

# **E-GOVERNMENT AND COST-EFFECTIVENESS: E-TAXATION IN SLOVENIA**

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## **Abstract**

Improving government performance has been a key goal of regulatory reforms. Cost effectiveness, co-operation and bottom-up approach, flexibility, dynamics, responsiveness are important attributes of reforms. Improvements in regulatory performance include targets to reduce administrative burdens, and information technology is one of the tools that could be used for achieving that goal. The paper presents the use of information communication technology (ICT) in government procedures and its impact on the cost-efficiency of government. The research focuses on investment in ICT to simplify tax procedures in Slovenia. Results show that ICT expenditure is higher than cost savings for tax administration and taxpayers. Nevertheless, several non-financial benefits are also important and should be considered.

## 1. Introduction

Regulation in many developed countries over the past two decades has become increasingly complex, and the related administrative procedures have placed a financial burden on businesses, individuals, and even on government itself. This led to the 'better regulation' initiative. The term 'better regulation' covers a large set of policy instruments intended to enhance the ability of institutions to provide high-quality regulation. According to an OECD report on regulatory reform (1997), regulatory reforms are directed at creating more efficient, flexible, simple and effective regulation, and not at reducing regulation. The quality of regulation includes the development of better non-regulatory instruments and transparency. The OECD report listed several 'new styles' of regulation, such as cost-effectiveness, co-operation and the bottom-up approach, flexibility, dynamic, responsive etc. In regulatory reform, the improvement of regulation quality is a distinct element, together with deregulation and institutional and procedural changes. Similarly, Radaelli (2007) states that improvements in regulatory performance "*include targets of burden reduction, cost-effective regulation, increased reliance on market-friendly alternatives to regulation, etc*" (emphasis added). OECD's special group on regulatory policy (2005) prepared guidelines for good regulation, which should:

*"Serve clearly identified policy goals, and be effective in achieving those goals; have a sound legal and empirical basis; produce benefits that justify costs; minimize costs and market distortions; promote innovation through market incentives and goal-based approaches; be clear, simple, and practical for users; be consistent with other regulations and policies; and be compatible as far as possible with competition, trade and investment-facilitating principles at domestic and international levels".*

OECD (2007) later presented some 'best practice' tools for better regulation:

1. measuring the likely burden of new regulations;
2. political oversight of very burdensome measures;
3. codification (grouping together existing regulations in a particular area in a single regulation);
4. information technology is an important tool for reducing burdens, for example, through data sharing, and simplifying procedures; and
5. the need to report results.

As mentioned above these tools could be better achieved if the government uses ICT. Changes in the information society have opened up new opportunities in policy management. The development of ICT has increased the scope for public authorities to identify and measure regulation implementation costs and administrative matters are less tied to time and place (Athisaari, 1999). According to the European Commission's e-Government portal, new technology can radically improve the efficiency and effectiveness of public services. Initiatives in the i2010 e-government action plan

are intended to extend e-services, cut back on red tape and increase the level of satisfaction of all users (European Commission, 2006a). In the public sector there are many examples of ICT investments that have reached high ranking among citizens' satisfaction (i.e. the Social Security Administration's online services have been recognized as the 'best in government' and exceed top private sector sites in customer satisfaction according to the results from the American Customer Satisfaction Index (ACSI) in May 2010).

Increased ICT investment is also used as a tool to achieve greater efficiency and effectiveness in managing businesses. The first studies investigating the relationship between ICT and productivity were done for private businesses in different fields. It is interesting that empirical studies have not persuasively established a correlation between ICT investments and corresponding improvements in organizational performance and productivity in general. Some studies report no relationship, some provide evidence that a correlation does exist, and in a few studies a negative relationship between enterprise performance and ICT investment was observed (Sigala *et al.*, 2004; Telstra Productivity Indicators, 2010). From 2006 to 2008 Eurostat carried out an ICT impact assessment project by linking data from different sources. The main purpose was to assess the impact of ICT usage in enterprises. The main findings of the survey showed that ICT usage has a consistent productivity effect in manufacturing in all participating countries. The effects on services, on the other hand, depend on the type of industry and the level of ICT usage in a specific country (Airaksinen *et al.*, 2008).

