

1.3.2.2. Social costs

There is a potential for some redundancies due to the introduction of e-invoicing, as some of the tasks currently carried out by humans will be fully automated. Such redundancies should be minimal in the public sector, where internal reassignment is much more common than lay-offs; they are more probable in enterprises, where such decision depend also on a number of other factors, e.g. labour market regulation and market conditions. However, in light of the fact that the current initiative would apply to invoices sent by enterprises to contracting authorities, and considering that, as mentioned in previous sections, e-invoicing has a greater impact on the recipient than on the sender (in terms of the resources necessary), the number of redundancies in enterprises should not be excessive.

1.3.2.3. Environmental costs

There do not appear to be any significant environmental costs of the initiative. The only potential impacts worth mentioning are a potential rise in electricity usage due to the need for more electronic processing power and data storage space (e.g. server parks) and an increase in the long term of electronic waste products. However, it is currently impossible to verify the validity of these hypothetical impacts, and it is possible that the effects resulting from e-invoicing might be on the order of statistical error considering the general trend of greatly increasing use – and hence disposal – of energy and electronic equipment. In any case, it appears safe to assume that any such costs would be greatly exceeded by the environmental benefits referred to above.

1.4. Why start with e-invoicing?

Invoicing is only one of a number of post-award processes stemming from public procurement. Others include ordering, payment, archiving, to name the most important ones (see: Figure 1 in section 2.1.1.1). The benefits of automating the post-award public procurement process are greater, the greater the number of procurement steps which are automated (allowing the elimination of a greater number of inefficient manual processes). The question then arises as to whether it is sufficient to attempt to address only one of these processes (e-invoicing) in a potential initiative at EU level. There are two principal reasons why this question can be answered in the affirmative. Firstly – and most importantly – a number of Member States have also begun efforts to automate their national post-award public procurement processes with action on e-invoicing. As has been explained in the Impact

Assessment, these actions have led to the creation of market access barriers. As such, it is these activities which need to be addressed initially.

Secondly, most if not all of the remaining processes have in one way or another already been the object of action at EU level. Specifically:

- the element of e-payments has, to a large degree, been addressed in the recent SEPA legislation, and electronic payments are already a fairly standard way of doing business in the EU;
- electronic archiving of invoices requires the existence of electronic invoices in the first place in order to generate many of the benefits¹¹²;
- e-ordering is closely related – and dependent on – the existence of electronic catalogues (ordering goods and services electronically requires these goods and services to be listed online, with their relevant codes, parts numbers, descriptions, etc.), which are handled by the current reform proposal¹¹³.

Action on e-invoicing is therefore the logical next step: it is necessary in order to remove existing and avoid future market access barriers, and it is also the area most likely to generate the expected spill-over effects into the remaining elements of the post-award public procurement process.

1.5. Structured e-invoicing - efficiencies of higher levels of automation

One of the most important factors influencing the level of overall benefits which the introduction of e-invoicing could generate is the level of automation of the invoicing process itself, as well as of any related post-award procurement processes. The key to maximising the returns on an investment in e-invoicing is the complete elimination of the need for human intervention during the entire invoicing process, from preparation to processing and archiving. Currently, very often a traditional paper invoice is printed from its electronic version on the supplier side, placed in an envelope and sent by post to the recipient. On the receiving side, the invoice is then registered, verified, approved, and sent for archiving, all of which is done manually by accounts receivable staff. Frequently, the invoice data is scanned or manually entered into the buyer's electronic data storage system. Each of these tasks costs the two parties a significant amount of time and money, and opens up the possibility for errors. If all of them are eliminated, allowing a direct sending of an electronic invoice from the supplier's to the buyer's computer system, huge savings could be realised. Additionally, if an electronic invoice verification system is used, the probability of errors would be virtually eliminated. As mentioned in Annex 1.4 above, the extension of digitisation to other parts of the purchase-to-pay process (e.g. e-ordering, e-payment, e-archiving, etc.) would further increase the potential benefits.

¹¹² Although paper invoices can certainly be scanned and stored electronically, such an approach implies virtually no direct process cost savings and only limited benefits in terms of accessibility of data: while it is true that the invoices could be accessed more easily, the data within them would most likely not be computer readable.

¹¹³ http://ec.europa.eu/internal_market/publicprocurement/modernising_rules/reform_proposals_en.htm

1.6. Overview of e-invoicing uptake in EU Member States

As part of the broad consultations, the Commission undertook a survey of the national e-invoicing fora represented in the EMSF concerning the current usage of e-invoicing in the various Member States. 19 replies were received from Member States and Croatia - the following Member States did not provide a response: Bulgaria, Estonia, Finland, Greece, Hungary, Ireland, Latvia, Malta, and Slovenia.

Table 14): Summary of a survey of the national e-invoicing fora (via EMSF)

MS	mandatory / recommended?	for whom?	standard	set-up	fees
Austria	Yes, as of 1/01/2014	initially only for central bodies, but regional and local are invited to participate	four options: - PEPPOL - use of online form - upload of XML-files - web service	invoices to federal government must be submitted through a central platform; businesses need to be registered on it	free if using PEPPOL; standard service provider fees otherwise
Belgium	N	n/a	UBL-based standard will be mandatory; e-Prior will be used	three options: - direct connection to web-services - via service providers - web portal	free if using web portal or web services; otherwise standard service provider fees
Bulgaria					
Croatia	N	n/a	n/a	n/a	n/a
Cyprus	N	n/a	n/a	n/a	n/a
Czech Republic	law allows government agencies to make it obligatory at their discretion; no obligation exists	any public body	- national standard exists, but it is not mandated: ISDOC, based on UBL 2.0 with electronic signatures - EDIFACT used in B2B (ODETTE or EANSCOM) - Min of Finance preparing mandatory national standard	primarily based on 'databoxes'	in B2G, free for public bodies if using databoxes; costs borne by the supplier

					<ul style="list-style-type: none"> - no charge when using NemHandel - when using four-corner models, cost is often borne by the buyer - no roaming fees between service providers when using NemHandel - increasing number of free-of-charge solutions/portals aimed at SMEs
Denmark	mandatory for all suppliers to the public sector to send e-invoices	all public sector (central, regional, local)	<ul style="list-style-type: none"> - OIOUBL, based on UBL 2.0 is the mandated national standard in p.p. - in private sector, UBL and EDIFACT used 	<ul style="list-style-type: none"> - NemHandel, an open source and open standards - used both in four-corner models and in peer-to-peer exchanges; - longer term, closer integration with PEPPOL is foreseen 	
Estonia					
Finland					
France	N	n/a	none - guidelines only concern security of data etc.	no data	no clear data, but it seems large organisations shift costs to suppliers
Germany	N		national, open-source standard (ZUGFeRD), based on PDF/A-3 (ISO 15005-3) including structured data according to UN/CEFACT XML Core CII as defined in the CEN MUG CWAs	any transmission means possible	use of standard will be free; transmission costs depend on service provider fees
Greece					
Hungary					
Ireland					

			- none for the moment - XML-based national standard is planned, which will be closely linked to the MUG (CEN BII profiles)	- currently wide variety of systems in place - in future, e-invoices to government will be submitted via central hub; connections can be direct or via service provider	no fees will be charged when using the central hub; no regulation of service provider fee structures is foreseen
Italy	N	n/a			
Latvia					
Lithuania	N	n/a	n/a	n/a	n/a
Luxembourg	N	n/a	n/a	n/a	n/a
Malta					
Netherlands	Mandatory to receive if sent via Digipoort	central government	- Dutch version of UBL 2.0 - "SETU", Dutch version of SIDES, on basis of hr-XML	buyer's own-platform (VAN)	- free for suppliers if using Digipoort - government agencies charged €0,59 / invoice
Poland	N	n/a	n/a	n/a	n/a
Portugal	N	n/a	n/a	several private platforms exist (large enterprises)	n/a
Romania	N	n/a	n/a	n/a	n/a
Slovakia	N	n/a	n/a	n/a	n/a
Slovenia					
Spain	N	n/a	- Facturae is mandatory common standard for central government (linked to CEN BII profiles) - several versions of EDIFACT also used in specific sectors	- two main approaches: own-platforms and outsourcing of invoice reception to service providers	- no fees charged to the senders; government bears the costs

Sweden	Y	mandatory for central government to receive and send, but not mandatory for suppliers to send; voluntary for local and regional authorities	<ul style="list-style-type: none"> - Svefaktura (UBL 1.0-based) - EDIFACT also heavily used, especially in localities and regions - SFTI currently recommending standards for e-proc in public sector 	<ul style="list-style-type: none"> - various: - four-corner model for central government platforms - EDIFACT for VANS - supplier portals for SMEs without EDI capability - etc. 	<ul style="list-style-type: none"> - pure four-corner model - every side pays their service provider for services - government departments pay for implementation, a monthly fee, and fees to on-board suppliers - government striving to eliminate roaming fees between service providers
United Kingdom	N	n/a	no mandatory standards; pdf quite common	VANS, 3-corner model	vary

1.7. Projects to facilitate the roll-out of e-invoicing in the EU

As mentioned in section 2.1.3 the Commission supports and implements a number of projects to facilitate the roll-out of e-invoicing in the EU, including the following:

- **PEPPOL:** the Pan European Public Procurement On-Line project is a Large Scale Pilot project funded by the EU's Competitiveness and Innovation Framework Programme. It was launched in 2008 and concluded in mid-2012. PEPPOL's aim was to promote the EU-wide inter-operability of electronic procurement. The project developed a number of specifications, infrastructure and technical solutions covering both the pre-award and post-award phases of public procurement, including e-invoicing. PEPPOL's e-invoicing component has been trialled in a dozen Member States. Several platforms enabled for e-invoices refer to e-Procurement systems support the use of PEPPOL invoice specification. The PEPPOL project has been completed in 2012 and turned into a stand-alone initiative, operating without the Commission support as "Open PEPPOL" AISBL.
- **e-SENS:** a Large-Scale Pilot project (LSP) to be launched in 2013. It will consolidate and expand on the work done by the other LSPs with the aim of industrialising the solutions and extending their potential to more domains. e-SENS will contribute to building a sustainable infrastructure for use by Member or Associated States when delivering cross-border public services in any sector. Its objectives include supporting the implementation of the proposed public procurement directive and the continued standardisation of public procurement processes. As such, it will develop specifications and services for the pre-award part of the procurement process and continue efforts to streamline the processes for ordering and invoicing (post-award procurement). It will support the introduction of e-invoicing as a standard practice in public procurement and thus make the public sector a 'lead market' for e-invoicing and spearhead its wider use in the economy.
- **e-PRIOR:** a service-oriented platform developed by DG Informatics of the European Commission under the ISA programme. It allows the exchange of e-procurement documents by using web services, or via a portal, or over the PEPPOL network through its built-in gateway. It is an open-source software which implements the emerging European standards of e-procurement. It is fully functional at the European Commission, and is being adopted by other institutions, agencies and Member States administrations.

