Job performance and career prospects of auditors
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Chapter 4

Training and work of auditors

4.1 Introduction

In the Netherlands there are different ways to be trained as a qualified auditor. People can attend the full-time university education or they can choose for a combination of part-time courses offered by Nivra and on-the-job training. In this chapter the auditors' duties and the full-time and part-time educational programs of auditors are described and compared. Furthermore, the costs and benefits during the school years of the two different types of education are presented. In later chapters the costs and benefits after the school years will be analyzed.

4.2 Auditors' duties in different sectors

There are five sectors in which auditors are usually working, namely public auditing, internal auditing, public sector, financial management and in the educational field. In this section a general overview is given of the main duties of auditors working in different sectors.

Auditors working in public auditing audit financial accounts of organizations (Nivra 1996a, Vaatstra 1996). They do so because the owners of a company are not necessarily those who manage the company. The management of a company might give a misleading picture of the company's financial situation in order to hide e.g. fraud, or poor performance. Auditors check whether the financial statements of an organization reflect its true financial situation and whether the financial statements are stated in accordance with specified accounting principles. The auditor's opinion about the truth and fairness of the

1Here and in the remainder of this thesis auditing refers to financial auditing.
financial statements is recorded in an auditors' report. Parties concerned with
the organization, like shareholders and banks, can receive this auditors' report in
order to get assurance (although without absolute certainty) about the fairness
of the financial statements. Other tasks of the auditor are carrying out audits
of financial information with respect to mergers and take-overs, giving advice to
improve the organizations' existing (financial) information system, and helping
with making up financial statements of an organization. Auditors generally work
in teams and not on their own. For each project a new team is put together.
Such a team might consist of a graduated auditor who has the supervision over
the project and several assistants. The tasks performed by the assistants are
in accordance with their theoretical knowledge and practical experience (Nivra
1996a).

Large firms or organizations may have their own internal auditing depart­
ment. Auditors working there are called internal auditors. Internal auditors' work consists of several duties like drawing up the firm's annual account, giving
advice in financial issues, supervising the firms' organization and administra­
tion (operational auditing), supervising the firm's information networks, and
advising the firm's management.

Auditors working in the public sector work in several types of jobs. They
can work at central government departments, provinces, or for large cities. Most
of the auditors working at departments work at the treasury department where
they advise in financial issues, check annual accounts and expenses of other
departments, etc. Auditors working at other departments, provinces and large
cities may work at internal auditing of the department or have a non-auditing
job. There are also auditors working at the tax authorities (Belastingdienst) or
at the audit office (de Rekenkamer). They are involved in checking whether the
tax returns of large organizations are correct or whether the expenses in public
sector are done efficiently.

Auditors working in financial management can be found in a wide range of
jobs. Generally, for these jobs an education in economic sciences is required.
Auditors working in financial management usually hold jobs like controller, fi­
nancial consultant, account manager, treasurer, financial manager, head of fi­
nancial or administrative departments of an organization, financial director or
general director of a firm.

Finally, a small number of auditors work in the educational field. They
teach subjects in accountancy at institutions of higher vocational education, at
universities or at the Nivra. Most of them also work in public auditing or in the
public sector. Some of them are also engaged in doing research.
4.3 Education of auditors

At the end of the 19th century and the beginning of the 20th century there were different auditors' organizations which offered trainings in accountancy\(^2\). These organizations had different curricula and different exams. At that time the auditors' profession was not recognized yet. This was partly due to the differences in the accountancy trainings. In order to overcome this problem the different organizations joined their training programs and exams. In 1927 the first joint exam was held. However, only in 1962 the auditors' profession was recognized by law. The first academic education started in Rotterdam in 1915. The University of Amsterdam and the 'Rooms Katholieke handelshogeschool' in Tilburg followed offering academic education in accountancy in 1927, respectively 1931.

Until 1967 the part-time Nivra training and the university training were not considered as types of education of equal quality.

In the Netherlands there are nowadays two ways leading to the title 'Register accountant' which is equivalent to the titles 'CPA' or 'CA' used in Anglo-Saxon-countries\(^3\). For both educational tracks students should have a VWO certificate (VWO refers to pre-university secondary education). The structure of the two training programs are shown in table 4.1.

<table>
<thead>
<tr>
<th>Table 4.1</th>
<th>Overview university and Nivra accountancy training</th>
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</thead>
<tbody>
<tr>
<td>university</td>
<td>Nivra accountancy</td>
</tr>
<tr>
<td>part</td>
<td>propedeuse</td>
</tr>
<tr>
<td></td>
<td>doctoral</td>
</tr>
<tr>
<td></td>
<td>part-time post-doctoral</td>
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</table>

One can attend a full-time university study in economics with accountancy as specialization followed by a part-time post-doctoral university course in accountancy or one can choose for the part-time system jointly offered by the Royal

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\(^2\)For an extensive description on the history of training for auditors see Vaatstra (1996).

