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Longitudinal Research on Vulnerable Young People Conducted at Volda University College and Møre Research:

A Methods Report







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### **Preface**

This note provides a descriptive overview of the longitudinal data concerning youth with special needs in upper secondary school that have been collected for many years at Volda University College and Møre Research. Through four closely linked projects, the same individuals have been followed over a period of 16 years, in most cases, from the age of 17 to 33 years. The four projects are titled as follows:

- Reform 94 Specially Adapted Education (financed by the Ministry of Education and Research [KUF], 1995–2000)
- Adult Life on Special Terms? The Way Into Society for Students With Special Needs in Upper Secondary School (financed by the Research Council of Norway [NFR], 2000–2004)
- Young Adults (financed by Volda University College and Møre Research Foundation, 2007)
- Adult Life in the Mid-thirties (financed by Volda University College and Møre Research Foundation, 2012)

This research has been documented in a series of reports, book chapters and articles, all of which are listed in an appendix to this paper.

Volda, October 2012

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# Four Projects: A Longitudinal Study

This note presents a longitudinal study in which we have followed youths with disabilities over a period of 16 years. The study is based on four different projects; the first of which, Reform 94 -Specially Adapted Education, was part of an evaluation of the reform programme in upper secondary education that was conducted in the mid-1990s. At that time, the main focus of the project was the provision of adapted teaching in upper secondary school for the group known then as students with special educational needs; that is, students who are in a situation in which conditions in school and apprenticeship companies can represent obstacles to their education.<sup>2</sup> Even in this early project, huge amounts of longitudinal data were collected based on information from the professionals involved in the education process at the upper secondary level (Kvalsund & Myklebust, 1998).3 In the spring of 2002, this initial project was followed up by a study of the same youths, titled Adult Life on Special Terms? The Way Into Society for Students With Special Needs in Upper Secondary School. In general, the informants were the youths themselves, and the topic of the study was based on the strategies and adaptations that characterised their early adult lives. Key themes were education, work and leisure. A separate report (Båtevik, 2002) presents the work involved in collecting the data for this project and explains why parents or other close friends were interviewed rather than the individuals themselves in certain cases. In the spring of 2007, the same individuals were followed up yet again in the project titled Young Adults. Even though this project had the same focus as the project conducted in 2002, it was more limited in scope than the initial one. By and large, the data collection in 2007 was performed along the same lines as in the first project 5 years earlier (Båtevik, 2002). In the spring of 2012, a new follow-up study was carried out as part of the project now titled Adult Life in the Mid-thirties. This note offers a brief summary of the work involved in collecting the data in 2007 and 2012, as well as a combined overview of the quantitative data on which the whole longitudinal study is based.

In this study, we have followed young individuals from the start of their upper secondary education in the mid-1990s to their adult lives in 2012. Even though the material also includes certain individuals who were adults when they started their upper secondary education, the vast majority are now in their mid-thirties in 2012. Special needs students from a total of six counties were involved in the first data collection. In the spring of 1996, schools in three of these counties (Møre og Romsdal, Nord-Trøndelag and Hedmark) provided data about youths who had commenced upper secondary school in individually adapted teaching programmes in 1994 and 1995. From the other three counties (Finnmark, Rogaland and Oslo), we received information concerning those youths who started in 1995. This information is what we refer to as the base material for the study, and it represents a total of 760 students, among whom we find those who have been followed up continually until the year 2012. During the early years, the schools supplied data once or twice a year (cf. Kvalsund & Myklebust, 1998). In the spring of 2002, 2007 and 2012, the youths themselves were interviewed by telephone (or they themselves filled in questionnaires). All in all, data have been

<sup>1</sup> Financed by the Ministry for Education, Research and Church Affairs.

<sup>&</sup>lt;sup>2</sup> The term students with special educational needs is recommended instead of special needs students.