1.8. E-invoicing data exchange models

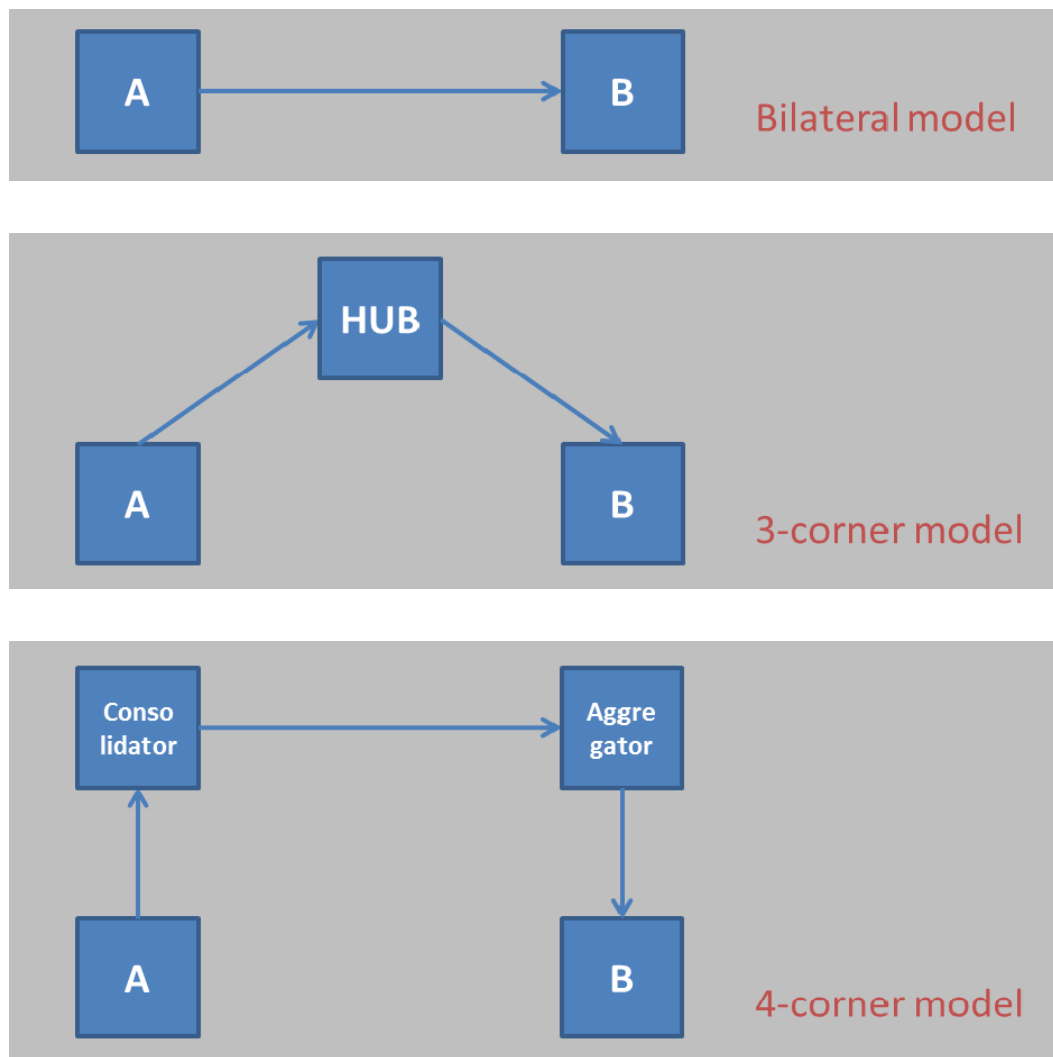
According to EBA/Innopay, the following definitions of e-invoicing data exchange models recognised on the market can be proposed:

- **Bilateral exchange model:** A model for the exchange of information directly between a buyer and a seller in a one-to-one relation. These can be seller-driven or buyer-driven.

- **3-Corner model** (3-party exchange model): An exchange model where senders and receivers of invoices are connected to a single hub for the dispatch and receipt of messages.
- **4-Corner model** (4-party exchange model): An exchange model where senders and receivers of messages are supported by their own consolidator service provider (for the sender) and aggregator service provider (for the receiver), which are interconnected.

These three models are presented in Figure 9) below.

Figure 9): E-invoicing data exchange models



Source: DG Internal Market and Services based on EBA/Innipay

The specificity of the bilateral model is that it requires that both parties use the same standard, either by common agreement or by one of the parties effectively forcing its standard onto the other. In such cases, if a supplier deals with several contracting authorities in different Member States, it is obliged to support several different standards.

The 3-corner model theoretically allows this difficulty to be resolved, in that the service provider is most likely able to map the invoice from the supplier's standard to that of the buyer. However, in a 3-corner model the service provider has by definition been contracted by one of the parties to either send or receive e-invoices in that party's standard. As a result, the risk remains that a supplier will need to work with several different (Member State) service providers if he wishes to participate in public procurement across the EU. The most effective way to eliminate this difficulty is therefore through use of the 4-corner model, where each party has its own service provider, and these exchange e-invoices between themselves, after previously agreeing on the standard in which they will communicate.

1.9. Choice of technical solution to ensure interoperability

As mentioned in section 2.2 of the Impact Assessment, awareness clearly exists that the multiplicity of e-invoicing standards causes problems with cross-border e-invoicing. While several national and a significant number of proprietary e-invoicing standards have been developed and are used throughout the EU, these are almost always designed with the particular needs of a specific Member State or sector in mind. As such, they are very rarely "transferrable" to other Member States and sectors.

No appropriate European standards have been adopted to date nor have any ICT technical specifications been recognised by the Commission within the meaning of Regulation (EU) 1025/2012 on European standardisation. Despite some initial works which have been carried out at the global level to try to develop an international standard (UN/CEFACT CII, which is thus far not operational), no other efforts to harmonise standards have taken place. For these reasons, at present no single national or international e-invoicing standard is robust and flexible enough to cover all the needs of cross-border and cross-sector e-invoicing, and therefore none of the existing standards can satisfactorily resolve the interoperability challenge.

Several attempts to improve interoperability have already been made. For example, in May 2012 the European Standardisation Committee (CEN) agreed a so-called CEN Workshop Agreement (CWA) which proposes a model interoperability agreement for transmitting and processing e-invoices and other business documents¹¹⁴. More recently, the European E-invoicing Service Providers Association (EESPA) announced that it has agreed an e-invoicing Model Interoperability Agreement¹¹⁵. However, these initiatives all take a bilateral approach to inter-operability, which, as mentioned above, does not eliminate the problem of the huge number of potential agreements which would need to be signed in order to ensure general interoperability.

In light of the above situation, the Commission has also undertaken efforts to address the problem of multilateral interoperability, mainly via the e-invoicing element of the PEPPOL project. So far, PEPPOL is the only significant European project that has developed a multi-lateral interoperability model. However, since this is a project which has been developed within a consortium which includes several Member States, and as it offers solutions which are in direct competition with some e-invoicing services provided by private service

¹¹⁴ CEN CWA 16464-2, "Electronic invoicing - Part 2: Model Interoperability Agreement for Transmission and Processing of Electronic Invoices and other Business Documents", <ftp://ftp.cen.eu/CEN/Sectors/List/ICT/CWAs/CWA16464-2.pdf>

¹¹⁵ <http://www.eespa.eu/sites/default/files/EESPA-Information%20Release%202013-01-07-EN.pdf>

providers, the current initiative cannot directly recommend the PEPPOL solution as the basis of an EU-wide e-invoicing system, in line with the principle of “technical neutrality”. It is important to add that the PEPPOL solution does not include all the elements which would be required to truly consider it as a ‘standard’.

In summary, the theoretical possibility of focusing on a standard/technical solution that is already available on the market must be disregarded at the early stage of this analysis, simply because no adequate solution exists that could ensure cross-border interoperability at the EU level. However, it is important to note that the works carried out by the Member States in preparing their national standards would not be completely disregarded should CEN be mandated to develop a new common European standard. The set-up and internal procedures of CEN mean that in practice, any new standard uses elements of ones already in existence and brings them together into a single, coherent whole. Additionally, the technical committees responsible for developing standards are composed of Member States’ representatives, who work together towards a common objective. Any such mandate to CEN would therefore not imply creating a standard from the beginning, but would be solidly grounded in the existing achievements of the Member States.

1.10. CEN standardisation process¹¹⁶

A European Standard (EN) is a standard is produced by all interested parties through a transparent, open and consensus based process. European Standards are a key component of the Single European Market. Although rather technical and often unknown to the public and media, they represent one of the most important issues for businesses. Often perceived as boring and not particularly relevant to some organisations, they are actually crucial in facilitating trade and hence have high visibility among manufacturers inside and outside Europe. A standard represents a model specification, a technical solution against which a market can trade. It codifies best practice and is usually state of the art.

1.10.1. Developing a European Standard

The development of an EN is governed by the principles of consensus, openness, transparency, national commitment and technical coherence (more information is given in the BOSS - Business Operation Support System - Production processes) and follows several steps:

- Proposal to develop an EN:

Any interested party can introduce a proposal for new work in CEN. Most standardisation work is proposed through the National Standards Bodies.

- Acceptance of the proposal:

Once a project to develop an EN is accepted by the relevant CEN Technical Body, or by the CEN Technical Board (in case the proposal is related to a new field of standardisation activity), the member countries shall put all national activity within the scope of the project on hold. This means that they do not initiate new projects, nor revise existing standards at

¹¹⁶ This section is entirely based on information published on the CEN website (<http://www.cen.eu/cen/products/en/pages/default.aspx>).

national level. This obligation is called 'standstill' and allows efforts to be focused on the development of the EN.

- Drafting

The EN is developed by experts within a Technical Body.

- CEN Enquiry – Public comment at national level

Once the draft of an EN is prepared, it is released for public comment, a process known in CEN as the 'CEN Enquiry'. During this public commenting stage, everyone who has an interest (e.g. manufacturers, public authorities, consumers, etc.) may comment on the draft. These views are collated by the CEN national members and analysed by the CEN Technical Body.

- Adoption by weighted vote

Taking into account the comments resulting from the CEN Enquiry, a final version is drafted, which is then submitted to the CEN national members for a weighted formal vote.

- Publication of the EN

After its publication, a European Standard must be given the status of national standard in all CEN member countries, which also have the obligation to withdraw any national standards that would conflict with it. This guarantees that a manufacturer has easier access to the market of all these European countries when applying European Standards and applies whether the manufacturer is based in the CEN territory or not.

- Review of the EN

To ensure that a European Standard is still current, it is reviewed at least within five years from its publication.

This review results in the confirmation, modification, revision or withdrawal of the EN.

1.11. Summary of stakeholder views

1.11.1. Conclusions from bilateral meetings with stakeholders

Bilateral meetings with stakeholders played an important part of the public consultations, and allowed the Commission to gather important information on the position of enterprises and service providers with respect to e-invoicing in public procurement. This information is presented below.

