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EMPLOYABILITY AND MOBILITY OF BACHELOR GRADUATES IN THE NETHERLANDS

INTRODUCTION

In this paper, we provide a brief sketch of some relevant features of new study programmes introduced in the Netherlands in accordance with the Bologna Process, as reported by graduates of those programmes in the annual surveys that have been held since the early 1990s in the *HBO-Monitor* and *WO-Monitor*. We focus on the situation of graduates of Bachelor and Master programmes. There are several comparisons that are of interest when looking at these programmes, the explanation of which requires a brief digression in order to describe some salient features of the Dutch higher education system before and after the implementation of the Bologna Process.

The key feature of Dutch higher education is its differentiation between HBO (higher professional education, taught at universities of applied sciences (*hogescholen*)) and WO (*wetenschappelijk onderwijs*, academic or scientific education, taught at research universities (*universiteiten*)). Before the implementation of the Bologna model of a system of study programmes and degrees, most programmes in both HBO and WO required four years of study, with a degree at an HBO institution (*HBO-diploma*) usually equated with a Bachelor level and a degree at a WO institution (*doctoraal* – not to be confused with the *doctoraat*, which is equivalent to a PhD) usually equated with a Master level. The reason for the difference in level between HBO and WO is due to the difference in entry requirements, with WO programmes requiring pre-university secondary education (*VWO*) or its equivalent (12 years of schooling), and HBO programmes requiring senior general secondary education (HAVO) (11 years of schooling). Moreover, most HBO programmes comprise up to one year of practical work experience.

With the implementation of the Bologna two-stage model, HBO programmes have more or less been directly converted into Bachelor programmes. The main consequence for students is that after completing a HBO Bachelor degree, they are entitled to apply for a Master programme at a university. In order to do so, they may sometimes have to follow one year of pre-Master education if the gap between the HBO Bachelor qualification and the requirements of the WO Master programme is seen as too great for a direct transition.

The Bologna Process has more far-reaching consequences for WO institutions. Prior to its implementation, most studies consisted in a “*propedeuse*” in the first year followed by the three-year “*doctoraal*” phase. Although separate degrees were awarded for both the “*propedeuse*” and the “*doctoraal*”, in practice, they formed two parts of a single four-year programme for almost all students. With the implementation of the new model, this has been replaced by a three-year Bachelor programme followed by a Master programme that may take one, two or even three

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years. In the new regime, many students still regard the Bachelor as the first phase towards their Master degree in the same field and at the same institution, but the distinction is real and has real consequences. The main consequence is that entry to the Master programmes is, in principle, open to Bachelors from other programmes and from other higher education institutions (including HBO institutions). Of course, there are strong restrictions as to which Bachelors are allowed entry into which Masters programmes and in which conditions (see for example the remark above concerning pre-Master programmes), but there is scope for mobility between the Bachelor and Master, and even from a WO-Bachelor programme to the labour market, although this is still relatively unusual. A Master degree is an entry requirement for a PhD.

Taking these changes into account, the comparisons of interest in this paper are between the traditional programmes before the implementation of the Bologna Process – the *HBO-diploma* and the *doctoraal* degree awarded by WO-institutions – and the three Bologna-model degrees – the HBO-Bachelor, the WO-Bachelor and the WO-Master. As far as possible, we will provide comparisons between these five degree types.