<sup>&</sup>lt;sup>3</sup> Many interviews were conducted with pupils in upper secondary school during the project *Reform 94 – Specially Adapted Education*. These youths were not the same ones who participated in the longitudinal part of the study because of the terms of the licence issued by the Data Inspectorate in Norway.

<sup>&</sup>lt;sup>4</sup> Financed by the Welfare Programme of the Research Council of Norway.

<sup>&</sup>lt;sup>5</sup> Financed by Volda University College and Møre Research Foundation, Volda.

collected in 12 stages, of which those collected at the upper secondary school level were the most comprehensive. New information about the youths was gathered about every 6 months during their upper secondary education. The majority of the data collected in this longitudinal study is quantitative. Figure 1 illustrates the various steps in this process.

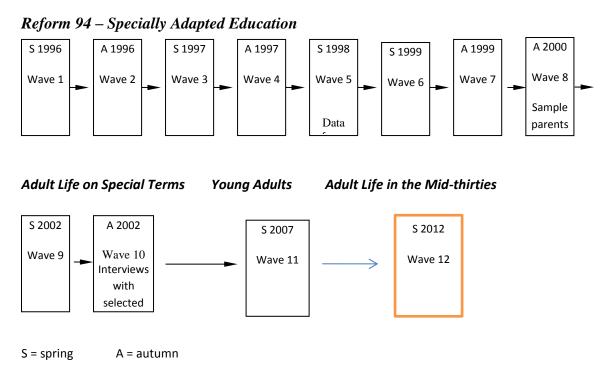


Figure 1. Schematic overview of collection of longitudinal data in the four projects.

## Total Data Set, Basic Data Set and Samples

At the commencement of their upper secondary school education in 1994 and 1995, 2025 students with special educational needs were registered for school in the six counties involved in the project. These students were first registered for this study in the spring of 1996, by which time 172 students had dropped out of school. Certain key variables were recorded for the 1853 students with special educational needs from the two cohorts who were still engaged in education on a full-time basis. The information collected from these two cohorts comprises what we later in this note refer to as the *total data set*. Of these 1853 students with special educational needs, 760 youths participated in the project. We collected the most comprehensive information about these 760 youths in the spring of 1996. This information comprises the *basic data set* for the longitudinal study (see Table 1). While conducting this study, we were able to follow the progress of these 760 youths through the education system until they fully or partially completed their upper secondary education.

Table 1

Overview of the Data

Type of data	Description	No. of students
Initial data	Commencement of upper secondary education in 1994 and in 1995	2025
Total data set <sup>a</sup>	In school on a full-time basis, spring 1996	1853
Basic data set <sup>b</sup>	Basis for the longitudinal study on upper secondary education	760

<sup>&</sup>lt;sup>a</sup>The total data set comprises students with special educational needs from six Norwegian counties who commenced their upper secondary education in 1994 and 1995. <sup>b</sup>The basic data set comprises students with special needs from the same cohorts who were involved in the longitudinal study.

As long as the students were engaged in upper secondary education on a full-time basis, the schools were in possession of the lists of names of the students and apprentices and were responsible for keeping track of the information they had about students (e.g., reporting transfers between schools) and for establishing routines for following up this information. To facilitate the implementation of the follow-up project, *Adult Life on Special Terms*, the lists of names from the schools were handed over to those responsible for the research project. During this process, it proved impossible for the schools to identify 118 of the youths who had participated in the project from the outset for several reasons, including the failure by some schools to keep these lists on file. This situation is discussed in greater detail by Båtevik (2002, pp. 9–10). As a consequence, we were left with the names of 642 individuals whom we could contact for the surveys carried out in 2002 and 2007. This number was further reduced because of the deaths of 2 of these youths by 2002; an additional 7 individuals were registered as deceased by 2007. In 2002, a total of 494 youths were interviewed, which represents a response rate of 77.2% if we take into account those who had died by this time.<sup>6</sup> In 2007, a total of 373 young adults were interviewed, representing a response rate of 58.9%.

