



SROI sport and physical activity 2022

What is the social return on investment of sport and physical activity?

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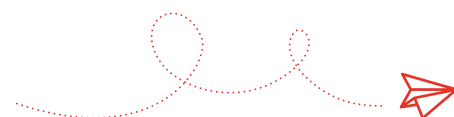
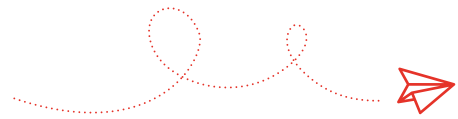


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1. Introduction

1.1 Sport and physical activity in politics and policy

The importance of sport and physical activity to society is rarely discussed. Many scientists and experts argue for more attention in policy to sport and physical activity. Physical activity contributes to good health, happiness and a more enjoyable life. The ambition of the National Prevention Agreement is that 75% of the Dutch population will meet the physical activity guidelines by 2040. Currently, the figure is about 50%. Experts doubt the feasibility of this target with the current policy. They even speak of “exercise poverty” as a growing social problem.¹

The pleas from the sector to put sport and physical activity higher on the political agenda have not yet gained traction The Hague, the political center of the Netherlands. Sport and physical activity remained an underexposed theme in the coalition agreement 'Looking out for each other, looking ahead to the future'. In response to the corona crisis, the Dutch House of Representatives unanimously passed a motion² to investigate whether sport can be added to the list of essential sectors. Additionally, a petition³ to consider sport as essential has received over 300,000 signatures. However, the government is unwilling to make any promises about this.⁴

Sport and physical activity are part of autonomous municipal policy. With the wave of decentralization, municipalities have not only been given many more tasks in the social domain, but also the task of cutting back expenses. The allocation of the municipal budget is largely fixed. Whenever cuts have to be made, attention quickly turns to policy areas in which local governments do not have a statutory duty, such as public space, combating poverty and sport and physical activity. This is one of the reasons why the Netherlands Sports Council advocates for sport as a public service and establishing the responsibilities of the national, provincial and local governments in a sports act.⁵

1.2 Purpose of this study

To support the public debate on this subject, it helps to know that investing in sport and physical activity pays off. The Social Return On Investment (SROI) makes this transparent. The SROI indicates for the whole of society how much is invested in sport and physical activity and what the benefits are. It offers the tax payer a justification of the resources spent, politicians and administrators the conviction that investing in sport and physical activity can pay off, and the population and the business community the confirmation that they are spending their money wisely.

In 2019, Rebel and the Mulier Institute calculated the SROI of sport and physical activity for the first time.⁶ The current study is an update of this earlier study. Newer data have been used and the methodology has been refined. We calculate the SROI once again for the whole of the Netherlands and for all municipalities. Besides this report, there is an infographic available on the website of the Knowledge Centre for Sport & Physical Activity with a summary of the results.

1 E.g. <https://www.sportenstrategie.nl/overheid/beweegarmoede-is-vooral-binnen-de-sportparochie-in-het-vizier/>

2 <https://www.tweedekamer.nl/kamerstukken/detail?id=2021Z24086&did=2021D51147>

3 <https://nocnsf.nl/nieuws/2022/01/massale-steun-voor-petitie-om-sportlocaties-te-openen>

4 Parliamentary letter: “Sport als essentiële sector”, 20 januari 2022

5 <https://www.nederlandse-sportraad.nl/actueel/nieuws/2021/11/25/nlsportraad-wijst-op-essentie-van-sportwet>

6 *De Social Return On Investment (SROI) van sport en bewegen* (Rebel & Mulier Institute, 2019).

1.3 Principles and definition of SROI

The SROI is a "snapshot" of costs and benefits in any given year. We strive to work with the most recent data possible. The year 2020 forms the basis for this study. We use the classification of municipalities as they existed in that year and the data files of that year where possible. Where the latter is not possible, we use data from the most recent years before 2020.

Of course, 2020 has been a special year because of the rise of COVID-19 and the consequences this has had for the sport and physical activity sector. Data from 2020 have possibly been influenced by COVID-19 and are not always representative for other years. In this report we always mention in which way COVID-19 may have influenced the data. If a correction is evident, we make it (such as: excluding the costs of support measures from public expenditures). But in other cases, we do not, because this would require assumptions that we cannot always properly make (such as: an estimate of the business turnover of gyms in 2020 without the influence of COVID-19).

As in the earlier SROI study, a demarcation is needed of the themes that are and are not included in the SROI. Central to everything is: sport and physical activity. This is expressed in practical terms by using the physical activity guidelines as a central link in the model: the benefit from sport and physical activity is measured by the number of people that meet the physical activity guidelines – with the exception of the revenue from voluntary work, which is valued differently – and only the costs that directly contribute to people meeting the physical activity guidelines belong in the SROI. This means that the following items are not included:

- Costs and benefits of elite sports and elite sports events
- Costs and benefits from passive sports participation (following sports, live or via media)
- Costs and benefits that are (too) indirectly related to sport and physical activity, such as costs of transport or societal benefits from investing in sustainable sport facilities

As in the previous SROI study, we do not include expenditures of provinces in the study. In 2018 and 2019, the Netherlands Sports Council conducted an introductory tour of all provinces and reported extensively on this.⁷ This report shows the budgets for sports, which differ greatly from province to province. The general picture is that costs are mainly incurred for elite sports and only to a limited extent for recreational sports. For this update of the SROI we have contacted several provinces, but this has not led to a substantiated estimate of what share goes to elite sports and what share to recreational sports. As the provincial expenditures are very small in relation to the SROI total, we have chosen not to include these expenditures at all.

1.4 Reading guide

Chapter 2 contains a description of the calculated costs and chapter 3 of the benefits. Chapter 4 shows the relationship between the two, i.e. the SROI. The experts and municipalities consulted are listed in Appendix 1 and the assumptions for allocating costs and benefits to municipalities in Appendix 2. Chapter 5 explains the main differences with the previous SROI study and other (international) SROI studies. Chapter 6 contains a more in-depth discussion of the SROI, intended for further exploration and investigation.

⁷ *Verkenning rol provincies in de sport* (Netherlands Sports Council, 2018/2019).

2. Costs

2.1 Overview of costs in SROI

In the following table, we show the types of (social) costs and their magnitude in 2020 that we have included in the SROI model. We also list the sources consulted for each type of cost.

Table 2.1: composition of costs for sport and physical activity

Cost item	Amount	Sources
Public costs (financed through taxes)		
Contribution of the Ministry of Health, Welfare and Sport	€287 million.	www.rijksfinanciën.nl annual report 2020, <i>Monitor financiële stromen in de breedtesport 2020</i> , <i>Tussenevaluatie BOSA en SPUK SPORT 2021</i> (RVO, 2021)
Physical education (contribution of the Ministry of Education, Culture and Science)	€305 million.	www.duo.nl (2020) and other public sources
Sports expenditure by municipalities	€1,505 million.	CBS Iv3 data 2020 (incidentally 2019)
Other costs of municipalities	€376 million.	Estimation based on questionnaire
Private costs (direct funding)		
Sports clubs and federations	€1,084 million.	NOC*NSF annual report 2020, <i>Monitor financiële stromen in de breedtesport 2020</i> , CBS Statline 2020
Swimming pools	€202 million.	POS 2019 and CBS Statline 2020, edited by Mulier Institute
Commercial sports providers	€2,247 million.	POS 2019 and CBS Statline 2020, edited by Mulier Institute
Sports equipment	€918 million.	<i>Consumentenuitgaven aan sport 2016</i> (Mulier Institute, 2016)
Other		
Volunteer work	€2,643 million.	www.sportenbewegenincijfers.nl (2020) and other public sources
Total costs	€9,569 million.	

2.2 Explanation per cost item

General

There are different financial flows between parties in the sports system. What is considered a cost for one party, is a revenue for another. This creates a complex puzzle, since various corrections are needed in the financial data. Had we not corrected for this, certain costs would be wrongly omitted from the SROI. This concerns the following financial flows:

- Subsidies and contributions from the state (BOSA, SPUK, community sport coaches, etc.) are not included as revenue for sports providers and municipalities.
- Subsidies and contributions from municipalities to sports providers are not included as revenue for the sports providers.
- Contribution payments from sports clubs to federations are not included as revenue for the federations.
- Rental costs of sports providers for facilities (incl. gymnasiums) are not included as revenue for municipalities.

