

Using a Comparative Method in Performance Audit for Evaluating Effectiveness of the Elite-Sports Policy: The Case of Estonia

Küllli Taro and Eerik Hanni

ABSTRACT

In 2011, the Estonian National Audit Office conducted a performance audit of the Estonian national elite-sports policy. The elite-sports system was assessed based on the international research methodology called SPLISS (Sports Policy Factors Leading to International Sporting Success) developed by a group of international scholars. The article demonstrates how scientific research can contribute to performance auditing. It helps auditors to fulfill the task of giving more in-depth exploratory, not only descriptive, analysis. However, the Estonian case demonstrates that success in the highly competitive international sporting arena may occur despite the shortcomings in public policy. Other contextual factors outside public policy and the availability of resources may lead to success. Although SPLISS aims for comprehensive and systematic diagnosis of a sports system, it does not fully explain why some nations are more successful in international competitions than others. SPLISS is useful in developing an audit methodology, but the unclear cause-and-effect relationship between sports policy and success of athletes creates difficulties in giving policy advice. But advising governments on better policy performance is considered to be an essential part of a modern performance audit.

Keywords: elite-sports policies, SPLISS, Estonia, performance audit, performance measurement

1. Introduction

Sports development is increasingly becoming a public-policy priority. Governments, with the help of different state agencies, are getting more and more involved in the delivery and management of sports. The trend of governmentalization is accompanied with globalization and commercialization (Houlihan and Green 2008). Competition in international sports is increasing, and more nations are adopting strategic approaches to develop world-class athletes. This phenomenon has resulted in increasing amounts of money being invested in elite-sports development by many

nations. There is also a growing interest in tracing the factors leading to international sports success (De Bosscher et al. 2008, 2011; Green and Oakley 2001; Grix and Carmichael 2012). Increasing public funds invested in elite sports call for more in-depth analysis of the effective use of those public resources and sports-policy performance.

In 2011, the Estonian National Audit Office conducted a performance audit of the Estonian national elite-sports system. The effectiveness of the sports system was assessed based on a comparative international research methodology called SPLISS (Sports Policy Factors Leading to International Sporting Success) (Riigikontroll 2012). In 2015, a comparative SPLISS study involving 15 nations (including Estonia) will be published (De Bosscher et al. 2015). Estonian data in this forthcoming study was collected during the performance audit in 2011. The authors of the article at hand also conducted the audit.

The results of the SPLISS study indicated several underdeveloped elite-sports policy areas in Estonia (e.g. talent identification, athletic and post-career support) that are considered to be critical for sporting success. The overall assessment of the Estonian elite-sports policy case does not promise sporting success in the international arena. But contrary to these expectations, Estonian athletes have been fairly successful in the international arena, especially in per-capita results. In this study, success in elite sports is defined as rankings in international sporting indexes and change in the number of medals won at the Olympic Games and international championships.

According to the World Sporting Index developed by the UK Sport, in per-capita results Estonia ranked 7th globally in 2006 and 15th in 2010 (Riigikontroll 2012). Furthermore, a very recent alternative analysis by Sporting Intelligence states that Estonia is even the world's second best nation at winning gold medals when the size of the population is taken into account (the first is Jamaica) (Harris 2012).

In 2000, Estonian athletes won a total of 62 medals at the Olympic Games, world championships and European championships. Taking into account some setback years this number has increased to 138 in 2014 (Estonian Sports Register). As the competition has increased as well as the number of events, the market share of medals has not risen accordingly.

Since regaining its independence in 1991, the most successful Olympic Games for Estonia were the Torino Winter Games in 2006. In Torino, Estonian athletes won three gold medals (2.04% of all medal points, 42nd place in country ranking) (Raudsepp et al. 2013). Since 2000 Estonian athletes have won at least one medal in every Olympic Games, except in Sochi where 24th place was the best result. The Estonian Olympic Committee declared that the performance of the Estonian athletes at the Sochi Olympic Games was "below expectations" (Estonian Olympic Committee 2014b).

The performance audit of the Estonian elite-sports system concentrated on the use of public funds. The SPLISS framework was utilized to identify and describe the essential parts of the sports system and develop audit criteria. Audit criteria are needed for comparing facts ("what is") against norms ("what should be"). SPLISS has defined the desirable "what should be" state of elite-sports policy (Riigikontroll 2012, Put 2011). This audit was a first attempt to put Estonian elite-sports policies

into such an all-encompassing and multi-dimensional framework. But it did not go into the conceptual issues of performance measurement and did not aim to explain the gap between the high status of Estonia in international rankings and its moderate to low scores on sports policy in the SPLISS framework.

The article at hand focuses on the usefulness of the SPLISS framework in analyzing elite-sports-policy effectiveness. The research question is whether the comparative methodology of SPLISS is suitable for use in the performance audit. Does it help to define good performance of the Estonian elite-sports policy and fulfil the performance-audit task of giving advice on how to improve policy performance?

Based solely on the Estonian case, we aim to conceptualize the performance measurement in the field of elite-sports policies in a context of a small state where resources are scarce. The case of elite-sports policy is especially interesting because the policy field could be considered easily measurable by the results in international competitions. This academic insight into the Estonian case could contribute to the performance-audit methodology as well as SPLISS-framework development. It also helps to further the significantly meager discussion on elite-sports public policy in Estonia.

In general, the effectiveness of a public policy can be defined as the extent to which the policies are achieving the objectives that they are supposed to achieve (Pollitt and Bouckaert 2004; European Commission 2009). Objectives can be described as outputs (direct results of an activity) or outcomes (wider societal aims of public policy). In the context of the current article and the SPLISS study, the objective of elite-sports policy is defined as success in international competitions.

At first, some conceptual issues of elite-sports-policy performance measurement in the context of elite-sports policy are discussed. Secondly, the SPLISS model, Estonian data collection, data analysis and results are described in more detail. This is followed by the discussion on the usefulness of the SPLISS model for performance measurement in a performance audit and its limitations in providing governments with policy advice.