In 2012, the Data Inspectorate allowed interviews to be conducted with only those 373 individuals who had stated 5 years earlier in the 2007 survey that they would agree to remain participants in this longitudinal study.

A summary of the interview data for the 2002, 2007 and 2012 surveys is presented in Table 2.

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<sup>&</sup>lt;sup>6</sup> A report by Båtevik (2002) stated that 497 interviews were conducted. However, a closer examination of the data file later revealed that the wrong person had been interviewed in three cases; these data were then discarded.

Table 2

Overview of interview data from the surveys in 2002, 2007 and 2012

	No. of youths
Those from basic data who could be identified in 2002	642
Deceased before interviews in 2002	2
Interviews completed in 2002	494
Response rate, %, of the 2002 survey (494 of 640)	77.2
Deceased between 2002 and 2007	7
Interviews completed in 2007	373
Response rate, %, of the 2007 survey (373 of 633)	58.9
Deceased between 2007 and 2012	2
Interviews and questionnaires completed in 2012	216
Response rate, %, of the 2012 survey (216 of 371)	58.2

Of the 373 individuals who responded to the 2007 survey, 298 also participated in the 2002 survey, which means that 75 new individuals from the basic data set were included in this wave of interviews.

# The 2007 Survey

The 2007 survey was conducted as a combined postal and telephone survey, whereas the whole data collection process for the 2002 survey was carried out solely with telephone interviews. Both surveys were based on a structured questionnaire; the vast majority of cases involved closed response alternatives. The questionnaire from 2007 was shorter and simpler than the form used in 2002, thus making it more suited to a postal survey. Moreover, an effort was made to draw up a questionnaire that provided the best possible basis for comparison of data over a period of time, which is essential in a longitudinal study.

The first step in the process of gathering data was to update the earlier address lists with the help of the extensive Directory Enquiries database, which is provided by Telenor, Norway's largest telecommunications operator. In February 2007, all those individuals with sufficient postal information were sent a questionnaire and detailed information about the project itself. When questionnaires were returned because of "address unknown" or inadequate postal address details, a search was performed in the National Registry to find updated information. The first reminder was sent by post in March. All those who did not reply by post were contacted by telephone during the period between 27 March and 4 July. Another reminder was sent by post in June 2007.

A number of measures were taken to obtain responses from as many participants as possible. In general, these measures followed the same pattern as in the earlier interview survey in 2002 (Båtevik, 2002, pp. 15–19) and can be summarised briefly as follows:

- A simple questionnaire with concrete questions that are easy to understand and quick to answer was used.
- A telephone interview was conducted to contact those who, for a variety of reasons, did not wish to fill out the questionnaire themselves.
- Close relatives or friends were allowed to provide assistance to those individuals who were not able to answer the questions on their own. The vast majority, however, answered the questions without the help of such individuals.
- A course of instruction was provided to those carrying out the telephone interviews.
- The collection of data was conducted over a fairly long period of time (February–July) to ensure that as many individuals as possible were contacted.
- Using various sources (e.g., the Telenor database, the National Registry, the Internet),
  the researchers made an effort to locate the correct individual and find the correct
  address. In addition to performing a collective search (e.g., in the National Registry), each
  interviewer carried out individual searches during the process and phoned at various
  times of the day and week to offer the best possible chance of finding individuals at
  home. The interviewers kept a detailed logbook of their own phone calls.
- Those who responded were offered an extra incentive in the form of a prize draw, with gifts awarded to 25 of those who participated.

Table 3
Status After Completion of the 2007 Interview Survey

Status	No. of young adults	%
Completed interviews	373	58.9
Refusals	113	17.9
Not identified or wrong person	22	3.5
No contact established	125	19.7
Potential candidates for interview in 2007	633	100.0
Deceased	7	
Basis for interview survey	640	

As revealed in Table 3, there are several reasons why fewer interviews were carried out in 2007 than in 2002. One reason is that a higher number of interview candidates refused to participate in the 2007 round of interviews than in 2002. Nearly 18% of those who were potential candidates for interviews in the spring of 2007 did not wish to be interviewed. In addition, it was impossible to identify candidates or establish contact with approximately 23% of the potential respondents.