1.11.1.1. Enterprises

Generally speaking, enterprises are some of the biggest supporters of the broader use of e-invoicing across the EU. It is important to remember that by many accounts, enterprises are currently significantly more advanced than the public sector in using electronic invoices in the B2B sector. This is confirmed in the public consultation, where just over one-half of respondents from enterprises indicate that they already use e-invoicing (the proportion is

visibly greater for large enterprises than for SMEs and microenterprises, however). These enterprises have already reaped many of the benefits which e-invoicing promises to deliver: lower costs, faster payment processing times, more effective use of capital, and better business relations, to name some of the more obvious ones. Understandably then, the support of business for e-invoicing has been registered in a number of different studies and surveys.

This broad support was confirmed yet again during the Commission's meetings with business representatives throughout the Impact Assessment process. Favourable opinions expressed by business organisations are confirmed in their position papers. For example, Business Europe is very supportive of the possibility of mandatory e-invoicing in public procurement, mentioning the potential savings and business opportunities which could be generated. The need to ensure as much flexibility as possible for the users was stressed, however, in order to avoid any unnecessary costs. UEAPME, the association of small and medium businesses, has also clearly voiced its support, but made it conditional on the agreement on a common standard throughout the EU, in order to ensure that suppliers were not obliged to support several different national or proprietary standards.

Asked about why some enterprises do not yet use e-invoicing, the concerns voiced by Business Europe and UEAPME confirmed the two main reasons identified in the public consultation: the excessive number of different standards and unclear laws/regulations. As a result, it can be assumed that availability of a widely recognised technical solution would be broadly supported by enterprises. Additionally, it would be particularly beneficial to SMEs, for whom the initial investment to start e-invoicing would, relatively speaking, be more significant.

1.11.1.2. Service providers

The community of service providers has generally appeared to be the most cautious among all the stakeholders with respect to a possible EU initiative on e-invoicing in public procurement. In the Commission's meetings with the European e-Invoicing Service Providers Association (EESPA) and with individual market operators, as well as from opinions voiced at various conference and fora, a number of concerns have been raised. These concerns focus primarily on the role which service providers will play in e-invoicing in the future, as well as on the additional costs that the addition of a new common standard, which would be obligatory for a significant part of the invoice traffic, would generate. Yet despite these concerns, there is in principle support for an increased use of e-invoicing in Europe, since this would create a potentially significant business opportunity for the service providers. This appears to be confirmed by the results of the public consultation, where out of the 92 service providers, all indicate support for EU action to increase uptake and 92% agree that the EU should attempt to enhance interoperability.

1.11.2. Replies from IPM survey

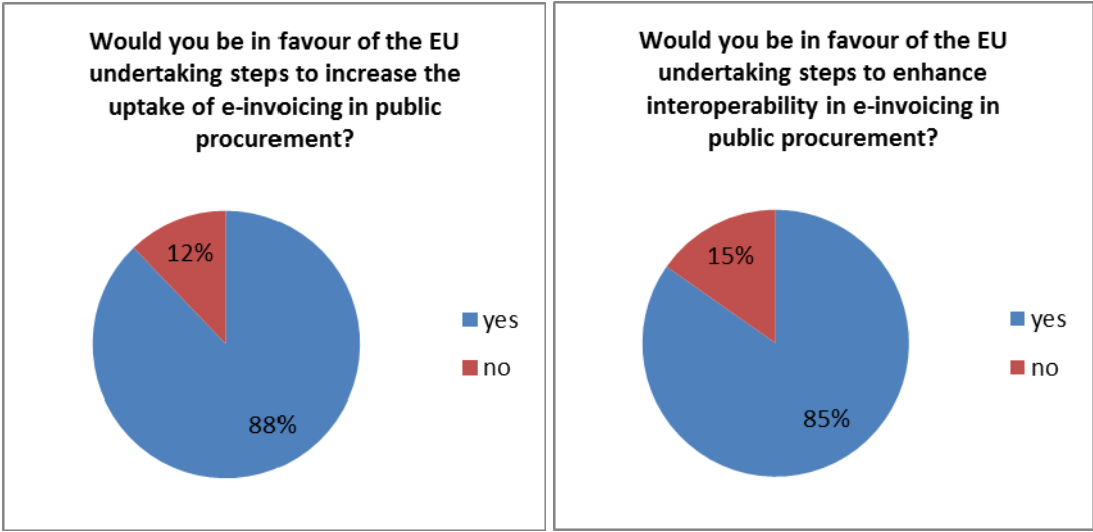
The public consultation was launched on 22 October 2012 and remained open for 12 weeks, until 14 January 2013. The survey was open to all stakeholders and interested parties: policymakers, contracting authorities, enterprises, IT service providers, associations (business and governmental), tax authorities, citizens, etc. In addition, participation was not limited to the European Union – interested parties from all over the world were welcome to provide their views.

In all, 707 replies were received by the 14 January 2013 deadline. There was a very good representation of the different groups of stakeholders. The geographic spread was also quite good, with contributions received from all EU Member States as well as from a significant number of third countries. Nevertheless, some Member States were underrepresented in relative terms to their size (e.g. United Kingdom, Italy, Romania) or to their level of advancement in terms of e-invoicing use (e.g. Finland, Austria, Norway). Despite this, the number of replies to the public consultation is sufficiently large to allow a thorough analysis of the current use of e-invoicing in Europe and the public’s views on a potential EU initiative in e-invoicing in public procurement.

1.11.2.1. General overview

Before presenting the opinions for each of category of stakeholders, it is important to note that support for EU action in e-invoicing in public procurement was very high in each of the different categories and in all Member States. No single category of stakeholder or nationality was outright opposed to EU action in this field. Out of the 707 replies received in total, 88% of the respondents said they would be in favour of the EU undertaking steps to increase the use of e-invoicing in public procurement. The proportion dropped only slightly (to 85%) when asked about support for a possible EU initiative to enhance interoperability in e-invoicing.

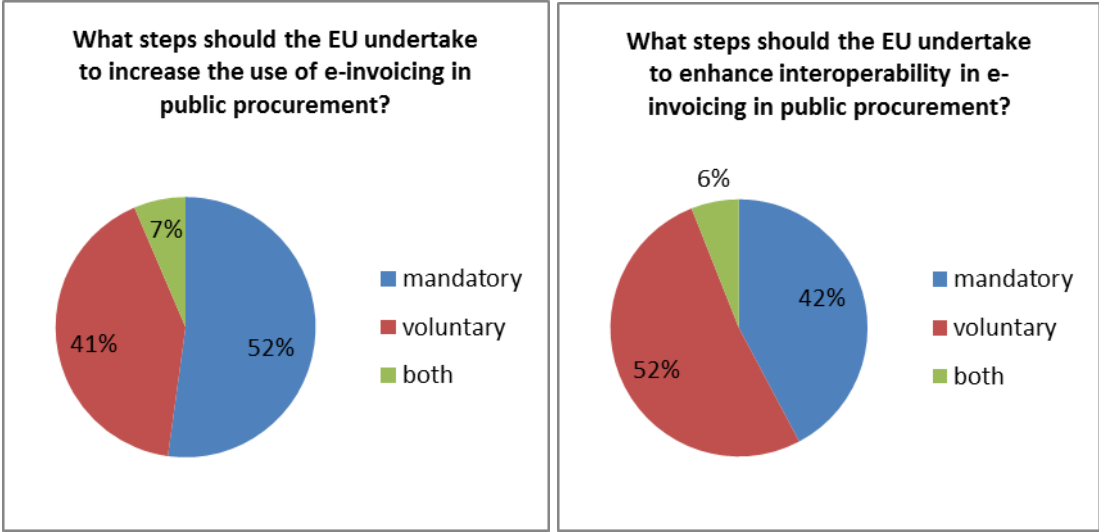
Figure 10): Support for EU action to increase uptake and enhance interoperability in e-invoicing in public procurement - general



Source: DG Internal Market and Services

In terms of the instruments to be used in order to increase the uptake of e-invoicing, a slim majority of respondents to the survey (52%) chose mandatory instruments, while 41% preferred voluntary and 7% voted for both. The attitude to the type of instruments to be used in order to enhance interoperability, on the other hand, was almost exactly the reverse: here, the majority (52%) prefer voluntary instruments over mandatory ones (42%); 6% of the respondents wish to see both being used.

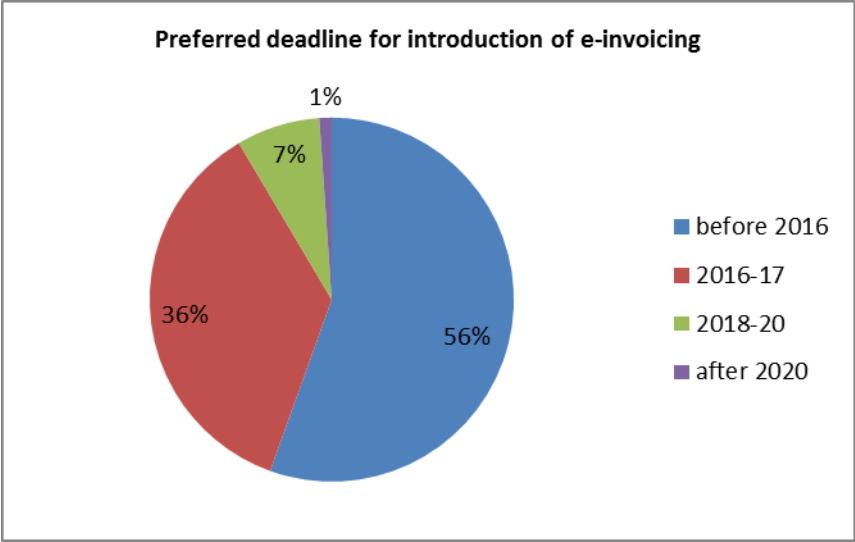
Figure 11): Preferences with regards to the type of EU action - general



Source: DG Internal Market and Services

Among those stakeholders approving the introduction of mandatory e-invoicing in public procurement, there appears to be a very strong preference to see this happen rapidly: more than half of this group of respondents (56%) would like to see e-invoicing become mandatory before 2016, while just over a third more (36%) prefer a timeframe of 2016 or 2017. Less than 1 in 10 stakeholders (8%) would rather have a longer timeline, in which mandatory e-invoicing would not be introduced until 2018 or later.