2. Conceptualizing performance audit in the public sector

Public-sector performance has been at the very center of public-management debate in the last 15-20 years (Pollitt and Bouckaert 2004; Talbot 2010). Alongside the rise of New Public Management reforms and the more recent economic crisis, the public sector worldwide has been under constant pressure to improve its performance in pursuit of more efficiency and effectiveness, and in order to revive the citizens' trust in public institutions. Despite the conceptual controversy and severe academic criticism (see e.g. Bevan and Hood 2006; Pollitt and Bouckaert 2004; Radnor 2008; Talbot 2010; Van de Walle 2009), performance management and measurement have become more extensive, intensive and external during the last few decades (Pollitt and Bouckaert 2004).

Following the rise of performance movements, Supreme Audit Institutions (SAI) of many countries have introduced the practice of performance auditing. Nowadays, performance audit is considered an essential element of "an audit portfolio" for an SAI (Lonsdale 2011). By holding a substantial, if not predominant, position and

gaining much public attention it has even shifted the overall balance of the audit work in SAIs (Lonsdale 2011; Pollitt and Summa 1999). For example, in the Estonian SAI, performance audit takes up nearly 60 percent of audit staff. In recent years, over one-third of the published audit reports have been performance audits.

There are many definitions of performance audit (see Furubo 2011, INTOSAI 2003, Pollitt and Summa 1999, for example). The definition by the International Organization of Supreme Audit Institutions (INTOSAI), probably the best-known one, is based on the concept of the three E's (economy, efficiency and effectiveness)

Performance auditing is an independent and objective examination of government undertakings, systems, programs or organizations, with regard to one or more of the three aspects of economy, efficiency and effectiveness, aiming to lead to improvements.

The concept of the three E's is derived from the performance management "input-output-outcome" model (see Pollitt and Bouckaert 2004; Pollitt and Summa 1999, 9-10). The model envisages public policy as a process in which certain inputs (e.g. financial support, skills, organizational authority in the case of sports policy) are combined using a defined process (talent identification, training facilities, coaching etc.) with the aim to produce a specific "product" or "output" (performance of elite athletes) that will hopefully lead to desired outcomes (e.g. increased participation in leisure sports, country's prestige in the international arena). Outputs are the final products of government activity. Outcomes are the consequences of outputs and describe wider societal aims, often influenced by other externalities outside government policy. There is also a division between intermediate (in the short term) and final (in the long term) outcomes (Van Dooren et al. 2010, 16-36).

Government activities in elite-sports policy are clearly targeted mainly at one objective (output), that is, to perform successfully against the best athletes, mostly during international competitions (De Bosscher et al. 2011). There are various methods by which the success of elite athletes and national sports systems can be measured: the number of medals won during the Olympic Games or other events; top six or eight places; the relative success (e.g. controlling for population, wealth) or even the number of participants qualifying to take part (De Bosscher et al. 2010). All of these methods appear to correlate significantly (*ibid.*).

Though the output of elite-sports policies is clearly measured by medals won, the wider societal objectives (outcomes) of elite sports are hazy (Shibli et al. 2013). It is evidential that "sports for all" policy is part of a healthy lifestyle extending peoples' lives. But what is the societal aim of elite sports? According to common assumption, elite sports support participation in leisure sports. Olympic and world champions are expected to be role models encouraging thousands of people to take up some form of sports activity. Elite-sports success is thought to lead to a better image abroad, to bolster national identity and to stimulate domestic mass participation. This leads to a healthy nation and a wider pool from which to choose future elite stars, which, again, leads to increased elite-sports success (Grix and Carmichael 2012). However, there are some scholars who state that a causal relation between the "sports for all" and elite sports is disputable (van Bottenburg 2002; Hanstad and Skille 2010).

Traditional definitions of the three E's operationalize the production process and input-output-outcome ratio. Economy is associated purely with the measurement of inputs. The purpose of economic activity is to minimize the resource consumption. The combination of inputs and outputs defines the efficiency of the public policy. Efficiency is explained as "keeping the costs down" or "getting the most out of the given input". Effectiveness means achieving the intended outcomes from an activity. It is also defined as output and outcome ratio. (Pollitt and Summa 1999; Van Dooren et al. 2010)

Although the INTOSAI standard quotes the three main performance-audit criteria (sometimes also called norms) of economy, efficiency and effectiveness, modern performance audits have gone much further in interpreting what is "good management" or "good performance". In practice, most performance audits concern an assessment of management and policy practices, rather than a direct assessment of effectiveness and efficiency (Pollitt and Summa 1999; Put 2011). As performance audit is first and foremost targeted at evaluating government activities and the use of public funds, it is expected to be concerned with output evaluation, in the sense that it can assess only what is directly influenced by the government. Output evaluation refers to the use of efficiency criteria, but evaluating efficiency has turned out to be especially complicated in the public sector because of the absence of adequate comparative data to evaluate whether there is enough output for a given input (Stone 2001, 61-85). In reality, efficiency evaluation is replaced with the assessment of effectiveness, and the definition of outcome has been shifted to the final goal of public policy, which is under the control of the government activity. Effectiveness evaluation, therefore, has obtained the meaning of assessing whether public policy has achieved the defined goals (output or outcome) (Riigikontroll 2009; Van Dooren et al. 2010).

Regardless of the specific definition of outputs, outcomes, efficiency and effectiveness, any assessment in performance audit is based on a comparison of facts ("what is") against norms ("what should be") (INTOSAI 2003, Pollitt and Summa 1999, Put 2011), thus evaluating programs, processes or effects of policy using specified criteria. Without audit criteria auditors would not know what constitutes good public management and could not come up with clear conclusions in an audit. This search for adequate and applicable audit criteria has led SAIs to turn to scientific research.

Also the more recent academic discourse on performance audit has retreated from the concept of the three E's and application of the production-process logic. Nowadays, the discourse on performance audit is more focused on its role and tasks. One of the most recent definitions by Furubo (2011) states that

Performance auditing is an evaluative activity which produces assessments regarding performance or information about performance, of such a reliable degree and with such a freedom from investigatory and reporting constraints, that they can be used in the realm of accountability.