We can consider e-government as one of the ICT investments in the public sector. E-government projects are not evaluated in the same way, however, since in most cases cost-benefit analyses are not performed (Kertesz, 2003). Nevertheless, different government reports on implementing e-government as a tool to improve government performance can be found in various reports (European Commission, 2006b). ICT makes compliance costs 'lower' in regard to time consumption and monetary expenses, but ICT itself is not cheap. The use of ICT for some services and compliance procedures need a high level of resources, and not only initially, since support costs are also high. Moreover, ICT investment cannot be treated as a long-term once-only investment since constant changes in the information technology world demand constant upgrading, adaptation and development. This means that the overall cost-efficiency does not necessarily improve, and ICT cannot be recommended as a tool for improvement of government performance, when considering it in purely financial terms.

The main purpose of the paper is to test whether the use of ICT improves the cost-effectiveness of administrative procedures for government, businesses or individuals. The case of Slovenian e-government, especially e-taxation, is presented as a case study.

The paper is structured as follows: following introductory considerations, investments in e-government and their usage in the EU are presented. Next, the development of e-government in Slovenia is presented. The subsequent section presents e-taxation as one of the most developed fields of e-government in Slovenia and its influence on

taxpayers' compliance costs and tax administration's cost savings. The findings in the Slovenian case are then compared to the results of research in Italy and Romania.

## **2. Public expenditure on e-government**

E-government and e-services already have a certain amount of history, having developed from simpler past levels to the more sophisticated levels offered today. In the past, e-government normally used ICT to improve efficiency and communication (Norris and Kraemer, 1996). The main focus was on mass transaction processes within government. The internet revolution and its wide use in the private sector and personal life also gave impetus to e-government. The focus turned towards the new and more capable clients who knew and wanted to use ICT. E-government could be treated as a logical consequence of implementing ICT in public administration and all spheres of human life, private and public.

E-government alone is not entirely positive, but its benefits include features such as 24x7 access to government services, services from the comfort of one's home, lower services' costs, reduced burden on government employees, and automated procedures. The most significant negatives include high costs, additional communication channels to be managed, additional knowledge requirements, and the need for policies and plans. In e-government planning the anticipated costs is often limited to the purchase costs for ICT equipment, with many parties neglecting to consider the costs of maintaining and upgrading ICT, educational costs for ICT users, and costs for additional human resources, for management, and maintenance of ICT (or outsourcing costs). E-government based on ICT usage and its advantages should also lead to change in working processes and procedures. If one really wants to take advantage of all the positive factors that ICT offers, one must also change processes and prepare sound long-term plans.

The cost component of e-government is therefore just as important as its impact. Costs must be taken into account to determine the net benefits yielded by the provision of e-government services. It is important to justify investments in terms of efficiency and effectiveness. Information on costs is also important in terms of accountability and transparency on how public financial resources are spent (European Commission, 2006b).

According to The e-Government Economics Project (eGEP) in 2004 the general public administration expenditure on ICT alone for EU25 reached € 36.5 billion. E-Government expenditure in the same period totalled € 11.9 billion (from € 2.58 million in Latvia to € 3.4 billion in the UK). Bhatnagar (2004) presented costs for different e-public services (in most cases custom or taxation) in Brazil, Jamaica, India, Philippines and Thailand. The costs range from US\$ 50,000 to US\$ 55.8 million. Most of the EU Member States spent less than 0.15% of GDP on e-government expenditure. Expenditure varies considerable among the Member States, from less than € 5 per capita to € 100. In addition to that spending, eGEP estimated the intangible cost of organizational change for e-government in 2004 at € 4 billion (European Commission, 2006b).