Figure 12): Preferred timeline of introduction - general



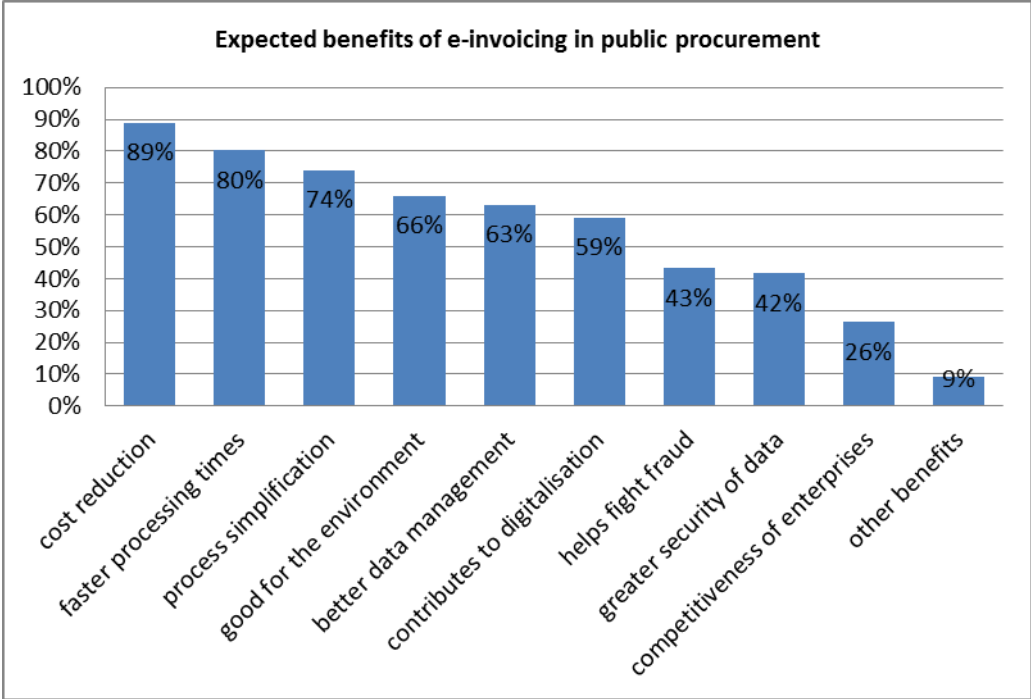
Source: DG Internal Market and Services

Out of the 364 respondents supporting mandatory instruments to increase the uptake of e-invoicing in public procurement, virtually all of them (99%) wish for it to apply to the entire public sector; only 4 participants indicated that they would wish to restrict use to the central government only. Furthermore, 84% of stakeholders voiced a preference to include all types

of invoices in the obligation, while 16% wish to see the initiative limited to certain types of invoices only. The most commonly chosen restriction was that based on the value of the invoice (70% of respondents), with the other three types of limitations receiving significantly lower and more or less equal support (invoices only in certain sectors and invoices covered by the public procurement directives – 39% each; other criteria – 34%). The other possible limitations mentioned include among others: contracts with secret clauses or pertaining to national security matters; contracts where the payments are made by way of fixed advances; suppliers which do not have the required IT capabilities; in situations where VAT rules are not clear; small suppliers with a very limited number of invoices, etc.

The main benefits of mandatory e-invoicing in public procurement expected by the stakeholders are primarily economic: at least 4 in 5 respondents mentioned cost reduction and faster processing times (89% and 80% respectively), while three-quarters (74%) indicated process simplification (74%). Other potential benefits expected by more than half of the stakeholders include: positive environmental effects (66%), better management of data (63%), and a contribution to broader digitalisation of the economy (59%).

Figure 13): Expected benefits of e-invoicing in public procurement - general

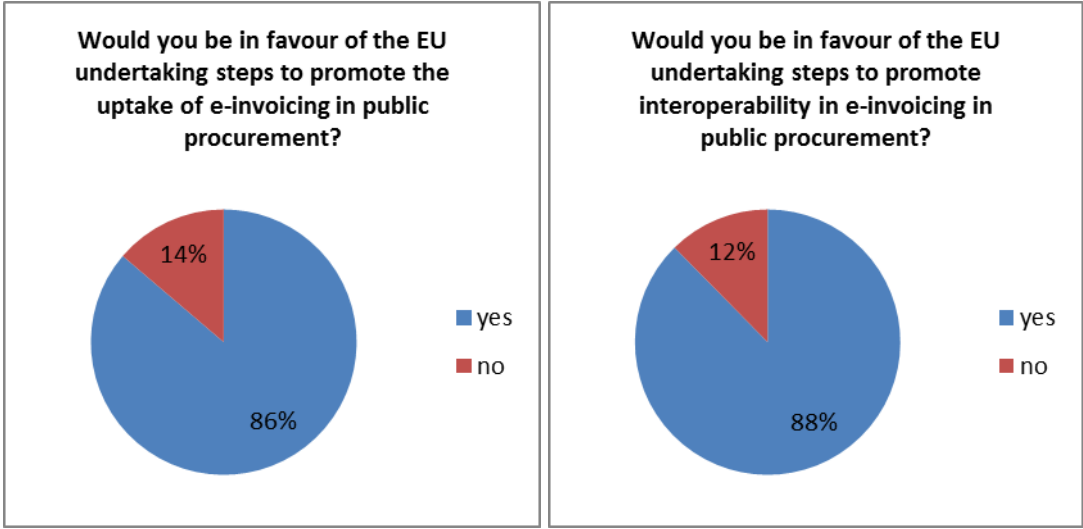


Source: DG Internal Market and Services

1.11.2.2. Member States

In the general public consultation, ‘Member States’ are understood as policymakers not directly involved in public procurement, i.e. who do not fall into the category of contracting authorities. The respondents represented all levels of government, the central, regional, and local. Of the 80 respondents, 86% voiced support for the EU undertaking action to promote the use of e-invoicing in public procurement, and 88% want the EU to act to undertake action to enhance interoperability.

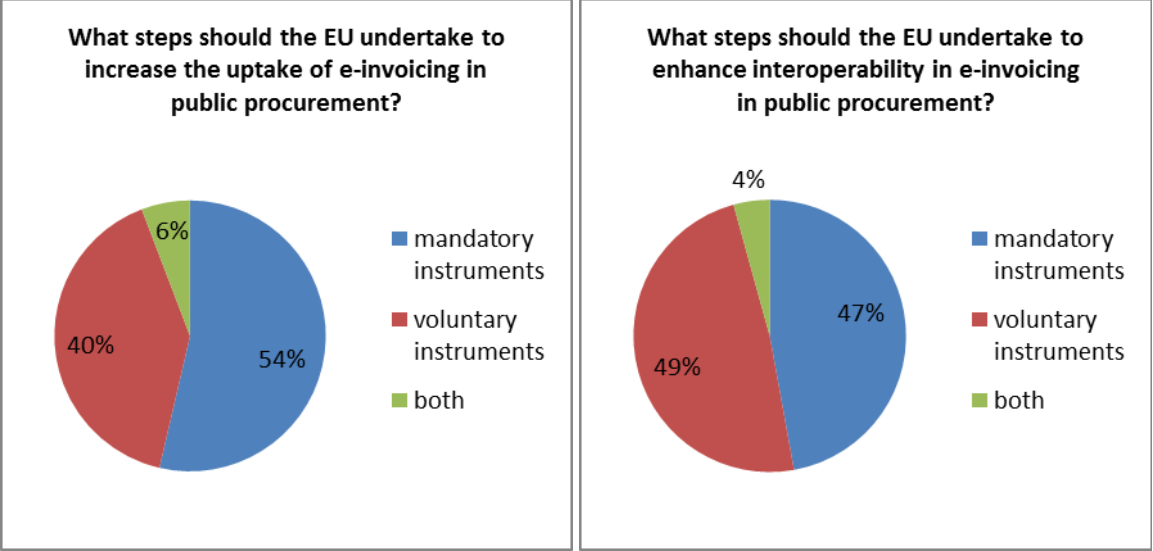
Figure 14): Support for EU action to increase uptake and enhance interoperability in e-invoicing in public procurement – Member States



Source: DG Internal Market and Services

In terms of the instruments to be used for increasing uptake, of the 69 respondents supporting EU action, a slight majority (54%) prefer mandatory instruments, 41% voluntary instruments, while 6% would like to see both used. The opinion on instruments to be used for enhancing interoperability is evenly split, with 47% supporting mandatory instruments, 49% preferring voluntary instruments, and 4% choosing both.

Figure 15): Preferences with regards to the type of EU action – Member States

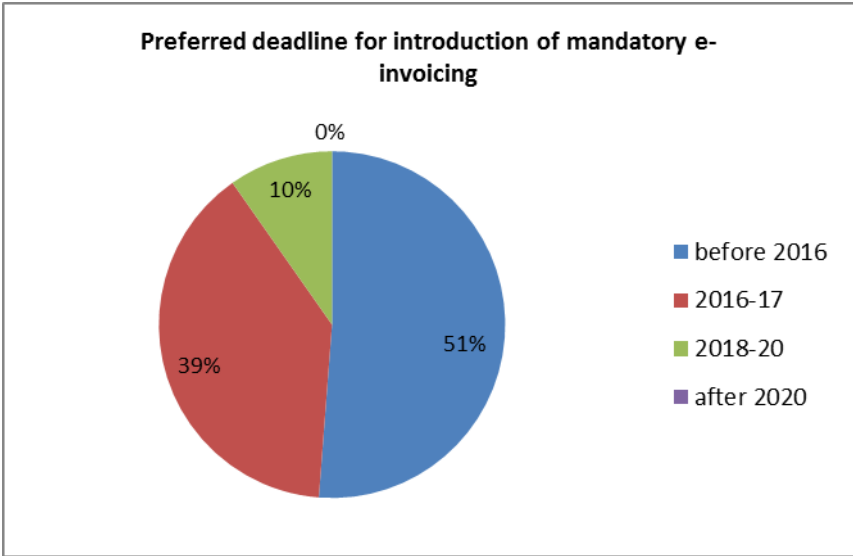


Source: DG Internal Market and Services

Of those looking for mandatory instruments, just over half (51%) would like to see e-invoicing become mandatory before 2016; the vast majority of the remaining half of respondents (39% of all replies received) would prefer it within a 2016-17 timeframe, with

only 10% preferring e-invoicing to become mandatory between 2018 and 2020. No respondents wished for a longer timetable.