This emphasizes that performance audit is an evaluative activity. It has gone beyond concerns with regularity and compliance. Performance audit has developed from

being a mere accountability mechanism towards contributing to the wider policy debate. In addition to reporting on performance, it is also expected to give policy advice to governments and to give guidance on how public administration can improve in keeping up with the wider performance agenda. To achieve this end, audit reports should include explanatory analysis of a policy process. However, most performance audits contain information that explains what went wrong, as opposed to why things went wrong (Put 2011). Therefore, in order to formulate relevant recommendations and contribute to improving the performance of the government agencies, SAIs need information that explains shortfalls in the expected results. These more “diagnostic” performance audits (Put 2011) should overcome the explanatory deficiency of auditing.

As one of many forms of policy analysis and evaluation, performance audit is “a hybrid activity, making use of whatever means it can find to generate sufficiently robust evidence for its purposes” (Lonsdale 2011, 15). Although the role of a performance auditor may be crucially different from that of an evaluator by being part of the authoritative system of control (see Pollitt and Summa 1999), performance auditors turn more and more to the wide array of evaluation and scientific methods, making use of the best available qualitative as well as quantitative methods.

3. The SPLISS research model

While the literature on elite-sports development has been rapidly growing during the last decade, scholarly research lacks an all-encompassing framework for the evaluation of the effectiveness of elite-sports policies in relation to its goals (De Bosscher et al. 2011). The deficiency in the literature is caused by the difficulty of directly comparing nations and sports systems on a comparable basis, due to cultural differences and the uniqueness of each sports system. Furthermore, there is also a lack of publicly available and quantifiable data on sports policies (De Bosscher et al. 2010).

In 2002 a consortium of research groups from three nations (Belgium, the Netherlands and the United Kingdom) launched an international comparative study on elite-sports policies to fill the gap in scientific research on the relationship between elite-sports policies and international sporting success and to benchmark their nation against other competitors. This initial project was named SPLISS 1.0 (“SPLISS” stands for Sports Policy factors Leading to International Sporting Success) and lasted until 2008. It involved an overall elite-sports comparison of elite-sports policies in six nations (Belgium, Canada, Italy, the Netherlands, Norway and the United Kingdom). The pilot project was aimed at developing a research model to analyze why some nations succeed and others fail in high-performance sports (De Bosscher et al. 2010).

The second stage of the benchmarking study, called SPLISS 2.0, was initiated to better understand which (and how) sports policies lead to international sporting success and to obtain a better insight into the effectiveness and efficiency of elite-sports policies of nations at an overall sports level. Data collection was organized between 2010-2014 from 15 countries (Australia, Belgium, Brazil, Canada, Denmark, Estonia, Finland, France, Japan, the Netherlands, Northern Ireland, Portugal, Spain, South Korea and Switzerland). The SPLISS 2.0 study builds on the model and meth-

odologies developed in SPLISS 1.0, and its comparative results will be published by the end of the year 2015.

There are several factors determining a country's success in elite sports. These factors could be classified at three levels: micro-level factors, such as athletes' genetic predisposition or family support, macro-level factors such as macro-economic well-being, climate and population, and finally meso-level factors such as sports policies and politics. Macro-level factors have a major impact on elite-sports success, but they are largely out of the control of policy-makers (De Bosscher et al. 2010, 2015). In recent decades macro-level factors, such as GDP or population, have become less good predictors of nations' performance than they had been earlier. The main reason is that nations put more resources into elite-sports development (Green and Oakley 2001). In successful sporting countries elite-sports development models become increasingly similar. Sports have grown increasingly central to policy or the strategic-level role. Sports success enhances the sports organizations and makes governments increase their spending on elite-sports support. Along with intensified competition sports organizations around the world are looking for more effective operating models. These factors are determined by sports policies. Elite athletes have a greater chance of success depending on the effectiveness of policy and the investment made in elite sports. It is suggested that besides the factors determining the personal success of an individual athlete it is also possible to distinguish certain sports-policy factors that have an impact on the overall sporting success of a nation (De Bosscher et al. 2010).

The SPLISS methodology is based on the concept of nine sports policy areas or "pillars" which have an impact on the success of the elite-sports system. The influencing policy areas are as follows:

- Pillar 1: financial support – the public expenditure at the national level of elite sports;
- Pillar 2: organization and structure of sports policies (integrated approach to policy development) – effective management, working communication system and clear task descriptions, simple administration through common sporting and political boundaries;
- Pillar 3: participation in sports – a broad base of sports participation provides a supply of young talents and the opportunity for training;
- Pillar 4: talent identification and development system – a well-organized scouting and development system provides new talents;
- Pillar 5: athletic and post-career system – in only a few sports can athletes make a living from their sports earnings, some countries have programs for supporting their athletes financially and also support their university studies or retraining after finishing their elite-sports career – it helps athlete to concentrate on his/her elite-sports career while needed;
- Pillar 6: training facilities – training in a high-quality environment;
- Pillar 7: coaching provision and coach development – the qualification and motivation system for coaches;

- Pillar 8: (inter)national competition – sufficient competition experience for athletes;
- Pillar 9: scientific research – the systematic gathering and dissemination of scientific information, innovation.

The nine-pillar model is based on a review of literature, pilot studies and interviews with athletes and high-performance experts. Each pillar is made measurable by 6-21 critical success factors. Each critical success factor is measured by one to four different research instruments: 1) the overall sports-policy inventory – a specific questionnaire on every pillar assembled by experts to be answered by researchers collecting data via interviews or using secondary data sources, document analysis etc; 2) an elite athletes’ survey; 3) an elite coaches’ survey and 4) a sports federations’ survey.

The researchers behind SPLISS model suggest that the application of theories derived from the organizational-effectiveness literature in relation to national sports organizations (micro-level) and applying them at a macro or country/region level could present a viable option through which one can develop a method to evaluate the effectiveness of elite-sports policies (De Bosscher et al. 2010, 2011). The operational research model of SPLISS is similar to the process model of “input-output-outcome” that performance audit is based on. In SPLISS it is described as an “input-throughput-output-(outcome) model” (De Bosscher et al. 2010, 2011, 2015; Shibli 2013; see Figure 1).