Using the economic model of e-government impact, eGEP finds that e-government significantly improves public sector labor productivity, yielding better services, cost savings and GDP growth. According to the report, only five Member States currently measure impact (European Commission, 2006b). Improving government performance through ICT usage is also assessed in the European Commission 2007-10 Action Plan for e-Government Efficiency and Effectiveness (European Commission, 2006a). According to the plan *“(...) advanced ICTs and data-handling processes could help significantly reduce waiting times (...)”, and “(...) queues and delays while collecting benefits, repetitive form filling, time-consuming manual bureaucracy, (...) can be radically overhauled by better leveraging ICTs”; also, “using ICTs will certainly help reduce the cost burden on administrations – and hence on tax payers – but only if their integration in public processes is well organized”.*

It is obvious that e-government expenditure has an economic impact and even a non-economic impact on government performance, but there are no regular impact measurements across Europe. The European Commission regularly measures e-government availability (supply side) and e-government usage by enterprises and individuals (demand side) (Eurostat, 2010). According to data, e-government availability reached 59% in the EU27 in 2008, with the highest percentage in Austria (100%) and the lowest in Bulgaria (15%). In 2009, e-government usage by enterprises for getting information reached 65% in the EU27, with the highest percentage in Finland (89%) and the lowest in Romania (40%). E-government usage by individuals for getting information reached an average of only 27.5% in the EU27 (Eurostat, 2010).

Taxation-related services are among the most developed e-services in the European Union today. At the same time, e-taxation services are among those most used by clients in many countries, sometimes even because the clients are forced to use them.

### **3. E-Government expenditure in Slovenia**

According to eGEP (European Commission, 2006b) Slovenian public administration's ICT expenditure reached € 93.3 million in 2004. E-Government expenditure was € 30.98 million, which was € 15.52 per capita and 0.12% of GDP in 2004. Recent investments in e-government in Slovenia can be evaluated from the national budget (Ministry of Finance, 2009). According to the Ministry of Public Administration's 1998-2010 investment plan, together with the e-VEM portal (one-stop-shop for businesses), e-government expenditure was planned to reach € 12.1 million. The implementation of e-taxation is reported in the investment plan for the Slovenian tax administration for the period 2005-2009. General information system expenditure is planned to reach € 15.6 million, the VAT support system for taxpayers € 4.2 million, equipment and software € 11.5 million and e-taxation information system € 24.8 million. The Slovenian government did not publish a financial evaluation of the expected impact. The only estimation made was for the e-VEM portal, which should reduce government costs by € 0.9 million. The cost reductions anticipated for businesses were much higher at € 10.7 million per year (Ministry of Public Administration, 2008).

#### **4. E-taxation expenditure and impact evaluation**

The Slovenian government introduced a special e-taxation portal soon after the main e-government portal. Slovenia's e-taxation portal was established at the end of 2003. Initially, taxpayers could find and print tax forms from the e-taxation portal. Later on form completion was possible, so that taxpayers could complete forms, print them and submit them by post to the tax administration. Electronic filing of personal income tax and VAT was enabled in 2004. Since then the number of services available to taxpayers has increased every year. The use of the portal is free of charge and offers several tax services to taxpayers. The portal is continually updated and improved. To register and use the services, taxpayers require a personal computer, web browser and a digital certificate. Taxpayers can use digital certificates issued by government which are free of charge or they can use several certificates issued by banks and other institutions. This was beneficial for those taxpayers that already used e-banking services and owned digital certificates. Personal income tax payers who are not able to register on the e-taxation portal for various reasons (lack of equipment, lack of computer know-how) can authorize family members and friends to register for them. The authorization must be signed and delivered to the tax office on paper. Corporate taxpayers can authorize accounting offices (external authorization) and their employees (internal authorization).