\(^3\)In higher vocational education it is possible to study business economics with accountancy as specialization. However, this education only offers a part of the training in accountancy. Graduates from higher education who want to become fully qualified have to continue their accountancy training at university or the Royal Nivra. There, they get exemptions (30-60% of the entire curriculum of the accountancy training) dependent on their specialization at HVE.
Nivra and university Nijenrode. In this section the two training programs are described as they were in 1996\(^4\). The education in accountancy of the University of Amsterdam is taken as an example of the full-time education in accountancy. Educational programs of the other universities are very similar.

The entire academic study in economics (specialization accountancy) nominally takes six years. During the propedeuse (first year) and the doctoral\(^5\) (three years) students have to spend approximately 30-40 hours a week on studying. During the post-doctoral part (two years) they go one day a week to university and work four days a week. During that period they should spend about 20 hours a week on studying. In the first part of the university training students attend introductory courses in the main branches of both general and business economics and follow courses which enlarge their communicational and analytical skills (like mathematics and statistics). During the second half of the second year students choose a specialization. If students choose the specialization accountancy they primarily follow basic and advanced subjects in accounting, auditing and accounting information systems or subjects related to accountancy. Students finish the doctoral by writing an extended essay or by doing a final project at a firm. After graduating students are not qualified auditors yet. They still have to finish the part-time post-doctoral study in accountancy. The subjects taught there are extensions of the subjects in accountancy given during the doctoral. It is finished by writing an extended essay and an oral examination in financial auditing. In two advanced subjects, i.e. advanced audit of accounts II and advanced accounting information systems, post-doctoral students have to pass the same test as the Nivra students. This indicates that the university students and the Nivra students eventually have comparable theoretical knowledge in the core subjects of accountancy.

Students following the Nivra program usually work four days a week at an audit firm/in the public sector and go to school one day a week. They have to spend about 12 hours a week on doing homework. People following this track have to spend more time on working and studying than the university students and consequently have less time to spend on leisure and extra-curricular activities. The program consists of three parts with a total nominal duration of 7.5 years. After completing the 3rd part of the course one is entitled to use the academic title 'doctorandus' (drs.) and the title 'registeraccountant' (RA). The three parts prepare students for doing work at different levels (Nivra/Universiteit

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\(^4\)The part-time education in accountancy used to be offered by Nivra. In mid nineties Nivra and university Nijenrode started their joint part-time accountancy training. Because of this cooperation the students following this education are also entitled to use the academic title 'doctorandus'.

\(^5\)Completing the Dutch 'doctoraal' is equivalent to obtaining a Master's degree.
Nijenrode 1996). Each part is closed by a certificate. The first part is offered by Nivra and the second and third part are offered by both Nivra and University Nijenrode.

During the first part introductory accountancy subjects and some general subjects which are useful for auditors like statistics and law are taught. The theoretical knowledge obtained can immediately be used in practice. In the second part accountancy subjects are given on a higher level and some general subjects are given which are not directly related to accountancy. These subjects are given in order to give the students some general knowledge in economics. During the third part the core courses in accountancy are given at an advanced level. It is closed by a final project related to one of the core subjects in accountancy: financial auditing, information management, management and organization or costs and financing.

Comparing the two educational programs, the university education and the Nivra training have a lot in common. Their students follow the same core subjects in accountancy and subjects related to accountancy (like law, business economics and mathematics). The core subjects in accountancy are of the same weight. The difference between the full-time and the Nivra program is, among others, the attention given to mathematical subjects and general economic subjects with university students getting relatively more general economic subjects and mathematical subjects. Their analytical skills may therefore be better developed than those of the graduates from Nivra. Another difference is that full-time students have more leisure and time for extra-curricular activities. Nivra students on the other hand already use the knowledge obtained in class in practice at the beginning of their training while university students start working after they have finished the doctoral part of their study. Nivra educated auditors are therefore more able to apply their theoretical knowledge on practical situations. Another important difference is that the university track takes only six years (nominally) whereas the Nivra education takes 7.5 years (nominally).