In determining the costs of sports providers (sports clubs, swimming pools, fitness etc.), we look at realized turnover. This is because turnover comes from the pockets of sportsmen and -women and covers the costs of a sports provider.

Contribution of the Ministry of Health, Welfare and Sport

Part XVI of the Dutch State Budget deals with the Ministry of Health, Welfare and Sport. Article 4.6 specifically considers sport and physical activity. This article is divided into four chapters. The costs in chapter 1 are included in the SROI, being €1.5 million subsidies for a suitable supply of sport and physical activity. Chapter 2 is about elite sports and is outside the scope. In chapter 3, no costs are booked in 2020.

Chapter 4 requires a more in-depth explanation:

- Expenditure on support measures due to COVID-19 are not included, as already explained in chapter 1. These are the TVS - for municipalities and for private persons -, the TASO, and an increase of the guarantee credit of *Stichting Waarborgfonds Sport*.
- Expenditure on elite sports is outside the scope of the SROI.
- Subsidies under the name 'knowledge and innovation' (such as contributions to knowledge organizations) are also excluded from the SROI. We consider the link with sport and physical activity to be too indirect.
- SPUK and BOSA expenditure is included in the SROI.⁸ For SPUK, we based ourselves on the realized amount of €133.8 million in 2020, as follows from the *Tussenevaluatie BOSA en SPUK*

⁸ These subsidies arose in 2019 in response to the expansion of the exemption of VAT for sport. This led to additional revenues of €241 million for the state and an additional cost of the same magnitude for sports organizations and municipalities. Sports organizations and municipalities can therefore be fully compensated for the financial disadvantage they suffer. It can be argued that the introduction of the BOSA and SPUK is merely another way of distributing resources between the state and local parties without actually investing more money in sport and physical activity. That would argue that subsidies should not be included. However, since we approach our calculations conservatively, we do include the subsidies. It is very difficult to show how sports organizations and municipalities have accounted this cost disadvantage.

SPORT 2021 (RVO, 2021). For the BOSA, no realization figures are presented and we take the expenditure of €56.8 million as reported on www.rijksfinancien.nl.

- Expenditure by municipalities to support and implement local sports agreements is included in the calculation. This is a realized amount of €12.3 million in 2020. As part of the sub-themes within the National Sports Agreement, subsidies of €68 million have been provided, of which we include €20.5 million in the SROI. According to the budget of the Ministry of Health, Welfare and Sport, this is the part of the subsidies that is not spent on elite sport.

The state also provides subsidies to municipalities for the deployment of community sport coaches. These are not accounted for in the Ministry of Health, Welfare and Sport's budget, but are visible in the contributions from the *Gemeentefonds*. The *Monitor financiële stromen in de breedtesport 2020* (Mulier Institute, 2022) estimates the total size of these subsidies at €62 million in 2020.

Physical education (contribution Ministry of Education, Culture and Science)

This includes the cost of employing physical education teachers (or group teachers) in primary and secondary schools.

Based on DUO figures, we know how many pupils are in primary and secondary education in the Netherlands (regular and special education). By law, a primary school pupil receives two teaching hours (90 minutes) of physical education – in practice, a secondary school pupil receives slightly more⁹ – and there are 39 school weeks in a year. The average group size in primary education is 23 pupils¹⁰ and in secondary education it is between 23 and 24 pupils.¹¹ The average hourly wage of a primary school teacher is €45 (CBS Statline), we assume the same wage for secondary school teachers (in practice, it may be slightly higher). By combining these figures we arrive at an estimate of the total costs of physical education.

Sports expenditure and other municipal costs

By far the most public money for sport and physical activity comes from municipalities. Statistics Netherlands (CBS) publishes Information for Third Parties (Iv3) every year. The Iv3 contains financial information of all municipalities, with a subdivision to policy themes through so-called 'task areas'. Task areas 5.1 and 5.2 concern sports: sports policy & activation, and sports facilities. These costs are included in the SROI. We use the actual figures of 2020, excluding the income from rent and from specific governmental benefits.¹² Because of the applied corrections on income, the total amount (€1,505 million) differs from the net expenditure in the *Monitor sportuitgaven gemeenten 2020* (€1,174 million).

The influence of COVID-19 on the expenditure of municipalities seems limited.¹³ The influence seems to mainly concern the (rental) income.

The sport budget does not represent all municipal costs for sport and physical activity. Often a part of the relevant costs are in poverty policy (e.g. a sports fund), health (e.g. exercise interventions for the elderly), education (e.g. provision of school swimming) and public space (e.g. playgrounds, skate parks,

⁹ *Lesuren bewegingsonderwijs in Nederland* (Mulier Institute, 2021).

¹⁰ <https://www.poraad.nl/kind-onderwijs/onderwijskwaliteit/groepsgrootte-basisonderwijs-daalt-verder>

¹¹ *Groepsgrootte in het vo* (Regioplan, 2016).

¹² A third income category within the IV3 data is 'income from other goods and services'. It is unclear what exactly falls within this category. We have not corrected for this.

¹³ *Monitor sportuitgaven gemeenten 2020* (Mulier Institute, 2021).

courts and fitness equipment). On the other hand, sometimes – in large municipalities – elite sports expenditure is included in the budget, whilst this should not be taken into consideration. Based on an inquiry among 11 Dutch municipalities on the level of these cost items, we have determined an average mark-up of 25% on top of the municipal sports budget. This is a rather rough estimate and for reasons of conservatism we have chosen to place it on the relatively high side. Table 2.1 shows the estimated amount, under the heading 'other municipal costs'.

Sports clubs and federations

Sports clubs together generated a turnover of €1,130 million in 2020 (CBS Statline). Almost 60% of this amount consists of membership fees, lesson fees and entrance fees. The other revenue items are: subsidies, sponsorship and advertising fees, canteen sales and other revenues. The total revenue is lower than in previous measurements (2009, 2015 and 2018). It is very likely that the corona measures are the cause of this, as evidenced by the low share of canteen sales in the measurement of year 2020.

Since sports clubs sometimes also receive operating grants from municipalities, we have corrected for this, as explained earlier. The share of "subsidies and direct contributions" in the total turnover of sports clubs was about 11% in 2020 (CBS Statline). We have therefore deducted this from the total amount.

The income of sports federations consists – in addition to the contribution payments of sports clubs – roughly of the basic funding from NOC*NSF and sponsorship fees. The annual accounts of NOC*NSF show the amount of money earmarked for basic funding of sports federations in 2020. This is a realized amount of €18.2 million. Sponsorship income is estimated at €57.5 million.¹⁴

Swimming pools and commercial sports providers

The net turnover of swimming pools (excluding subsidies and direct contributions) in 2020 was: €202 million (CBS Statline).

We distinguish various types of commercial sports providers. We define commercial sports providers as all entrepreneurial sports providers that are affiliated with the *Platform Ondernemende Sportaanbieders* (POS). The CBS publishes financial figures for most distinguished groups of commercial sports providers on CBS Statline. There are separate sports statistics for fitness centers, swimming pools, horse riding schools, gyms, water sports centers and other facilities (including golf courses, squash centers and billiard centers). We have taken the CBS turnover data for all those sports providers in 2020.

Two types of providers are missing from the CBS sports statistics, but they are affiliated with the POS: dance and yoga schools. This is a fairly large group with an important role in meeting the sport and physical activity guidelines. To include them in the SROI, we estimate the total turnover for this group. Dance and yoga schools can, in principle, be seen as an intermediate form of a fitness center and a gym. Therefore, for the turnover of these schools we take the average turnover of fitness centers and gyms from the CBS sports statistics. We multiply this average by the number of dance and yoga schools in the Netherlands in 2019, estimated by the POS, to arrive at the total turnover of dance and yoga schools.

As with sports clubs and swimming pools, we make an adjustment for the income of these providers from subsidies and direct contributions, so far as this information is known.

¹⁴ *Monitor financiële stromen in de breedtesport 2020* (Mulier Institute, 2022).

