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**Do innovation vouchers help SMEs to cross the
bridge towards science?**

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Abstract in English

The Dutch innovation voucher aims to stimulate the interaction between small and medium-sized enterprises (SMEs) and public research institutes. This document provides an estimate of the effectiveness of the innovation voucher instrument, employing the fact that the vouchers were assigned randomly by means of a lottery. The main conclusion is that the innovation voucher instrument does stimulate SMEs to engage in many new assignments with public research institutes. Out of every ten vouchers, eight are used for a project that would not have been assigned without such a voucher, one is used for a project that would have been assigned anyhow, and one voucher is not used. An overall assessment of the innovation voucher also needs to take into account the value added of the additional assignments, however. No insights have yet been obtained here.

Key words: policy evaluation, innovation, social experiment

JEL code: O38, C93

Abstract in Dutch

De innovatievoucher is een in 2004 geïntroduceerd beleidsinstrument om ondernemers in het Midden- en Kleinbedrijf (MKB-ers) meer in contact te brengen met kennisinstellingen zoals universiteiten, hogescholen en TNO. Dit document meet de effectiviteit (output) van dit beleidsinstrument en maakt daarbij gebruik van het feit dat de vouchers door middel van loting zijn toegekend. De centrale conclusie is dat de innovatievoucher MKB-ers aanzet tot veel extra opdrachten aan kennisinstellingen. Van elke tien beschikbaar gestelde innovatievouchers worden er acht gebruikt voor opdrachten die zonder voucher niet verleend zouden zijn, wordt er één gebruikt voor een opdracht die zonder voucher ook verleend zou zijn, en wordt één voucher niet gebruikt. Voor een totaalbeeld van het voucherprogramma dient echter ook de toegevoegde waarde van contacten met een kennisinstelling voor de MKB-er en voor de maatschappij als geheel (outcome van het beleidsinstrument) in ogenschouw te worden genomen. Hiervoor is op dit moment nog onvoldoende informatie beschikbaar.

Steekwoorden: beleidsevaluatie, innovatie, gecontroleerd experiment.

Een Nederlandstalige versie van dit rapport is verschenen als 'De effectiviteit van de innovatievoucher 2004', CPB Document 95, 2005. Dit rapport is, evenals een uitgebreide Nederlandse samenvatting, beschikbaar via www.cpb.nl.

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Summary

The 2004 Dutch innovation voucher aims to increase the interaction between small and medium-sized enterprises (SMEs) and public knowledge institutes, e.g. universities and technology transfer institutes. The value of the voucher is 7.500 euro.

To what extent is the innovation voucher an effective policy instrument? We measure 'interaction' as the number of assignments SMEs commission to public knowledge institutes. Effectiveness is the difference in the number of assignments commissioned by SMEs with and without voucher. Since the innovation vouchers have been allocated at random - 1044 SMEs applied for 100 vouchers -, this difference is likely to be a causal effect of the voucher rather than a correlation that is explained in other ways. Arguments other than the voucher can not explain any differences, because they hold for both SMEs with and without voucher. Indeed, SMEs with and without voucher turn out not to differ considerably on various observable firm characteristics.

The main conclusion of the study is that the innovation voucher stimulates SMEs to engage in many additional assignments with public knowledge institutes. Out of every ten vouchers, eight are used for a project that would not have been assigned without such a voucher, one is used for a project that would have been assigned anyhow, and one voucher is not used. There is some evidence that a few of the additional assignments are actually assignments that would have been commissioned somewhere in the future, but that have been ordered earlier because of the voucher.

An overall assessment of the innovation voucher policy instrument also needs evidence about the value-added of more science-industry interaction. Follow-up assignments (paid for in full privately) and increased innovation capacities are two sorts of signals for value-added. These signals could be observed within a year or two. Another way to secure some value-added is to require SMEs to match the voucher with private funds. In such a case SMEs will only apply for an innovation voucher if they expect some value-added.

The set-up of the innovation voucher policy program, in particular the lottery that allocates the vouchers at random, offers a good starting point to assess the causal impact of the policy instrument. Knowledge of the causal effects of knowledge policy is relatively scarce. Similar assessments of the 2005 rounds of the innovation voucher program could further enhance this knowledge.

1 Introduction

Does innovation policy indeed promote innovation? At the moment not much is known about the effectiveness of current Dutch innovation policy (IBO Technologiebeleid, 2002). This is an obstacle to political debate and the discussion concerning appropriate policy instruments. After all, the ambition to enhance the innovative strength of an economy is not very productive if it is not clear which instruments bring that goal closer and which do not.

The main reason why so little is known about the effectiveness of innovation policy is that it is difficult to determine whether innovation policy leads to additional innovation activities or whether firms that are already innovating more will also make more use of innovation policy. Or to put it another way, we do not know to what extent a positive correlation between innovation policy and innovation is actually causal or merely apparent (Cornet and Webbink, 2004; David et al., 2004). In the first case, innovation policy is effective; in the second, it is not, because private investments are substituted by public investments.

It is possible to assess the effectiveness of the innovation voucher – an instrument of Dutch innovation policy introduced in 2004 – because the vouchers are allocated randomly by means of a lottery among applicant firms. Because of the random allocation, any difference in innovative behaviour between firms with a voucher and firms without a voucher is purely the causal effect of the voucher and not a correlation that can be explained by other factors. After all, because of the random allocation of the vouchers these other factors will apply as much to firms with a voucher as to firms without a voucher. Hence these factors cannot explain the difference in innovative behaviour.

The main objective of the innovation voucher is to introduce small and medium-sized enterprises (SMEs) to public and semi-public research institutions such as universities, polytechnics and the Netherlands Organisation for Applied Scientific Research TNO. The voucher is a credit note worth EUR 7,500, to be spent at such a research institution. It is intended to address a perceived deficit in interaction between commercial firms and research institutions.

This report seeks to contribute to the evidence of the effectiveness of innovation policy by examining the effects of the 100 innovation vouchers allocated randomly among 1,044 applicant SMEs in September 2004. These 100 vouchers constituted the first round of an innovation voucher pilot with which the Ministry of Economic Affairs wants to gain experience with this innovation policy instrument. Some 400 vouchers were distributed in a second allocation round in March 2005, and a third round is planned for the autumn of 2005.

The central research question in this study is whether SMEs with a voucher commission more assignments from research institutions than SMEs without a voucher. The main objective of the policy instrument is thus concretised as promoting the commissioning of research assignments by SMEs from research institutions. The study also looks at the effect of the voucher on the value of assignments, and the effect of the voucher on the timing of assignments.

An overall assessment of the voucher instrument requires evidence not only of its effectiveness (also called the “output”), but also of the added value of additional contacts for the SMEs involved and for society as a whole (also called the “outcome”). This issue of added value is not central to this study, but when any indications of the creation of added value or otherwise can be demonstrated, they will be reported.

The structure of the document is as follows. Chapter 2 formulates the research question. Chapter 3 discusses the reasons for and the objective and design of the innovation voucher. Chapter 4 presents the research data, which are analysed in chapter 5. Chapter 6 offers a number of conclusions.

2 Research question

2.1 The central research question

The aim of this study is to measure the effectiveness of the voucher instrument against its main objective of “introducing small and medium-sized enterprises to public research institutions” (Ministry of Economic Affairs, 2004a). In this study this “introducing” is concretised as the commissioning of research assignments from public research institutions. Hence the central research question is as follows:

What is the effect of the innovation voucher on the commissioning of assignments by small and medium-sized enterprises from public research institutions?

Specifically, three partial effects are distinguished:

- The effect on the *number* of knowledge transfer projects: does the innovation voucher instrument lead to more assignments by SMEs for public research institutions over a certain period?
- The effect on the *size* of knowledge transfer projects: does the innovation voucher instrument lead to larger assignments by SMEs for public research institutions?
- The effect on the *timing* of knowledge transfer projects: does the innovation voucher instrument lead to already planned assignments for public research institutions being brought forward?

The effect on the timing of assignments may counter the voucher’s two positive additionality aspects, namely the effects on the number and value of assignments. It is possible that the innovation vouchers lead to more assignments in the voucher period, but that some of these assignments were already planned and that the allocation of an innovation voucher merely brings them forward in time. The effect on the number of assignments in the voucher period will then overestimate the actual additionality provided by the voucher instrument.

2.2 What lies beyond the scope of this study

Each research question sets demarcations. It is not possible to answer all relevant or interesting questions. And those answers that can be given invariably need to be qualified in some way. This study is no exception. This section discusses six limits to the central research question.

Firstly, this study does not comment on the *long-term effect* of the innovation vouchers on the number and value of assignments commissioned by SMEs from public research institutions. The introduction of the innovation voucher instrument has been too recent for that. A follow-up

analysis (for instance in one or two years' time) among both firms with a voucher and firms without a voucher will have to show whether the identified effects have been sustained. That is to say, whether the allocation of an innovation voucher has had a lasting effect in the interaction between SMEs and public research institutions. We would like to stress that an understanding of these longer-term effects is necessary to decide whether the voucher instrument as a whole has been a success.

Secondly, this study does not comment on the specific effects of the innovation voucher instrument on the behaviour of SMEs on the one hand and public research institutions on the other. The identified effects are the result of any behavioural changes in SMEs and/or public research institutions. In that sense what happens among SMEs and research institutions as a result of the innovation voucher instrument can be characterised as a "black box".¹ Knowledge of the contents of this black box is not necessary for the purposes of this study, however, since its primary goal is to examine rather than to understand the effectiveness of the innovation voucher instrument.

Thirdly, this study does not comment on a possible separate effect of the voucher instrument on the behaviour of firms which do not receive a voucher, what has been called the "John Henry effect" (see e.g. Krueger, 1999). The idea is that the innovation voucher instrument makes "voucher losers" aware of the opportunities and advantages of placing research problems with public research institutions.² For that reason participation in the voucher allocation round may in itself induce an SME to commission a research assignment. If this is the case, then the effect of the innovation voucher found in this study will underestimate the actual effect.³

Fourthly, in our view it is inappropriate to generalise a finding on the effectiveness of an instrument on the basis of a limited pilot to a large-scale introduction of that instrument, and this study does not do so. It may not be accidental that some SMEs apply for the limited pilot at the first opportunity, while others do so at a later stage.⁴ The first group of SMEs may already have specific research questions, for instance, and the second may not. The effect of the voucher instrument may therefore differ for the two groups. The upshot is that the effect of the instrument's large-scale introduction may differ from that of the pilot. It is also worth noting that any differences may be small when the differences in scale are small.

¹ An example of a possible effect of the innovation voucher instrument on the behaviour of SMEs is that these firms may develop a more positive attitude towards public research institutions, while the behaviour of public research institutions may be influenced by operating in a more market-oriented way. This study does not address the issue of which problems the innovation vouchers may help to solve among both research providers and research users.

² The formulation of a research problem is not obligatory at the voucher application stage, but the application form does ask which research question the SME would like to have answered.

³ Incidentally, a John Henry effect is difficult to identify in an experimental setting, because it cannot be distinguished from a time-specific effect.

⁴ The technical term for this is "selectivity".

Fifthly, this study does not comment on the eventual outcome of the contacts between SMEs and public research institutions. The knowledge transfer may lead to an improvement in or even the development of new operational processes and/or products. These outcomes of the voucher instrument can only be observed over the longer term, however.

And sixthly, this study does not seek to answer the question how the effectiveness of the innovation voucher instrument relates to that of other instruments deployed in the Netherlands to improve the interaction between commercial firms and research institutions.⁵

2.3 Summary

The central research question is: “what is the effect of the innovation voucher on the commissioning of assignments by small and medium-sized enterprises from public research institutions?” The overall effect is distinguished in terms of the number, the size and the timing of the assignments. At this stage it is not or not yet possible to assess the long-term effects of the innovation voucher, the possible effect on SMEs which have applied for a voucher but are not allocated one, or the effect on the behaviour of SMEs on the one hand and research institutions on the other.

⁵ Canton et al. (2005) present an overview of several policy instruments aimed at promoting the interaction between commercial firms and research institutions, but they conclude that very little is known about the effectiveness of these other policy instruments: “Unfortunately, our understanding on the effectiveness of the various programs and policy initiatives is very limited”.