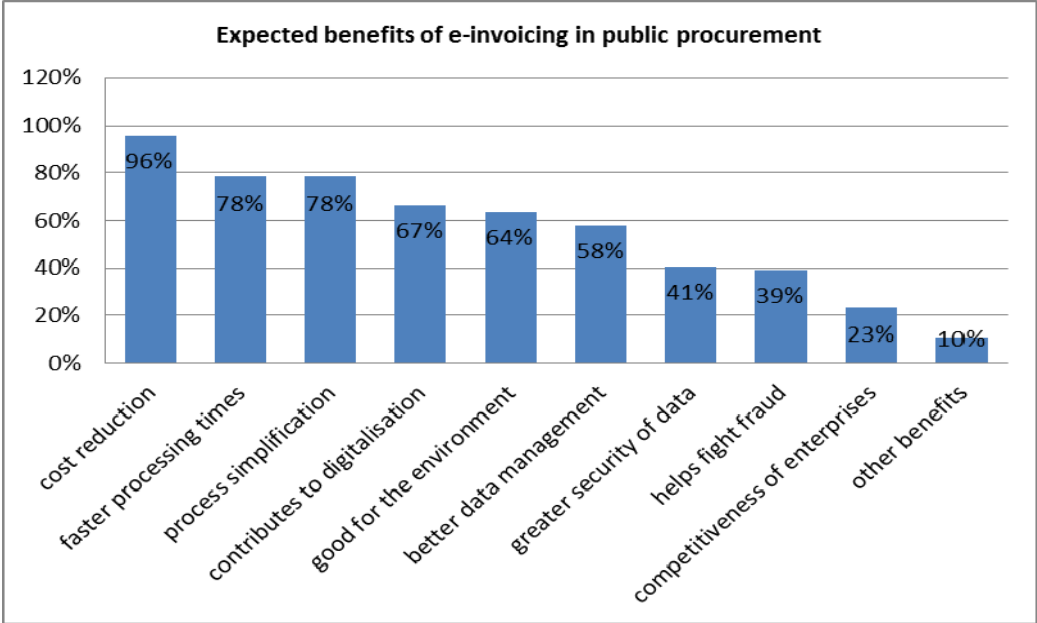
Figure 16): Preferred timeline of introduction – Member States



Source: DG Internal Market and Services

Furthermore, 95% would like the mandatory e-invoicing to apply to all public bodies, while only 5% would like it to be restricted to the central government only. Of the former, 72% of the former and 50% of the latter would wish all invoices to be covered, while the remainder would prefer to restrict the use of e-invoicing only to certain types of invoices. From this group, more than 9 out of 10 (91%) respondents would like to include only invoices above a certain monetary value; approximately half (55%) would prefer to use it only in certain sectors or only apply it to invoices covered by the public procurement directives; while a quarter (27%) indicated other criteria (e.g. exemptions for contracts with secret clauses or pertaining to national security matters, contracts where the payments are made by way of fixed advances). The main benefits expected by Member States are cost reduction (96%), faster processing times (78%), and process simplification (78%).

Figure 17): Expected benefits of e-invoicing in public procurement – Member States

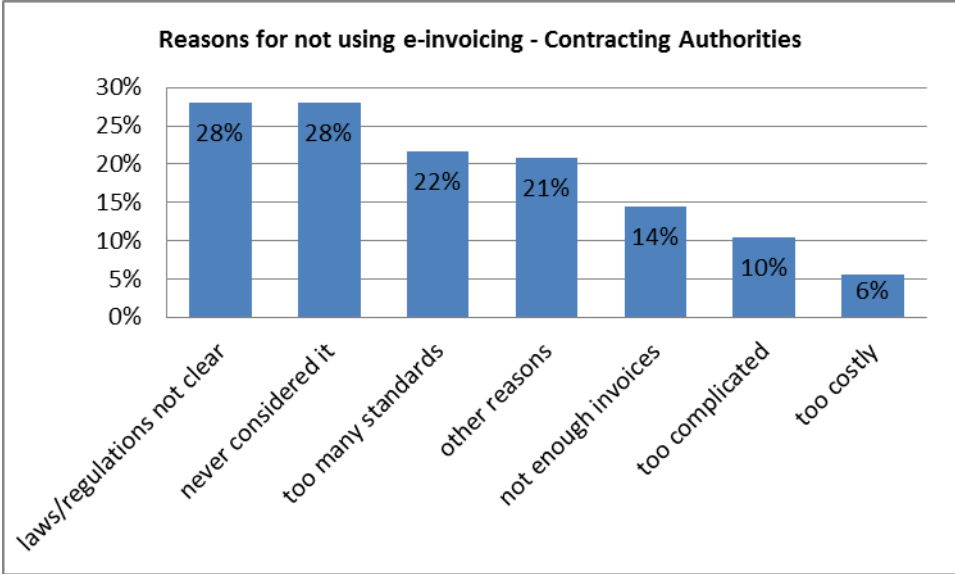


Source: DG Internal Market and Services

1.11.2.3. Contracting Authorities

171 replies were received from contracting authorities. Just over a quarter (27%) of the respondents currently use e-invoicing. Of these, practically all (96%) agreed that e-invoicing had positively impacted their activities, with the remainder either neutral or having no opinion. The main reasons for not using e-invoicing were: unclear laws/regulations (28%), too many different standards (28%), and other reasons (21%), which seemed to focus primarily on lack of an existing national framework, on a failure at an earlier attempt to introduce it, or on lack of readiness of business partners or resistance to change. More than a quarter of respondents (28%) admit that they have simply never considered it before.

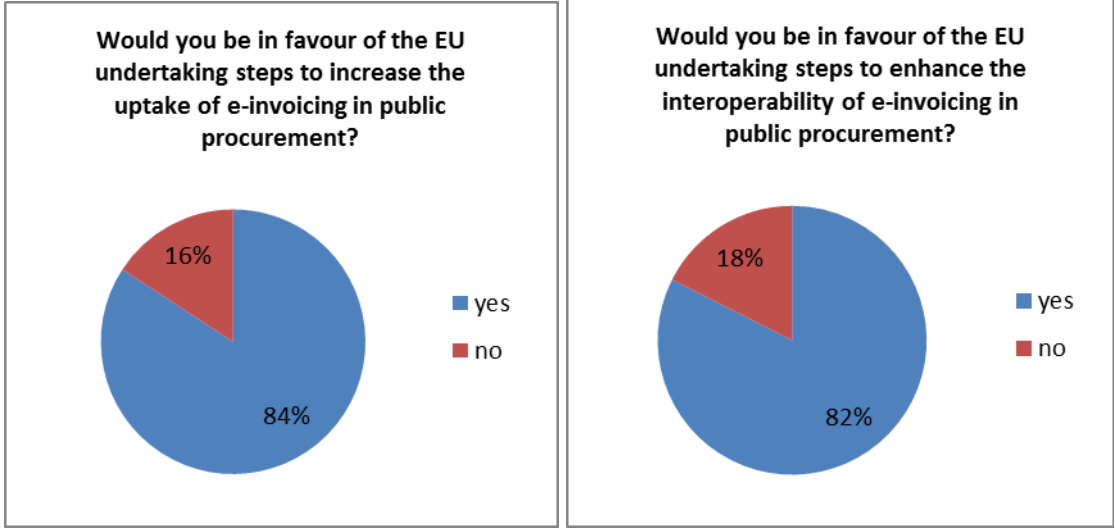
Figure 18): Reasons for not using e-invoicing – contracting authorities



Source: DG Internal Market and Services

84% of contracting authorities support the EU undertaking action to promote the use of e-invoicing in public procurement, and 82% want the EU to act to undertake action to enhance interoperability.

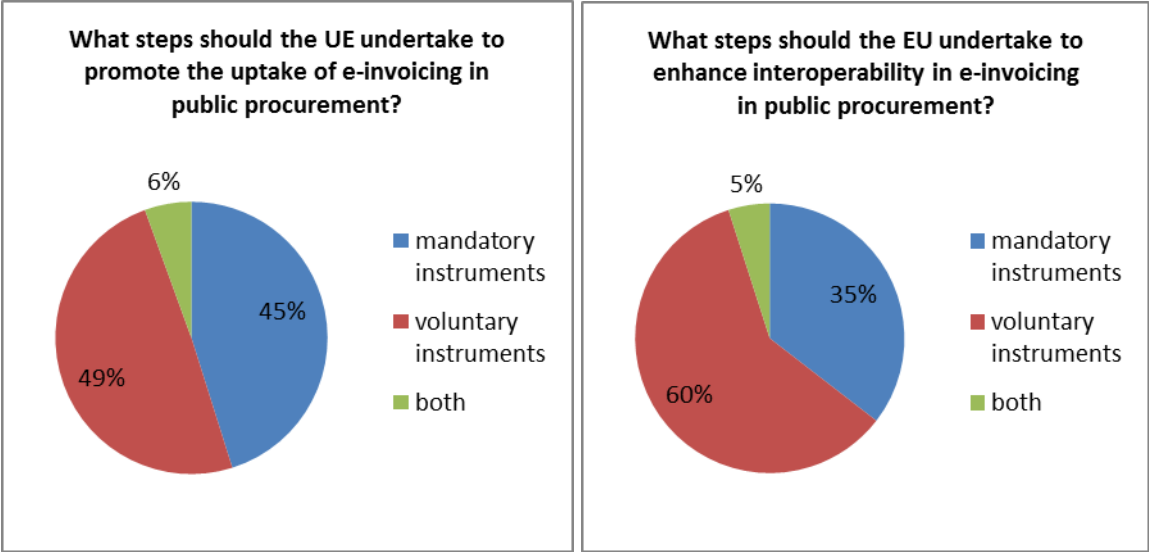
Figure 19): Support for EU action to increase uptake and enhance interoperability in e-invoicing in public procurement – contracting authorities



Source: DG Internal Market and Services

Of the 144 respondents approving of EU action to increase use of e-invoicing, a slight plurality would prefer voluntary to mandatory instruments (49% vs. 45%) with the rest (6%) opting for both. In order to enhance interoperability, the majority of respondents (60%) would prefer voluntary instruments, with 35% opting for mandatory and 5% for both.

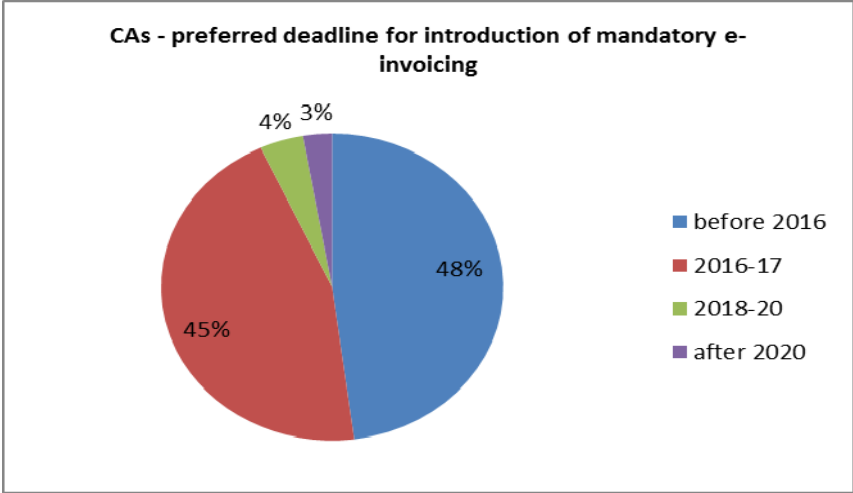
Figure 20): Preferences with regards to the type of EU action – contracting authorities



Source: DG Internal Market and Services

In terms of the timeframe, 48% of those preferring mandatory instruments would like to see mandatory e-invoicing before 2016, and another 45% in 2016 or 2017. Only 7% would rather wait until 2018 or after.