Sports equipment

There are several sources that report the average expenditure of a household on sports equipment. The *Sportsatellietrekening* (CBS) shows a total amount of €2,600 million in 2019.¹⁵ The study *Consumentenuitgaven aan Sport 2016* (Mulier Institute, 2016) shows much lower amounts. For 'sports clothing and shoes' and 'other sports items', the total amount from this study adds up to about €867 mln. The same study names this large difference and states that there may be several causes, such as a difference in data collection method – CBS uses turnover of companies, *Consumentenuitgaven aan Sport 2016* uses answers to questionnaires – and definition differences – CBS for example also counts expenditures of 'non-profit institutions'. Enquiry reveals that these are expenditures of sports clubs.

We choose to use amounts from the *Consumentenuitgaven aan Sport 2016* study for the SROI.¹⁶ Because it is a relatively old study, we use indexes to get the prices to price level 2020. We choose this study as a starting point because sports equipment in the *Sportsatellietrekening* is too broadly defined for our study. First, we cannot include the expenditures of sports clubs, because that would result in us double counting the costs of sports clubs (which we already included through their turnover). Second, CBS includes categories that fall outside the scope of the SROI, such as expenditures on television subscriptions, veterinary services for horses, tents and camping goods, transport to sports matches, sports cars, etc.

Volunteer work

Sports is to a large extent made possible by volunteering. The investment of time by volunteers can be seen as a social cost. Their efforts can be valued economically by looking at the 'replacement value': how much would it cost to replace the volunteers by professionals? The percentage of active volunteers in sports aged 12 and older is 9%.¹⁷ Using the facts that there are more than 15 million Dutch people in that age group (CBS Statline), that the average time commitment for volunteer work is 4 hours per week (*Vrijwilligerswerk 2020*, CBS), that a year has 52 weeks and that the gross minimum wage is nearly 10 euro's per hour¹⁸, the societal cost of volunteer work in Dutch sports is approximately €2.768 mln. However: a part of the volunteers already receives a (limited) compensation for their work. This has to be corrected for, since this is already included in the costs of the sports clubs. According to CBS Statline, the costs of sports clubs consist of about 11% of non-paid personnel. With this correction the social costs of voluntary work amount to €2.643 mln.

¹⁵ <https://www.cbs.nl/nl-nl/longread/rapportages/2021/de-nederlandse-sporteconomie-2019/4-sportbenodigdheden>

¹⁶ Recently, the study *Consumentenuitgaven aan Sport 2019-2021* (Mulier Institute, 2022) was also released. However, that report only gives percentages, not absolute amounts of expenditure, which makes it less useful for the SROI.

¹⁷ <https://www.sportenbewegenincijfers.nl/kernindicatoren/vrijwilligerswerk>

¹⁸ <https://www.rijksoverheid.nl/onderwerpen/minimumloon/bedragen-minimumloon/bedragen-minimumloon-2020>

3. Benefits

3.1 Overview of benefits structure in SROI

We base the societal benefits of sport and physical activity on two things: the number of people that structurally exercise (enough) and the socio-economic value of sport and physical activity per individual. The following table summarizes the values applied and the total societal benefits that is included in the SROI. After that we will explain the different parts of the calculation.

Table 3.1: structure of the benefits from sport and physical activity

	Youngsters	Adults	Elderly
Age category	5-19 years	20-64 years	65+ years
Percentage of people meeting the physical activity guidelines	49,7%	54,2%	38,2%
Number of people	2.913.000	10.240.000	3.393.000
Value per year of lifelong sport and physical activity	€1.543	€2.034	€1.944
Benefits	€2,234 million.	€11,290 million.	€2,519 million.
<i>Subtotal</i>	<i>€16,043 million.</i>		
Additional effect of sport and physical activity for people that do not meet the physical activity guidelines	€7,144 million.		
Benefits from volunteer work	€2,643 million.		
Social effects	PM		
Total benefits	€25,831 million + PM		

3.2 Meeting the physical activity guidelines

Measurements regarding how many people meet the physical activity guidelines are made at various times and in various ways. A first source is the *Gezondheidsmonitor*. Measurements for this monitor occur every four years at the moment, but the intention is to increase the frequency to every two years. The *Gezondheidsmonitor* is a cooperation between the National Institute for Public Health and the Environment (*RIVM*), the different Municipal Health Services (*GGD'en*) and CBS. The big advantage for us is that it provides data for the Netherlands as a whole and for each municipality separately. That is why we use it in this study. A disadvantage is that municipal figures for the age group of 4 to 18 years are missing, because the number of observations is too small in many municipalities. Data

collection for the Health monitor is done through surveys. A different monitor, the *Leefstijlmonitor*, also provides data on the percentage of people who meet the physical activity guidelines. This monitor, a collaboration between the RIVM and CBS, measures on annual basis but only generates national figures. Data is collected through a combination of survey and home visits. The latter was not possible in a significant part of 2020 due to the corona measures in place at the time. Therefore, there are doubts about the reliability of the data from the *Leefstijlmonitor 2020*.

In 2020, according to the *Gezondheidsmonitor*, 50.4% of the people met the physical activity guidelines. That COVID-19 has had an impact on our sport and physical activity participation is certain, but it is uncertain how high this percentage would have been in a world without the pandemic. Based on the annual data from the *Leefstijlmonitor*, the percentage of the *Gezondheidsmonitor* seems to be more or less on the trend line since 2014.¹⁹ This gives us confidence that 50.4% is not significantly different from a world in which COVID-19 had not existed.

3.3 Socio-economic value

The value of sufficient physical activity follows from the report *De sociaaleconomische waarde van sport en bewegen* (Ecorys, 2021). Values have been calculated for an average Dutch person who exercises sufficiently – compared to not exercising or hardly exercising – over his/her entire life span. These are net present amounts, discounted to today's value.²⁰ In the research report, values are presented for the age groups 5-24 years, 25-54 years and 55+ years. For our study, we recalculated these for the age groups 5-19 years, 20-64 years and 65+ years, as this is (more or less) in line with the age groups in the *Gezondheidsmonitor*. For each age group we have taken the average of the ranges of values for sport and physical activity outlined in the study as the basis for the SROI calculation. The results also show how the SROI would change if one were to take the lower or upper end of these ranges.

The following figure summarizes the different effects of sport and physical activity that are discussed in the report *De sociaaleconomische waarde van sport en bewegen* (age 5-24).

Figure 3.1: Value of sport and physical activity broken down into effects (age 5-24) – available in Dutch only

¹⁹ See: <https://www.rivm.nl/leefstijlmonitor/bewegen>

²⁰ At the level of specific sport and physical activity interventions, the value of sport and physical activity can be derived from extra minutes of exercise. For this approach we refer to the study *Impact Routes Sport en Beweging* (HAN, 2022).

Maatschappelijke waarde van sporten en bewegen (contante waarde, 5-24 jarige)



The health effects arise because people who exercise have a lower chance of developing certain health conditions, such as cardiovascular disease or type II diabetes. Although there is also a greater chance of injuries, on balance sport and physical activity reduces healthcare costs. People also live longer (life expectancy) due to sport and physical activity and they live longer in better health (quality of life). Health effects also have a direct impact on the labour market: a healthier person reports sick less often and is more productive in the hours that he/she works. The social effects of sport and physical activity include young people having a lower chance of showing criminal behaviour and reaching higher learning achievements. In addition, it provides extra social capital (expansion of the social network, sense of belonging) and fun.

An important difference between our study and that of Ecorys is the time perspective. The SROI produces an annual 'snapshot', whereas the Ecorys study calculates values for structurally sufficient exercise over a person's entire life span. Therefore we have converted the total values from that study per age group back to an annual value per age group, taking into account the average life expectancy and a discount rate of 2.25%.²¹ This means that the benefit per person of meeting the physical activity guidelines is approximately €1,500 to €2,000 on an annual basis, see table 3.1.

3.4 Value of exercise while not meeting the physical activity guidelines

Not only people who meet the physical activity guidelines²² experience positive effects from sport and physical activity. An often-heard saying is: "exercise is good, more exercise is better". Most health gains are achieved in the step from not moving at all to moving a bit. Overall, there are diminishing returns on each additional minute of exercise.²³ In the British 2019 SROI study, the minutes of exercise below the physical activity guidelines are also valued according to a so-called "linear-dose response

²¹ The discount rate is a percentage with which expected values in the future are calculated for a 'base year'. This is necessary because a euro today is worth more than a euro a year from now. The level of the discount rate indicates how fast the depreciation takes place in the future.