3 The innovation voucher pilot in 2004

The promotion of knowledge diffusion between public and other research institutions and commercial firms constitutes a major objective of current Dutch innovation policy. But the interaction between science and industry leaves something to be desired from a social perspective. The literature offers several theoretical explanations for this suboptimal interaction. Impeding factors are evident both from the side of commercial firms (the demand side) and from the side of research institutions (the supply side) (see box below). This chapter discusses the reasons for the introduction of the innovation voucher (section 3.1), the objective of the voucher (section 3.2), and the precise design of the instrument (section 3.3).

Problems with the interaction between commercial firms and research institutions

Canton et al. (2005) give an overview of potential barriers to the successful interaction between industry and science. On the side of industry, the main problem tends to be firms' limited capacity to absorb the knowledge available in research institutions. But the capacity to absorb knowledge from outside the firm and eventually to commercialise it can be created through the firm's own research and development efforts and links with the scientific world (see Cohen and Levinthal, 1989). A second barrier relates to the capital market, for instance in the form of a shortage of venture capital. These problems prevent firms from investing in research and development. A third barrier for industry may be that information problems between the owners and managers of firms may give managers insufficient incentives to innovate or adopt new technologies (see Aghion and Howitt, 1998).

Problems on the side of public research institutions, such as universities, flow from the fact that these institutions have different objectives from commercial firms. Three specific barriers can be identified on the side of research institutions in this context. The first problem is the formulation of scientists' research agendas. Research institutions usually do not have much incentive to gear their research agendas to demands from industry; they are more focused on conducting basic and other research that fits in with their own interests ("curiosity-driven") or that enhances the chances of publication in scientific journals (see Cornet and Van de Ven, 2004).^a A second problem is the inclination among scientists towards openness. Scientists are often rewarded by the quantity and quality of their publications, while firms often benefit more from keeping research results secret or shielding them from their competitors (see Dasgupta and David, 1994, who refer to the "norm of disclosure" versus the "norm of secrecy"). A third problem is the lack of an enterprise culture within public research institutions. This is reflected in a poor commercialisation of scientific research results.

^a Number of considerations may legitimate a difference in research specialisations between public research institutions and commercial firms, such as knowledge development for public tasks and differences among technology spheres in terms of the extent of knowledge spillovers (see Rensman, 2004).

Source: Canton et al. (2005).

3.1 Reasons for the innovation voucher

There is a widely held view that knowledge diffusion to small and medium-sized enterprises in particular is inadequate. The government's policy paper *In actie voor Innovatie* (“*In Action for Innovation*”) (Ministry of Economic Affairs, 2003) puts it as follows: “SMEs do not make sufficient use of knowledge that others have to offer, even though the available knowledge could play a major role in developing new products, processes or services”; and “The knowledge exchange between SMEs and research institutions in the Netherlands is not optimal”. Different reasons have been adduced for this (see Innovatieplatform, 2004; Adviesraad voor Wetenschaps- en Technologiebeleid, 2005). They can be summarised as follows:

- Differences in time horizons (with relatively long-term projects at research institutions compared to the relatively quick results required by commercial firms) and in cultures between SMEs and research institutions;
- Poor access to the public knowledge infrastructure: research institutions are not always receptive to research questions from SMEs and/or are not equipped to deal with such questions;
- Information problems: SMEs do not always know where they can get an answer to a particular research question;
- SMEs are not always able to formulate research problems in a way that appeals to research institutions.

In order to promote the knowledge transfer between SMEs and public research institutions, the Innovation Platform in 2004 proposed the introduction of “innovation vouchers”. This innovation voucher is intended as a credit note which SMEs can use to buy technological and other knowledge from or place an application-oriented research problem with a public or semi-public knowledge provider. The innovation voucher scheme was launched by the Ministry of Economic Affairs in September 2004 in the form of a pilot with 100 innovation vouchers.

The idea of an innovation voucher is not new in the Netherlands. In the recent past a number of regional schemes with knowledge vouchers were introduced in the southern provinces.⁶ But these were small-scale initiatives of a temporary nature.

⁶ Examples of such projects include: “research vouchers” in the province of Limburg (1997-1999), “Southern Netherlands knowledge vouchers” (2001-2004), “inter-regional vouchers” (2001-2002), “cross-border knowledge vouchers” (2002-2004) and “Interreg mid-Benelux area innovation vouchers” (2005-2007) (source: www.interregio.nu).

3.2 Objective of the innovation voucher

The primary objective of the introduction of the innovation voucher is to introduce SMEs to knowledge providers (see Ministry of Economic Affairs, 2004a). Secondary objectives are to encourage public knowledge providers to respond more to private knowledge demand, to stimulate direct links between SMEs and research institutions, and to mobilise latent research questions among SMEs.

The objectives of the Innovation Platform in this context are similar to those of the Ministry of Economic Affairs (see Innovatieplatform, 2004):

- To introduce SMEs to knowledge providers (lowering the threshold);
- To make research institutions operate in a more demand-oriented way (managing demand);
- To enable SMEs to purchase research capacity from research institutions in order to answer application-oriented research questions;
- To ensure that SMEs use more of the available knowledge among knowledge providers (bridging the knowledge gap).

3.3 Design of the innovation voucher

3.3.1 Outline of the scheme

The innovation voucher is a credit note with which an SME can commission a research question from a public research institution. The voucher has a maximum value of EUR 7,500 and cannot be cashed in. The research questions should be application-oriented, in the sense that the SME should be able to use the knowledge to improve its products or operational processes. Examples mentioned in the subsidy scheme document are solving a minor technological problem or setting out the possible solutions for a complex technological problem. (See appendix A for the full text in Dutch of the subsidy scheme document, “Subsidieregeling pilot innovatievouchers 2004”, as published in the *Staatscourant*, the government gazette.)

The procedure for the innovation voucher scheme is as follows. An SME submits an application for an innovation voucher with SenterNovem, an agency of the Ministry of Economic Affairs. (See appendix B for the innovation voucher application form, in Dutch.) In principle the innovation vouchers are allocated on a “first come, first serve” basis, subject to the condition that if the number of applications received on a single day exceeds the number of available vouchers, then the vouchers are allocated randomly to that day’s applicants by means of a lottery (conducted by a civil-law notary). (See appendix B for the guidelines on the allocation of the vouchers, “Beleidsregel verstrekking innovatievouchers 2004”, in Dutch.) When an SME has been allocated an innovation voucher, it formulates a research question and commissions a public research institution to find an answer to the question. At the same time the SME hands

the innovation voucher over to the research institution, which on completion of the assignment claims the voucher up to a maximum of EUR 7,500 per assignment. If answering the research question costs more than EUR 7,500, then the SME has to pay the research institution the difference from its own funds.

3.3.2 Specific features of the scheme

The innovation voucher instrument contains several specific features which may be relevant to this analysis.

Characteristics of the voucher applicants

Only SMEs can apply for innovation vouchers, and each firm can only apply for one voucher. But it is possible to bundle vouchers, in the sense that several firms which have been allocated vouchers can jointly put a question to a research institution. Up to 10 vouchers can be bundled. The vouchers are not transferable. An SME applying for an innovation voucher may not have received more than EUR 100,000 in government subsidies over a three-year period.

Characteristics of the research institutions

Innovation vouchers can only be placed with a defined group of public and semi-public research institutions, which are listed in the subsidy scheme document. The eligible research institutions include universities and polytechnics as well as Leading Technological Institutes (TTIs) and intermediary research institutions such as the Netherlands Organisation for Applied Scientific Research TNO.

Characteristics of the voucher project

The research question formulated by the SME must be application-oriented, so that the firm can use the knowledge to improve its products or operational processes. This implies that the innovation vouchers cannot be used for ongoing projects at the research institution in question, since in such cases it has already undertaken commitments concerning the research question.

Phasing of the scheme

At the outset a series of deadlines was attached to participation in the scheme and use of the voucher.⁷ The scheme took effect two days after the official announcement in the *Staatscourant* of 15 September 2004. Successful SME applicants had to formulate a research question, select a research institution and commission the assignment by 31 December 2004. The research institutions had to complete the assignment by 29 April 2005.

⁷ The idea being that innovation vouchers should not be left lying around for too long and that the research institutions should work relatively quickly (see Ministry of Economic Affairs, 2004a).

Table 3.1 shows the phasing of the scheme in detail. The first phase covers the period before the scheme was even established, while the fifth and final phase covers the period after the first pilot round.⁸ The table also shows when SMEs with a voucher (“voucher winners”) and SMEs without a voucher (“voucher losers”) were surveyed.

Table 3.1 Phasing of the innovation voucher scheme

Period	Date	Events
1: Before 2004		No innovation voucher instrument
2: 1 Jan 04 - 30 Sep 04	30 June	Final proposal by Innovation Platform for innovation vouchers for SMEs
	15 September	Official publication of scheme in the <i>Staatscourant</i> (first pilot round, 100 vouchers)
	17 September	Opening date for innovation voucher applications; 1,044 applications, budget exhausted on first day
	29 September	Announcement of 100 voucher winners in first pilot (after lottery)
3: 1 Oct 04 - 31 Dec 04	whole period	Formulation of research question, selection of research institution, preparation of assignment
	Nov-Dec	Telephone survey among voucher winners in first pilot round
	mid December	Announcement of second pilot round in 2005
	31 December	Deadline for voucher winners to commission assignments from research institutions ^a
4: 1 Jan 05 - 30 Apr 05	whole period	Execution of assignment, voucher value to be claimed by research institution at SenterNovem
	3 March	Official publication of second pilot round in 2005 in the <i>Staatscourant</i> (400 vouchers)
	15 March	Opening date for innovation voucher applications in 2005 (second round); 1,700 applications, budget again exhausted on first day ^b
	mid April	Announcement of 400 vouchers winners in second pilot (after lottery)
	29 April	Deadline for research institutions to claim the subsidies for the 2004 pilot ^a
5: After 1 May 05	May-June	Telephone survey among voucher winners and losers in first pilot round
	31 October	Deadline for research institutions to claim the subsidies for the 2005 pilot

^a During the first pilot round in 2004 SenterNovem allowed some flexibility on the deadlines, specifically with regard to assignment placement by SMEs and subsidy applications by research institutions.

^b Winners from the first round in 2004 were not allowed to participate in the second round. Losers from the first round in 2004 were allowed to apply for another voucher, but they had no greater chance of winning than new applicants.

Sources: Ministry of Economic Affairs (2004a), SenterNovem (www.senternovem.nl)

Other features

When designing the innovation voucher instrument, the Ministry of Economic Affairs decided to apply relatively few restrictions with regard to either the applicants or the activities for which the vouchers could be used. In principle SMEs from all industries can apply for a voucher, although for external legal reasons several industries have been excluded from participation.⁹ Furthermore, there are no obligations to spend the voucher in certain technological areas, and

⁸ These period divisions were also used for the survey conducted among both voucher winners and voucher losers.

⁹ See appendix B, “Beleidsregels innovatievouchers 2004”, notes to section 1.

there are no restrictions on the type or level of the research question placed with the public research institution. The reasoning behind this approach is that it offers a good insight during the pilot phase into the kind of research issues that concern SMEs. Another benefit is that it reduces the management costs for the executive agency (in this case, SenterNovem), because there is no need to assess the substance of the applications. However, a possible disadvantage of the absence of such an assessment is that the social value of the projects is not taken into account as an allocation criterion.

The innovation voucher scheme does not make any demands on SMEs to put up funds of their own. No matching is required, in other words. As long as answering the research question does not cost more than EUR 7,500, the project will be subsidised in full. It is of course possible to commission a research question that will cost more than the maximum voucher value of EUR 7,500 to answer. In that case the costs above this amount will have to be borne by the SME in question.

When making the application the SME is not required to provide any details of the research question it wishes to raise, nor about the research institution where it wants to place the research question. There is no obligation to submit a project plan. This keeps down the administrative burden of the innovation voucher instrument for SMEs.¹⁰

The Netherlands's three technological universities – the Delft University of Technology, Eindhoven University of Technology and University of Twente – announced that they would double the voucher amount. This meant that SMEs which placed their innovation vouchers with these institutions would receive a discount of EUR 15,000 on the costs of answering the research question.

Second round of the innovation voucher pilot

The second round of the innovation voucher pilot in 2005 had several different features (Ministry of Economic Affairs, 2005b). The box below highlights the differences with the first round. The box also mentions some proposals for further changes to the instrument. However, it should be borne in mind that this study relates solely to the first voucher round in 2004.