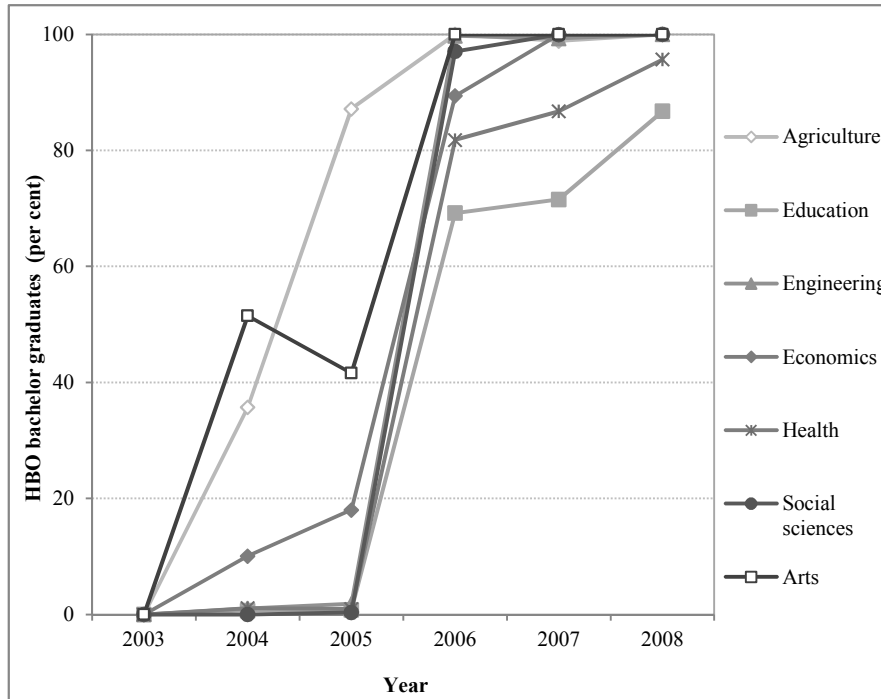
Two final points need to be made which will influence the comparison. The first is that, because higher education institutions have been gradually replacing pre-Bologna by post-Bologna programmes over the last ten years or so, with post-Bologna graduates only appearing since the graduate surveys conducted in 2004 (reflecting graduates of the academic year 2002-2003), any information on pre-Bologna graduates will necessarily reflect an earlier point in time than comparable information on post-Bologna graduates. This may bias some information, particularly on the position of graduates in the labour market, because the economy improved considerably in the years 2003-2007 (although there has been a slight downturn again since then). As a result, the labour market position of the post-Bologna programmes may show a slight upward bias.

The second point, which is related to the first, is that the introduction of Bologna-style programmes has taken place earlier in some fields of study than in others. [Figures 1 to 3](#) illustrates this. [Figure 1](#) shows the percentage of HBO graduates surveyed in 2003 to 2008 (reflecting academic years 2002/03 to 2006/07) who obtained a Bachelor degree by area of study. It is clear that programmes in agriculture were relatively early in implementing the Bologna Process and that the same applies to around half the arts programmes.¹ The implementation was slowest in the broad field of education, where around one in six graduates approached in 2008 still obtained pre-Bologna qualifications. This means that the former two fields are somewhat over-represented in Bologna-model programmes and under-represented in pre-Bologna programmes, while the opposite will be true of the latter programmes. Because agriculture and arts generally show the worst results in terms of labour market outcomes, this may give a downward bias to the results for pre-

¹ The drop in the percentage of Arts-Bachelors between 2004 and 2005 is due to a temporary surge in the number of graduates of “old-style” arts programmes.

Bologna programmes (perhaps somewhat counterbalancing the upward bias described above).

Figure 1. Graduates from HBO Bachelor Programmes in the Netherlands 2003 – 2008, by Area of Study



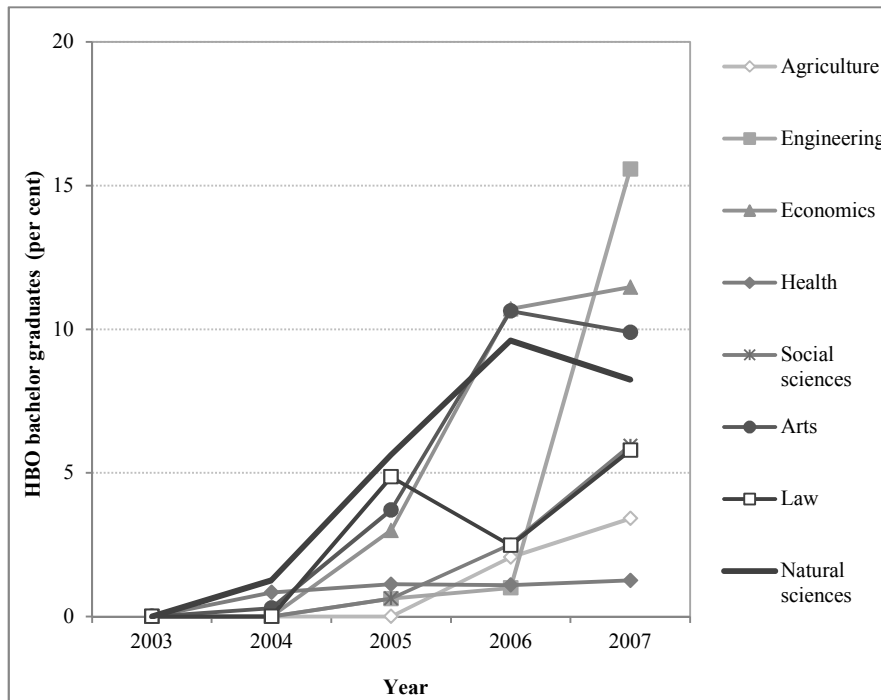
Source: Dutch graduate surveys 2003-2008