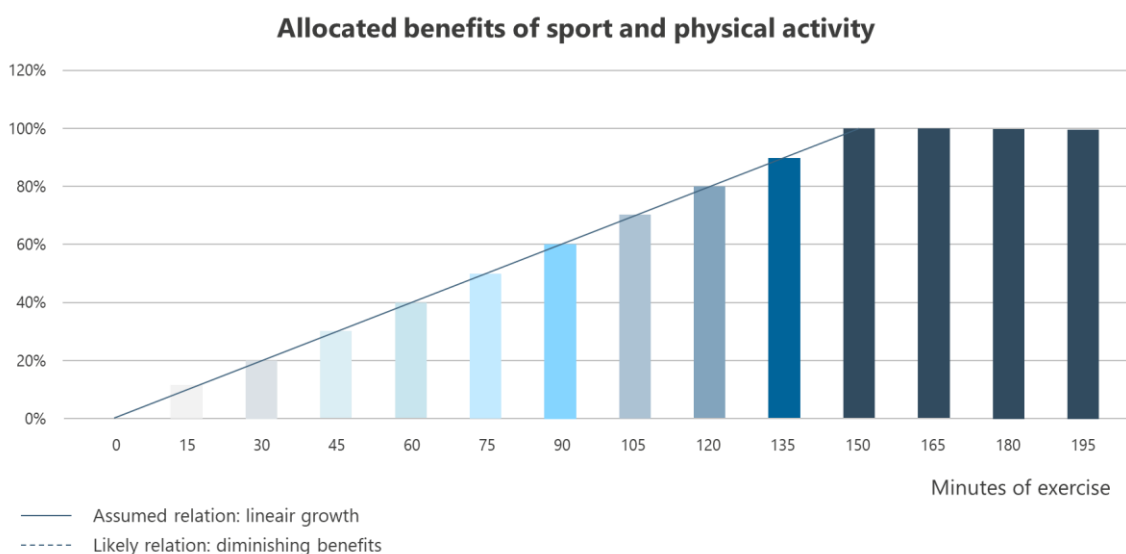
²² The physical activity guidelines also recommend – depending on the age group – muscle and bone strengthening exercises and not too much sitting. The focus in this section is on the 'time component' of the guidelines.

²³ <https://www.allesoversport.nl/thema/gezonde-leefstijl/hoeveel-moet-je-minimaal-bewegen-om-gezonder-te-worden/>

*relationship*²⁴. We follow the same approach in our study. We assume that people who do not meet the physical activity guidelines are equally distributed. In other words: of this group 10% does not move and experiences zero effect, the next 10% moves an average of 15 minutes per week and experiences 10% of the value of sport and physical activity, another 10% moves an average of 30 minutes per week and experiences 20% of this value, etc. This leads to a surcharge of €7,144 million on top of the previously calculated benefits.

In the following figure, we have graphically represented this approach.

Figure 3.2: Assumed relationship between exercise minutes and benefits



The linear relationship probably underestimates rather than overestimates benefits. The British researchers also observe this. The reason is that the first few minutes of exercise produce the most health gains, but we have not assigned a proportionate extra value to these minutes. Furthermore, because of our conservative approach, we have also not assigned any additional returns to people who exercise more than the guidelines.

3.5 Benefits from volunteering

A generally accepted assumption in social cost-benefit analyses and similar studies is that the benefits of volunteering are as high as the costs, i.e. the effort put in by volunteers.²⁵ Therefore, we use the same amount that was presented in chapter 2 as costs: €2,643 mln.

3.6 Social effects still underexposed

The effects in the report *De sociaaleconomische waarde van sport en bewegen* are mainly focused on health improvement through sport and physical activity. With sufficient exercise the chance of several diseases, as discussed earlier. But the Netherlands currently lacks a (complete) economic valuation of the social effects of sport and physical activity. The positive effects on learning performance and contribution to preventing (juvenile) crime are included in the aforementioned study, but for other

²⁴ Social Return on Investment of Sport and Physical Activity in England (Sheffield Hallam University, 2019).

²⁵ See e.g. *Werkwijzer voor kosten-batenanalyse in het sociale domein* (SEO, 2016).

social effects – pleasure, social capital, etc. – no proper economic valuation has been made yet. We will deal with this theme in more detail in section 6.1.

4. SROI

The SROI of sport and physical activity is estimated at 2.70. This means that the social benefits of sport and physical activity are 2.7 times higher than the costs. The total calculated costs are €9,569 million and the benefits €25,831 million. It is important to note that we calculate the benefits somewhat conservatively by (i) including social effects (almost) only qualitatively and (ii) approaching the value of exercise under the physical activity guidelines as a linear relationship.

When the lower end of the values from *De sociaaleconomische waarde van sport en bewegen* (Ecorys, 2021) is taken, the SROI changes to 1.82. At the top of the range it changes to 3.58.

Figure 4.1: SROI broken down into types of costs and benefits (amounts in € million)

Costs (in € million)		Benefits (in € million)	
Commercial sports providers	€ 2,247	Quality of life	€ 15,270
Sports expenditures by municipalities	€ 1,505	Labour productivity	€ 2,893
Sports clubs and federations	€ 1,084	Learning outcomes	€ 1,905
Sports equipment	€ 918	Healthcare costs (incl. injuries)	€ 1,671
Other municipal costs	€ 376	Absence from work	€ 723
Physical education (Ministry of Education, Culture and Science)	€ 305	Life expectancy	€ 704
Contribution of the Ministry of Health, Welfare and Sport	€ 287	(Juvenile) crime	€ 21
Swimming pools	€ 202	Social capital & fun	PM
Volunteer work	€ 2.643	Volunteer work	€ 2,643
Total	€ 9,569	Total	€25,831 + PM

For society as a whole, therefore, there is an added value in investing in sport and physical activity. This stresses the importance of continuing to invest in sport and physical activity as a society. An important note is that the SROI is not an instrument for the analysis of specific projects and that it cannot reflect the effects of a single investment decision. If one wishes to chart the effects of a specific intervention, such as the construction of a sports facility, additional deployment of community sport coaches or the organization of a new sports event, a social cost-benefit analysis or similar type of impact study would be the obvious choice. Similarly, the SROI is not an instrument for justifying one single cost used in the calculations, such as the expenditures on sports equipment or expenditures by municipalities. This is because the effectiveness of that specific expenditure is unknown.

4.1 SROI per municipality in the Netherlands

It is possible to calculate the SROI at a lower geographical level, e.g. per municipality. After all, they are the most important public investors in sport and physical activity. Our research shows that the SROI in municipalities varies between 1.80 and 3.55. Important for the interpretation of results is that we (can) calculate the SROI in an area and not the SROI of an area. In other words, the SROI for any given municipality reflects the costs incurred by the local society and the resulting social benefits, but not the costs and benefits of governmental action in that municipality.