Sources: De Bosscher et al. 2010, 2011, 2015; Shibli 2013

Figure 1: **SPLISS conceptual model**

* The SPLISS framework does not involve outcome analysis. It is admitted that this needs further research.

However, the confusion with the definition of efficiency and effectiveness described in the previous section of this article is also reflected in the SPLISS study on elite-sports policy. It is claimed that SPLISS evaluates the “effectiveness of elite-sports policies from a multidimensional perspective” (De Bosscher et al. 2010, 2011, 2015), but it is actually targeted to output, not outcome, evaluation (success of elite athletes in international competitions) (see Figure 1). Outcomes or wider objectives of elite-sports policy on society are not the subject of the SPLISS study (ibid.). Therefore, similarly to the developments in the performance-audit concept, effectiveness is defined through a policy objective to perform successfully against the best athletes in competitions, not as the output and outcome ratio. Also, the term efficiency is adapted to the SPLISS framework. Throughputs (see Figure 1) refer to the efficiency of sports policies, that is, the optimal way the inputs can be managed to produce the

required outputs in elite sports (De Bosscher et al. 2008). Efficiency in this context is not merely a “keeping the costs down” activity or “cost of a medal” indicator. The SPLISS study does not go into the discussion of the most efficient sports system, but concentrates on achieving better output (success of athletes) of elite-sports policies by defining it as an effectiveness evaluation.

4. Data collection and analysis in Estonia

In Estonia, the data was collected and analyzed by the National Audit Office of Estonia (ENAO) in 2011-2012 as part of a performance audit of elite-sports policy and spending (see Riigikontroll 2012). The data collection corresponded to the methodology presented in the original SPLISS framework used in the SPLISS 1.0 and 2.0 studies (De Bosscher et al. 2008, 2010, 2015). Only the scoring system differs from the forthcoming SPLISS 2.0 study in two aspects. Firstly, those 117 critical success factors (6-21 factors in 9 pillars) containing quantitative and qualitative data are aggregated into a final percentage score for each pillar, but the methodology foresees that not all factors have equal weight in the final score. Prior to the data collection in Estonia, the top-level managers of the Estonian Ministry of Culture and the Estonian Olympic Committee were interviewed. Interviewees were asked to give their evaluation to critical success factors and the appropriateness of critical success factors describing and assessing the development of the Estonian sports system. The evaluation was given on a scale from 1 to 10 and it was used later for weighting data collected by surveys and inventory. But in SPLISS studies these weights are given by international experts, and they may considerably differ from the Estonian scoring system, and those weights given have also changed in the SPLISS 2.0 study, compared to the pilot SPLISS 1.0 study. Secondly, some success factors presume that there is available comparative data from other countries because evaluation is given on a relative not an absolute scale. Scores are given compared to the situation in other countries, not only as expected by the experts and participants in the system. But by the time of the Estonian analysis this comparative data was scarce. The data collection for the SPLISS 2.0 study (which also includes the Estonian data) took place in 15 different countries at the same time, and it was not possible to use collected data for comparison in the Estonian analysis due to different data-collecting and -processing time schedules. Therefore, the Estonian scores were calculated using the so-called absolute scale; scales minimum and maximum values were not based on the reference data (with the exception of the first pillar). The only exception is the first pillar (financial support), where data from the SPLISS pilot study (2003) was available for reference.

This empirical work involved a detailed questionnaire answered by athletes, coaches and national governing bodies' performance directors. This large-scale survey was complemented by additional interviews and secondary data analysis. Prior to the data collection a small number of key persons in the Estonian sports system was also asked to give an assessment of the relevancy of those success factors proposed by SPLISS in the case of the Estonian system.

The data on critical success factors was collected by 1) overall sports-policy

inventory (214 questions); 2) the elite athletes' survey (61 questions); 3) the elite coaches' survey (62 questions) and 4) the sports federations' survey (56 questions).

The data for the overall sports-policy inventory was collected by semi-structured interviews, secondary data (statistics, surveys) and document analysis (legislation, state budgets). The elite athletes', coaches' and sports federations' surveys aimed to collect the information on factors not easy to assess on the binary scale (yes/no). Respondents were asked to give an assessment, usually on a 5-point ordinal Likert scale ranging from very good to very bad. In the case of dichotomous questions scores were calculated according to the proportion of positive responses, in the case of rating-scale questions, according to the difference between the proportions of positive and negative ratings (see Table 1).

Table 1: Illustration of the Points Attributed to Two Types of Questions in the Elite-Sports Climate Survey: Dichotomous Questions and Ratings

Dichotomous questions (yes/no)		Ratings	
Yes	Score	% (positive–negative)	Evaluation
0-20%	1	<-19.9%	1
20.1-40%	2	-19.9-0%	2
40.1-60%	3	0.1-20.0%	3
60.1-80%	4	20.1-50.0%	4
80.1-100%	5	> 50.0%	5

Source: De Bosscher et al. 2010

All athletes participating in the Estonian Olympic Committee's Olympic preparation program for the London and Sochi Olympics, also the promising talents suggested by the sports federations and athletes that finished their career in the last two years, were asked to answer the elite athletes' survey. A questionnaire was sent to a total of 122 athletes, 82 or 67% of whom answered.

The elite coaches' survey was sent to 420 highly qualified coaches (in the two highest qualification categories). A total of 190 coaches responded to the survey (45% of those who were sent a questionnaire). According to SPLISS the elite coaches' samples should have focused more narrowly on the elite athletes' coaches and coaches training young talents only. But in the Estonian case the sample was expanded to all coaches holding a higher-qualification certificate to increase the number of respondents and get a somewhat broader picture of the situation. If only those coaches who trained elite athletes during the survey period would have been engaged, the number would have been too small for adequate conclusions to be drawn. The results of the survey showed, however, that most of the coaches responding to the questionnaire were at some point of their career engaged in elite athletes' or young-talent training.

All heads of sports federations represented at the Olympics were asked to respond to the sports federations' survey. A questionnaire was sent to a total of 34 sports federations, 19 or 56% of whom responded.