The situation is again a little more complicated for WO-programmes than for HBO programmes. The introduction of Bologna-model programmes resulted in a change in the population definition for the WO-Monitor. The population now not only includes WO-Masters (who are more or less equivalent to old-style WO *doctoraal* degree holders), but also some WO-Bachelors. It was decided to approach only those WO-Bachelors who left higher education (at least for the time being) after completing their Bachelor degree. WO-Bachelors who remained in higher education (either at the same or in a different institution) were not asked to participate in what is essentially a labour market monitor for graduates. Figure 2 shows the share of university Masters programmes each year among all university graduates per broad field of study.

It is obvious that Bachelor programmes form a small part of the study programmes at university level. Further interpretation of figure 2 is complicated by the fact that not only does the timing of the introduction of university Bachelor pro-

grammes differ by field of study, but also their number will also differ once the Bologna-model has been fully implemented. We can see that there are very few Bachelor programmes in the field of health studies, whereas they are quite common in economics, arts, natural sciences and especially engineering. In engineering, the implementation was relatively late but very rapid, rising from 1 per cent in 2006 to 16 per cent in 2007. It remains to be seen whether the percentage will stabilise at this level. In most other fields, the introduction was spread over a longer period. Since the fields that introduced Bachelors programmes early and/or have a high number of university Bachelors are somewhat of a mix that have a rather good labour market position, it is not clear whether this will result in any systematic bias in the results.

Figure 2. Graduates from University Bachelor Programmes in the Netherlands 2003 – 2007, by Area of Study



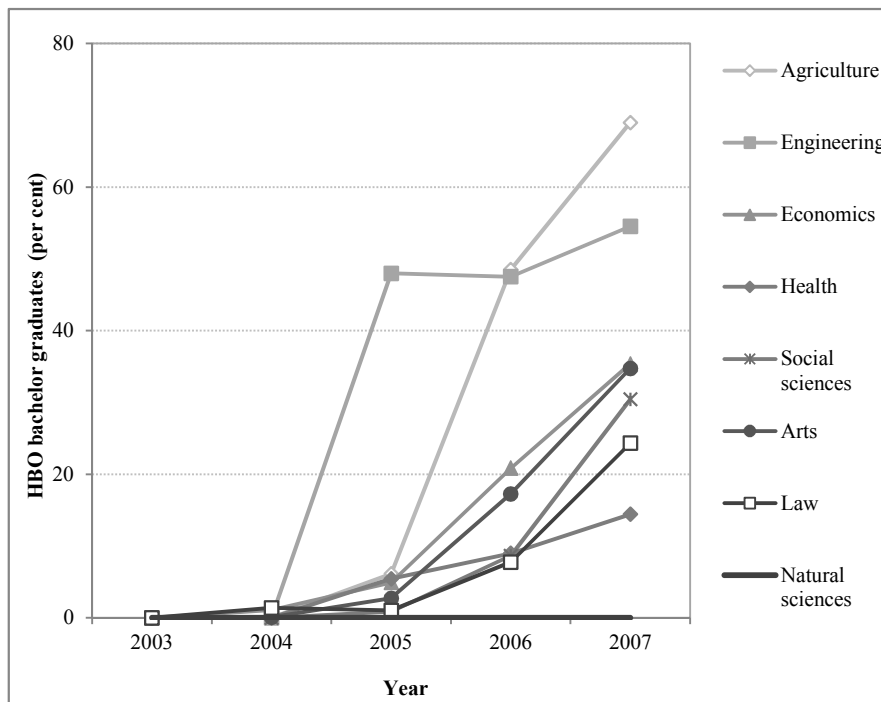
Source: Dutch graduate surveys 2003-2007