Determining factors for the SROI calculation in a municipality are:

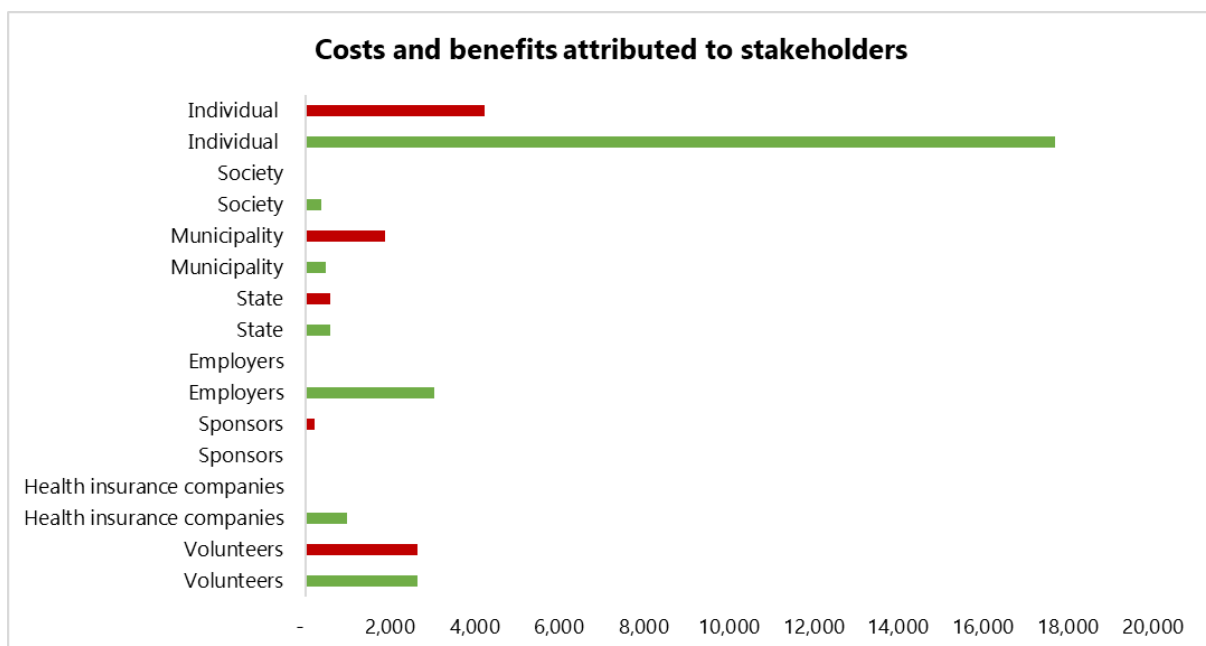
- the percentage of people meeting the physical activity guidelines
- the level of municipal expenditures
- the number of inhabitants and the proportion that are members of sports clubs and do sports on a weekly base

The latter is used for the allocation of certain cost items to each municipality. Appendix 2 contains the assumptions we use to allocate costs and benefits to all municipalities. The Knowledge Centre for Sport & Physical Activity has the model we built, in which the estimated SROI per municipality can be found.

4.2 Costs and benefits per stakeholder

The study of Ecorys describes in words which parties benefit from sport and physical activity. As soon as there is more than one beneficiary of an effect, it becomes difficult to determine the exact share per stakeholder. We have made an estimate, based on the descriptions by Ecorys and our own insights. Together with the various cost items, this leads to the following overview:

Figure 4.2: Allocation of costs (red) and benefits (green) in the SROI (amounts in € million)



5. Comparison of SROI studies

This SROI study is not the only one of its kind. Several SROI studies on sport and/or physical activity are now circulating, both in the Netherlands and abroad.²⁶ In this chapter, we compare our SROI study with a number of others: the previous SROI study of 2019, the English SROI study of sport and physical activity from 2019 and a Flemish SROI study of 2022, and the model developed by UEFA for football. We only zoom in on the biggest differences.

5.1 Dutch SROI sport and physical activity 2019

In 2019, we published the SROI of sport and physical activity in the Netherlands for the first time. Since then, new data and studies have become available. In addition, we have made a number of other methodological choices. The main adjustments in the current SROI compared to 2019 are:

1. New data have been added to the model, with the year 2020 being used as the basis as often as possible (physical activity guidelines 2020, municipal expenditure 2020, etc.).
2. A new study on the socio-economic value of sport and physical activity has been published, including an estimate of the value for people aged 55 and over (this category was previously missing).
3. At municipal level, in addition to the costs of sport, additional costs for physical activity are now included (public space, education, social domain, etc.).
4. In the past, we only calculated benefits for people who met the physical activity guidelines, but this time we also calculate benefits for people who exercise but do not meet these guidelines.
5. In this study, we have been able to make a better approximation of the expenditure of commercial sports providers.
6. The costs and benefits of volunteers in sport are now part of the SROI. Although both are assumed equally high, it affects the balance of the SROI.
7. We used the average value per individual who does sport and physical activity, rather than the lower end of the range. The reason is that in the current SROI calculation we are quite complete in listing the relevant costs, while in several parts we are still conservative in calculating the benefits.

In 2019, we calculated a national SROI of 2.51. In this update, the SROI is 2.70. If – purely for illustration purposes – we were to put the 'new' data into the 'old' model, the SROI changes to 2.05. There are two main reasons why this figure is lower than the original 2.51. Firstly, there are higher contributions from central government, due to the introduction of the BOSA and SPUK in 2019. Secondly, the value per individual who does sport and physical activity in the newest Ecorys study is lower than before.²⁷ The adjustments in the methodology of the current SROI study (points 3 to 7 above) sometimes have a

²⁶ <https://ijbnpa.biomedcentral.com/articles/10.1186/s12966-020-00931-w>

²⁷ Although the lower end of the bandwidth has gone up in the new Ecorys study, this is mainly due to a different discount rate now being used. If the old discount rate of 3% (instead of 2.25%) were used, the amounts in the Ecorys study for 2021 would be lower. For the SROI we calculate the values back to an amount per year, which in fact results in a lower amount per individual.

positive and sometimes a negative effect on the SROI, but in the end they give an upward movement (from 2.05 to 2.70).

5.2 English and Belgian SROI's sport and physical activity

Several SROI studies have been published abroad in recent years. The British were one of the first in this field and can be seen as the founders of the concept. Therefore, we explicitly draw a comparison with their recent SROI study.²⁸ In their most recent study, the British researchers arrive at an SROI of 3.28. This is higher than the SROI of 2.70 we calculated.

The two studies correspond on many points. Firstly, the demarcation seems the same – in both cases it is about sport and physical activity, meaning that passive participation and elite sport fall outside the scope of the study. Moreover, on the cost side the same categories are found. The financial amounts do differ, but this is probably related to the differences in how sport and physical activity is organised in both countries. Thirdly, the effects in the English study are also based on a threshold of 150 minutes of moderately intensive exercise per week for adults and 420 minutes for children. The Dutch physical activity guidelines have additional requirements (muscle and bone strengthening exercises, balance exercises), whereas the British calculated also benefits with a lower number of minutes of intensive exercise, but conceptually it corresponds. Finally, following the British study, in our new SROI study we have included the benefits of exercising less than the guidelines prescribe, as explained above.

The main difference with the British SROI study from 2020 is the classification and valuation of various returns. Besides savings on healthcare costs, the British study also calculates the positive effect of sport and physical activity on mental wellbeing and social capital. In fact, these make up by far the largest part of the total benefits. In the Dutch context an economic valuation of these effects is still lacking, but the positive effects of sport and physical activity on the quality of life are known, which in our SROI is a significant benefit.

Very recently, (a Dutch summary of) the SROI study in Flanders was also published.²⁹ There are differences between the two studies, but the way in which returns are determined largely follows the method used in England. In the Flemish study mental wellbeing and social capital are calculated, which was preceded by a survey of the Flemish population on, among other things, exercise behaviour, income, wellbeing and social capital. The Flemish SROI of sport and physical activity amounts to 3.56. In the closing section of the study a comparison is made with the Walloon SROI, which the researchers calculated at the same time. This amounts to 1.21.

5.3 Economic valuation of sport (UEFA model)

The 'UEFA Grow SROI Model' is a framework for calculating the value of football, which has been developed by UEFA. All member associations can use it to do analyses for football in their own country. A report for the Netherlands was also written.³⁰

Although the model bears the title 'SROI', it does not actually return the SROI as an outcome. The UEFA model gives a valuation of the benefits of football as the outcome. This makes it incomparable with our research. However, for the less-informed reader it can be useful to understand the difference,

²⁸ Social Return on Investment of Sport and Physical Activity in England (Sheffield Hallam University, 2020).

²⁹ Social return on investment (SROI) from sports and physical activity in Flanders (Sheffield Hallam University & VU Brussels, 2022).

³⁰ <https://www.knvb.nl/downloads/bestand/26270/sroi-rapport>

so we will briefly discuss this. The type of returns in the UEFA model partly corresponds to the SROI studies on sport and physical activity. Mental well-being is also included, making it more in line with the English and Belgian SROI studies. In addition to a different outcome measure, the UEFA model also includes other categories of benefits. For example, investments in accommodation and spending by football players (contribution, catering, sporting goods, etc.) are included as economic benefits. In our SROI study, these are included as costs. The UEFA model also includes a valuation of employment effects, which falls outside the scope of our SROI. Finally, benefits from specific projects or programs (such as Walking Football) are included as a benefit. In our study, we did not specifically look at the value of separate interventions.