5. Results of the SPLISS study in Estonia

The evaluation according to the SPLISS framework revealed that most of the pillars were moderately developed. The best score was achieved by the financial-support pillar meaning that compared to other countries the amount of money allocated to sports was greater *in the comparative scale*. However, no single pillar was very underdeveloped; the lowest scores were given to the talent-identification and -development system, the athletic and post-career system and to scientific research.

Preliminary results of the SPLISS 2.0 study (which will be published at the end of 2015) indicate that Estonian scores will be even lower than calculated in the analysis at hand (except for the talent-identification and -development system). Scores for most pillars will be below the average results of the 15 countries participating in the SPLISS 2.0 project. It shows that when results are compared with more recent data from other countries and factors are given different weights by foreign experts, then the Estonian elite-sports policy scores even lower than when evaluated by domestic athletes, coaches, sports federations and other experts.

Table 2: Scores given to elite-sports policy pillars in Estonia

Pillar	Score in scale 1(min)-5(max)	Description
Financial support*	4	Good level of development
Integrated approach to policy development	3	Moderate level of development
Participation in sport	3	Moderate level of development
Talent-identification and -development system	2	Limited development
Athletic and post-career support	2	Limited development
Training facilities	3	Moderate level of development
Coaching provision and coach development	3	Moderate level of development
(Inter)national competition	3	Moderate level of development
Scientific research	2	Limited development

* Evaluation given on a comparative scale according to the SPLISS pilot study data from 2003. Other pillars' scores were calculated using the absolute scale.
Source: Riigikontroll 2012; authors

The SPLISS methodology combines information gathered from many sources into a single rating. Ratings of one pillar are implicated by a number of critical success factors, some of which may receive the highest scores and others the lowest scores, giving the whole pillar the total moderate score. For example the coaching-provision and coach-development pillar's critical success factors got extremely bipolar scores. By the qualification the coaches were assessed as highly professional, but coaches' working conditions were assessed as poor.

Thorough analysis of survey data on pillars which got lower scores exposed a number of problematic areas. Therefore, we took a closer look at the pillar concerning coaching provision and coach development due to the extremely diverse estimates by athletes, sports-federation leaders and coaches themselves. These success factors were also estimated as important by the managers from the Ministry of Culture and the Estonian Olympic Committee during the critical success-factor estimation process prior to conducting the surveys. In addition, the financial-support pillar as the most controversial factor in comparing Estonian and international data needs more explanation.

5.1. Financial support

The central government of Estonia spends 15-17 million Euros a year on sports development and management. Approximately half of the budget is spent on elite sports. Additionally, local-government expenditure on sports activities fluctuates between 40 and 60 million Euros per year. This is mostly allocated to grassroots sports, but local governments may occasionally support elite athletes as well. In 2008, the Estonian central-government spending on sports activities was double the amount of money spent for the same purpose in the year 2000. However, as a result of the rapid growth in total budget during the same period, the proportion of the overall state budget spent on sports activities decreased from 1% to 0.4%. Following the financial crises, the total government spending decreased after 2008 by almost 30% in absolute terms. The percentage of the state budget spent on sports activities was rather stable between 2008 and 2013 but decreased to 0.2% in 2014 as a result of the increase in total budget (Estonian Olympic Committee 2014a; Riigikontroll 2012). Sports activities in Estonia are primarily funded by the public sector. This is similar to the tradition in Eastern European countries, where public funding of sports has a much larger role than in many Western countries (Eurostrategies et al. 2011). According to the official statistics private sponsorship constitutes only 6-8% of the total funding of sports activities.

The amount of financial support to elite-sports policies is probably the most controversial factor in international comparison, as this is directly dependent on the size and wealth of the country (pool of talents is the other factor dependent on the country's size/population). The government can decide on its public-policy priorities and favor some policy areas for others, but the total amount of resources available stays limited to smaller and less wealthy countries regardless of the priorities set.

As the study at hand is focused on government activities, more weight in evaluation is put on the relative amount of finances spent on elite-sports policies (as per head of population) and government expenditure. The SPLISS framework also takes into account the total national expenditure and the absolute cash terms. In Estonia, half of the government expenditure on sports is targeted towards elite sports; this proportion is lower on average in the 15 countries covered by the SPLISS study. It indicates that the government considers elite sports to be a policy priority. But in absolute terms, Estonian expenditure on elite sports is lacking when compared to other countries (De Bosscher et al. 2015). This explains why financial support is

considered to be at a good level of development in our study but receives much lower scores in SPLISS when put into an international comparative perspective. One of the main findings in the SPLISS 2.0 analysis was that the best predictor of output appears to be the absolute amount of funding allocated to elite sports. More money generally means more medals, though not quite automatically, as elite-sports success is the result of the way the resources are invested in a blend of factors (De Bosscher et al. 2013, 2015).

5.2. Coaches' professionalism

The SPLISS pilot study confirmed that critical success factors linked to coaches' work had a slightly more significant correlation towards elite-sports success – countries getting higher scores in the coaching-provision and coach-development pillar also proved to win more medals (De Bosscher et al. 2008).

In many countries most of the coaches work as volunteers, but in Estonia due to several reasons only few coaches do voluntary work, at least formally (Eurostrategies et al. 2011). Most of the coaches working as volunteers have lower qualification than respondents in the present survey. Coaches answering to the questions in the present survey should be highly qualified in order to be able to train elite athletes or prepare young talents to become elite athletes.

Issues related to the appreciation of coaches' work and work conditions have been a subject of the public discussion in Estonia for the last decade. The sports-system reform at the beginning of the present century abolished a number of government sports schools and created the environment for the establishment of private sports clubs. The reform was meant also to attract more private funding to the sports system but actually led to a reduction of social guarantees and was associated with social insecurity for coaches.