Figure 3 shows the timing of the introduction of Master programmes at university level. Again, those in engineering were introduced quite abruptly, rising from almost none in 2004 to around 50 per cent in 2005. Despite this, the implementation of Bologna-model programmes is not yet complete in this field, as is evidenced by the fact that, in 2007, the total share accounted for by Bachelors (16 per cent) and

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Masters (55 per cent) is just over 70 per cent, leaving almost 30 per cent of pre-Bologna programmes that will be phased out in the next few years. As was the case with Bachelor programmes, the introduction of Master programmes in most other fields has been much more gradual and the timing differs quite substantially per field of study. Again, the fields in which the highest number of Bologna-model programmes has been introduced to date are something of a mix, with rather good labour market outcomes (engineering) and programmes that have a less favourable outlook (agriculture). Hence, it is not clear whether this will lead to any systematic bias.

Figure 3. Graduates from University Master Programmes in the Netherlands 2003 – 2007, by Area of Study



Source: Dutch graduate surveys 2003-2008

SOCIO-BIOGRAPHIC BACKGROUND AND COURSE OF STUDY

Table 1 presents some key socio-biographic information on graduates from Dutch higher education institutions. It should be noted that all information in **table 1** and subsequent tables is derived from the annual surveys of higher education graduates in the Netherlands conducted by the Research Centre for Education and the Labour Market (ROA) of the University of Maastricht. In these surveys, graduates of a given academic year (extending from the start of September to the end of August the following year) were approached in the autumn of the following year. For example, graduates who completed their degree in academic year 2006/07 were approached in the autumn of 2008, i.e. one to two years after graduation, depending on the exact time of graduation and of completion of the questionnaire. The information contained in the tables is based on the five combined cohorts from 2002/03 to 2006/07 (surveyed from 2004 to 2008).

Although women are now somewhat overrepresented in higher education, there are differences between the types of programmes. The highest share is found in former HBO (pre-Bologna) programmes and the lowest in university Bachelor programmes. These results are probably influenced by the differences by field of study, as described in Section 1, with strongly “female” fields such as HBO education, health and social sciences being slow to implement HBO Bachelor programmes, while the strongly “male” fields of engineering and economics have introduced the most university Bachelor programmes.

Table 1. Socio-biographic Background of 2002/03-2006/07 Graduates from Higher Education Institutions in the Netherlands (per cent)

	HBO		University			Total
	Trad. model	Bachelor	Trad. model	Bachelor	Master	
Gender (per cent female graduates)	60	55	56	47	54	56
A-typical entry qualification	49	49	24	22	*	42
Prior degree or HE certification	12	8	26	26	*	16
Total years of study in HE (mean)	44	46	66	60	*	50
Age at time of graduation (mean)	28	27	28	28	27	28

* No reliable data available for university Masters

Source: Dutch graduate surveys 2003-2008

Table 1 also shows the share of atypical entry qualifications, i.e. the number of graduates entering higher education with a qualification that is different from that normally required for the type of higher education concerned. It must be pointed out that “typical” qualifications, and thus also “atypical” qualifications, are defined differently according to types of higher education institutions/programmes. For HBO programmes (both the old and the new model), the “typical” entry qualification is a diploma in senior general secondary education (*HAVO*), and “atypical” qualifications

are either pre-university secondary education (*VWO*) or senior vocational secondary education (*MBO*). For university programmes (both old style and Bachelor programmes), the “typical” entry qualification is pre-university secondary education (*VWO*), and “atypical” entry can be either senior via general *or* vocational secondary education (*HAVO or MBO*), or a prior HBO degree.² “Typical” entry to a university Master programme is based on a Bachelor, either at HBO or university level. No reliable information is available. Although atypical entry qualifications are more common for HBO graduates than for university graduates, there is little difference between old model and Bachelor programmes at either level.

Not surprisingly, university graduates are more likely than HBO graduates to have obtained a prior degree in higher education. As was pointed out above, a HBO qualification is one of the “atypical” – but far from unusual – routes into a university programme. There is hardly any difference between the old and the Bachelor programmes at university level. Among HBO graduates, “those who completed old-model programmes are somewhat more likely to have had prior higher education experience than those who completed a HBO Bachelor degree programme”.