For the purpose of this research the authors attempted to evaluate the impact of ICT introduction on personal income tax. The personal income tax online service was one of the first services offered to citizens in 2004. Several surveys of taxpayers carried out even before the personal income tax online service was established, showed that taxpayers would like to file tax returns electronically. The cost savings for each taxpayer deciding to file a tax return electronically can be estimated at € 1.30, the sum of the tax form fee and postal costs. Since tax forms can be printed from the internet free of charge those costs are even smaller. Costs for tax administration were also lowered but not evaluated. Since less than 3% of taxpayers were using e-filing, the cost reduction for the tax administration and even for the whole population of taxpayers was not high, despite the large expenditure.

The abolition of non-standard allowances for personal income tax payers in 2008 was a step forward in using ICT more efficiently, while e-taxation for personal income tax payers became much less important. The change allowed fully-prefilled tax returns for personal income tax payers, which were first issued in 2008. In 2008, taxpayers received prefilled tax returns, which included a provisional calculation of their tax liability. If taxpayers did not appeal against the provisional calculation within 15 days, it then became the final decision on their income tax assessment. This means that taxpayers who agree with the tax administration's data do not have to submit any tax returns or signed forms to a tax office. This type of prefilled tax return reduced the taxpayers' costs, both for inputting data into the tax return form, and for submitting the form to the tax administration. Since this innovation occurred,

the e-taxation portal is only used as a 'provisional calculator' of the tax liability and for separate tax returns (i.e. for interest, capital gains and income from abroad) and not for the main purpose, that is filing tax return and paying taxes.

Therefore, previous expenditure on an e-taxation service for personal income tax payers did not achieve its goal, and could be evaluated as inefficient and ineffective. The conclusions regarding e-taxation expenditure for Slovenian businesses are different, since all businesses must use the e-taxation portal, in compliance with tax regulation. They must file all their major tax returns online (i.e. VAT, corporate income tax, social security contributions), using the e-taxation portal. Use is obligatory.

Nevertheless, the introduction of prefilled tax returns for personal income tax payers demanded investment in ICT, and the impact on the compliance costs of taxpayers and cost reduction for tax administration are assessed as having improved government performance.

The research conducted at the Faculty of Administration (Klun, 2009) evaluated the compliance costs reduction for personal income tax payers after introducing prefilled tax returns. The average time before and after the introduction of the prefilled tax return and other costs (i.e. money expenses) were compared. The average time required per taxpayer is assessed at 29.5 minutes, which is almost half of that in 2007 (45% less, to be precise). Taking into account the estimated time per taxpayer, tax agent/accountant's costs and cost expenditure for information acquisition, total personal income tax-related compliance costs for 2008 would be € 8.98 per taxpayer, which is € 12.84 less than in 2007. Nevertheless, it must be stressed that the introduction of totally pre-filled tax returns is not the main reason for the reduction in compliance costs from 2007 to 2008. The difference between the 2007 and 2008 personal income tax compliance costs is, in general, the result of the abolition of non-standard tax-reliefs, since a very small part of the reduction is the result of lower expenditure on delivering tax returns to the tax administration (on average € 0.34). The results from 2007 are therefore compared to the 2001, when taxpayers filled in the entire tax return themselves. Even this comparison should be treated carefully. Some other changes in legislation could also have led to a reduction in compliance costs (i.e. withholding tax on dividends, which is final), since some other changes could increase them (i.e. separate tax returns on interest and capital gains, number of changes in a short time). The comparison is an approximate indicator of the impact of the pre-filled tax returns. All of these factors should be taken into account when interpreting the results. Comparing the results of the two studies shows that the partially pre-filled tax return offers a significant reduction in compliance costs. If one only compares time spent, other expenditure and tax agent's costs would be excluded from the comparison. Using the same value for time evaluation (in this case, the value stated in the 2007 survey), it is also important to exclude the impact of different time evaluations between both surveys. Average personal income tax compliance costs per taxpayer for 2001 amounts to € 37.93, and € 21.82 for 2007. The costs for all taxpayers are lower by around 73% or € 9.1 million.