Since the Nivra educated auditors have worked during their training they have acquired specialized knowledge about certain clients of the firm and about particular markets. This specialized knowledge is valuable as long as the auditors stay with the current employer, but may be of smaller value for other employers. On the other hand, university educated auditors have acquired more general human capital during their education, especially during the first two years. They have invested relatively little time in acquiring firm-specific human capital since they have worked only during the last two years of their education. Compared to the Nivra educated auditors they have more general human capital and have less occupation-specific and firm-specific human capital. These differences in human capital may have consequences for the wages and the mobility of the differently educated auditors as will be discussed in later chapters.
4.4 Costs and benefits of training

Youngsters who choose not to enter the labor market after graduating from secondary education but who choose to continue studying are investing in their human capital. This human capital can be seen as a stock of productive capital which can be rented by employers. The value of an individual's human capital is derived from the wage the individual can earn on the labor market. By continuing school people want to increase their human capital (especially the productive part) and thereby their future earnings. The expected benefits of education are a higher level of (future) earnings, grants, a greater job satisfaction, etc. There are also costs involved by going to school. There are direct costs like tuition and costs of books and there are indirect costs like foregone earnings during the school period. Forgone earnings are the most important costs because people are not able to work (full-time) during this period. The direct costs are rather small relative to the foregone earnings. De Koning et. al. (1996) have estimated the costs and benefits of the main school types in the Netherlands.

Both university and Nivra students have to face costs and benefits of schooling. Here, the costs and benefits during the training period for these different groups are compared. For the Nivra students these figures are calculated after six years of study (comparable with nominal duration university training) and after 7.5 years (nominal duration Nivra education). In later chapters attention will be paid to the future benefits.

The costs and benefits of training of auditors for employers may also differ. For example, the tuition part of the costs in education differs quite a lot; in 1996 the total tuition fee for the entire Nivra program was four times higher (± fl. 48,000) than the tuition fee (± fl. 12,000) of the post-doctoral accountancy program. However it is very hard to determine the precise total costs and benefits of the two educational tracks. Since the focus of this thesis is the labor market effects of type of accountancy education for the auditors this issue will not be studied here, although it may be very interesting. The present value method is used to calculate the private costs and benefits of education during the training period. The costs and benefits have been calculated from the moment people

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6To mention just a few problems one encounters when trying to determine the costs and benefits for the employers: the total costs of training also includes training costs of courses given within the firm, coaching time by supervisor, etc. These costs are not easily quantifiable. This also holds for the benefits which probably differ across sectors and across firms within a particular sector. If these total costs and benefits were known it would also have been possible to make social efficiency comparisons.
4.4. COSTS AND BENEFITS OF TRAINING

start studying (i.e. when they are 18-19 years old):

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PVT = \sum_{t=1}^{T} \frac{(B_t - C_t)}{(1 + r)^t}
\]  

(4.1)

where \( B_t \) equals the benefits in year \( t \), \( C_t \) equals the costs in year \( t \), \( r \) equals the discount rate and \( T \) equals the total duration of the accountancy training in years. The direct costs of the education of Nivra students is set to zero, because usually the employer pays the largest part of these costs. For university students it equals approximately fl. 3,000 a year (tuition in 1996-1997 fl. 2,400 and books ± fl. 600 a year). The opportunity costs of education are calculated using the Mincerian wage equations of VWO graduates provided by De Koning et al (1996). They provide parameter estimates of the determinants of net hourly 1994 wages of standard Mincerian wage equations for VWO graduates (including age, age\(^2\), hours worked/week, hours worked\(^2\)/week, and a female dummy as explanatory variables). The age of a 'model' student and the number of hours worked a week during the course are known. So it is possible to estimate the net yearly wage (which increases by age) the students could have earned during each year of the course. The costs are then estimated by summing up the discounted value of the yearly earnings the students could have earned if they had not gone to school. Holiday pay (8% of the annual salary) is included in the costs. This results in the 1994 net yearly earnings. In order to get the 1997 net yearly earnings the 1994 yearly earnings are increased by 5.25 \% (the average wage increase between 1995-1997 according to CPB, 1996).

Benefits of university students during the first four years of the education are set equal to fl. 19,200 the net average annual income in 1999 of second year university students in economics (SEO/SCO-Kohnstamm Instituut, 1999)\(^7\). Major income sources of university students are scholarships which almost every student gets, additional scholarships for students with low income parents, financial support by family or partner and net salary. Study loans are not included in the average annual income.