In the surveys all three target groups (elite athletes, coaches and sports-federation leaders) were asked to name the areas which needed most effort by decision makers and resources put into development. All three named coaching provision and coach development most frequently. The coaches' survey helped bring out some of the most problematic issues which need to be dealt with primarily. Firstly, 31% of the coaches work without an employment contract, probably getting paid via different scholarships schemes, which does not guarantee any social benefits, for example unemployment and health insurance, in case they will be needed. Shortly after the SPLISS analysis in Estonia was conducted the Estonian Tax and Customs Board took measures to stop coaches' work-financing through scholarship schemes as this is not in accordance with the tax law. In 2014 and 2015 the government allocated some extraordinary public funds to compensate the additional tax costs to the sports clubs and federations. The issue of financing coaching, especially for young athletes, is still open for discussion and requires a public-policy decision from the government.

The survey showed that 30% of the coaches spent personal money for their training job – a common situation in case of voluntary work or hobby but slightly surprising in the case of high-level professionals. 60% of the coaches could not find enough time to adequately supervise their most talented athletes. Finally 66% of the coaches who responded said that their living and employment conditions were poor. Also all

the sports-federation leaders answered that their federation could not offer world-class living conditions to the coaches. At the same time 74% of the athletes responded that their coaches' competence was at the world's highest level.

It is possible to conclude that nearly one-third of the highly qualified coaches are working factually as volunteers or part-time workers because they do not get paid at all or for a full job. Most coaches need to find other jobs to get enough income for a living. The success or failure of Estonian athletes is based largely on coaches' enthusiasm. However, there is resentment towards the insufficient state activities to adequately support professional coaching.

5.3. Talents

Talent identification and development with the help of special training and support services is considered a key factor of a successful sports system. However, for several reasons, this is an underdeveloped area in most countries. Attention was drawn to the need for a systematic talent-identification system, financial and scientific support to sports federations in creating such a system, special support services or programs for the young talents and the existence of a legal framework that would allow young talents to be treated, taking into account the elite athletes' needs (for example a flexible education system).

Out of 19 sports federations that responded to the questionnaire only 7 stated that they had some sort of monitoring system for talent search and only 3 estimated it to generate results. Only 1 monitoring system relied on scientific evidence, and only 1 sports federation systematized collected information on the development of young athletes in a database. However despite the lack of systematic talent identification the talented young athletes are given more attention by the sports federations, clubs and coaches. Most often more frequent and more intensive training is available to them (73% of the athletes responded) as well as medical support services (70%) and combining education and training (26%). 60% of the young athletes had been offered special treatment in recognition of their status as an elite athlete by their secondary school or university. In most cases special treatment meant flexible class schedules, minimized attendance obligations, flexible examinations or individual study; only 25% of the athletes responded that they considered the support offered to them as young athletes sufficient to support their career.

It appeared that the most difficult, but crucial period for becoming a successful athlete were the years right after graduating secondary school (starting from the age of 18-19 in Estonia). Amateur athletes at that age are not usually able to achieve internationally outstanding results that could guarantee them special funding by the Olympic Committee. According to elite athletes it takes 3-5 years to be clear if the young athlete could be successful at the international level. During this time, it is extremely difficult for young athletes to combine their training schedule, follow the right nutrition plan, attend university/vocational school and also have essential time for resting. These years are the most important during an athlete's career. However, during these years it is also most difficult to obtain supporting services and funding.

Talent identification and development is the only pillar that will probably score better in the SPLISS 2.0 study than in the evaluation at hand. It may indicate that

though there is no generic public system to identify young talents, the relative sporting success at international competitions proves that talents are found from a small pool of people (the Estonian population is 1.3 million). And once young talents are identified, then they get extra attention.

It needs to be pointed out that many successful athletes in Estonia come from families where parents are coaches themselves and often train their children (e.g. Olympic medalists Andrus Veerpalu and Kristiina Šmigun-Vähi or more recent successful athletes like Rasmus Mägi or Kelly Sildaru). Talent identification and development thus comes from within the family.

5.4. Athletic and post-career support

The support services ensure athletes' good physical and mental preparation for competition. Post-career support is aimed at preparing athletes for the activities after the end of their career – legal advice, direct financial support or support for their studies, for example. Support services were a fairly well-developed area in most countries participating in the SPLISS study.

The athletes' survey confirmed that participation in international competitions was most commonly supported. Financial support for this purpose was received by 61% of the surveyed athletes. Travel costs were covered for 57%. Somewhat less common was the reimbursement of purchases of sports equipment (43%) and training-related costs (43%). Rarely did benefits occur that were indirectly related to sporting activities, such as free or favorably priced cars (13%), as well as free meals at training facilities (17%).

The most accessible support services oriented towards athletes' physical conditions were massages, which have been used by 95% of the surveyed athletes, sports-medical service (86%), strength and endurance tests (73%) and physiotherapy (71%). All other services that were included into the questionnaire were used with lower frequency and were not available to most of the athletes (biomechanics analysis, nutrition coaching, physiological and psychological counseling, legal, financial and career counseling). For young athletes it is more difficult to access support services. More than half of the athletes (59%) had massage services available at their main training base, to get any other service athletes would usually have to go to find it elsewhere.

Career-planning services are offered for athletes only in exceptional cases. More than half (53%) of the athletes surveyed acknowledged, however, that they were concerned about their post-career activities, 36% admitted that these concerns were interfering with, and had negatively affected, their career as elite athletes. While career planning services are usually not available for everybody, the Estonian Olympic Committee has initiated several actions over the last decade to improve the athletes' post-career opportunities. For example, universities and defense forces have increased the number of athletes on their payroll or using scholarships provided by them; also special grants are offered in collaboration with the International Olympic Committee for the athletes, including free training and support in their search of employment. However, there was no information about athletes' use of the latter.

In Estonia, many athletes have used the opportunity to choose and hire their support staff themselves, independently from the national team. These personalized

teams are not directly connected to the government activities or official sports policies, but athletes may also get support services and funding from the government and the Olympic Committee. This is a common feature in elite sports worldwide. In addition to a personalized approach, in the Estonian case a reason for this is also the small total number of athletes. There is often only a single or few athletes in a discipline, especially competing internationally.