6. Discussion

In this chapter, we present four themes that lend themselves to further improvement of the SROI. We place these themes on the agenda for discussion. In the run-up to the next update of the SROI, this chapter provides material to consider, discuss with sports economists, exercise scientists, policymakers and other stakeholders, and possibly conduct further research on.

6.1 Theme 1: Economic valuation of social effects

We touched briefly on this theme in chapter 3. The benefits in the SROI model mainly follow from the effects on health. The positive effect of sport and physical activity on social components is often mentioned but has yet to be translated into an economic valuation. This is one of the reasons why the current SROI is an underestimation.

From abroad we have learned that there is now a tried and tested method for calculating the effect of sport and physical activity on mental well-being and social capital. Although the English are not alone in this, the method does find its origin there.³¹ Based on the so-called Wellbeing Evaluation Approach, a relationship has been established between sport and physical activity participation, income and the feeling of well-being and the building of social capital. It follows from the English and Belgian SROI studies that these two effects are by far the greatest benefits from sport and physical activity.³²

In the Flemish SROI study, the benefits per individual participating in sports and/or physical activity are listed separately. These are:

Table 6.1: Valuation of mental well-being and social capital in Flemish SROI³³

Variable	Amount
Value mental well-being per individual	€1,813
Social capital value per individual	€2,560
Value Mental well-being + Social capital individual	€4,373

The value of mental well-being and social capital per individual who participates enough in sport and physical activity therefore amounts to about €4,400, based on the Flemish data and calculation method. That is without even taking the value of improved mental well-being and social capital for volunteers into account. The €4,400 is considerably higher than the benefits per individual of ca. €1,500-€2,000 we use in our SROI study. This calculation provides an indication for the Dutch situation. But of course this would first have to be investigated more thoroughly using Dutch data. It is also important to note that mental wellbeing and social capital are such broad concepts that they should not simply be added to the already calculated returns. There is overlap with other effects in the current SROI model, especially with the increase in quality of life as a result of sport and physical activity.

The Knowledge Centre for Sport & Physical Activity is currently in discussion with several sports economists to see if a similar analysis using Dutch data is feasible. This is a positive development.

³¹ See e.g. : Quantifying and valuing the wellbeing impacts of culture and sport (Fujiwara et al., 2014).

³² Social Return on Investment of Sport and Physical Activity in England (Sheffield Hallam University, 2020).

³³ Social return on investment (SROI) van sporten en bewegen in Vlaanderen (Sheffield Hallam University & VU Brussels, 2022).

However, we are not saying that this should automatically replace the current categorization and calculation of benefits. In our view, there is no "best" approach. The advantage of the English method is that the social value of sport and physical activity is better reflected in the calculation, meaning that there will not be too much focus on health effects. However, a disadvantage is that mental wellbeing is such a broad effect that an overlap with other effects is difficult to avoid; it can become a catch-all term of which it is unclear what exactly falls within. Nevertheless, it is useful to carry out this research in due course and to see what new insights it will yield. Whether and how it can be integrated into the SROI is a question for later.

6.2 Theme 2: Value of volunteer work

New to this SROI is a valuation of the time commitment (costs) and productivity gain (benefits) from volunteer work. The Dutch sports sector relies heavily on the efforts of volunteers. People who are involved in a sports club appreciate this. It is a way to offer sports relatively cheaply, which is extra important for people with a small budget. At the same time, a slow decline in the number of active sports volunteers has been observed for years³⁴ and is expected to continue. The Netherlands Sports Council, among others, also advocates professionalization of sports providers, partly at the expense of volunteer hours.³⁵

Given these developments, it is particularly important to be able to accurately reflect the value of volunteer work. Assuming that benefits equal costs fits into the current economic framework, but does insufficient justice to the value that volunteers add. One way of dealing with this is related to the previous discussion. In the English SROI study, for example, the value of the improvement of the mental wellbeing of volunteers was explicitly made clear, in addition to the value of their productivity. Another way of approaching the issue is to consider what would happen if volunteers were to disappear altogether, either autonomously or through deliberate replacement by professional staff. Firstly, the costs of participating in sports clubs would rise irrevocably. However, there may be additional benefits, such as a better range of sports, more interest in sports among the youth and a better climate for talent development.

It would be useful to think through this future scenario further with those involved and, in a general sense, to further understand the added value of volunteer work in sports. It is understood that the HAN, in cooperation with European educational institutions, is currently working on a study in this area.

6.3 Theme 3: Costs of cycling and walking

In this SROI we take a broader look at municipal expenditure. We already knew that more money goes to sport and physical activity than is visible on the municipal sports budget. This time we have made an estimate of it. But with this broadening of the relevant costs, the question of where to draw the line is raised: which costs still belong in the model and which do not? We have noticed that this is a subject of much debate and that there is often something to be said for different lines of reasoning.

³⁴ <https://www.sportenbewegenincijfers.nl/kernindicatoren/vrijwilligerswerk>

³⁵ *De opstelling op het speelveld* (Netherlands Sports Council, 2020).

In concrete terms, we encountered this in the case of cycling and walking.³⁶ The lines of reasoning were:

- "Cycling and walking infrastructure is usually built with a different purpose than stimulating exercise behavior, namely to allow people to get from A to B easily and safely. The fact that people also exercise on this infrastructure is a nice side effect, but these costs do not belong in the SROI".
- "The fact that people go for a walk to run errands or pick up children from school by bike is a form of activity, but does not follow from a conscious decision to actively exercise. Therefore a substantiated share of the total costs for cycling and walking should be allocated to sport and physical activity: only the part of walking and cycling that takes an active form should be included."
- "The exercise guidelines are based on moderately intensive exercise, which is almost any kind of cycling and walking. So we have to include 100% of the costs of walking and cycling in the SROI model".

Because we cannot make a conclusive judgment on this ourselves, we present the effects of including costs for cycling and walking separately. We are referring specifically to the municipal costs of constructing and maintaining cycling and walking paths and the investments people make in (electric) bicycles or walking equipment.³⁷ Based on the inquiry among 11 Dutch municipalities mentioned earlier, we assume that municipalities spend approximately 5% annually on top of the sports budget on cycling and walking infrastructure. This is a fairly rough estimate. For the whole of the Netherlands this would add up to an amount of approximately €75 mln. The costs for regular (city) bicycles and e-bikes are on an annual basis approximately € 1,350 mln.³⁸ And finally, walkers spend about €26 million a year (based on the percentage of active walkers in the Netherlands³⁹ and average spending per walker⁴⁰). If we include these cost items in full, the SROI would change from 2.70 to 2.34, and if we included half of these costs, for example, the SROI would change to 2.51.

In addition: cycling and walking is not only municipal policy. The provinces are involved as well. The province of Drenthe, for instance, is in charge of the Cycling Agenda and the province of Groningen, among others, is very much involved in mobility investments. As described earlier, we have not been able to get a clear picture of the costs of provinces for sport and physical activity in the SROI study.

6.4 Theme 4: causality between costs and benefits

In the SROI, we compare the costs and benefits, assuming that there is a certain relationship between the two. But that relationship is not one-to-one. Although it is plausible that without all the costs that are made to stimulate sport and physical activity, fewer people would exercise (and benefits would be

³⁶ The same discussion could be held, for example, about exercise activities at work or in the household. These also contribute to the physical activity guidelines, but are less directly associated with sport and physical activity.

³⁷ We assume that costs for road bikes, MTBs etc. are already included in the model under the heading 'sports equipment'.

³⁸ <https://www.bovag.nl/nieuws/30-procent-meer-elektrische-fietsen-verkocht-in-20#:~:text=De%20coronacrisis%20heeft%20in%202020,van%20RAI%20Vereniging%20en%20BOVAG>.

This source does not provide a complete breakdown of expenditure by type of bicycle. What is known, however, is that approx. 550,000 e-bikes have been sold, at an average price of €2,259. For the approx. 275,000 traditional bicycles, we assume an average price of €400.