After tax benefits of the assistants are set equal to the net wages for assistants according to the guidelines set out by Nivra. Holiday pay (8% of the annual income)

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\(^7\)We assume that average income of university students does not vary substantially across the different years of their university education. Furthermore, we assume that 1999 income does not differ substantially from 1997 income. These assumptions do not seem to be restrictive since no major changes have taken place in the scholarships all students receive and there are also no indications that other income sources have changed in this short period.
CHAPTER 4. TRAINING AND WORK OF AUDITORS

salary) is included in the benefits. The assistants also receive the so called '13th month' which means that they get an extra month salary at the end of the year.\(^8\)

In table 4.2 the net present value of the benefits, the costs, the net benefits (benefits-costs) and the difference between the net benefits of the full-time education and the Nivra education during the training period are presented. The discount rate \(r\) is set at \(r=0.05\) and \(0.10\). Most interesting are the net benefits of the different training types and their difference. The net benefits of the full-time students are relatively low. The net benefits of the assistants with the Nivra education show that these people have an average wage which is lower than the wage of VWO graduates. Their net benefits are -if \(r\) equals 0.10,- about fl. 14,000 lower than the net benefits of the full-time working school-leavers. The difference between the net benefits of the assistants and the working school leavers is not very large. The full-time university students have a net benefit of fl. -33,300 which is almost an average net annual salary in the Netherlands (full-time employees aged 16-64 year earn on average a net annual salary of fl. 37,000 in the Netherlands, CBS 1997). Choosing for a full-time education instead of the part-time Nivra education cost university students about fl. 20,000 which is equal to half a net average annual salary.\(^9\) This difference in net benefits during the training period does not seem to be very large. If the full-time university education in accountancy training turns out more productive auditors than the Nivra training future wages of the university educated auditors will easily off-set their lower income during the training period. In chapter 6 it will become clear whether this difference in net benefits during the training period will indeed result in higher future salaries for the full-time university students.

<table>
<thead>
<tr>
<th>Table 4.2</th>
<th>Costs and benefits during the training period (* fl. 1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Benefits</td>
</tr>
<tr>
<td>discount factor (r)</td>
<td>0.05</td>
</tr>
<tr>
<td>University (1-6)</td>
<td>120.8</td>
</tr>
<tr>
<td>Nivra (1-6)</td>
<td>129.5</td>
</tr>
<tr>
<td>Nivra (1-7(\frac{1}{2}))</td>
<td>168.1</td>
</tr>
</tbody>
</table>

\(^8\)Compensation for travel expenses, health insurances, profit sharing, etc. are not included in the net annual income of auditors. Furthermore, note that we assume that assistants do not have to pay for their education. However, it may be possible that some employers do not pay full wages for the days the assistants go to college.

\(^9\)For Nivra students this sum hardly differs by discount factor (\(r=0.05\) versus \(r=0.10\)) or time horizon (6 years versus 7.5 years).
4.5 Summary and concluding remarks

This chapter gives an overview of the main duties of auditors, the two educational tracks in accountancy and the costs and benefits the students face during the training period. Auditors usually work in five sectors namely public auditing, the public sector, internal auditing, education and research and financial management. Of each sector the main duties of an auditor are shortly described.

The curricula of the full-time university track and the part-time Nivra track in accountancy have been described and compared. The final attainment level in accountancy subjects and subjects closely related to accountancy is the same. This is emphasized by the fact that in two major accountancy subjects students of both educational tracks have to do the same examinations. The major difference between these two curricula is that university students have had subjects which are not directly linked to accountancy like mathematics, statistics and general economics. Furthermore, they had more freedom in the choice of subjects and had more time to spend on leisure and extra-curricular during the first four years of their education. Students of the Nivra training on the other hand have acquired more firm-specific and client specific knowledge through their work as assistant. Consequently, full-time students have relatively more general human capital than the Nivra students who have relatively more specific human capital after finishing their training.

Furthermore, the net costs and benefits during the training period of the two types of students have been compared. Not surprisingly, the Nivra students have a better financial position during the training period than the university students. However, the difference is not very big. The difference in net benefits is about fl. 20,000. Together with the fact that the university training provides more general training than the Nivra training it may very well be that the auditors with a university education will be compensated for this higher investment in education through higher future wages and better career opportunities.
4.2 Summary and Concluding Remarks

In the previous sections, we discussed the importance of considering the total cost of attending college, including tuition, fees, living expenses, and other costs. We highlighted the reasons why college costs have increased significantly over the years, with expectations that these trends will continue. The discussion also included the potential financial aid available to students and the importance of planning and saving for college.

Table 4.1: Estimated College Costs in 2022

<table>
<thead>
<tr>
<th>Institution</th>
<th>Benefits</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>0.25</td>
<td>0.10</td>
</tr>
<tr>
<td>State (1-6)</td>
<td>122.8</td>
<td>110.7</td>
</tr>
<tr>
<td>State (1-6)</td>
<td>129.5</td>
<td>110.7</td>
</tr>
<tr>
<td>State (1-6)</td>
<td>100.1</td>
<td>100.3</td>
</tr>
</tbody>
</table>

*Note: Estimated costs do not include any other expenses such as textbooks, transportation, and personal care.*

*For the current academic year, it is estimated that the total cost of tuition and fees for full-time students will be approximately $30,000.*