Although the nominal duration of HBO programmes and old university programmes is usually four years, the actual study duration is substantially shorter for HBO graduates than for university graduates. Whereas HBO graduates complete their studies in less than the nominal duration on average, old-model university graduates take around five-and-a-half years on average to complete their degree. This is partly due to the fact that some university programmes have a nominal duration of five or even six years – notably medical degrees and many engineering programmes -, but university graduates of four year programmes are also more likely to exceed their nominal duration than HBO graduates. As we might expect, university Bachelor programmes, which usually have a nominal duration of three years, show a shorter mean duration. However, the difference between university Bachelor graduates and university graduates of the old model is smaller than we might expect on the basis of nominal duration. We also see that HBO Bachelor graduates have taken slightly longer on average to complete their degrees than HBO graduates of the old system. It could be that some of these differences are due to differences in composition by field of study.

Somewhat surprisingly, there is little or no difference in mean age between HBO and university graduates. We would expect HBO graduates to be younger, since they start at a younger age and normally take less time to complete their programme. On closer inspection, it appears that they are more likely to have completed their programme in part-time study than university graduates. Graduates of full-time university programmes are around two years older on average than those of full-time HBO programmes (27 versus 25). Similarly, the difference between pre-Bologna and Bologna-model programmes at both HBOs and universities is due to the higher share of part-timers among pre-Bologna model graduates.

² Entry to HBO based on a prior HBO or university degree and entry to university programmes based on a prior university degree are not included here, since this is clearly not initial entry to higher education. This is covered by the percentage of graduates with prior HE qualifications indicator in table 1.

INTERNATIONAL MOBILITY

Table 2 provides information on international mobility prior, during and after the higher education course of study. The number of foreign graduates (defined as graduates born outside the Netherlands) and of graduates who lived abroad at the age of 16 is clearly higher for Bologna-model programmes than for old-model programmes – with the exception of university Bachelor graduates, who were only slightly more likely to have been born abroad than those of the old-model university programmes, and slightly less likely to have lived abroad at the age of 16. The latter finding gives the best indication of study mobility into Dutch higher education, since many of the graduates who were born abroad arrived in the Netherlands at a young age where they attended much or all of their education prior to entering higher education. Most of those who lived abroad at age 16 are likely to have come to the Netherlands to attend higher education.

Temporary mobility during the course of study – mostly periods abroad for study or work as part of the study programmes – is considerably more common among university graduates than among HBO graduates. University graduates of the old model are likely to have spent time abroad as part of their programme. In contrast, HBO Bachelor graduates are more likely than HBO graduates of the old model to have spent time abroad during their studies. It is not immediately clear whether these differences reflect a real shift or are a product of compositional differences.

Table 2. International Mobility of Persons Having Graduated in 2002/03-2006/07 from Higher Education Institutions in the Netherlands (per cent)

	HBO		University			Total
	Trad. model	Bachelor	Trad. model	Bachelor	Master	
Foreign graduates	5	9	7	8	12	7
Lived abroad at age 16	2	4	4	4	10	5
Temporarily mobile during the course of study	16	21	35	28	28	23
Employed abroad	2	3	4	5	7	3

Source: Dutch graduate surveys 2003-2008

University graduates are also more likely to work abroad for one to two years after graduation than HBO graduates. Both HBO Bachelor graduates and university Bachelor and Master graduates are more likely to work abroad than those of the old models. Again, it is unclear how far these differences are due to compositional effects.

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WHEREABOUTS OF GRADUATES ONE TO TWO YEARS AFTER GRADUATION

Tables 3 and 4 provide basic information about the study or employment situation of graduates one to two years after graduation. According to table 3, there are only minor differences between graduates of HBO traditional-model programmes and those of HBO Bachelor programmes. Almost three quarters of both groups are employed full-time and about one sixth combines employment with study, resulting in slightly less than nine out of every ten graduates being in some form of employment at the time of the survey. Some 7-8 per cent are studying full-time – usually in a Master programme; altogether, i.e. including those working and studying, 23 per cent each embarked in some form of further education. Only 4 per cent are neither studying nor working.