There are many reasons for the interviewers' inability to establish contact with some of the individuals whose names were on the original list that formed the basis for the interview survey.

Because these individuals are young and are in the midst of trying to establish a foothold in life as adults, their situation sometimes makes it difficult to contact them. For instance, some change their names, and many move once or even several times. In some cases, it may be helpful that many of these people have mobile phones, assuming that they still have the same phone number after they have moved. However, it is not unusual for individuals to change their phone number, thus making it difficult to contact potential interview candidates. We also cannot ignore the possibility that lack of contact is a form of implicit refusal. When conducting the 2002 survey, we noticed that some individuals whom we had contacted by phone to set up a subsequent interview time neglected to answer their phone at the mutually agreed upon time. With the adoption of telephone services such as calling number identification, individuals are now aware of who is calling and can choose whether or not they wish to answer the phone. By not answering the phone, individuals are refusing to participate and can do so without having to communicate their response directly.

#### Data Collection in 2012

The survey in the spring of 2012 followed the same procedure used for data collection conducted 5 years earlier; that is, a combination of telephone interviews (QuestBack) and postal surveys were carried out. As previously mentioned, the Data Inspectorate allowed interviews only with those who in 2007 had agreed to participate in future waves of this longitudinal study.

A comparison of the response rates for the 2007 and 2012 surveys reveals similar results (58.9% vs. 58.2%, respectively), with about 58% of the potential respondents participating in both surveys (see Table 4). There were fewer refusals in the 2012 survey but greater difficulties in establishing contact than 5 years earlier.

Table 4
Status After Completion of the 2012 Survey

Status	No. of young adults	%	
Completed interviews	216	58.2	_
Refusals	43	11.6	
Not identified or wrong person	18	4.9	
No contact established	94	25.3	
Potential candidates for interview in 2012	371	100.0	
Deceased	2		
Basis for survey	373		

#### Representativity

With each new round of data collection, the number of respondents has decreased. A declining response rate poses a problem because it can mean that the net sample, which comprises those who do reply, becomes systematically dissimilar to the gross sample, which comprises those individuals whom we interviewed at the beginning of the project. However, in longitudinal studies, there exists an advantage of being able to compare data at different points in time across a series of variables,

which allows the identification of biases in the data. The tables 5 to 12 provide such an insight. The total data set is the basis for the comparisons in the first five tables.<sup>7</sup>

Table 5 Gender Distribution

	Total data set	Basic data	Sample	Sample	Sample A <sup>a</sup>	Sample B <sup>b</sup>
	in education spring 1996	set	2002	2007	2012	2012
		1996				
Girls	37.6	38.7	38.5	37.5	39.5	39.8
Boys	62.4	61.3	61.5	62.5	60.5	60.2
Total	100	100	100	100	100	100
N	1844	760	494	373	205	216

*Note*. Values are percentages unless otherwise indicated.

<sup>a</sup>Sample A contains only answers from former special needs students themselves. <sup>b</sup>Sample B also includes 11 answers from parents.

As shown in Table 5, a slight bias exists in the gender distribution. Girls are slightly over-represented in the basic data set from 1996 and in the interview sample from 2002, but the gender distribution is almost identical in the sample from 2007 and in the total data set. However, there is an increased female over-representation in 2012.

Table 6 shows the percentage of students in each type of class in the spring of 1996. Here, students who attended mainstream classes (full- or part-time basis) are distinguished from those who were placed in different types of special classes.

Table 6 Type of Class, Spring 1996

	Total data set in school spring 1996	Basic data set 1996	Sample 2002	Sample 2007	Sample A <sup>a</sup> 2012	Sample B <sup>b</sup> 2012
Mainstream class	60.6	51.3	51.8	52.8	58.5	55.6
Non-mainstream class	39.4	48.7	48.2	47.2	41.5	44.4
Total	100	100	100	100	100	100
N	1844	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

<sup>a</sup>Sample A contains only answers from the former special needs students themselves. <sup>b</sup>Sample B also includes 11 answers from parents.