Figure 21): Preferred timeline of introduction – contracting authorities

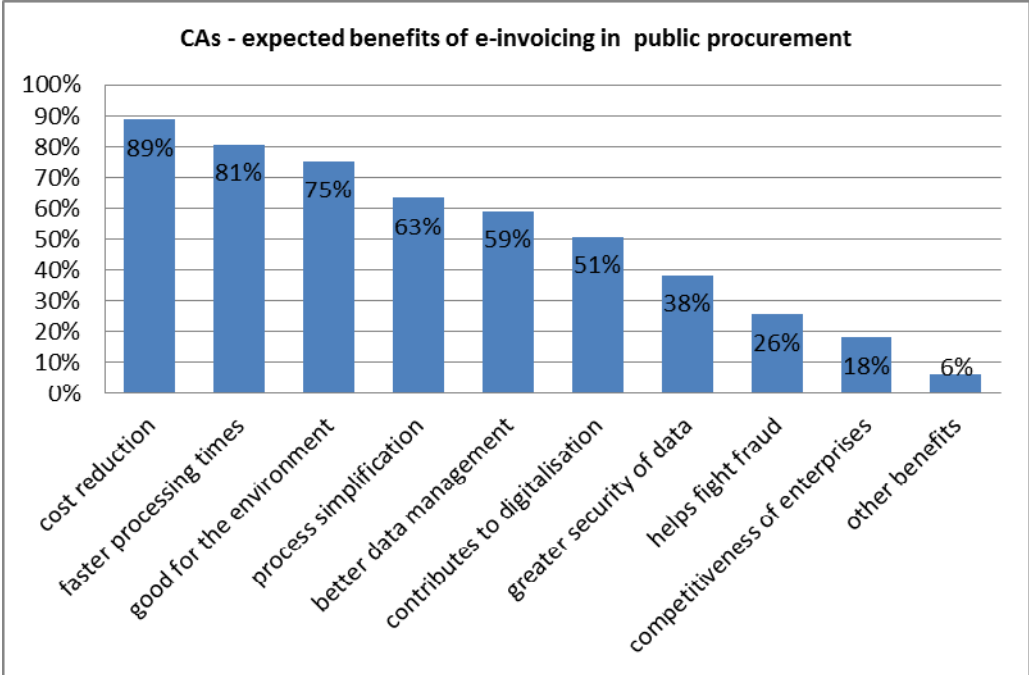


Source: DG Internal Market and Services

All of the respondents supporting mandatory instruments to increase uptake would wish to see it apply to the entire government sector, and less than 1 in 5 (18%) respondents would prefer to limit the application to only certain types of invoices. The only limitation which received the support of respondents (54%) was by monetary value of invoice; less than a third (31%) would prefer to see e-invoicing only in certain sectors, and less than 1 in 6 (15%) would like to restrict its use to invoices covered by the public procurement directives. Just under half (46%) mentioned other selective criteria, such as: limitation of e-invoicing to high-volume purchases and to simple purchases (goods, simple services, as opposed to works). The main

benefits expected by the contracting authorities are cost reduction (89%), faster processing times (81%), and a reduced environmental impact (75%).

Figure 22): Expected benefits of e-invoicing in public procurement – contracting authorities



Source: DG Internal Market and Services

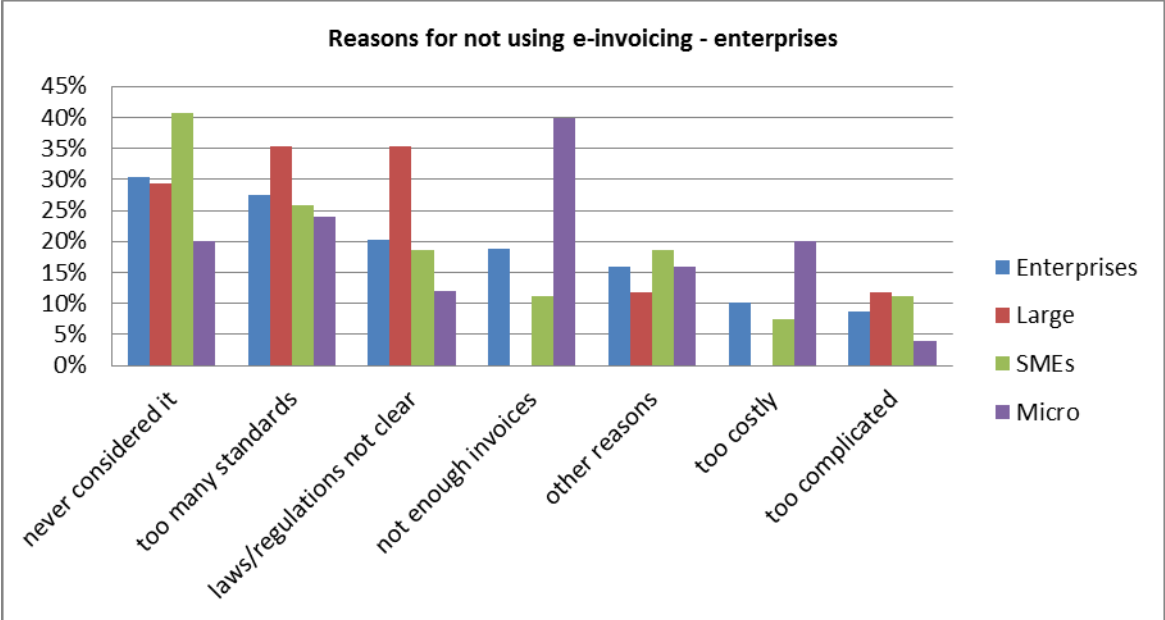
1.11.2.4. Firms (including SMEs)

Out the 140 replies received from enterprises, 46 were from large companies, 51 were from SMEs, and 43 from microenterprises. Almost exactly half of all enterprises (51%) already use e-invoicing; however, the proportion is greater for large enterprises (63%) than for SMEs (47%) and for microenterprises (42%). On average, more than 4 out of 5 enterprises (86%) agreed or strongly agreed that e-invoicing has had a positive impact on their business operations; only 3% were of the opposite opinion. However, here too, the opinions varied among the different types of enterprises: whereas 100% of large enterprises agreed with the statement, the proportion dropped to 88% for SMEs and only 61% for microenterprises. The respondents who did not feel that e-invoicing had had a positive impact mentioned the poor presentation of the invoice and complexity of dealing with service providers as the reasons.

The main reasons given for not using e-invoicing for enterprises as a group were: never considered using e-invoicing (30%), too many different standards (28%), and unclear laws/regulations (20%). For large enterprises, the same reasons were given, but their order was reversed: over a third of respondents (35%) mentioned unclear laws/regulations and the multiplicity of standards (35% for each), while a slightly lower number (29%) have simply never considered it. Perhaps unsurprisingly for large enterprises, the issues of cost and insufficient number of invoices were not mentioned at all. In terms of the SMEs which do not use e-invoicing, 2 out of every 5 (41%) have never considered it, while a quarter (26%) is concerned by the multiplicity of standards. The next two reasons mentioned are the lack of clarity in laws/regulations and other reasons (both 19%), such as lack of sufficient knowledge, fear of dependence on a service provider, or the lack of agreement from business partners.

The issue of cost and volume of invoices appears, at 7% and 11% of respondents indicating these as concerns. Finally, for microenterprises, the situation looks quite different: 40% of the respondents indicate the insufficient number of invoices as the main concern, a quarter (24%) – the multiplicity of standards, while 20% fear excessive. 20% of microenterprises have simply never considered e-invoicing.

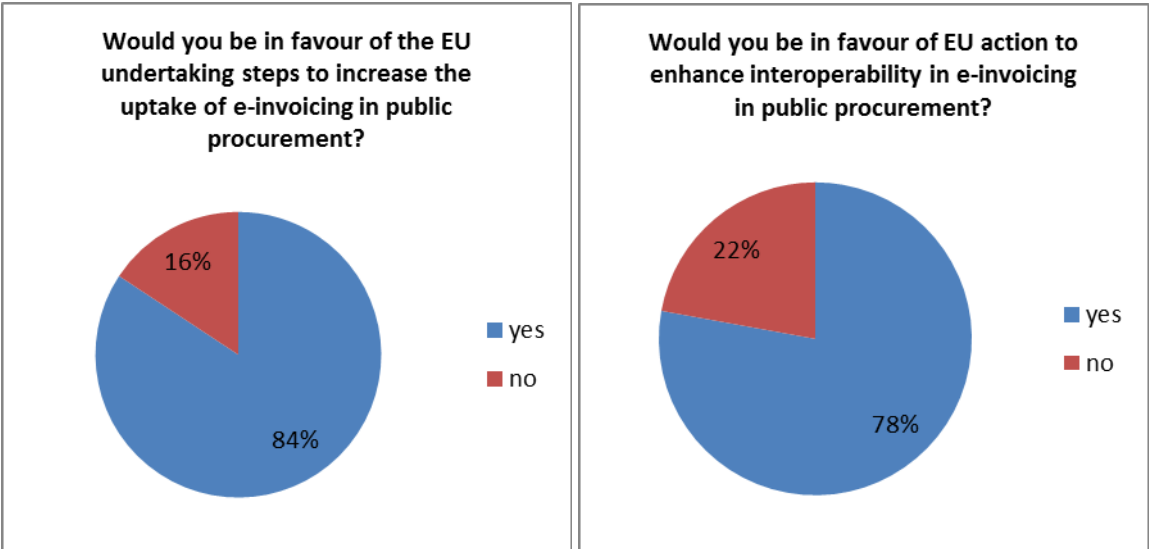
Figure 23): Reasons for not using e-invoicing - enterprises



Source: DG Internal Market and Services

Taking the three groups together, 84% of respondents were in favour of the EU undertaking action to increase the uptake of e-invoicing, and 78% wished for action to enhance interoperability. Looked at separately, the greatest support for the promotion of uptake was among large enterprises (96%), while support among SMEs and microenterprises was somewhat lower and almost identical (78% and 79% respectively).