¹⁰ In addition to reading and completing a short application form, the SME is required at the end of the project to make a declaration to the effect that the knowledge transfer project has been completed to its satisfaction. The administrative burden of the innovation voucher for SMEs has been estimated at 30 minutes' work (see Ministry of Economic Affairs, 2004b).

The second round of the innovation voucher pilot in 2005 and beyond

A second round of the innovation voucher pilot was launched in March 2005. This round was broadly similar to the first. The scheme's formal primary objective, namely to introduce SMEs to research institutions, remains the same. The second pilot round also relied on a random allocation by means of a lottery if the number of applications received on a single day exceeded the number of available vouchers. This means that the second round is also suitable for an evaluation as undertaken in this study, namely on the basis of a comparison between voucher winners and voucher losers. However, the second pilot round differed from the first in several respects:

- *Number of available vouchers:* 400 innovation vouchers were available in the second round, compared to 100 in the first; the total subsidy outlay for the second round was therefore EUR 3 million, compared to EUR 750,000 for the first;
- *List of permitted research institutions:* in the second round SMEs were also allowed to place their innovation vouchers with several private research institutions; those eligible were private companies with large research and development departments (i.e. with budgets in excess of EUR 60 million in 2003) whose main concern was not to exploit knowledge commercially;
- *Definition of research question:* in the second round a voucher could not be used for the supply of goods (such as software) or to provide a training course;
- *Bundling of assignments:* in the second round 100 of the 400 innovation vouchers were set aside for SMEs which wanted to bundle their vouchers in order to have a particular research question answered; up to 10 vouchers could be bundled for a single knowledge transfer project.

In the meantime several proposals have also been put forward for further changes to the innovation voucher scheme (compared to the second pilot round). In a review of its policy instruments the Ministry of Economic Affairs observed that it is reasonable to expect SMEs to contribute to the costs of a knowledge transfer project, since they enjoy most of the benefits (see Ministry of Economic Affairs, 2005a). Furthermore, both the Science and Technology Policy Advisory Council (AWT) and the Innovation Platform (IP) have called for a broadening of the instrument. In their view innovation should be used not only to buy knowledge, but also to obtain specialist technical and commercial advice, for instance from private engineering and management consultancies (see AWT, 2005). And finally, the AWT has also suggested that access to the innovation vouchers should be restricted to those SMEs which do not obtain subsidies under the Research and Development Labor Tax Credit (WBSO).^a The AWT argues that this will ensure that more vouchers will end up with the "appliers" among the SMEs, which generally do not carry out their own research and development work, and fewer with those pioneering SMEs which do engage in R&D (see AWT, 2005). The Ministry of Economic Affairs has announced its intention to raise to 600 the number of available vouchers in the third round in the autumn of 2005 (see Ministry of Economic Affairs, 2005a).

^a Under the WBSO, firms can obtain reductions in the payroll tax and national insurance contributions due on research and development work. The higher the outlays on R&D, the higher the discount.

3.4 Summary

The innovation voucher is a recently introduced policy instrument whose primary objective is to introduce small and medium-sized enterprises (SMEs) to public and semi-public research institutions such as universities, polytechnics and the Netherlands Organisation for Applied Scientific Research TNO. The motivation is the perception that the knowledge diffusion from research institutions to SMEs is not effective in the Netherlands, even though it is precisely this knowledge which plays a major role in developing new products or services or improving operational processes.

The innovation voucher is a credit note worth EUR 7,500, to be spent with a defined list of public and semi-public research institutions. Relatively few restrictions apply to the scheme. Any SME can submit an application for a voucher and there is no need to submit a project proposal. The costs of the research assignment are subsidised by the government up to EUR 7,500; any costs above this amount will have to be borne by the SME in question.

In the first pilot round in September 2004, 100 innovation vouchers were available. Because of the considerable interest in the scheme, these were allocated randomly by means of a lottery. To use the allocated voucher, the SMEs had to commission a research assignment by 31 December 2004 and the research institution had to complete this assignment by 29 April 2005.

4 Data

In order to determine the effectiveness of the innovation voucher, we gathered information on the research assignments of those firms which participated in the voucher round in 2004. Some of this information was obtained from the application form, and some from a specially prepared survey, which was conducted by telephone among a sample of both firms which were allocated a voucher (“voucher winners”) and firms which were not allocated a voucher (“voucher losers”).

With this information-gathering arrangement, it is possible to distinguish two groups of firms, namely the total group of applicants and the subgroup of survey participants. The application form provides information on a firm’s turnover, size (in terms of staff numbers), industry and region. By contrast, information on research assignments is only known for those firms which participated in the survey. Information obtained from the latter group of firms was used to examine the effectiveness of the innovation voucher.

4.1 Survey structure and interviews

In cooperation with SenterNovem we prepared a questionnaire whose aim was to obtain information on research assignments which SMEs placed with research institutions. The firms were asked to provide information on the timing of the assignment, the value of the assignment and which institution answered the research question; they were also asked to answer several questions aimed at gauging their satisfaction with various aspects of the assignment. In addition to these assignment-specific questions, the firms were asked to respond to several statements about the innovation voucher and they were asked what they would have done if, as applicable, they had or had not been allocated the voucher. (See appendix C for the questionnaire.)

The SMEs were approached by SenterNovem for participation in a telephone interview, having been previously informed of the survey by letter. The interviews were qualitative and semi-structured. That is to say, the interview was conceived as a “good discussion”, with the interviewer distilling the required information during and after the exchanges. The sequence of questions was clearly laid down, but the interviewer did not have to stick to it. This type of interview offers an opportunity to discuss more complex subjects and to make more intensive use of what are called “open” questions.

4.2 Data collection and response

No fewer than 1,044 firms submitted application forms on the first day of applications for the innovation voucher round in 2004. Under the scheme rules, this meant that those firms which submitted their forms on the second day or later could not compete for the 100 available vouchers. The vouchers were allocated by means of a lottery among the 1,044 first-day applicants.

Some 600 firms from this group of 1,044 firms were asked to participate in the telephone interview. The 600 selected firms comprised the 100 voucher winners and a random sample of 500 of the 944 voucher losers. In week 16 of 2005 the 600 firms were asked by letter whether they were willing to participate in the interview, and the interviews were conducted during weeks 18-21 of 2005.

Some 249 of the group of 600 selected firms could not be contacted during the interview period.¹¹ A further 37 firms indicated that they did not want to cooperate on a survey. A first check of the data led to the loss of one respondent, so that 313 usable observations remained for further analysis. This is equivalent to an overall response ratio of 52%. Of the 313 firms which participated in the survey, 71 had been allocated a voucher and 242 had not. This yields a net response ratio of 71% among voucher winners and 48% among voucher losers.

4.3 Data description

4.3.1 Characteristics of firms

Research by the Ministry of Economic Affairs shows that the group of 1,044 innovation voucher applicants reflects a cross-section of SMEs in the Netherlands (see Ministry of Economic Affairs, 2005c). Where comparisons are made with the group of 1,044 applicants below, the relevant information has been obtained from this research by the Ministry of Economic Affairs.

The average turnover of the firms which participated in the interview is EUR 2.7 million. The group of survey participants has a large proportion of smaller firms (with turnovers below EUR 50,000) compared to the total group of 1,044 voucher applicants. The latter has an average turnover of EUR 3.5 million. Within the group of survey participants, voucher losers have an average turnover of EUR 2.6 million, voucher winners EUR 3.1 million. Firms with turnovers between EUR 2.5 million and EUR 5 million are more strongly represented among the winners.

¹¹ Reasons for an interview not taking place might be that no contact could be made with the firm or that the right person within the firm was not available.

In terms of the number of employees, another indicator of company size, there is also a small difference between voucher winners and losers, comparable to the difference in turnover. Winners on average have 19 employees and losers 16, compared to an average of 19.5 employees for the total group of applicants. The difference between losers and winners is largely due to the higher proportion of firms with 0-5 employees among the losers.

The distribution of firms across industries and regions is virtually the same for both groups. Most of both the voucher applicants and survey participants are active in “computing services and information technology”, “wholesale” or “other business services”. In terms of geographical distribution, the Randstad (the conurbation centred on Amsterdam, Rotterdam, The Hague and Utrecht) and the Eindhoven and Arnhem regions are strongly represented in both groups. A breakdown between voucher winners and losers among the survey participants does not yield a significant difference in terms of the industries or regions where these firms are active.

It is unlikely that the difference in size between the firms participating in the survey and the total population of 1,044 voucher applicants reflects a selection effect that may distort the effect estimation. The difference in size is not substantial, and a comparison between survey participants and those firms which refused to take part does not reveal a difference in size.

4.3.2 Contact with research institutions

In total 270 of the 313 firms indicated during the interview that they had had at least some contact with a research institution in the past. “Contact” was defined loosely here, going beyond placing assignments with research institutions. A breakdown shows that 80% of the voucher winners had had contact with a research institution, and 88% of losers. The high proportion of firms which had had contact show an awareness of the existence of research institutions. Even so, 171 of the 313 firms had never commissioned an assignment from a research institution, even though 140 of these 171 (or 82%) said that they had had contact in the past. Thus the problem with knowledge exchange seems to be the step of commercial firms actually placing an assignment with a research institution.

Table 4.1 Reasons why firms have never commissioned an assignment from a research institution

	Percentage (%)
No research question	16
A research question, but ...	
Research institution too expensive	42
Research conducted in-house	16
Other priorities	14
No research institution or contact person known	7
Usually commissioned from private organisations (e.g. engineering consultancy)	2
Other	1
Unknown	2
Total	100

Firms gave various reasons for never having commissioned an assignment from a research institution. The most common reason is that research institutions are considered too expensive (42%). Table 4.1 gives an overview of the reasons why firms have not commissioned assignments.

4.3.3 Total number of assignments

Table 4.2 gives an overview of the number of assignments per firm, with a breakdown between voucher winners and losers. Of the 313 survey participants, 142 said during the interview that they had commissioned one or more assignments or were planning to do so. Of these 142, 66 were voucher winners which had commissioned at least one assignment in the past or were planning to do so in the future, with or without a voucher. A total of 158 assignments were reported during the interviews, with the overwhelming proportion of firms (90%) having commissioned only one assignment.

Table 4.2 Total number of assignments per firm

	Number
Total number of firms	313
Firms with assignment (158 assignments in total, incl. voucher assignments)	142
Firms without assignment	171
Firms with assignment - voucher <i>winners</i> (76 assignments in total)	66
1 assignment	57
2 assignments	8
3 assignments	1
Firms with assignment - voucher <i>losers</i> (82 assignments in total)	76
1 assignment	71
2 assignments	4
3 assignments	1

4.3.4 Satisfaction with assignment

One section of the survey consisted of several questions aimed at gauging the firm's satisfaction with the handling of the research assignment. Respondents answered these questions for 63 of the 158 assignments. The results are shown in table 4.3. However, 96% of these answers were given by firms with a voucher. Their responses will therefore be interpreted as the perceptions of voucher winners. A disadvantage is that this group of firms may give socially desirable responses because they have received a credit note.

With regard to the quality of the people conducting the research, the answering of the research question and the speed with which the research was carried out, a very large majority of voucher winners were satisfied or very satisfied. They were less enamoured of the relationship between price and quality; one-third of firms were not satisfied with this. As mentioned, cost is the main reason why firms decide not to commission assignments from research institutions (see table 4.1).

Apart from the above-mentioned scope for giving socially desirable answers, there are two other factors which have a distorting effect on the responses. First, satisfaction with the price/quality ratio may have been overestimated, because the voucher gives a discount on the cost of an assignment with a research institution. This means that firms do not take account of the actual costs of the assignment, but only of the amount they contribute themselves. (If the assignment cost is equal to the voucher value, the firm does not have to contribute anything at all.) And second, part of the high satisfaction with the speed of the research may be explained by the fact that deadlines were set for the execution of the voucher assignments.

Table 4.3 Satisfaction with assignments (in percent)

	Very dissatisfied	Dissatisfied	Satisfied	Very satisfied	Total
Quality of researcher	0	5	76	19	100
Answer to research question	0	3	91	6	100
Speed of research	0	9	82	10	100
Price/quality ratio	2	30	63	5	100

4.4 Summary

Information on commercial firms commissioning assignments from research institutions was obtained, by means of a telephone survey, from 313 of the 1,044 voucher applicants. These 313 firms were a good cross-section of the 1,044 voucher applicants. An exception was company size, which was slightly smaller for the survey participants compared to the total application population. It is quite likely that this difference is coincidental, and not the result of a selective decision to take part or refuse to take part in the survey. Hence there is no reason to assume that the analysis results based on the 313 surveys do not apply to the population of voucher applicants as a whole.