³⁹ www.sportenbewegenincijfers.nl

⁴⁰ *Bestedingen per uur sport | 2018* (Hover et al., 2019).

lower), it is not the case that the level of sport and physical activity would drop to zero. In this chapter we will look at the knowledge of the relationship between expenditures and participation in sport and physical activity.

Dissecting the impact on sport and physical activity

A first way of looking at the relationship between costs and benefits in the SROI model is to consider how benefits are influenced outside the model and then apply corrections for this. If the corrections are made, there will automatically be a portion left over that can be attributed to the costs in the model.

We are talking, for example, about the following concepts:

- "Deadweight" – to what extent the effect (in this case: sport and physical activity) already occurs on its own / spontaneously
- "Attribution" – to what extent the effect follows from other activities / efforts
- "Displacement" – to what extent the effect alone replaces other effects (redistribution of effects)
- "Duration" – to what extent the effect wears off / is not sustainable over time

The British SROI study⁴¹ on sport and physical activity defines these concepts. On the subject of displacement, the researchers note that it is irrelevant to this analysis because the measure of sport and physical activity participation that is used already includes everything and a displacement from one activity (e.g. hockey) to another (e.g. running) does not affect this outcome – provided it leads to the same frequency, duration and intensity of physical activity. The same applies to the Dutch physical activity guidelines. "Duration" is also argued to be rejected, under the assumption that although the SROI is an annual snapshot, it actually reflects the entire dynamic process of continuous investment and participation in sport and physical activity. We agree to this line of thinking for our SROI study.

The argumentation around "deadweight" and "attribution" is more difficult. These terms summarize the extent to which external influences influence participation in sport and physical activity. For example, without all the expenditures in the SROI model, people will still meet the physical activity guidelines, for example by climbing stairs, gardening, doing chores or at work. This implies that not all benefits in the SROI study are additional. However, it is difficult to determine how high the correction for deadweight and attribution should be. In the *Quick Scan SROI voor de Diabetes Challenge* (2019), the researchers applied such a correction and in each case – conservatively – attributed only 25% to 49% of the impact achieved to the intervention. The public summary of this study does not contain any substantiation of the percentages, which makes it impossible to judge the merits of these percentages.

This year RIVM is conducting an in-depth study into the extent to which the physical activity guideline figures can be explained by various activities. In other words: how many of the people who meet the physical activity guidelines meet them because they walk or cycle, how many because they practice a particular sport, etc. This insight may help to further think about deadweight and attribution, since it provides insight into how the physical activity guideline data can be broken down into parts, and for each part which activities are dependent on the costs in the SROI model, which partially, and which not at all.

⁴¹ Social Return on Investment of Sport and Physical Activity in England (Sheffield Hallam University, 2019).

Municipal expenditure and sport and physical activity (research-based approach)

With a policy lens on, it is interesting to know whether, in particular, municipal sport and physical activity expenditure matters in the SROI. The link between municipal expenses and sport and physical activity behavior has been modeled in various ways. In the earlier SROI study we already paid attention to Hoekman's research.⁴² Based on regression analyses, whereby several variables were controlled for, this study showed, among other things, that there is a positive relationship between municipal sports expenditure and sports (club) participation of young people and a negative relationship between this expenditure and sports participation of adults. In the latter case, reverse causality may play a role: municipalities may spend more (e.g. deploying community sport coaches) precisely because sports participation is relatively low.

In 2019 the Netherlands Institute for Social Research (*SCP*) and the RIVM presented an explanatory model for sports participation.⁴³ This shows that local sports policy has only limited explanatory value. The environment, socio-economic characteristics, motives and interpersonal characteristics have much more influence on sports participation. Something that Hoekman also observes in his research.

The *Monitor Sportuitgaven Gemeenten 2020* (Mulier Institute, 2021) further elaborates on this subject. For this monitor, several regression analyses were conducted to investigate the relationship between municipal sports expenditure on the one hand and weekly sports activities or compliance with physical activity guidelines on the other, in some cases controlling for background variables. None of the analyses show a significant relationship, which confirms the results of previous studies.

All mentioned studies analyze connections, but do not say anything about causality. The SCP study explicitly mentions as a limitation the fact that expenditure and sport and physical activity behavior are measured at the same time (cross-sectional data), which excludes statements about causality. Moreover, it should not be forgotten that the analyses were done given the current state. The sports infrastructure in the Netherlands is fairly well developed and the facilities are in a good state in many municipalities (and facilities are usually easy to reach by bicycle or on foot). An important question is what the conclusions from these studies would be in a world where sport facilities would be significantly worse or differences between municipalities would be greater. In any case, based on these studies it cannot be concluded that municipal sports expenditure has little effect.

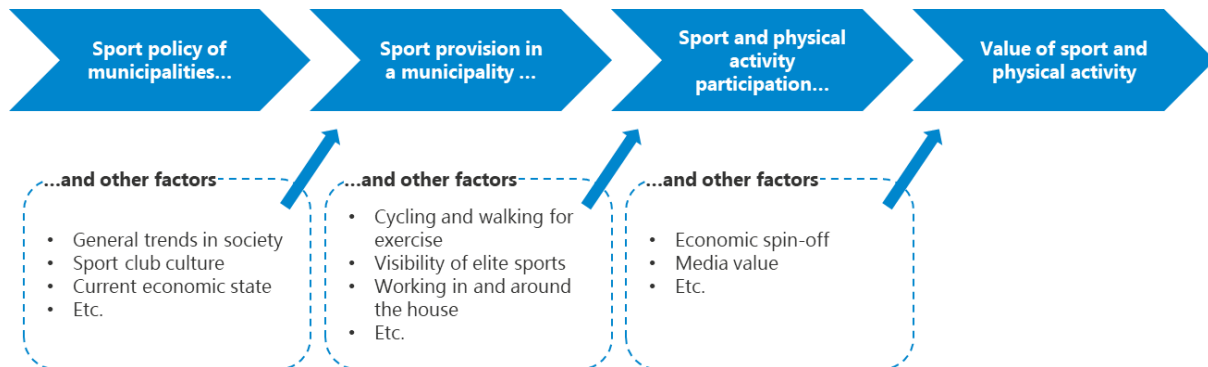
Municipal expenditure and sport and physical activity (economic approach)

Another way of looking at the relationship between municipal spending and benefits from sport and physical activity is from a theoretical-economic point of view: what would the world look like without government policy for sport? Or, in other words: a world where sports are left entirely to the market. This line of thought follows the chain below. From this figure follows a possible relationship between the sports policy of (local) governments on the one hand, and the value that is created because people start to exercise and sport on the other hand. But it also shows that many other (external) factors influence the components of that chain.

⁴² Sport policy, sport facilities and sport participation - A socio-ecological approach (Hoekman, 2018).

⁴³ Opportunities for sporting growth? - An explanatory model for sports participation (SCP, 2019).

Figure 6.1: Causal chain from sport policy to the value of sport and physical activity



By far the largest part of government resources for sports goes to maintaining a basic supply of sports, by paying for sports facilities and operating subsidies for non-commercial sports providers. Of course we do not know what would happen if governments (especially municipalities) stopped pursuing sports policies immediately. Undoubtedly, some impoverishment of the sports infrastructure would occur, because not everything can be absorbed by the market. Sports facilities that are currently managed by municipalities will have to be transferred to other parties or will disappear if the land is given a different purpose (e.g. housing). Swimming pools will have great difficulty staying afloat financially without a governmental contribution. Sports clubs that are – directly or indirectly – subsidized will be forced to raise their (subscription) prices, see some of their members leave and (as a result) possibly collapse. The annual costs for commercial sports are more than three times as high as for sports clubs.⁴⁴ If we add the indirect contribution of municipalities to sports clubs, through the charging of a rent that does not cover the municipal costs, to the contribution prices, the price level of sports clubs becomes comparable to commercial sports.⁴⁵

It is expected that especially young people – as a major customer of sports clubs – and low-income households will suffer from the abolition of local sports policy. The latter group has a smaller buffer and is less able to absorb price increases. In the current situation, they also receive an allowance from some municipalities to play sports for free or at a reduced rate. High-income households will find it easier to switch to commercial sports. Adults are less dependent on the opening of sports facilities (than young people)⁴⁶ and are more likely to switch to unorganized sports (such as cycling and running) and home sports. Overall, the sports sector expects that a decrease in sports participation is inevitable when sports clubs become more expensive.⁴⁷

During the corona measures, we were able to observe what happens when a (temporary) substantial part of the sports infrastructure is inaccessible. In the extreme, because during lockdowns all sports providers (including commercial ones) were affected. At various times during the pandemic there have been forced closures or restrictions on sports venues, affecting the sport and physical activity behavior of citizens. The picture that emerges from various studies is that the corona measures had a limited effect on the amount of sport and physical activity and mainly influenced the way of doing sport and physical activity: more outdoors and more unorganized than before.⁴⁸ A large part of the Dutch

⁴⁴ *Brancherapport Sport 2019* (KPMG, 2019).