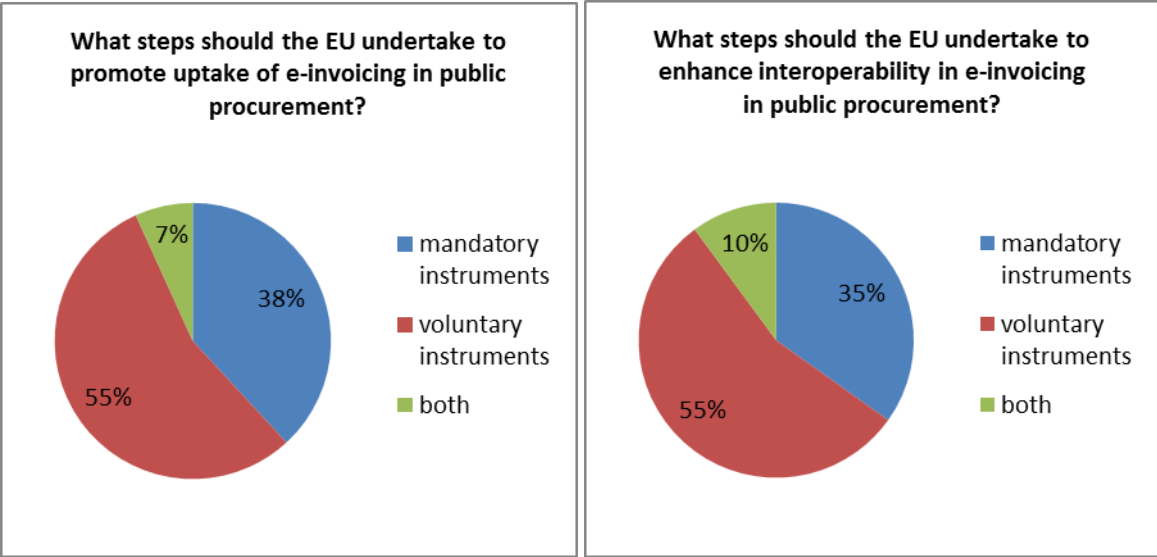
Figure 24): Support for EU action to increase uptake and enhance interoperability in e-invoicing in public procurement - enterprises



Source: DG Internal Market and Services

With regards to the question of enhancing interoperability, support was similar among large enterprises (85%) and SMEs (80%), but was significantly lower among microenterprises (67%). Out of all enterprises supporting EU action to increase uptake, roughly 2 out of every 5 (38%) supported mandatory instruments, with just over one-half (55%) preferring a voluntary approach. The proportion was very similar for large enterprises and microenterprises, but among SMEs there was greater support for voluntary instruments (65% vs. 33% for mandatory). As far as enhancing interoperability is concerned, once again a majority preferred the use of voluntary to mandatory instruments (55% vs. 35%), while 10% of respondents were in favour of both. Once again, the proportion of large enterprises and microenterprises preferring mandatory instruments is very similar (41% for both), although there is greater support among microenterprises for voluntary measures (56% to 46% for large enterprises). The SMEs stand out in this aspect as well – the proportion of those preferring voluntary instruments over mandatory ones is significantly greater than among the other groups of enterprises (65% for voluntary vs. 33% for mandatory).

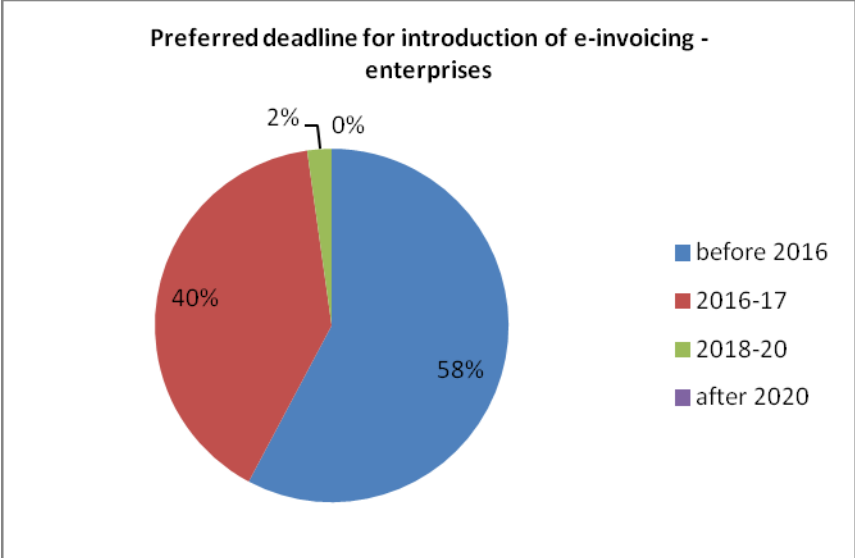
Figure 25): Preferences with regards to the type of EU action - enterprises



Source: DG Internal Market and Services

In terms of the timeline for the introduction of mandatory e-invoicing, all enterprises seem very eager: almost 3 out of 5 (58%) would prefer the deadline to be prior to 2016, and a further 40% prefer 2016-2017. This means that there are practically no enterprises which would wish to see a longer transition period to mandatory e-invoicing (i.e. introduction in 2018 or later).

Figure 26): Preferred timeline of introduction - enterprises



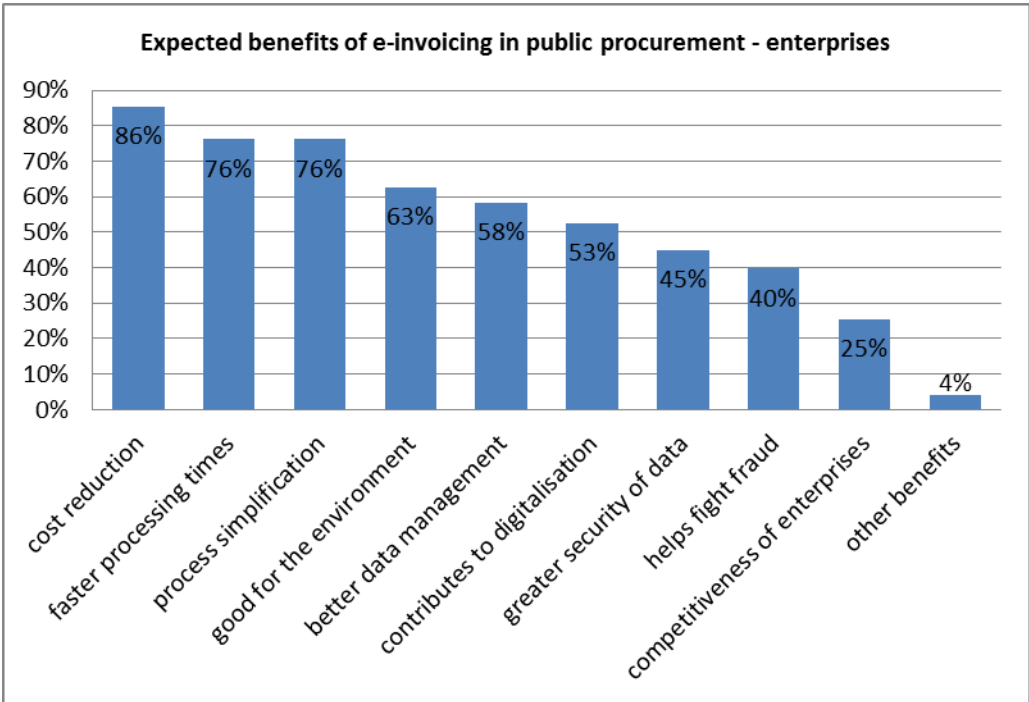
Source: DG Internal Market and Services

Interestingly, the proportion of supporters of early introduction rises as the company size decreases: while only 50% of large enterprises would support the introduction of mandatory e-invoicing before 2016, the level of support rises to 54% in SMEs and to as much as 71% in microenterprises.

All of the firms in favour of mandatory instruments to increase the uptake of e-invoicing support its use in all government institutions, and 86.8% wish to include all types of invoices (the proportions are very similar between the three types of enterprises, but is inversely proportional to the size of the enterprise). Those few enterprises which do wish to limit e-invoicing generally indicate most (if not all) of the types of limitations. Due to the low numbers involved, however, any trends are very difficult to detect.

The main benefits expected by enterprises, irrespective of whether looked at as a group or by size sector, are invariably: cost reduction (86%), faster processing times, and process simplification (both 76%).

Figure 27): Expected benefits of e-invoicing in public procurement - enterprises



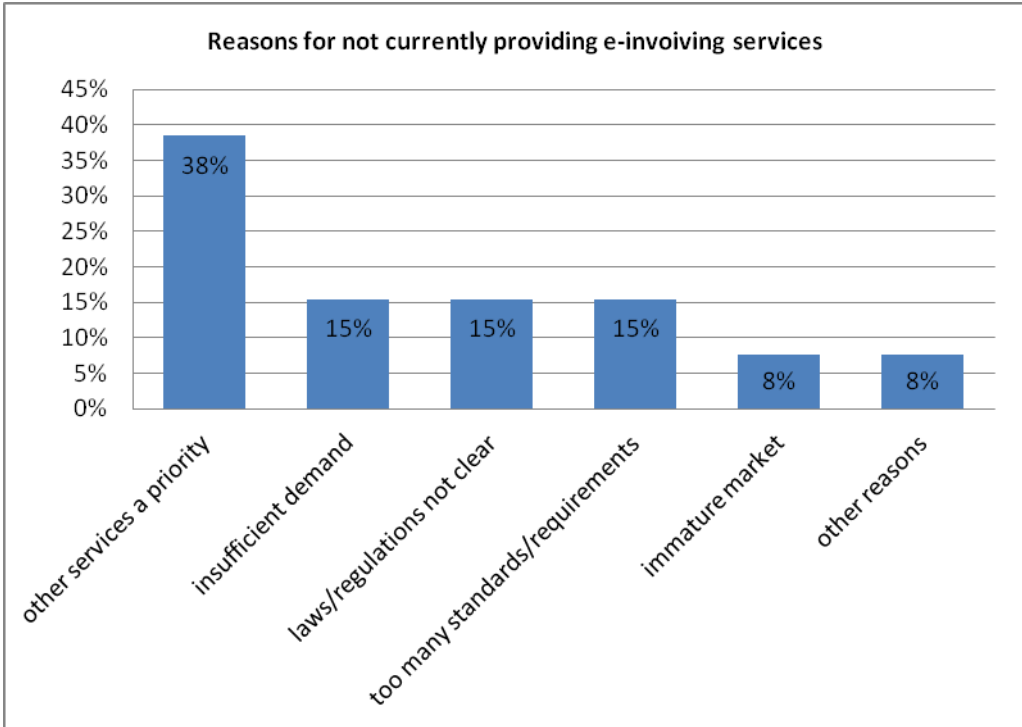
Source: DG Internal Market and Services

The only discernible trend between large enterprises, SMEs, and microenterprises is that the economic benefits (cost, processing time) weigh heavier the larger the enterprise; for microenterprises, issues such as the environment and digitalisation appear to play a relatively larger role.

1.11.2.5. Service providers

92 IT service providers responded to the public survey, out of which 86% currently provide e-invoicing services. Of these, 79% have signed one or more bilateral interoperability agreements, and almost exactly half (51%) have multilateral agreements. Among those service providers not currently providing e-invoicing services, by far the most commonly cited reason was that other services were a priority (38%).