Of the 313 survey participants, 142 had commissioned one or more assignments from research institutions, yielding a total of 158 reported assignments. Of the 71 voucher winners which took part in the survey, 66 had commissioned a total of 76 assignments (equivalent to 48% of all reported assignments). Most of the firms which had not commissioned any research assignments said that cost had been a serious obstacle. Among the firms which were allocated a voucher, one-third was not satisfied with the relationship between price and quality.

5 Analysis

5.1 Introduction

The innovation vouchers were distributed completely randomly, by means of a lottery, among the 1,044 firms which submitted an application on the first day of the application period. This random allocation of the innovation vouchers ensures that the difference in innovation behaviour between firms with a voucher (“voucher winners”) and firms without a voucher (“voucher losers”) is purely the causal effect of the innovation voucher. We believe that there are no factors, observed or otherwise, except the winning of a voucher which can explain the difference in innovation behaviour between winners and losers.

The structure of the innovation voucher scheme as a lottery thus constitutes a controlled social experiment, with an experimental group (the voucher winners) and a control group (the voucher losers), in which the effect of the “treatment” (i.e. the innovation voucher) is estimated as the difference between the experimental group and the control group (Cornet and Webbink, 2004). This method for investigating the introduction of a policy instrument is comparable to a medical experiment in which the patients are also randomly allocated to an experimental group (with treatment) or a control group (without treatment, i.e. with placebo).

The survey discussed in the previous chapter offers two types of information about the behaviour of firms concerning research assignments. It is possible to distinguish between actual assignment commissioning (actual behaviour) and reported opinions (hypothetical behaviour). The information on actual assignment commissioning is compiled on the basis of reported assignments, and generally offers greater certainty for effect estimation than reported opinions. These opinions are responses to statements about a hypothetical situation, which may differ from the actual behaviour in that situation. Both information sources are used complementarily to provide answers to the three research questions, namely the effect on the number of assignments, the effect on the value of assignments, and the effect on the timing of assignments.

5.2 Analysis on the basis of actual assignment commissioning

5.2.1 Effect on the number of assignments

On the basis of the reported assignments it is possible to investigate the effect of the innovation voucher on the commissioning of assignments (i.e. the probability of commissioning). The innovation voucher is expected to have a positive effect on the number of assignments, since the voucher subsidises the costs of the research assignment. The main investment required by the firm is to originate and place the assignment.

Table 5.1 shows that of the 71 voucher winners, 62 commissioned an assignment during the voucher period. This means that in the end nine winners did not use the voucher during the designated period. Not using the voucher does not imply any costs for the government, but it does mean that another firm might have benefited more if it had been able to use the voucher.

Table 5.1 Assignment commissioning during voucher period (1 October 2004 - 31 December 2004)

Group	Number of assignments
Total number of firms (313)	82
Voucher winners (71)	62
Voucher losers (242)	20

The calculation of the probability of an assignment can be formalised with the help of an econometric model. The application of such a model also offers an opportunity to correct for any observed heterogeneity, in so far as this exists. Such a model also gives a good indication of the reliability of the estimation of the innovation voucher's effect by flagging up standard errors.

The calculation of the effect of the innovation voucher relies on the linear probability model, within which parameter estimates can easily be interpreted as the contribution to the probability of commissioning an assignment.¹² Because the vouchers are allocated by means of a lottery, there are no theoretical grounds for including control variables. And as section 4.3.1 showed, there are no empirical grounds for doing so either, since the characteristics of voucher winners and losers do not differ in any significant way.

Table 5.2 shows the estimates for the linear probability model on the basis of the above data. The constant indicates that the voucher losers have an 8% probability of commissioning an assignment. This probability translates into the general probability of an SME commissioning a research assignment. The effect estimation indicates that for voucher winners the probability of commissioning an assignment increases by 79 percentage points to 87%. The uncertainty surrounding the effect estimation is very small, which yields a confidence interval of 71-87 percentage points for the effect of the innovation voucher.¹³ An extension of the model by several control variables results in the same effect estimation. What is more, none of these

¹² The use of this type of model to explain a binary decision deserves some clarification. The linear probability model will yield a pure estimate of the effect, but not an efficient one, which reduces the reliability of the estimation. If the effect estimation is clearly significant, this does not matter greatly. However, an alternative model is a binary reaction model, with the logit and probit model the most appropriate. This model offers both a pure and an efficient estimate of the effect of the innovation voucher. But a disadvantage of this model is that parameter interpretation is not obvious.

¹³ Because of the use of the linear probability model with only one indicator for the voucher winner, these estimates are the same as the theoretical deductions of the probability of an assignment.

control variables has a significant impact. This supports the earlier conclusion that there are neither theoretical nor empirical grounds for including control variables.

Table 5.2 Effect estimation in the linear probability model

	Estimate	Standard error	P-value
Constant	0.08	0.02	0.00
Effect of the innovation voucher	0.79	0.04	0.00
R ²	0.57		
N	313		

These findings suggest that during the voucher period there is a 90% chance that a voucher winner will commission an assignment. Or to put it another way, nine out of ten vouchers are used and one is not. But about one in ten firms would have commissioned an assignment anyway even if they had not been allocated a voucher. (This is the probability that voucher losers will commission an assignment.) This means that one out of nine vouchers are used for assignments that would have been commissioned anyway. Thus the additionality of the innovation voucher comes out at eight out of ten.

As mentioned, however, the rules of the voucher scheme were not strictly enforced. For instance, some assignment commissions were accepted after the deadline (31 December 2004). In fact, three assignments were commissioned after this date. But an extension of the period for assignment commissioning (to 29 May 2005) in the analysis yields the same additionality estimate of eight out of ten.

5.2.2 Effect on the value of assignments

Table 5.3 gives an overview of the value of assignments commissioned from research institutions by voucher winners and losers during the “voucher period” (i.e. 1 October 2004 - 31 December 2004). A striking feature is that the voucher winners in particular mention the value of the assignments. Among the winners, the values of 62 of the 64 assignments are known; among the losers, this applies to only one of the 20 assignments. It seems that firms have more information at hand about the value of voucher assignments than the value of non-voucher assignments, or they are more willing to report on this in the interview.

Table 5.3 shows that most of the voucher winners (72%) commissioned an assignment equal to the voucher value of EUR 7,500. Hence a large proportion of the voucher winners did not use any own funds to have the research question answered. Furthermore, five winners commissioned assignments costing EUR 15,000. Three of these five assignments were placed with technical universities, which had announced that they would double the voucher amount. So in these cases the firms also used only the voucher and did not use any own funds. This

means that 76% of the voucher assignments did not involve a direct contribution from the SME in question. Research by the Ministry of Economic Affairs based on the voucher claims gives a similar result with regard to the SMEs' contributions to the assignments (see Ministry of Economic Affairs, 2005c).

Table 5.3 Value of assignments during voucher period (1 October 2004 - 31 December 2004)

	Voucher winner	Voucher loser
Number of assignments	62	20
Assignments where value is indicated	61	1
EUR 0	2	
EUR 7,500	44	1
EUR 8,500	1	
EUR 10,000	2	
EUR 12,000	1	
EUR 12,500	3	
EUR 15,000	5 ^a	
EUR 20,000	2	
EUR 40,000	1	

^a 2 x TU Eindhoven, 1 x TU Delft, 2 x TNO.

The effect of the innovation voucher on the value of assignments cannot be demonstrated quantitatively, however, because of the paucity of information available on the value of assignments commissioned by voucher losers in particular.

5.2.3 Effect on the timing of assignments

In response to the introduction of the innovation voucher scheme, firms may have changed the timing of their research assignments. Assignments may have been delayed or brought forward in order to take advantage of the voucher option. Such shifts may distort the effect estimation.

The commissioning activity during the various periods can be used to determine the effect on timing. However, the number of assignments known to have been commissioned during other periods is limited. This makes a strong timing effect less plausible, because there were hardly any assignments that could be moved over time. Moreover, it became apparent during the interviews that interviewees had difficulty remembering when assignments were commissioned and executed, especially in the case of assignments executed in the past.

Table 5.4 shows the available information on assignment commissioning outside the voucher period. At first glance it is not possible to distill a time effect from this table. Moreover, not enough information was obtained to conduct a quantitative analysis of this effect.

Table 5.4 Assignment commissioning per period

	Period				
	1	2	3 ^a	4	5
	Before 1 Jan 2004	1 Jan 2004 - 30 Sep 2004	1 Oct 2004 - 31 Dec 2004	1 Jan 2005 - 30 Apr 2005	After 1 May 2005
Numbers					
Participants commissioning an assignment <i>during period</i>	23	12	82	22	15
Winners	4	3	62	3	4
Losers	19	9	20	19	11
Participants commissioning an assignment <i>per month during period</i>	.	1	27	6	.
Winners	.	0.3	21	0.8	.
Losers	.	1	7	5	.
Percentages					
Participants commissioning an assignment <i>during period</i> ^b	7	4	26	7	5
Winners	5	4	87	4	5
Losers	8	4	8	8	5
Participants commissioning assignment <i>per month during period</i> ^c	.	0.4	11	2	.
Winners	.	0.5	29	1.1	.
Losers	.	0.4	2.8	2.0	.

^a Voucher period.

^b Example of percentage calculation for period 2: voucher participants = 23 of 313, winners = 4 of 71, losers = 19 of 242.

^c This indicator is calculated by dividing the number of participants commissioning assignments per month in a particular period by the total number of firms. Example of percentage calculation for period 2: voucher participants = 1/313, winners = 0.3/71, losers 1/242.

Source : Own calculations based on survey results.

5.3 Analysis with the help of reported opinions

The second source of information is the firms' responses to propositions about their behaviour if they had or had not received the voucher. Table 5.5 shows the frequencies of responses to these propositions for voucher winners and losers. The 19 firms which did not respond to all the propositions were not included in the calculation of these frequencies. With regard to the voucher winners, only those firms were included which commissioned an assignment (87% of the total).

Table 5.5 **Frequencies of responses to propositions about behaviour if the firm had or had not received the voucher**

Assignment commissioned during voucher period	Winners		Losers		Total
	Yes	No	Yes	No	
Number of firms	62	207	20		227
	in %				
Number of assignments					
Yes, one or more additional assignments	3	87	85		86
Yes, one or more fewer assignments	76	1	5		2
No, number of assignments unchanged	21	12	10		12
Value of assignment					
Yes, higher	6	17	40		19
Yes, smaller	13	0	0		0
No, value unchanged	81	83	60		81
Timing of assignment					
Yes, sooner	2	11	5		10
Yes, later	32	1	0		1
No, timing unchanged	66	88	95		89
Other effects^a					
No	82	97	100		97
Yes	18	3	0		3

^a The other effects indicated by voucher winners can be divided into two categories: first, time pressure, in that without the voucher the firm would have taken more time to find a research institutions by gathering more information and quotes; second, quality, in that without the voucher the research would have been less profound.

5.3.1 Effect on number of assignments

Some 76% of voucher winners said that they would have commissioned fewer assignments if they had not received the voucher, and 86% of voucher losers said that they would have commissioned more assignments if they had received the voucher. These estimates of the effect of the voucher on the number of assignments correspond well to the estimate of 79% determined with the help of the actual assignment commissions from the previous section.

An indication of the probability that a firm will commission an assignment regardless of the voucher can be obtained from the number of firms which said that the commissioning of assignments had not been affected by the voucher. Table 5.5 shows that 21% of the winners and 12% of the losers expressed this view. However, in the case of the winners it is important to check whether the assignment would indeed have been commissioned in the voucher period. The probability of assignment commissioning may be overestimated if assignments are included which were planned for another period than the voucher period or which otherwise would not have been commissioned at all.

Table 5.6 breaks down the 13 winners which said that the number of assignments was not affected by the voucher according to their responses to the proposition concerning the timing of assignments. It emerges that only five of these 13 winners would have commissioned the assignment in the voucher period. This means that, for winners, the probability of assignment commissioning regardless of the voucher comes out at 8% (five of the 62 firms with a voucher). The figures of 8% of winners and 12% of losers correspond well with the estimate of 8% obtained with the help of the actual assignment commissions from the previous section.