⁴⁵ *Brancherapport Sport 2019* (KPMG, 2019).

⁴⁶ *Monitor Sport en Corona IV* (Mulier Instituut, 2021).

⁴⁷ *De prijzen van sport* (Netherlands Sports Council, 2020).

⁴⁸ *Monitor Sport en Corona IV* (Mulier Instituut, 2021). Several studies have been written about the impact of corona on sport and physical activity participation. We will mainly refer to *Monitor Sport and Corona*, because it provides a nice overview.

population has started to practice new or other forms of sports as a result of the corona measures, partly permanently. More people did (and still do) cycling, running, fitness and yoga. Especially during periods of restrictions, the number of members with sports clubs or commercial sports provider decreased and the popularity of sports in a non-organized context increased. After the restrictions were reversed this partly "recovered".⁴⁹

Not all research makes an equally clear distinction between sports on the one hand and physical activity on the other. In a recent modelling study the RIVM examined three policy-relevant scenarios that show a change in the percentage of adults that comply with the physical activity guidelines.⁵⁰ One of the scenarios involves the elimination of sports activities. This scenario is intended to provide insight into the share of sport within 'exercising' as a whole. Based on non-sport activities, in the year 2019 only 37% of adults met the physical activity guidelines (compared to 49% when including sport). This would therefore represent a significant decline. It should be noted, however, that if sport were actually to disappear, this would probably be partly compensated by substituting it with exercise activities.⁵¹ But that there is a direct relationship between sport participation and meeting the physical activity guidelines is clear.

Furthermore, differences could be observed between target groups during the corona measures. Especially the lower educated and the lower income groups started to exercise less. This partially recovered after the measures were relaxed, but not completely. Especially sports participation among the lower educated and the low-income groups improved after measures in the sports sector were reversed, which is an indication that they profited most from it.⁵² In his dissertation De Boer (2022) discusses the effects of COVID-19 on socio-economic differences in exercise behavior in 2020. He concludes that the (already existing) differences in exercise behavior between groups of low and high socio-economic status (SES) increased considerably as a result of the pandemic and the measures taken. This difference was also partly still present in the period in which restrictions were lifted, which indicates a permanent difference and demonstrates the urgency of encouraging exercise in general, but also sports participation, among (especially) people in the low SES groups.⁵³ Precisely in this group health care costs are already relatively high and the quality of life is low, as a result of which a decline in exercise can cause extra damage.

In short, in a general sense we can say something about the relationship between local sports policy, the state of the sports infrastructure and accessibility of sports, the impact on participation in sport and physical activity behavior and ultimately the value that this generates. This does not yet establish a relationship between costs and benefits in the SROI model, but we do present an alternative line of thinking to analyze this relationship, based on a theoretical-economic framework and practical insights. In the hypothetical situation that the (local) sports policy would disappear completely, it is to be expected that, among other things, a reduction of the sports supply would take place, the diversity of sports would decrease, accessibility of sports for especially young and vulnerable people would decrease, more people would register with commercial sports providers and especially adults would start practicing more individual forms of sport and physical activity.

⁴⁹ *Monitor Sport en Corona IV* (Mulier Institute, 2021).

⁵⁰ *Impact van scenario's voor sport en bewegen op gezondheid en zorgkosten* (RIVM, 2022).

⁵¹ During the corona pandemic, for example, people started doing more DIY and gardening. But the question is whether this is related to restrictions that applied to the sports sector at the time, or to other measures (which made people more housebound).

⁵² *Monitor Sport and Corona IV* (Mulier Institute, 2021).

⁵³ *Sport as a medicine for health and health inequalities* (W. de Boer, 2022).

For the SROI this would mean that (i) there is a shift of costs – less public funding in sports, more spending by citizens on commercial sports and sports equipment, (ii) the sport and physical activity participation rate decreases among specific target groups, and (iii) the social side of sport and physical activity decreases in size, due to a shift from organized sports to more individual sports. Overall, the effect of these three effects on the SROI appears to be negative.

Appendix 1: consulted persons

For this SROI update, we have spoken to or received feedback from the following experts:

- Andries Kuipers (CBS)
- Hugo van der Poel (Mulier Institute)
- Niels Peters (BCI Global)
- Wanda Wendel-Vos (RIVM)
- Wimar Bolhuis (Ecorys)

We also held three meetings with various combinations of municipalities during the study. The participants in these sessions were:

- Corniel Groenen / Mariëlle van Houtum (Den Bosch)
- Dennis Winne (Middelburg)
- Dinie Kolk (Harderwijk)
- Erwin Schipper (Putten)
- Ferdy Nugteren (Noordwijk)
- Hans Slender (Groningen)
- Ivo Reuvers (Heerlen)
- Jur Elzinga (Hilversum)
- Lisa Borst (Enschede)
- Mari Rovers (Meierijstad)
- Mark van der Voort (Vlaardingen)
- Mirjam Wallien (Breda)
- René Joustra (Nieuwegein)

Appendix 2: choices for allocation to municipalities

Costs

For some municipalities CBS IV3 data were missing in the 2020 publication. In those cases, we have used the data from 2019.

Apart from the CBS IV3 data on expenditures on sport and physical activity, which are available on a municipal level, the costs in the SROI model are available at a higher geographical level. Therefore calculation rules are needed to allocate them to Dutch municipalities. We use three general allocation keys, which we apply to almost all cost categories:

- A distribution based on the *number of inhabitants* in a municipality compared to the Netherlands.⁵⁴
- A distribution based on the *number of sporting inhabitants* (weekly active in sports) in a municipality compared to the Netherlands.⁵⁵
- A distribution based on the *number of sports club members* (KISS data) in a municipality compared to the Netherlands.⁵⁶

Cost category	Distribution key
Contribution of the Ministry of Health, Welfare and Sport	Number of inhabitants
Sports clubs and federations	Number of sports club members
Commercial sports providers	Number of sporting inhabitants
Swimming pools	Number of inhabitants
Sports equipment	Number of sporting inhabitants
Volunteer work	Number of sports club members

One cost category has been allocated to municipalities in a different way: for physical education we take the number of pupils (regular and special education).

Benefits

For the calculation of the benefits per municipality, we use data from the *Gezondheidsmonitor* 2020. Unfortunately, the 2020 survey lacks data for the Utrecht GGD region (except for the municipality of Utrecht itself). For these municipalities, and for some of the Wadden Islands of which the data are also missing, we use the edits by the RIVM based on the 'SMAP methodology' as an approximation. Using

⁵⁴ Available via CBS Statline

⁵⁵ Available from www.sportenbewegenincijfers.nl

⁵⁶ Available from www.sportenbewegenincijfers.nl

this method, estimates were made for all municipalities at district and neighborhood level on the basis of lifestyle characteristics.⁵⁷ In practice, these estimates prove to be fairly accurate.

The *Gezondheidsmonitor* 2020 does not contain data on the age group up to 18 years. As an approximation we assume that in each municipality (and in the whole of the Netherlands) the percentage of young people that meets the physical activity guidelines is 0.7% lower than the total of the municipality (and the Netherlands). This 0.7% is the average difference that follows from the *Leefstijlmonitor*. We apply this to the *Gezondheidsmonitor* data.

⁵⁷ <https://www.rivm.nl/media/smap/odata.html>

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