6. SPLISS as a tool for performance evaluation

Models like SPLISS help to define “good performance” and “good management” in order to assess the performance of government institutions. As noted earlier, the search for adequate and applicable audit criteria in order to evaluate and explain, as well as improve, government policy has lead SAIs to turn to scientific research (Pollitt and Summa 1999; Lonsdale 2011). Although SPLISS recognizes the importance of other factors situated at the macro level (e.g. population, wealth, natural resources, cultural factors, religion) and the micro level (e.g. the individual athlete and their close environment), it focuses on the meso-level factors that could be influenced by the sports policies (De Bosscher et al. 2010). This makes it a beneficial systematic tool for policy analysis and particularly suitable for evaluating the activities of state institutions in public-sector performance audits.

In the case of the audit “Activities of the State in Supporting Elite Sports” SPLISS was used as a starting point to develop audit methodology, as well as a source of comparative information about elite-sports policies in other countries. The most important benefit for the audit was the exploitation of a mapping system (definition of sports-policy components) created by the SPLISS group. This contributed significantly to the preliminary analysis and audit planning phase. As a result, it was relatively simple to get a compendious picture of the national sports system.

From the methodological point of view, it has to be noted that all of the SPLISS pillars definitely do not have an equal role in leading to sporting success. One can argue whether one or the other critical success factor is important enough and should affect the total score of some pillars (whether the weighting system of different sub-factors is adequate), but taking into account the systematic approach to the sports system, the individual sub-factors do not have too much significance, because sports leaders were directed to assess separately the importance of any single factor. It is still possible to get a good overview of the sports system. The model helps to ascertain its essential parts and problems, though what the importance of those single factors is, is still not clear. Apparently, this downside will benefit from the international comparisons.

The SPLISS framework is also useful for comparing nations. Nevertheless, it should not be isolated from qualitative descriptions and from a broader understanding of an elite-sports system. Therefore, for the purpose of an in-depth analysis of the Estonian elite-sports support system, we added to the methodology some more interviews with politicians, (former) athletes, sports managers, coaches, researchers and public servants responsible for sports administration. In addition to that, a focus group of experts, public servants and politicians was organized to discuss the results of SPLISS.

The main critique on the SPLISS analytical model stems from the conceptual problem of policy analysis: how to differentiate between cause-and-effects relationship and pure correlation. This is also called the “attribution problem” (Talbot 2010, 48). In public-policy analysis, correlation is often mistaken for causation. Although, the case of elite-sports policies is unique because outcomes are clearly measurable (international success), it is still difficult to attribute changes to public-sector activities in a reliable and valid way. The developers of the SPLISS framework also remain somewhat vague in the discussion whether the model explains causality in sports policy-making or not. On the one hand, they claim that SPLISS is a helpful tool to find the causal relationship between sports policy and success of the athletes at an international level (De Bosscher et al. 2010). On the other hand, in the Flanders case, it was found that in spite of the increasing elite-sports expenditures in Flanders (inputs) and the development of the throughputs (processes), this has not as yet led to better results (outputs) at an international level (De Bosscher et al. 2011). And the Estonian case demonstrated that a country may be highly ranked in international sporting indexes despite the deficiencies in its sports-policy factors. It seems that the SPLISS model presents an opportunity to compare what different countries are doing, but actually does not explain what determines success or failure in elite sports. Even the developers of the SPLISS model admit the limitation. Inputs and throughputs (policy factors) in this model are the sports-policy factors that may increase chances of international success (outputs), but do not guarantee success (De Bosscher et al. 2010).

In most public policy areas, outputs and outcomes (for the difference, see Pollitt and Summa 1999) are difficult to measure. Researchers also disagree on elite-sports policies’ outcomes (e.g. boosting grassroots sports participation, enhancing the international reputation of a country, see van Bottenburg 2002; Grix and Carmichel 2012; Hanstad and Skille 2010). But the output of elite-sports policies is clearly defined, that is, medals won at international competitions. A widely accepted output definition of elite sports, however, does not make the policy analysis easy. It also needs to be taken into account that in sports, the results are indeed usually clearly measurable, but the result is mainly only a position compared to other athletes. The accomplishments of an athlete are therefore relative to the success of other athletes and the level of competition. For example, the number of events at the Olympic Games has risen from 145 in 1956 and to 302 in 2012. During this period there has been an increase by more than three times in the number of participating countries and participating athletes. Also the number of medal-winning countries has risen from 37 in 1956 and 64 in 1992 to 85 in 2012 (Sports Reference). These numbers suggest that the competition for medals has increased significantly. There is direct correlation between the number of participating countries and the number of countries winning medals and as a result, many nations have seen their share of international success reduced (De Bosscher et al. 2008).

7. SPLISS as a tool for policy advice

Performance audits are expected not only to evaluate the use of public resources but also to give advice to the government in approving its activities and increasing the efficiency and effectiveness of public policy. Governments aim for long-term strategic planning and more effective, evidence-based policy-making. There is a growing belief that nations that increasingly plan for success will increase their chances of success (De Bosscher et al. 2008). This puts pressure on performance audits to contribute to policy-making.

SPLISS is a useful tool to identify which factors (pillars) of the sports system are well developed, and which are deficient, but it still does not really explain why some nations are more successful in international sports competitions than others. This explanatory weakness refers to the fact that recommendations given based on SPLISS need to be carefully considered.

The role of macro- and micro-level factors also raises the discussion about the possibilities of cross-national sports studies. Cross-national sports studies are often considered to be problematic because sports are embedded in a broader cultural context, where beliefs, norms, and values have been shown to have had a marked impact on the character of sports policy (Houlihan and Green 2008). Successful policy instruments are often dependent on the local situation (e.g. politics, geographical situation, ethical values), which implies that similar policy actions may have different outcomes in different nations (De Bosscher et al. 2010). Consequently, there is no single recipe for competitiveness in sports. As micro- and macro-level factors differ and are independent of the government's policy in every country, there could not be a unified single approach to achieve international sporting success. "One size fits all" recommendations may ignore the danger of policy failure caused by uninformed, incomplete or inappropriate policy transfer (Dolowitz and Marsh 2000; Rose 1993).