Table 5.6 Breakdown of responses to timing of the 13 voucher winners (21%) which said that the number of assignments was not affected by the voucher

	Number
Proposition on timing of assignments if the firm had not received the voucher	
Yes, sooner	1
Yes, later	7
No, timing unchanged	5

5.3.2 Effect on value of assignments

Some 81% of firms said that receiving or not receiving the voucher did not affect the value of the assignment. This may be because the value of the assignment was geared to the voucher value. This explanation is in line with the finding that nearly 78% of the assignments had the value of the voucher. Given the large number of firms (both winners and losers) which said that the value of the assignment was not affected by the voucher, there are no indications that the innovation voucher has an effect on the value of assignments.

5.3.3 Effect on timing of assignments

A timing effect may emerge from firms' responses to the proposition whether the timing of assignment commissioning was affected by the voucher. Some 90% of the voucher losers said that the timing of the assignment was not affected by the voucher, while 10% said that it was. Some 32% of the voucher winners said that they would have commissioned the assignment at a later date if they had not received the voucher. It is important to specify this "later" execution of assignments by voucher winners in terms of the actual execution, since otherwise the timing effect may be overestimated. After all, "later" could mean in the near future (specific plan) or at some point in the longer term (general intention). In the latter case it is even possible that the assignment will not be commissioned at all.

The "pure timing effect" is now defined as the concrete assignments which were commissioned at a different time because of the voucher. The concreteness of the assignment can be deduced from the response to the proposition that the number of assignments was not affected by the voucher. As indicated in table 5.7, a breakdown of the 32% of voucher winners which said that the assignment would be executed "later" on the basis of the reporting of the number of

assignments shows that a pure timing effect may be evident for seven firms. This is equivalent to 11% of the voucher winners (7 out of 62 firms). This figure also corresponds well with the 10% of losers, and both percentages thus give an indication of small timing effect.

Table 5.7 Breakdown of responses on timing of the 20 voucher winners (32%) which said that they would have commissioned the assignment later

	Number
Proposition on number of assignments if the firm had not received the voucher	
Yes, one or more additional assignments	0
Yes, one or more fewer assignments	13
No, number of assignments unchanged	7

5.4 Summary

The effectiveness of the innovation voucher is based on two sources of information, the actual assignment commissioning and the responses to a series of propositions. Both sources yield the same results with regard to the additionality of the voucher, which is estimated at eight out of ten. One out of ten vouchers are not used, and the remaining one out of ten vouchers are used for assignments which would have been commissioned anyway. On the basis of responses to propositions, there are no indications that the voucher has an effect on the value of assignments. But these responses do give some indication of a small timing effect, in the sense that a limited number of assignments were brought forward.

6 Conclusions

Main conclusion of the study

The innovation voucher stimulates small and medium-sized enterprises (SMEs) to commission many additional assignments from research institutions. Out of every ten available vouchers, eight are used for assignments which would not have been commissioned without the voucher, one is used for an assignment that would have been commissioned anyway, and one is not used. There is some evidence that a few of the additional assignments are not actually new, but are assignments which would have been commissioned in the future but are brought forward because of the voucher.

However, an overall assessment of the voucher instrument requires not only this main conclusion about its effectiveness (also called the “output”), but also needs evidence of the added value of contacts with research institutions for the SMEs involved and for society as a whole (also called the “outcome”). If it emerges that SMEs decide to commission follow-up assignments and pay for them out of their own funds, or if it emerges that additional assignments enhance firms’ innovation capacities, then it is reasonable to conclude that value has been added. However, it is too early to observe these two indicators. Follow-up research within a year or two is therefore recommended. A certain added value can also be secured by requiring SMEs to match or contribute to the innovation voucher with their own funds. That would encourage SMEs to apply for a voucher only when they have a clear interest in the knowledge exchange (which would bring an efficiency gain).

Five conclusions regarding the evaluation process

The study also offers several conclusions concerning the evaluation element of the policy process.

- Firstly, a policy design that is well-thought-out – in this case owing to the random allocation of innovation vouchers by means of a lottery– offers a good starting point to obtain convincing evidence of the causal link between the policy instrument and its output.
- Secondly, the study shows the importance of detailed data collection both among the firms which benefit from the policy and those which cannot. Without information on the control group of non-users it is very difficult to find convincing evidence of effectiveness. And without clear and specific questions and concepts, the response rates among the surveyed SMEs will be low and the responses will be difficult to interpret.
- Thirdly, the study makes clear that effects which come into play over the longer term can only be observed over the longer term. Thus the question whether the effect of the innovation voucher on SMEs’ commissioning of assignments from research institutions is sustained can

only be investigated by surveying firms with a voucher and those without a voucher again some time from now.

- Fourthly, this study raises the possibility that despite the experimental setting the policy instrument may also affect the innovation behaviour of firms without a voucher. Participation in the voucher allocation round may in itself induce an SME to seek further contacts with a research institution. If this is the case, then the effectiveness of the innovation voucher may be underestimated.
- And finally, the second and third rounds of the innovation voucher pilot offer an opportunity to conduct a similar analysis in order to enhance our knowledge of the effectiveness of this instrument. Not only by way of replication of this study, but also because the design of the instrument has changed slightly since the first round, and analysis will therefore yield information about the effectiveness depending on the precise design.

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Appendix A: Subsidy document innovation voucher 2004

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- EZ

Subsidierегeling pilot innovatievouchers 2004

Regeling van de Minister van Economische Zaken van 5 september 2004, nr. WJZ 4055845, tot verstrekking van subsidies aan kennisinstellingen voor het beantwoorden van kennisvragen van ondernemers (Subsidieregeling pilot innovatievouchers 2004)

De Minister van Economische Zaken, Gelet op artikel 3 van de Kaderwet EZ-subsidies;

Besluit:

§ 1. Algemene bepalingen

Artikel 1

In deze regeling wordt verstaan onder:

- a. minister: de Minister van Economische Zaken;
- b. ondernemer: een natuurlijke persoon of rechtspersoon, niet zijnde een rechtspersoon die krachtens publiekrecht is ingesteld, die een onderneming in stand houdt;
- c. kennisinstelling: een universiteit, hogeschool of onderzoeksinstelling;
- d. universiteit: een onder a of b van de bijlage van de Wet op het hoger onderwijs en wetenschappelijk onderzoek genoemde instelling voor hoger onderwijs;
- e. hogeschool: een onder c, f of g van de Wet op het hoger onderwijs en wetenschappelijk onderzoek genoemde instelling voor hoger onderwijs;
- f. onderzoeksinstelling: een in de bij deze regeling behorende bijlage 1 vermelde instelling;
- g. kennisoverdrachtsproject: een door een kennisinstelling verrichte activiteit, bestaande uit het, al dan niet op basis van te verrichten nader onderzoek, beantwoorden van een toepassingsgerichte kennisvraag van een ondernemer of een aantal ondernemers gezamenlijk, uitgaande van voor de ondernemer nieuwe technologie of technologische kennis met betrekking tot producten, processen of diensten;
- h. innovatievoucher: een door de minister aan een ondernemer afgegeven document, dat deze ondernemer kan inleveren bij een kennisinstelling ten behoeve van de uitvoering van een kennisoverdrachtsproject.

Artikel 2

1. De minister verstrekt op aanvraag een subsidie aan een kennisinstelling die voor eigen rekening en risico een kennisoverdrachtsproject heeft uitgevoerd en in verband daarmee een of meer geldige innovatievouchers overlegt.

2. Geen subsidie wordt verstrekt voor een kennisoverdrachtsproject in verband waarmee de ondernemer en de kennisinstelling reeds voor de afgifte datum van het innovatievoucher verplichtingen jegens elkaar zijn aangegaan.

Artikel 3

De subsidie bedraagt het bedrag van de door de kennisinstelling voor het kennisoverdrachtsproject gemaakte kosten, maar niet meer dan € 7 500 per innovatievoucher en niet meer dan € 75 000 in totaal.

Artikel 4

Het subsidieplafond voor het in 2004 en 2005 verstrekken van subsidies bedraagt € 750 000.

§ 2. Aanvraag en beslissing op de aanvraag

Artikel 5

1. Een aanvraag om subsidie wordt na afloop van het kennisoverdrachtsproject ingediend met gebruikmaking van een formulier, overeenkomstig het model dat is opgenomen in de bij deze regeling behorende bijlage 2.

2. De aanvraag moet uiterlijk op 29 april 2005 zijn ontvangen.

3. De aanvraag gaat vergezeld van:

- a. de innovatievouchers die ten behoeve van de uitvoering van het kennisoverdrachtsproject zijn ingeleverd;
- b. een beschrijving van het kennisoverdrachtsproject; alsmede van andere bescheiden, overeenkomstig hetgeen in het formulier is vermeld.

Artikel 6

De minister geeft een beschikking, inhoudende de subsidievestiging, binnen dertien weken na ontvangst van de aanvraag.

Artikel 7

1. De minister beslist afwijzend op een aanvraag indien de aanvraag niet voldoet aan deze regeling.

2. De minister verdeelt het beschikbare bedrag in de volgorde van ontvangst van de aanvragen, met dien verstande dat indien een aanvrager niet heeft voldaan aan enig wettelijk voorschrift voor het in behandeling nemen van de aanvraag en met toepassing van artikel 4:5 van de Algemene wet bestuursrecht de gelegenheid heeft gehad de aanvraag aan te vullen, de dag waarop de aanvraag voldoet aan de wettelijke voorschriften met betrekking tot de verdeling als datum van ontvangst geldt.

Artikel 8

De minister kan bij de subsidievestiging verplichtingen opleggen met betrekking tot het verlenen van medewerking door de subsidie-ontvanger aan een evaluatie van de toepassing van deze regeling.

§ 3. Overgangs- en slotbepalingen

Artikel 9

Deze regeling treedt in werking met ingang van de tweede dag na de dagtekening van de Staatscourant waarin zij wordt geplaatst.

Artikel 10

Deze regeling wordt aangehaald als: Subsidieregeling pilot innovatievouchers 2004.

Deze regeling zal met de toelichting in de Staatscourant worden geplaatst met uitzondering van bijlage 2, die ter inzage wordt gelegd bij SenterNovem, Juliana van Stolberglaan 3 te Den Haag.

Den Haag, 5 september 2004.
De Minister van Economische Zaken,
L.J. Brinkhorst.

Bijlage 1

Onderzoeksinstellingen als bedoeld in artikel 1, onder f, van deze regeling zijn:

- de Stichting Energieonderzoek Centrum Nederland;
- de Stichting Grondmechanica Delft;
- de Stichting Maritiem Research Instituut Nederland;
- de Stichting Nationaal Lucht- en Ruimtevaart Laboratorium;
- de Stichting Waterloopkundig Laboratorium;
- de Stichting Dienst Landbouwkundig Onderzoek;
- de Stichting Dutch Polymer Institute;
- de Stichting Netherlands Institute for Metals Research;
- de Stichting Top-Instituut Voedselwetenschappen;
- de Stichting Telematica-Instituut;
- de Nederlandse organisatie voor toegepast-natuurwetenschappelijk onderzoek TNO;
- onder de Nederlandse organisatie voor wetenschappelijk onderzoek ressorterende rechtspersoonlijkheid bezittende onderzoekorganisaties die zijn aangewezen in het Reglement NWO 1998;
- de Koninklijke Nederlandse Akademie van Wetenschappen.

Toelichting

Algemeen

Achtergrond en inbedding

Zoals ook in de Innovatiebrief van 2 oktober 2003 (Kamerstukken II 2003–2004, 27406, nr. 4) is aangegeven maakt het midden- en kleinbedrijf (MKB) lang niet genoeg gebruik van kennis die anderen op de plank hebben liggen. Dit terwijl bestaande kennis juist een belangrijke rol kan spelen bij het ontwikkelen van nieuwe producten, processen of diensten. De kennisuitwisseling tussen mkb-ondernemingen en kennisinstellingen verloopt in Nederland niet optimaal.

Het Innovatieplatform heeft daartoe het voorstel gedaan om ter stimulering van kennisoverdracht en -gebruik een innovatievoucher te introduceren. Met deze subsidieregeling en de Beleidsregel verstrekking innovatievouchers 2004 wordt hieraan uitvoering gegeven.