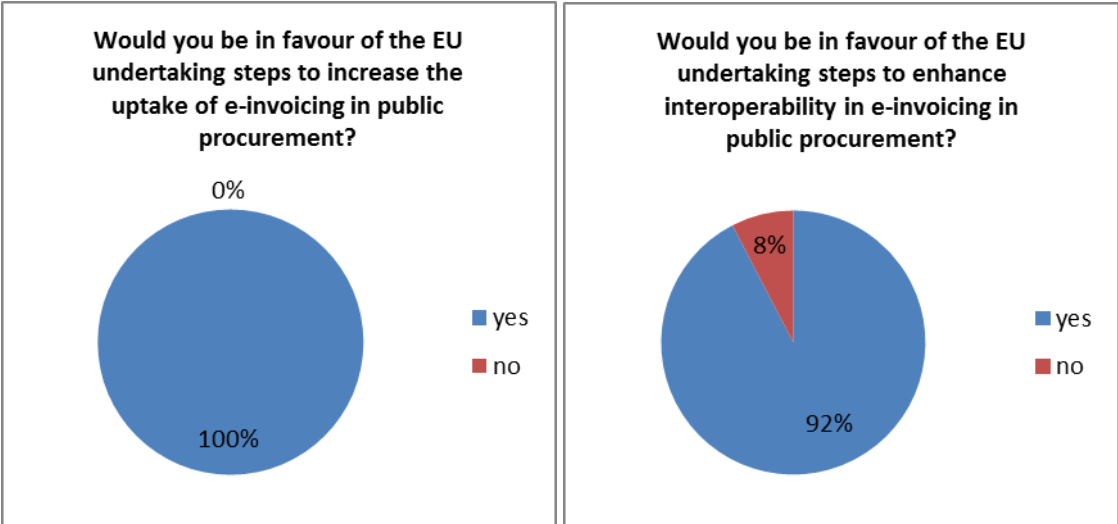
Figure 28): Reasons for not providing e-invoicing services



Source: DG Internal Market and Services

Out of the four groups of stakeholders discussed here, the service providers are by far the most supportive of EU action in the area of e-invoicing of public procurement. Of the 92 respondents, all support EU action to increase uptake and 92% agree that the EU should attempt to enhance interoperability.

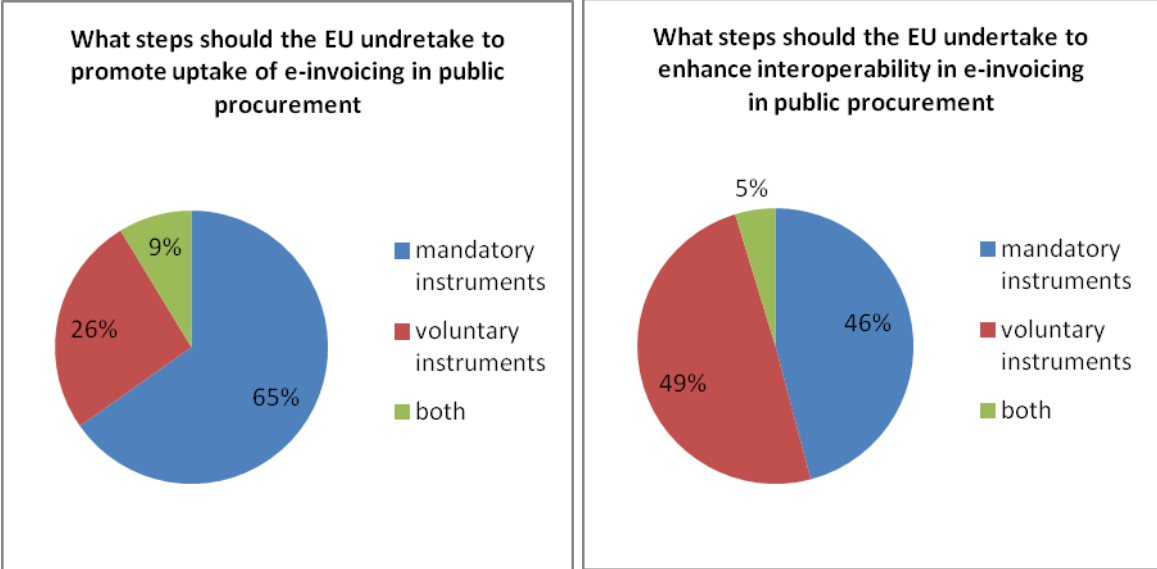
Figure 29): Support for EU action to increase uptake and enhance interoperability in e-invoicing in public procurement – service providers



Source: DG Internal Market and Services

Two-thirds (65%) of those service providers supporting EU action in order to increase the uptake of e-invoicing are for the use of mandatory instruments, and another 9% would like to see both mandatory and voluntary instruments. The opinions are much more balanced when it comes to steps to enhance interoperability: 46% support mandatory instruments, 49% prefer voluntary instruments, and 5% would opt for both.

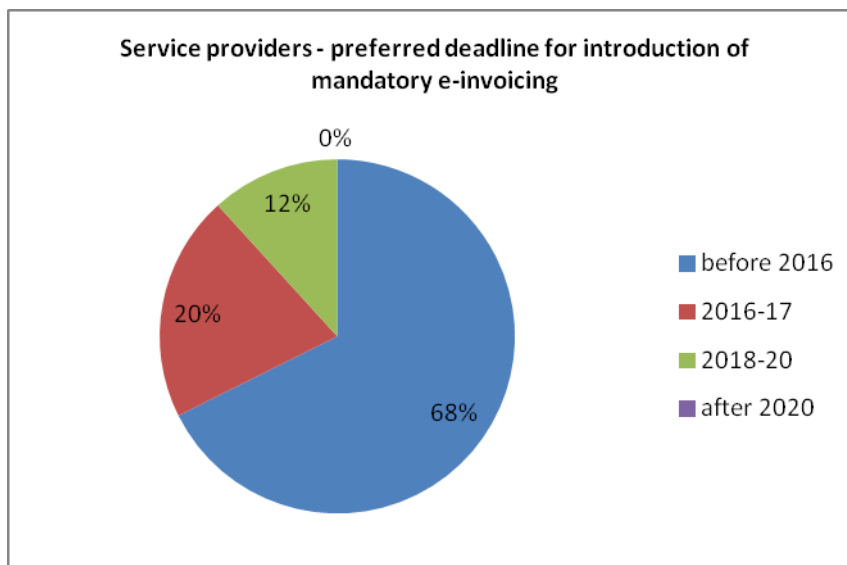
Figure 30): Preferences with regards to the type of EU action – service providers



Source: DG Internal Market and Services

Service providers wish to see the broadest scope possible for e-invoicing: 100% of those supporting mandatory instrument would like all governmental institutions included and 91% all types of invoices covered. Of the respondents wishing to limit the use of e-invoicing, 83% wanted to include only invoices above a certain monetary value, exactly half would like it to apply only to invoices covered by the public procurement directives, and 1 in 6 (17%) would like to restrict it to only certain sectors. In addition, 50% named other criteria, e.g. legal complexity of the invoice. They are also eager to see it soon: just over two-thirds (68%) would like it introduced before 2016 and a further 20% in 2017 or 2018. There is no interest in delaying introduction pasts 2020.

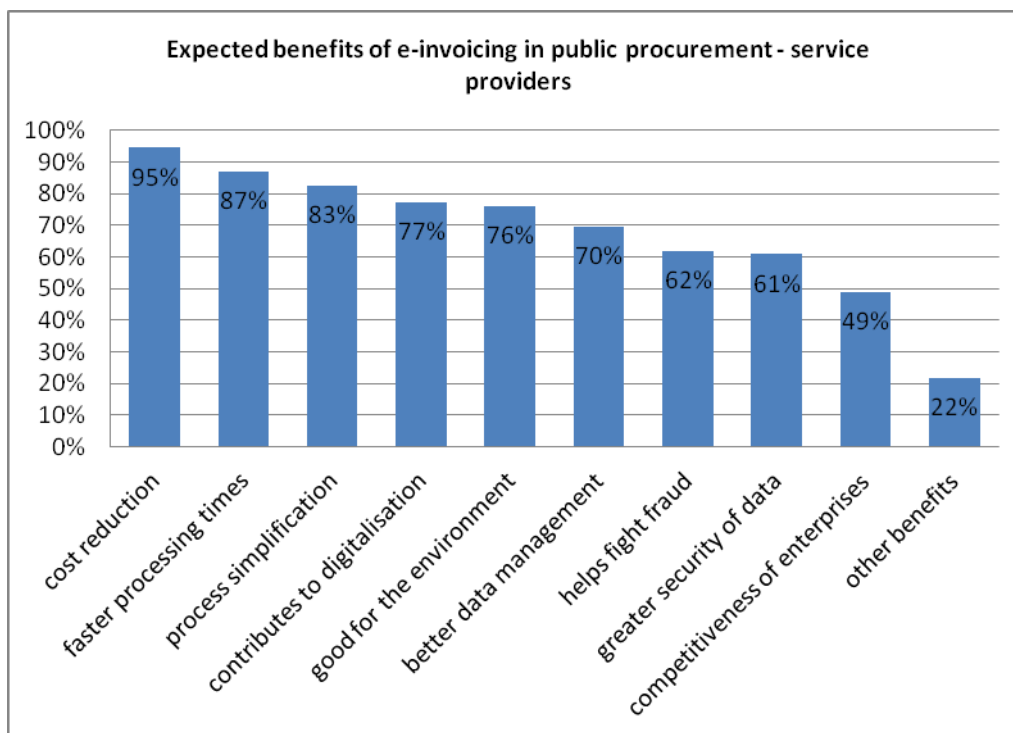
Figure 31): Preferred timeline of introduction – service providers



Source: DG Internal Market and Services

Similarly to the other groups, the main benefits expected by the service providers are cost reduction (95%), faster processing times (87%), and process simplification (83%).

Figure 32): Expected benefits of e-invoicing in public procurement – service providers



Source: DG Internal Market and Services

2. GLOSSARY

ACPC: the Advisory Committee for Public Contracts

CEN: European Standardisation Committee

CWA: CEN Workshop Agreement

Directives, the: Directive 2004/17/EC of the European Parliament and of the Council of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors; Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts; and Directive 2009/81/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of procedures for the award of certain works contracts, supply contracts and service contracts by contracting authorities or entities in the fields of defence and security, and amending Directives 2004/17/EC and 2004/18/EC.

Contracting authorities: in this Impact Assessment, the term is used to refer to contracting authorities or entities, within the meaning of Article 1(9) of Directive 2004/18/EC, Article 2 of Directive 2004/17/EC and/or Article 1(17) of Directive 2009/81/EC.

EESPA: European E-invoicing Service Providers Association (<http://www.eespa.eu/>)

EMSF: European Multi Stakeholder Forum on Electronic Invoicing (http://ec.europa.eu/enterprise/sectors/ict/e-invoicing/benefits/invoicing_forum_en.htm)

EN: European standard (“*norme européenne*”) is a standard which has been adopted by one of the three recognised European Standardisation Organisations: CEN, CENELEC or ETSI

e-procurement (electronic procurement): e-procurement refers to the use of electronic communications by public sector organisations when buying supplies and services or tendering public works

IAB: the Impact Assessment Board

IASG: the Steering Group for this Impact Assessment

IPM: Interactive Policy Making (http://ec.europa.eu/yourvoice/ipm/index_en.htm)

OJ/TED: Tenders Electronic Daily (TED) – the Supplement to the Official Journal of the European Union where notices are published for public procurement contracts covered by the Directives (<http://ted.europa.eu/>)

UEAPME: European Association of Craft, Small and Medium-sized Enterprises (<http://www.ueapme.com/>)

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