Table 3. Study or Employment Situation of 2002/03-2006/07 Graduates from HBO Institutions in the Netherlands One to Two Years after Graduation (per cent)

	HBO	
	Traditional model	Bachelor
Master study (only)	7	6
Master study and employment	8	8
Other further study (only)	1	1
Other further study and employment	7	8
Employment (only)	74	73
Neither study nor employment	4	4
Total	100	100
N	36,942	54,663

Source: Dutch graduate surveys 2003-2008

As already pointed out, the graduate surveys address only university Bachelors who transfer to employment; hence, no data can be presented on the basis of these surveys on the whereabouts of university Bachelor graduates; hence, table 4 provides only information about the whereabouts of university Masters of the new Bologna-model. Table 4 shows that there are only moderate differences between graduates of pre-Bologna university programmes and those of university Master programmes, although the differences are slightly greater than in the case of HBO.

Table 4. Study and Employment Situation of 2002/03-2006/07 Pre-Bologna Model and Master Graduates from Universities in the Netherlands One to Two Years after Graduation (per cent)

	University	
	Traditional model	Master
Doctoral study (only)	0	0
Doctoral study and employment	8	10
Other further study (only)	3	3
Other further study and employment	13	9
Employment (only)	71	75
Neither study nor employment	5	4
Total	100	100
N	33,258	9,317

Source: Dutch graduate surveys 2003-2008

Again, almost three quarters of university graduates are employed full-time, with a slightly higher share in the case of Master programmes. This is almost entirely compensated by the slight difference in the number of those combining study and work, so that more than nine out of ten graduates in both groups are involved in some form of employment at the time of the survey. It is relatively rare for university graduates to be studying full-time, but taken together with those who combined study and work, somewhere between a fifth and a quarter of all graduates are involved in some form of further education. Only 4-5 per cent are neither studying nor working.

PROFESSIONAL SUCCESS OF GRADUATES

[Table 5](#) provides information on the labour market success of graduates one to two years after graduation. In general, graduates find work rather quickly. The mean search period after graduation is only one month. Graduates of Bologna-model programmes have a slightly shorter average search period than those of the pre-Bologna model, but the difference is very small and can probably be attributed to the better situation of the Dutch labour market between 2004 and 2008 (before the current economic crisis).

As regards employment conditions, we note slightly more full-time employment one to two years after graduation among graduates of the new model than among the corresponding group in the pre-Bologna model. This can be explained in a similar way as the slightly shorter search period of the former. As regards unlimited-term contracts, however, the situation is mixed. HBO Bachelor graduates are slightly less likely to have an unlimited term contract than graduates of old-style HBO programmes, despite the fact that they entered the labour market under more favourable circumstances. This may be due to the overrepresentation of agriculture

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and arts programmes among the HBO Bachelor graduates. The higher proportion of university Bachelor graduates with an unlimited term contract compared to traditional university programmes and university Master graduates probably reflects the fact that Bachelor graduates only entered the labour market after the Dutch economy had recovered from its mid-decade dip.

As regards occupational position, we note that more or less the same share of pre-Bologna HBO graduates, HBO Bachelor graduates and university Bachelor graduates work in “Managerial or professional occupations” (slightly over 50 per cent); it is only slightly higher for university Bachelor graduates than for the other two groups. It is too early to establish whether this reflects employers’ preference for university Bachelor graduates over their HBO peers or just compositional and/or timing effects. University Bachelor graduates do not reach such positions as often as pre-Bologna university graduates and university Master graduates (71 per cent each). In contrast, HBO graduates (both traditional model and Bologna model) work more often (more than 20 per cent) than university graduates of any kind (about 10 per cent) in “Associate professional occupations”. Since many HBO programmes are specifically designed to train people for such occupations, this is only to be expected. On average, the income of HBO Bachelor graduates is slightly higher than that of the pre-Bologna HBO graduates.