Met de innovatievoucher wordt de ondernemer in staat gesteld op eenvoudige wijze bij een publieke kennisinstelling naar keuze (universiteiten, hogescholen, andere publieke kennisinstellingen, zoals aangegeven in bijlage 1 bij deze regeling) kennis 'in te kopen' en onderzoeksvragen uit te zetten. Innovatievouchers verkorten de time-to-market van kennis. Het hoofddoel van de introductie van innovatievouchers is dan ook dat mkb-ondernemingen kennismaken met kennisaanbieders (drempel verlagen).

De innovatievoucher past in de door het kabinet uitgezette lijn van het dynamiseren van de kennisketen. De voucher draagt bij aan het versterken van de vraagkant, het stimuleren van directe verbindingen en het meer vraaggestuurd laten opereren van de kennisaanbieders.

Pilot

Deze regeling is een pilotregeling. De bedoeling van deze pilot is om op zo kort mogelijke termijn ervaring op te doen met de werking van de innovatievouchers door het inzetten van 100 innovatievouchers met een maximale waarde van € 7 500. Op basis van een evaluatie van de eerste ervaringen met de 100 innovatievouchers die in deze pilot worden ingezet zal besluitvorming over de verdere inzet van het instrument van de innovatievouchers plaatsvinden.

Systematiek

Mkb-ondernemers kunnen bij de Minister van Economische Zaken (p/a SenterNovem) innovatievouchers aanvragen. De ondernemer kan vervolgens een vraag stellen aan een publieke kennisinstelling en daarbij de innovatievoucher inleveren. Deze voucher is ten hoogste € 7 500 waard. De kennisinstelling vraagt vervolgens na de beantwoording van de vraag van de ondernemer (het kennisoverdrachtsproject) en onder inle-

vering van de innovatievouchers bij de minister (p/a SenterNovem) subsidie aan voor de gemaakte kosten die gepaard gaan met de beantwoording van de kennisvraag, tot een maximum van € 7 500 per innovatievoucher.

Deze systematiek is juridisch vertaald door:

1. Een regeling tot verstrekking van subsidies aan kennisinstellingen voor het beantwoorden van kennisvragen van ondernemers die een voucher hebben ingeleverd (deze regeling).

2. Een beleidsregel over de manier waarop de innovatievouchers kunnen worden aangevraagd en verdeeld. De beleidsregel richt zich tot de mkb-ondernemers. (Beleidsregel verstrekking innovatievouchers 2004).

Deze regeling richt zich derhalve op de kennisinstellingen die voor een mkb-ondernemer een kennisoverdrachtsproject hebben uitgevoerd waarvoor een voucher is ingeleverd.

Het gaat er primair om bedrijven die concrete kennisvragen hebben, maar die nog niet eerder aan een kennisinstelling voorlegden, te stimuleren dit nu wel te doen.

Subsidie kan ook worden verkregen voor een project waarbij ondernemers een aantal vouchers hebben 'gebundeld'. Dat wil zeggen dat deze ondernemers gezamenlijk een vraag stellen, waarbij ze de aan hen verstrekte vouchers gezamenlijk inleveren bij een kennisinstelling (zie ook de toelichting op artikel 3). Er worden op dit moment nog geen nadere voorwaarden aan de bundeling gesteld. De pilot dient meer zicht te geven waartoe de gebundelde vouchers worden ingezet en de wijze waarop dit gebeurt.

Innovatievouchers kunnen niet ingezet worden voor al lopende projecten bij de desbetreffende kennisinstelling (zie artikel 2, tweede lid). Er is dan immers geen sprake meer van stimulerende werking van de vouchers.

De kennisinstellingen die op grond van deze pilotregeling subsidie kunnen aanvragen zijn publieke kennisinstellingen. Het zijn met name de publieke kennisaanbieders die niet gewend zijn om marktconform te opereren. De kenniskloof met mkb-ondernemingen is hier over de gehele linie aanwezig.

Deze regeling wordt namens de minister uitgevoerd door SenterNovem.

Artikelsgewijs

Artikel 1

In onderdeel b is een algemene definitie van een ondernemer opgenomen. In de Beleidsregel verstrekking innovatievouchers 2004 wordt nader geregeld welke ondernemers in aanmerking komen voor een innovatievoucher. Dit zijn ondernemers die vallen onder de Europese definitie voor kleine en middelgrote ondernemingen. In verband met de

zogenaamde de minimis-verordening zijn ondernemers in een aantal sectoren (o.m. de vervoersector en de productie, verwerking of verhandeling van landbouw-, visserij- en aquacultuurproducten) uitgezonderd. Zij kunnen dus geen innovatievouchers aanvragen. De kennisinstelling die op grond van deze regeling subsidie aanvraagt behoeft niet te controleren of de ondernemer aan deze vereisten voldoet. Indien de ondernemer een origineel innovatievoucher overlegt dat op zijn naam is gesteld, mag de kennisinstelling ervan uitgaan dat aan de mkb- en de de minimis-vereisten is voldaan.

In verband met de omschrijvingen van de onderdelen g en h, kennisoverdrachtsproject respectievelijk innovatievoucher, verwijs ik in eerste instantie naar het algemeen deel van deze toelichting. Uit de definitie van kennisoverdrachtsproject blijkt dat één ondernemer met één kennisvraag naar een kennisinstelling kan gaan, maar dat ook meer ondernemers hun vouchers kunnen inzetten om een kennisinstelling een gezamenlijke vraag te laten beantwoorden. Het aantal vouchers dat op deze manier kan worden 'gebundeld' is gemaximeerd, doordat op grond van artikel 3 het subsidiebedrag per kennisoverdrachtsproject niet hoger kan zijn dan € 75 000 (zie ook de toelichting op artikel 3). Uit de definitie van innovatievoucher blijkt voorts dat alleen de ondernemer op wiens naam een innovatievoucher is gesteld deze voucher kan inleveren bij een kennisinstelling. De vouchers zijn derhalve niet 'verhandelbaar'.

Het gaat bij een kennisoverdrachtsproject om overdracht van voor de ondernemer nieuwe kennis. Het betreft bestaande technologie of technologische kennis met betrekking tot producten, processen of diensten. De vraag van de ondernemer dient toepassingsgericht te zijn, zodat de ondernemer deze kennis kan aanwenden voor vernieuwing van zijn product of proces. Naar gelang de vraag van de ondernemer wordt deze kennis door de kennisinstelling bewerkt om voor de betreffende ondernemer interessant te worden.

Het kan hierbij gaan om bijvoorbeeld de volgende bewerkingen:
– Het oplossen van een kleine technologische vraag van een ondernemer.
– Het in beeld brengen van de oplossingsmogelijkheden van een ingewikkelde technologische vraag.

Artikel 2

Dit artikel bevat, tezamen met de afwijzingsgrond van artikel 7, eerste lid, de criteria voor het verstrekken van subsidie. Centraal staat, dat het moet gaan om een kennisoverdrachtsproject in de zin van deze regeling. Dit impliceert dat moet worden voldaan aan alle van toepassing zijnde definities van artikel 1 en dat een of meer geldige innovatievou-

chers zijn overgelegd. Met ‘voor eigen rekening en risico’ wordt bedoeld dat de kennisinstelling de kosten voor het kennisoverdrachtproject in eerste instantie – totdat, na afloop van het kennisoverdrachtproject subsidie wordt aangevraagd en verkregen – zelf draagt. Het is niet de bedoeling een subsidie te verstrekken voor een project dat al langs andere weg wordt gefinancierd. Met een geldig innovatievoucher wordt bedoeld een voucher die op naam gesteld is van de ondernemer die het inlevert bij de kennisinstelling en ten behoeve van wie de kennisvraag wordt beantwoord. Voorts is een innovatievoucher slechts geldig als het in de op de voucher aangegeven periode bij een kennisinstelling is ingeleverd. Indien de kennisinstelling bij de aanvraag om subsidie geen geldig innovatievoucher overlegt, wordt deze aanvraag op grond van artikel 7 van deze regeling afgewezen.

In het tweede lid is als afwijzingsgrond opgenomen dat voor het kennisoverdrachtproject nog geen verplichtingen mogen zijn aangegaan. Dit wil zeggen dat met de subsidieregeling niet al lopende contracten kunnen worden gefinancierd. De innovatievouchers zijn uitdrukkelijk bedoeld om een contact tussen ondernemer en kennisinstelling te stimuleren dat er nog niet is (zie ook het algemeen deel van deze toelichting).

Artikel 3

In beginsel worden alle kosten van de kennisinstelling in verband met het beantwoorden van de kennisvraag van de ondernemer vergoed tot een maximum van € 7 500 per ingeleverde innovatievoucher. Wel bepaalt artikel 4:46, derde lid, van de Algemene wet bestuursrecht dat voor kosten die in redelijkheid niet als noodzakelijk kunnen worden beschouwd geen subsidie wordt verstrekt.

Het kan voorkomen dat de beantwoording van een kennisvraag minder of juist meer kosten met zich mee brengt dan € 7 500. In het eerste geval wordt de subsidie lager vastgesteld dan € 7 500. In het tweede geval wordt de subsidie op het maximum van € 7 500 vastgesteld. De resterende kosten zal de ondernemer dan aan de kennisinstelling moeten vergoeden. Eventueel door de ondernemer verschuldigde BTW valt uitdrukkelijk niet onder de kosten die voor subsidie in aanmerking komen. De ondernemer kan deze BTW ook zelf verrekenen. Een rekenvoorbeeld kan het voorgaande verduidelijken.

De afrekening die de kennisinstelling aan de ondernemer stuurt ziet er in het geval dat de totale kosten hoger zijn bijvoorbeeld als volgt uit:

Gewerkte uren:	90 à € 75	€ 6 750
BTW:	19%	€ 1 282,50
Totale kosten:		€ 8 032,50

De kennisinstelling kan, omdat de subsidiabele kosten € 6 750 bedragen, maximaal dit bedrag aan subsidie aanvragen bij de minister. Het bedrag dat hij bij de mkb-ondernemer in rekening zal brengen is dan het bedrag van de BTW van € 1 282,50.

Omdat op grond van deze pilotregeling en de beleidsregel in eerste instantie slechts 100 innovatievouchers te verdelen zijn, bestaat het risico dat één of enkele grote groepen ondernemers het totale aantal beschikbare vouchers zal verbruiken. Dit zou afbreuk doen aan de beoogde stimulerende werking van het systeem. Zie hieromtrent ook het algemeen deel van deze toelichting. Om dit te voorkomen, en de ‘bundeling’ van innovatievouchers aan een bepaald maximum te binden, is bepaald dat voor een kennisoverdrachtproject ten hoogste € 75 000 subsidie wordt verstrekt.

Artikel 4

Omdat op grond van deze regeling na afloop van het kennisoverdrachtproject – dus na de verstrekking van de innovatievouchers en na het beantwoorden van de kennisvraag – subsidie dient te worden aangevraagd zal het in de praktijk vaak pas in 2005 tot subsidieverstrekking komen. Omdat niet uitgesloten kan worden dat een aantal kennisoverdrachtprojecten nog in de herfst van 2004 tot een afronding komt en dus nog in 2004 subsidie wordt aangevraagd, ziet het subsidieplafond voor deze pilotregeling op zowel 2004 als 2005.

Artikel 5

Essentieel voor het welslagen van de pilot is dat innovatievouchers niet te lang ‘op de plank blijven liggen’ en dat de kennisinstellingen hiermee op betrekkelijk korte termijn aan het werk gaan. Alleen op deze wijze kan voldoende ervaring worden opgedaan die noodzakelijk is voor de besluitvorming omtrent de verdere inzet van het instrument van de innovatievouchers. In de Beleidsregel verstrekking innovatievouchers 2004 wordt bepaald dat innovatievouchers nog in 2004 bij een kennisinstelling dienen te worden ingeleverd. De kennisinstellingen kunnen dan vervolgens de hen gestelde vragen beantwoorden om daarna een verzoek om subsidie in te dienen. De aanvraag wordt na afloop van het kennisoverdrachtproject ingediend en betreft dus meteen de vaststelling van de subsidie.

De in het eerste lid bedoelde aanvraagformulieren zijn verkrijgbaar bij Senter-Novem, postbus 93144, 's-Gravenhage of via website www.senter.nl/ innovatievoucher.

Aanvragen kunnen niet per fax of elektronische post worden ingediend.