The SPLISS study has shown that countries have to invest more in order to be successful in the escalating global sporting arms race. This means a need for more money in cash terms, as the best predictor of output appears to be the absolute amount of funding allocated to elite sports (De Bosscher et al. 2013, 2015). It makes it increasingly difficult for small countries with fewer resources to compete in the global arena. Estonia will never be able to invest as much money as Canada or Finland. And just making a recommendation to increase resources spent on elite sports is inappropriate in the Estonian context. Also, with a population of only 1.3 million, the pool of talent stays limited. But in elite sports, the rules of the game are dictated by what rival nations are doing, not on the basis of what an individual country is doing (De Bosscher et al. 2013, 2015). The Estonian elite-sports policies may be efficient, in terms of their use of available resources, but they will not compete with big countries.

Taking into account the importance of money for international sporting success, and the relatively low scores given to its elite-sports policies by the SPLISS methodology, Estonia should not have a considerable chance in this sporting arms race. But medals won at the Olympic Games and other championships indicate that this could be an irregular case. This finding suggests that the other factors outside the meso level (sports policies) may have a significant influence on the success of nations.

Meso-level factors form only a small part of the overall factors leading to international sporting success. Arguably an additional three highly influential dimensions were identified in the preliminary explorative surveys of SPLISS (media attention, specific sports culture and athletes' personal environments, e.g. parental support). Though important, but outside the direct impact of the government's action, they were therefore excluded from the SPLISS study (De Bosscher et al. 2010). In these macro- and micro-level factors the chance may hide for success for small countries like Estonia. Does this mean that the role of the state becomes minor? Not necessarily. SPLISS findings still indicate that, although a minimum amount of funding seems necessary for success, elite-sports success is the result of the way the resources are invested in a blend of factors (De Bosscher et al. 2013). Instead of focusing on what it does not have (i.e. resources), public policies should enhance the opportunities (i.e. personalized approach to talents, small and efficient teams, working ethics, parental support etc.) of a small state.

8. Conclusion

In Estonia, a considerable share of the elite-sports system is financed with public funds. That puts great expectations on the performance of elite-sports policies as well as pressure for the efficient and effective use of public funds. It is the task of the performance audit to evaluate the performance of the government in achieving goals of public policies and give advice in improving policy performance.

The Estonian National Audit Office conducted a performance audit of the Estonian elite-sports system and used the international comparative study framework called SPLISS to develop the audit methodology. SPLISS turned out to be useful in identifying the essential parts of an elite-sports policy and the weaknesses of the sports system compared to what is expected, based on the practice in other countries and "best practice" defined by policy experts, athletes and coaches. In audit terminology it means that SPLISS was used for formulating audit criteria to identify what is considered "good management" or "good performance". However, the use of SPLISS is limited in fulfilling the advisory function of performance audit. SPLISS aims for comprehensive and systematic diagnosis of a sports system, as well as a comparison of countries, but it does not fully explain why some nations are more successful in international competitions than others.

The key findings of the Estonian SPLISS study demonstrated that despite the relative success of elite athletes in international sports competitions most of the factors crucial to the sports system are at the moderate or even limited level of development. There is no talent-identification and -development system in the case of most sports. Post-career support for athletes is not sufficient. Mainly financial support for highly qualified coaches is lacking. There are problems with implementing results of scientific research in order to innovate in the training process and there is not enough local applied research. Therefore, the success in elite sports is not coherently the result of the Estonian sports system, i.e. government policy and activities. The Estonian case revealed a controversial situation. The country has been relatively successful in international competitions, which is the main aim of elite-sports policy, but this does not represent the effectiveness of the public policy.

Though Estonian governmental financial support for sports per capita is greater than in several old EU countries, the total amount of funds invested in elite sports is lacking. And the SPLISS study has revealed that the best predictor of output is the absolute amount of funding allocated to elite sports. This finding is especially crucial for small states like Estonia. Elite-sports policies and government actions may be efficient and effective, taking into account the resources available, but this will not be sufficient for participating in the escalating global sporting arms race. Elite-sporting success appears to be the outcome of a multivariate process involving many pillars, not only the amount of financing. A good organization of other critical factors also contributes to the success. And finally, success may occur at random or unsystematically.

Elite-sports policy is probably one of few public-policy fields where measuring policy outputs seems to be fairly straightforward. Methods vary, but in principle, success can be clearly measured in medals won at international competitions. However, this does not explain whether the success of athletes is the result of public policies and government involvement. The analysis of the causal relationship between public policies and elite-sports outputs needs more understanding of sports-policy factors leading to international sporting success. Also, views about elite-sports public outcome or broader societal aims, i.e. reasoning for government involvement, vary significantly.

The SPLISS model stands out among other research in the field because of the use of quantitative data and the introduction of “measurement” in an area (comparing elite-sports policies and systems) that is essentially qualitative in nature (De Bosscher et al. 2010). For a performance audit, the value of the SPLISS model is not so much the exact score of different pillars but the identification of the success factors. By focusing on the meso-level (i.e. public-policy) analysis, it is a useful analytical tool to evaluate the government performance.

While appreciating the work of scholars in developing this comprehensive SPLISS framework, the Estonian case pointed out the limits of scientific methods in explaining the cause-and-effect relationship of sports policies and the success of elite athletes. Elite athletes may still be successful despite the existing sports system in their country. And on the other hand, even a good system cannot overrule the importance of micro- and macro-level factors, such as personal abilities, cultural background, natural resources or climate.

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KÜLLI TARO is a PhD candidate at the Ragnar Nurkse School of Innovation and Governance, Tallinn University of Technology, Estonia. Her main research interests include performance management, measurement and auditing in the public sector. She worked at the National Audit Office of Estonia for many years. Currently, she is the head of the Public Governance Program at a think tank founded by the President of Estonia. Correspondence: Ragnar Nurkse School of Innovation and Governance, Tallinn University of Technology, Akadeemia tee 3, Tallinn 12618, Estonia; E-mail: kylli.taro@gmail.com. **EERIK HANNI** is a performance auditor at the National Audit Office of Estonia and a contact person for the SLPISS project in Estonia. Correspondence: National Audit Office of Estonia, Narva mnt 11a, 15013 Tallinn, Estonia; E-mail: eerik.hanni@riigikontroll.ee.