The cost reduction of tax administration was not evaluated officially, but according to different reports and information available to the public on the Slovenian tax administration website (DURS, 2009) some costs savings could be estimated. The major reduction was found in labor costs, since the data from paper tax returns no longer had to be inputted into computers. The tax administration usually hired around 100 additional employees for this task. Therefore the cost reduction can be evaluated at approximately € 451,000. The costs of archiving the paper tax returns have also been reduced. The tax administration also abolished the call centre for taxpayers and the virtual assistant for filing tax return was not upgraded. These cost reductions could be evaluated at approximately € 30,000. An important non-economic impact is the time consumption for processing personal income tax. Tax returns are processed more quickly than in previous years. Before the introduction of the prefilled tax returns, tax administration required until October to process all tax returns, and in some cases even later. In 2009 all tax returns were processed by the end of May, and all additional payments should be settled by mid-July. This will make more time available for other duties.

ICT expenditure for the introduction of the prefilled tax return was evaluated at approximately € 980,000. Additional, non-ICT, costs include the costs of education and training of employees and taxpayers. The tax administration faced more appeals than in previous years, since taxpayers wanted to change the information available to tax administration and correct data on child allowance (7.6% of taxpayers appealed, 76.6% of these appeals were due to changing information on child allowance). All these costs are difficult to evaluate and are therefore not included in these analyses.

Despite several shortcomings of the analyses, the first estimates indicate that the annual cost savings for tax administration and taxpayers are lower than the ICT expenditure required to introduce prefilled personal income tax returns. If one considers e-taxation as a long-term project, ICT expenditure is still higher than cost savings on both sides (government and taxpayer). Part of the reason is numerous and frequent changes to tax regulation and tax procedures, since no ICT solution has been used for more than one or two years. However, ICT implementation costs are lower than implementing those regulatory changes using paper-based systems.

Despite the rather approximate evaluation of costs and financial benefits of e-taxation in Slovenia, it is clear that the value of ICT investment was higher than the financial benefits. This conclusion is almost the same as two comparable approximate cost and benefit evaluations of e-taxation in Italy and Romania. In Italy total costs of online taxation were estimated at € 92.5 million (including technology, reorganization, labor relation costs and human resources training), and total cost savings to the tax administration was estimated at € 90 million (European Commission, 2006b). The report also mentions non-financial benefits: immediate availability of tax return data for tax analysis and tax policy, elimination of paper related to tax returns, reduction of formal control activities and, according to customer satisfaction surveys, higher taxpayer satisfaction. Cost-benefit analyses for e-tax in Romania estimated start-up



costs for e-tax at € 155,000 (software, hardware and labor costs) and operating costs at € 34,500. Benefits (delivery time reduction, reduction of personnel, faster revenue collection) were evaluated at € 95,700. The net present value of the project over three years was estimated at minus € 51,000 (Kertesz, 2003).

All three estimates indicate that the financial costs are higher than financial benefits. Therefore the ICT cannot be suggested as the only or as a primary tool for greater efficiency, if one only considers the financial point of view.

## 5. Conclusion

The research results presented in the paper indicate that ICT costs can be higher than savings if one excludes non-financial benefits or benefits that are difficult to measure financially. It is clear that e-government expenditure has economic and even non-economic impact on government performance, but there are currently no regular impact measurements across Europe.

There are several issues that must be considered when designing e-taxation and its implementation, such as planning and development at the information use level, as well as support for services offered to taxpayers (CIAT, 2009). ICT is also under constant evolution. This represents a difficulty by rendering the long-term planning process more complex. On the other hand non-financial benefits are high (i.e. taxpayers' satisfaction increase, better transparency, easier control and data processing etc.) and can compensate for ICT costs and maintain ICT's role as a tool for better government performance. ICT permits the optimization of support processes, and is also useful for greater coverage at lower costs, ease of handling, transparent control and other significant benefits in terms of productivity, integrity and transparency.

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