In het aanvraagformulier wordt vermeld welke bescheiden met het formulier moeten worden meegezonden.

Daaronder zijn in ieder geval de innovatievoucher of de innovatievouchers die ten behoeve van het kennisoverdrachtproject is of zijn ingeleverd. Bij de aanvraag dient de kennisinstelling aan te geven welke prestatie (kennisvraag en antwoord daarop) hij tegen welke kosten voor de mkb-ondernemer heeft geleverd. Ook zal moeten blijken van instemming van de mkb-ondernemer met (het resultaat van) het kennisoverdrachtproject.

Artikel 6

Dit artikel bepaalt de termijn waarbinnen de minister moet hebben besloten op de aanvraag. Als de beschikking niet binnen die termijn kan worden genomen, stelt de minister de aanvrager daarvan in kennis en noemt daarbij een zo kort mogelijke termijn waarbinnen de beschikking wel tegemoet kan worden gezien (artikel 4:14, eerste lid, Awb).

Artikel 7

In dit artikel is bepaald dat de aanvraag wordt afgewezen als niet voldaan is aan de bepalingen van deze regeling. Met name van belang zijn hier de bepalingen van de artikelen 1 en 2. Daarnaast kan ook afwijzend moeten worden beslist op grond van artikel 7 van de Kaderwet EZ-subsidies, indien subsidieverstrekking in strijd zou zijn met ingevolge een verdrag voor de staat geldende verplichtingen.

Het tweede lid geeft een voorschrift over de wijze van verdeling van het subsidieplafond. Die komt neer op ‘wie het eerst komt, het eerst maalt’. Dit betekent dat de minister, beginnend met de eerste aanvraag, subsidies verstrekt totdat het subsidieplafond is bereikt en dat hij aanvragen afwijst voor zover het plafond door het totaal van verleende subsidies zou worden overschreden. Voor deze pilotregeling zal dit hoogstwaarschijnlijk geen problemen opleveren nu het in artikel 4 opgenomen subsidieplafond even hoog is als de totale waarde van de op grond van de Beleidsregel verstrekking innovatievouchers 2004 te verstrekken 100 innovatievouchers. Zekerheids-halve is deze bepaling hier toch opgenomen.

Artikel 8

Deze regeling is een pilotregeling. Het is derhalve van groot belang dat hiervan wordt geleerd. Aan de hand van de gegevens en ervaringen tijdens de pilot zullen beslissingen worden genomen omtrent de toekomst. Daarom is in dit artikel de mogelijkheid opgenomen om bij de subsidievestiging de verplichting op te nemen dat de kennisinstelling meewerkt aan de evaluatie van deze pilotregeling.

De Minister van Economische Zaken, L.J. Brinkhorst.

Appendix B: Guidelines allocation innovation vouchers

- Page 1 (Ministry of Economic Affairs, 2004b)

EZ

Beleidsregel verstrekking innovatievouchers 2004

Beleidsregel van de Minister van Economische Zaken van 5 september 2004, nr. WJZ 4055851, omtrent de uitvoering van de artikelen 1 en 2 van de Subsidieregeling pilot innovatievouchers 2004 (Beleidsregel verstrekking innovatievouchers 2004)

De Minister van Economische Zaken,
Gelet op de artikelen 1 en 2 van de Subsidieregeling pilot innovatievouchers 2004 en artikel 4:81 van de Algemene wet bestuursrecht;

Besluit:

Artikel 1

1. De minister verstrekt op aanvraag een innovatievoucher aan een ondernemer, die een kleine of middelgrote onderneming in stand houdt in de zin van verordening (EG) nr. 70/2001 van de Commissie van de Europese Gemeenschappen van 12 januari 2001 betreffende de toepassing van de artikelen 87 en 88 van het EG-Verdrag op staatssteun voor kleine en middelgrote ondernemingen (PbEG L 10) en die een kennisoverdrachtsproject als bedoeld in de Subsidieregeling pilot innovatievouchers 2004 wil laten uitvoeren.

2. Per ondernemer kan één innovatievoucher worden verstrekt.

3. Geen innovatievoucher wordt verstrekt aan een ondernemer:

- a. die een onderneming in stand houdt als bedoeld in artikel 1, onder a, van verordening (EG) nr. 69/2001 van de Commissie van de Europese Gemeenschappen van 12 januari 2001 betreffende de toepassing van de artikelen 87 en 88 van het EG-verdrag op de de minimis-steun (PbEG L 10);
- b. aan wie door een of meer bestuursorganen in de drie aan de aanvraag voorafgaande jaren reeds € 92 500 of meer aan subsidie is verstrekt zonder goedkeuring van de Commissie van de Europese Gemeenschappen;
- c. die failliet is verklaard, aan wie surséance van betaling is verleend, ten aanzien van wie de schuldsaneringsregeling natuurlijke personen van toepassing is verklaard, of voor wie een verzoek daartoe bij de rechtbank is ingediend.

Artikel 2

De aanvraag wordt ingediend met gebruikmaking van een formulier, overeenkomstig het model dat is opgenomen in de bij deze beleidsregel behorende bijlage en gaat vergezeld van de bescheiden, overeenkomstig hetgeen in het formulier is vermeld.

Artikel 3

1. In 2004 zijn 100 innovatievouchers beschikbaar.
2. Aanvragen dienen uiterlijk 15 december 2004 te zijn ontvangen door SenterNovem.

3. De minister verdeelt de beschikbare innovatievouchers in de volgorde van ontvangst van de aanvragen, met dien verstande dat indien een aanvrager niet heeft voldaan aan enig voorschrift voor het in behandeling nemen van de aanvraag en met toepassing van artikel 4:5 van de Algemene wet bestuursrecht de gelegenheid heeft gehad de aanvraag aan te vullen, de dag waarop de aanvraag voldoet aan de voorschriften met betrekking tot de verdeling als datum van ontvangst geldt.

4. Indien honorering van alle aanvragen die op één dag zijn ontvangen ertoe zou leiden dat het beschikbare aantal van 100 innovatievouchers zou worden overschreden, stelt de minister de onderlinge rangschikking van deze aanvragen vast door middel van loting.

Artikel 4

De minister geeft een beschikking binnen vier weken na ontvangst van de aanvraag.

Artikel 5

Een in 2004 verstrekt innovatievoucher kan alleen in 2004 bij een kennisinstelling worden ingeleverd.

Artikel 6

Deze beleidsregel treedt in werking met ingang van de datum van inwerkingtreding van de Subsidieregeling pilot innovatievouchers 2004.

Artikel 7

Deze beleidsregel wordt aangehaald als: Beleidsregel verstrekking innovatievouchers 2004.

's-Gravenhage, 5 september 2004.

*De Minister van Economische Zaken,
L.J. Brinkhorst.*

Toelichting

Algemeen

In de toelichting bij de Subsidieregeling pilot innovatievouchers 2004 is uitgebreid ingegaan op de achtergrond, inbedding en systematiek van de innovatievouchers. Het gaat daarbij om een systematiek, waarbij kennisinstellingen worden gesubsidieerd die kennisvragen hebben beantwoord van mkb-ondernemers die door de minister aan hen verstrekte innovatievouchers bij die instellingen hebben ingeleverd (een kennisoverdrachtsproject). De maximale subsidie bedraagt € 7 500 per innovatievoucher, waardoor gezegd kan worden dat de innovatievouchers een maximale waarde hebben van € 7 500. In bovengenoemde subsidieregeling is aangegeven dat in een beleidsregel wordt aangegeven op

• Page 2 (Ministry of Economic Affairs, 2004b)

welke wijze de vouchers worden verdeeld. Deze beleidsregel strekt daartoe.

Een innovatievoucher is bedoeld voor mkb-ondernemers die een concrete kennisvraag hebben, maar die nog niet eerder aan kennisaanbieders voorlegden, te stimuleren dit nu wel te doen.

Ondernemers die in aanmerking willen komen voor een innovatievoucher moeten voldoen aan de eisen van de Europese definitie voor kleine en middelgrote ondernemingen en van de zogenaamde 'de minimis-verordening'. Zie in verband hiermee het artikelsgewijze deel van deze toelichting.

Deze beleidsregel wordt, net als de subsidieregeling, namens de minister uitgevoerd door SenterNovem.

Administratieve lasten

De gevolgen van deze beleidsregel voor de administratieve lasten voor de bedrijven kunnen in het kort als volgt worden weergegeven.

Mkb-ondernemers moeten ter verkrijging van een innovatievoucher een aanvraagformulier invullen. De daarmee gemoeide tijd kan als volgt worden ingeschat. Voor het invullen van vragenblok 1 (NAW- en contactgegevens): 5 minuten.

Voor het invullen van vraag 2 inzake eerdere de minimis-steun in de voorgaande 3 jaar : 15 minuten (Dit is betrekkelijk eenvoudig uit te zoeken omdat bij elke de minimis-subsidie dient te worden aangegeven dat het de minimis-steun betreft).

Het invullen van vragenblok 3 is niet verplicht.

Invullen van vragenblok 4 (ondertekening): 3 minuten.

In totaal kost het invullen van de aanvraag afgerond gemiddeld ongeveer 25 minuten.

In het kader van het indienen van de aanvraag om subsidie door de kennisinstellingen dient een, vormvrije, verklaring van de mkb-ondernemer te worden overgelegd dat het kennisoverdrachtsproject naar wens is uitgevoerd. Dit kost de ondernemer naar schatting 5 minuten. In totaal kost het instrument van de innovatievoucher een mkb-ondernemer derhalve ongeveer 30 minuten.

Hoeveel ondernemers een aanvraag om een innovatievoucher zullen indienen is volstrekt niet in te schatten. Om deze reden is deze regeling ook een pilotregeling. Bij een eventuele meer definitieve regeling zullen meer precieze gegevens omtrent de administratieve lasten beschikbaar zijn.

Artikelsgewijs

Artikel 1

De innovatievouchers zullen worden verstrekt aan mkb-ondernemers. Ingevolge het eerste lid is dit een ondernemer die een kleine of middelgrote onderneming in de zin van verordening (EG) nr. 70/2001 van de Commissie van de Europese Gemeenschappen van 12 januari 2001 betreffende de toepassing van de artikelen 87 en 88 van het EG-Verdrag op staatssteun voor kleine en middelgrote ondernemingen (PbEG L 10) in stand houdt. Daarin wordt een

'kleine en middelgrote onderneming' gedefinieerd als een onderneming die:

– minder dan 250 werknemers heeft en

– óf een jaaromzet heeft van niet meer dan 40 miljoen euro óf een jaarlijks balanstotaal heeft van niet meer dan 27 miljoen euro, en

– die niet voor 25 procent of meer van het kapitaal of van de stemrechten in handen is van één of meerdere ondernemingen die niet aan deze definitie voldoen, met uitzondering van openbare participatiemaatschappijen, van ondernemingen van risicokapitaal of van institutionele beleggers, indien deze individueel noch gezamenlijk in enig opzicht zeggenschap over de onderneming hebben.

In deze pilot gaat het er om uit te vinden of een innovatievoucher een goed instrument is om de mkb-ondernemer te stimuleren met zijn kennisvraag naar buiten te treden en naar een publieke kennisinstelling te gaan. Indien de mkb-ondernemer zijn weg naar een kennisinstelling heeft gevonden, is vooralsnog het doel bereikt. Het tweede lid bepaalt daarom dat per ondernemer slechts één innovatievoucher kan worden verstrekt.