Table 5. Professional Success of 2002/03-2006/07 Graduates from Higher Education Institutions in the Netherlands One to Two Years after Graduation

	HBO		University			Total
	Trad. model	Bachelor	Trad. model	Bachelor	Master	
Foreign graduates (per cent)	5	9	7	8	12	7
Duration of job search (mean months)	1.0	0.9	1.5	1.3	1.3	1.1
Full-time employment (per cent)	59	65	76	78	81	67
Unlimited-term contract (per cent)	66	63	50	63	52	60
Monthly gross income						
Mean (Euro)	1,938	2,040	2,476	2,589	2,439	2,159
Median (Euro)	1,958	2,050	2,409	2,460	2,400	2,153
Managerial or professional occupation (per cent ISCO 1 or 2)	52	52	71	57	71	58
Associate professional occupation (per cent ISCO 3)	23	22	9	11	10	18
At least own level of education required (per cent)	78	81	64	47	64	74
High utilization of knowledge and skills (per cent)	64	62	66	54	66	64
High job satisfaction (per cent)	64	65	69	63	70	66

Source: Dutch graduate surveys 2003-2008

The average income of HBO Bachelor graduates is somewhat higher than that of HBO graduates of the pre-Bologna model. It hardly differs between pre-Bologna university graduates and university Master graduates. Surprisingly, though, university Bachelor graduates on average have a higher income than university Master graduates. Again, we have to be cautious in considering this as a success of the new model of study programmes and degrees because it could reflect the fact that Bachelor graduates only entered the labour market after the Dutch economy had recovered from its mid-decade dip.

In terms of working in a job requiring at least one's level of education, most HBO graduates old and now consider their education as appropriate. The same number of university Master graduates and graduates of the old-model university programmes expresses such views slightly less often. The most striking finding in this respect is the difference between university Bachelor graduates and the other university graduates: Less than half the university Bachelor graduates consider their job as requiring their degree. However, this could be an artefact, because no distinction was made in the questionnaire between university Bachelor level jobs and university Master level jobs (the questionnaire only addressed jobs at "university level", which could have misled the Bachelor graduates to compare the job requirements with the university Master and old-model level. Yet, fewer university Bachelor graduates might consider their job as not requiring a higher education degree, as a comparison with the responses to a further question suggests. Only slightly more than half the university Bachelor graduates stated that they used their knowledge and skills to a high extent, as compared to more than 60 per cent of the other graduates.

Finally, we note that overall job satisfaction does not differ substantially by type of degree. University graduates from the pre-Bologna mode programmes (69 per cent) as well as university Master graduates (70 per cent) express a high or very high degree of satisfaction slightly more often than pre-Bologna mode HBO graduates, HBO Bachelor graduates and university Bachelor graduates (63-65 per cent).

CONCLUSION

Perhaps the major conclusion that can be drawn at this stage is that it is very difficult to draw firm conclusions about the effects of introducing Bologna-model programmes in higher education institutions in the Netherlands. In general, the differences between old-model and Bologna-model programmes are not substantial and the actual differences shown by the data may well be due to compositional effects in terms of fields of study and the timing of introduction in relation to the economic cycle. A definitive analysis of the effects will only be possible after more time has passed: Then it will be possible to distinguish between the artefacts of the transition period and real changes. But even then, we will have to distinguish structurally-caused shifts from fluctuations due to the economic cycle. In that respect we can say that the current economic situation makes things even more difficult, since the first cohorts of Dutch graduates who have been trained almost exclusively

under the new regime are faced with one of the most severe economic crises in recent decades.

There is another reason to conclude that a proper analysis of the effects of the new system of study programmes and degrees in the wake of the Bologna reforms will take more time. Employers will need time to become accustomed to the changes that have been made in the study programmes and to fully realise the potential of the new types of graduates presenting themselves in the labour market. This applies particularly to university Bachelors. There have been frequent discussions about the extent to which a university Bachelor degree represents a final qualification in its own right or if it should be regarded as simply a preparation for a university Masters degree. It will certainly take time for employers to decide whether they consider this entirely new degree as a qualification that is useful as a preparation for work. At this historical stage, we can tentatively conclude that there is little justification for the extreme pessimism that some people express in this respect. For example, the rates of full-time employment and average income of new university Bachelors look promising, even if we do not know yet how far this can be explained by labour market cycles. Although there seems to be room for improvement in some areas such as the use of knowledge and skills, there is certainly nothing in the current results that suggests that university Bachelor graduates opting for a transition to the world of work will face extreme difficulties. The available data suggest that they are well paid, even if their skills are not used as much as those of other graduates. The latter findings, however, could be viewed as an indication that graduates themselves – and possibly employers – are still in the process of becoming accustomed to the changes in the study programmes. Only time will provide the answer to this question.

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