De onderdelen a en b van het derde lid zijn opgenomen in verband met Verordening (EG) nr 69/2001 van de Commissie van de Europese Gemeenschappen van 12 januari 2001 betreffende de toepassing van de artikelen 87 en 88 van het EG-verdrag op de de minimis-steun (PbEG L 10) (hierna: de minimis-verordening). Het verstrekken van een innovatievoucher is weliswaar niet een directe subsidie, maar geeft wel een financieel voordeel. Voor de dienst van een kennisinstelling hoeft immers – geheel of deels – niet betaald te worden. Dit voordeel is wel steun in de zin van het EG-Verdrag. De de minimis verordening bepaalt dat steunmaatregelen niet op grond van artikel 88, derde lid, van het EG-Verdrag gemeld behoeven te worden, indien het totale niet-goedgekeurde steunbedrag dat aan een onderneming is verleend niet hoger is dan € 100 000 over een periode van drie jaar. Deze beleidsregel voldoet aan de eisen van deze verordening. De minister dient er op toe te zien dat een ondernemer die aanspraak wil maken op een innovatievoucher gedurende een periode van drie jaar in totaal niet meer dan € 100 000 aan subsidie ontvangt. Om aan deze plicht te kunnen voldoen dient de minister alle niet-goedgekeurde steunmaatregelen, niet alleen die van Economische Zaken, maar ook die van andere bestuursorganen, bij elkaar op te tellen. Hiertoe bevat het aanvraagformulier voorschriften. Omdat het innovatievoucher een waarde heeft van ten hoogste € 7 500 en geen vouchers zullen worden verstrekt voor een lagere waarde, wordt in onderdeel b van het derde lid bepaald dat geen voucher wordt verstrekt als de desbetreffende ondernemer de voorgaande drie jaar reeds € 92 500 of meer aan 'de minimis steun' heeft ontvangen. Het, derde lid, onder a, verwijst naar artikel 1, onder a, van de de minimis-verordening. Van de toepassing van deze verordening zijn namelijk enkele sectoren uitgesloten die zijn genoemd in artikel 1, onder a, van die verordening: de vervoersector en de productie, verwerking of verhandeling van landbouw-, visserij- en aquacultuurproducten. Ondernemers

- Page 3 (Ministry of Economic Affairs, 2004b)

in deze sectoren kunnen derhalve geen innovatievoucher aanvragen.

Onderdeel c van het derde lid is opgenomen naar analogie van de artikelen 4:43 juncto 4:35, tweede lid, van de Algemene wet bestuursrecht. Aanvragen om subsidie kunnen op grond van die bepaling van de Awb worden afgewezen als een bedrijf bijvoorbeeld failliet is of dat binnenkort dreigt te gaan. Omdat een innovatievoucher geen subsidie is in de zin van de Awb diende dit in deze beleidsregel apart te worden bepaald.

Artikel 2

De in dit artikel bedoelde aanvraagformulieren zijn verkrijgbaar bij SenterNovem, postbus 93144, 's-Gravenhage of via de website www.senter.nl/innovatievoucher.

Aanvragen kunnen niet per fax of per elektronische post worden ingediend.

Artikel 3

In deze eerste pilot zijn 100 innovatievouchers beschikbaar. Het derde lid geeft een voorschrift over de wijze van verdeling van deze innovatievouchers. Die komt neer op 'wie het eerst komt, het eerst maalt'. Dit betekent dat de minister, beginnend met de eerste aanvraag, innovatievouchers versprekt totdat de 100 beschikbare vouchers zijn verdeeld en dat hij de overige aanvragen afwijst. Daarbij is het moment van indiening van een aanvraag, die aan alle voorschriften voldoet, bepalend. Het gaat daarbij om de voorschriften van deze beleidsregel, maar ook van die van de Algemene wet bestuursrecht (bijvoorbeeld dat een aanvraag volledig dient te zijn, inclusief een eventueel benodigde machtiging, en te zijn ondertekend). Het betreft hier niet een regel over de volgorde van het nemen van besluiten. Het is zeer wel mogelijk om op een latere aanvraag eerder te besluiten dan op een eerdere, als toewijzing van de aanvraag maar niet tot gevolg heeft, dat op de eerdere aanvraag afwijzend moet worden beschikt, omdat door verstrekking van innovatievouchers op latere aanvragen de vouchers inmiddels op zijn. Dreigt dit te gebeuren, dan zal de behandeling van de latere aanvraag worden opgeschort, totdat op de eerdere is beslist.

Indien daardoor de beslistermijn van artikel 4 dreigt te worden overschreden, zal de aanvrager daarvan in kennis worden gesteld.

Voor de verdeling van het aantal beschikbare innovatievouchers geldt als datum van de aanvraag, zoals gezegd, de dag waarop de aanvraag volledig is. De verwachting is dat veel aanvragen per post zullen worden ingediend en aldus op hetzelfde tijdstip zullen worden ontvangen. Het tijdstip waarop de aanvraag binnen één dag wordt ontvangen zal dus dikwijls niet te bepalen zijn. Het vierde lid bepaalt om die reden dat in geval van (dreigende) overtekening van het aantal beschikbare innovatievouchers de onderlinge rangorde van – volledige – aanvragen op één dag middels loting wordt bepaald.

Artikel 4

Dit artikel bepaalt de termijn waarbinnen de minister moet hebben besloten op de aanvraag. Als de beschikking niet binnen die termijn kan worden genomen, stelt de minister de aanvrager daarvan in kennis en noemt daarbij een zo kort mogelijke termijn waarbinnen de beschikking wel tegevoet kan worden gezien (artikel 4:14, eerste lid, Awb).

Artikel 5

Essentieel voor het welslagen van de pilot is dat innovatievouchers niet te lang 'op de plank blijven liggen'. Alleen op deze wijze kan voldoende ervaring worden opgedaan die noodzakelijk is voor de besluitvorming omtrent de verdere inzet van het instrument van de innovatievouchers.

Innovatievouchers dienen derhalve nog in 2004 bij een kennisinstelling te worden ingeleverd ten behoeve van de uitvoering van een kennisoverdrachtsproject.

Kennisinstellingen kunnen dan vervolgens de hen gestelde vragen beantwoorden. Zij dienen na afloop van het project, maar uiterlijk op 29 april 2005, een verzoek om subsidie in zake de gemaakte kosten die gepaard gaan met de beantwoording van de kennisvraag.

De Minister van Economische Zaken,

L.J. Brinkhorst.

- Page 4 (Ministry of Economic Affairs, 2004b)

Bijlage

Formulier, bedoeld in artikel 2 van de Beleidsregel verstrekking innovatievouchers 2004

Dit formulier is verstrekt door en moet worden ingediend (niet per fax of e-mail) bij:

SenterNovem

Afdeling Innovatievoucher

Postbus 93144

2509 AC Den Haag

Telefoon (070) 3735750

Bezoekadres SenterNovem

Juliana van Stolberglaan 3

2595 CA Den Haag

Internet www.senter.nl/innovatievoucher

Aanvraag Innovatievoucher

Formulier voor aanvraag van een innovatievoucher, bedoeld in artikel 2 van de Beleidsregel verstrekking innovatievouchers 2004

niet invullen

Dossiernummer: _____

Datum ontvangst: _____

Lees voor het invullen van het aanvraagformulier eerst de toelichting door of raadpleeg de “veelgestelde vragen” op onze internetsite www.senter.nl/innovatievoucher

1 Gegevens aanvrager

Naam ondernemer _____

Naam onderneming _____

Postadres _____

Postcode _____ Plaats _____

Is dit tevens het correspondentieadres voor

deze aanvraag? o ja o nee

Zo nee, wat is het correspondentieadres?

Bedrijfsnaam Correspondent _____

Postadres _____

Postcode _____ Plaats _____

Contactpersoon _____ Telefoonnummer _____

Bezoekadres onderneming _____

Postcode _____ Plaats _____

Contactpersoon _____ o Dhr o Mw Titel(s) _____ Initialen _____

Functie _____

Telefoon _____ Fax _____

E-mail adres _____

Kamers van Koophandel nummer _____

BIK '95 code (bedrijfsindeling Kamers van Koophandel) _____

Aantal werknemers in uw onderneming

(peildatum is 31 december van het jaar voorafgaand

aan de aanvraag, zie MKB-definitie in toelichting) _____

Omzet van de onderneming (aanvrager) in het laatst

afgesloten boekjaar (zie MKB-definitie in toelichting) _____

Balanstotaal van de onderneming (aanvrager) in

laatst afgesloten boekjaar (zie MKB-definitie in toelichting) _____

Is 25 procent of meer van het kapitaal of de

stemrechten van uw onderneming in het bezit van

één of meer ondernemingen, die niet aan de

MKB-definitie* voldoen? o ja o nee

* Zie voor MKB-definitie de internetsite www.senter.nl/innovatievoucher

Is voor de aanvrager een verzoek tot het op hem van

toepassing verklaren van de schuldsaneringsregeling

natuurlijke personen, tot verlening van surseance van

betaling aan hem of tot faillietverklaring van

hem gedaan? o ja o nee

- Page 5 (Ministry of Economic Affairs, 2004b)

Zo ja, wanneer? _____
Heeft u in het jaar 2004 al eerder een innovatievoucher aangevraagd volgens de Subsidieregeling pilot innovatievouchers MKB 2004? o ja o nee

2 Financiële gegevens

Heeft u de afgelopen drie jaren van een bestuursorgaan subsidies ontvangen zonder goedkeuring van de Commissie van de Europese Gemeenschappen (zgn. de minimissteun)? o ja o nee

Zo ja, op grond van welke regeling(en) en tot welk bedrag?
(S&O en/of EIA verklaringen hoeft u niet in te vullen)

3 Projectgegevens (NB Invullen niet verplicht)

a. Weet u al waarvoor u de innovatievoucher gaat gebruiken? Zo ja, zou u dan de volgende vragen willen beantwoorden?

1. Welke vraag wilt u beantwoorden en/of voor welk probleem zoekt u een oplossing?

2. Aan welke kennisinstelling gaat u dit vraagstuk voorleggen? (indien van toepassing)

3. Wanneer (periode) kan de kennisinstelling deze activiteiten uitvoeren? (indien van toepassing)

b. Op welke wijze ben u in contact gekomen met de Innovatievoucher:

- o Syntens
- o brancheorganisatie
- o kennisinstelling
- o overig, nl

4 Ondertekening

Ondertekende verklaart dat hij/zij met betrekking tot het project nog geen verplichtingen is aangegaan jegens de kennisinstelling die het project zal gaan uitvoeren.

Ondertekende verklaart dat hij/zij bekend is met de bepalingen van de Beleidsregel verstrekking innovatievouchers 2004.

Aldus naar waarheid ingevuld,

Naam _____ Onderneming (evt. stempel) _____

Plaats _____

Datum _____ Handtekening* _____

*Indien dit aanvraagformulier niet door de aanvrager wordt getekend, voeg dan een originele machtiging toe.

Appendix C: Questionnaire

Opening question: “Have you commissioned an assignment from a research institution in the past?”

- 1 No, the firm has never commissioned an assignment from a research institution
- 2 Yes, but some time before 2004
- 3 Between 1 January 2004 - 30 September 2004
- 4 Between 1 October 2004 - 31 December 2005
- 5 Between 1 January 2005 - 30 April 2005
- 6 Between 1 May 2005 - 31 December 2005
- 7 Between 1 May 2005 - 31 December 2006

If answer is “no” (1), the following response categories:

- 1.1 The firm had no research question at the time
- 1.2 The firm had a research question, but this is usually placed with a private knowledge provider (e.g. engineering consultancy)
- 1.3 The firm had a research question, but it was solved in-house
- 1.4 The firm had a research question, but the research institution could not come up with an acceptable proposal or was too expensive
- 1.5 The firm had a research question, but at that time it did not know what a research institution could offer, did not believe that a research institution could provide an answer, or did not know which research institution to approach
- 1.6 The firm had a research question, but it did not have the time to address it or had other priorities
- 1.7 Free input field

If the firm did commission an assignment, response categories with the value per assignment

- Free input field: project amount (incl. voucher value)
- Response categories:
 - this was an estimate by the firm
 - the contact person could not remember the precise figure
- Was the voucher used with the assignment (tick “yes” or “no”)
- Which research institution was commissioned to execute the assignment

Questions about satisfaction with the assignment were answered on a four-point Likert scale delimited by “very dissatisfied” and “very satisfied”, supplemented with an elaboration of the opinions expressed.

Question: “What is your opinion of the execution of the assignment with regard to ...”

- The quality of the researcher
- The answer to the research question
- The speed of the research
- The price/quality ratio

This procedure is repeated for all assignments.

Propositions concerning the voucher: “If the firm had or had not received the voucher, would this have had ...”

1. ... implications for the number of assignments?
 - a. Yes, one or more additional assignments
 - b. Yes, one or more fewer assignments
 - c. No, number of assignments unchanged

2. ... implications for the value of assignments?
 - a. Yes, higher
 - b. Yes, smaller
 - c. No, value unchanged

3. ... implications for the timing of assignments?
 - a. Yes, sooner
 - b. Yes, later
 - c. No, timing unchanged

4. ... other effects?
 - a. Yes, free input field
 - b. No