<sup>&</sup>lt;sup>7</sup> However, because we lack information about certain variables, this number varies somewhat in the tables below.

As shown in Table 6, the students from mainstream classes are under-represented in both the basic data set from 1996 and the interview samples from 2002 and 2007. The reason for this bias appears to be that during the data collection process in 1996, the form teachers in the special classes were more conscientious in providing data than their counterparts in the mainstream classes. In 2012, the bias is somewhat less, especially in sample A.

Table 7

Branch of Studies, Spring 1996

	Total data set in education spring 1996	Basic data set 1996	Sample 2002	Sample 2007	Sample A <sup>a</sup> 2012	Sample B <sup>b</sup> 2012
Academic specialisation	13.7	12.1	9.7	8.8	10.2	10.2
Vocational programmes	78.9	76.1	78.1	78.3	82.0	77.8
Unspecified	7.4	11.8	12.1	12.9	7.8	12.0
Total	100.0	100.0	99.9	100.0	100.0	100.0
N	1828	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

<sup>a</sup>Sample A contains only answers from the former special needs students themselves. <sup>b</sup>Sample B includes 11 answers from parents.

Table 7 provides information about what type of programme the students studied in the spring of 1996. The vast majority (almost 4 of 5) at that time attended vocational education programmes. By contrast, less than one seventh attended academic specialisation programmes. The rest (most of whom with relatively severe functional difficulties) attended unspecified programmes.

As indicated in Table 7, students in academic specialisation programmes are under-represented in both the basic data set and in the interview samples to an increasing degree until 2007. However, this bias is decreased 5 years later. Students in unspecified programmes are correspondingly over-represented, with the exception of sample A in 2012, which excludes those individuals who needed help from their parents to answer the survey questions. The bias is rather small in the case of students with special needs who attended vocational education programmes in the spring of 1996, with the exception of sample A in 2012.

As mentioned previously, the students participating in this longitudinal study represent six Norwegian counties.

Table 8

Home County, Spring 1996

	Total data set in education spring 1996	Basic data set 1996	Sample 2002	Sample 2007	Sample A <sup>a</sup> 2012	Sample B <sup>b</sup> 2012
Rogaland	25.6	33.0	36.8	30.3	31.2	32.4
Hedmark	19.4	9.6	9.3	10.2	10.2	10.2
Oslo	8.2	12.2	9.3	11.3	10.2	9.7
Møre og Romsdal	21.1	22.0	23.7	26.8	27.8	28.2
Nord-Trøndelag	16.9	15.5	13.4	14.5	13.7	13.0
Finnmark	8.8	7.6	7.5	7.0	6.8	6.5
Total	100.0	99.9	100.0	100.1	99.9	100.0
N	1853	760	494	373	205	216

*Note.* Values are percentages unless otherwise indicated.

A general pattern is apparent: In comparison to the total data set, Rogaland in particular is strongly over-represented, and Hedmark strongly under-represented, in the basic data set from 1996. A similar pattern is also revealed when the sample from 2002 is compared with the total data set. When comparing the interview samples from 2007 and 2012 with the total data set, we find that Rogaland is under-represented to a lesser degree, Møre og Romsdal is clearly over-represented in 2007 and 2012 and Hedmark remains under-represented. In the other three counties, the bias is not particularly large, neither for the basic data set from1996 nor for the samples (2002, 2007 and 2012).

A distinct feature of the four tables 5 to 8 is that the greatest bias exists during the collection of data in 1996. It appears that the efforts of the form teachers influenced, to varying degrees, the composition of what we here refer to as the basic data set from 1996. Differences between the basic data set and the three interview samples in 2002, 2007 and 2012 exist because of a slightly different response rate among the various categories of students with special educational needs; however, these differences have not created a particularly large bias. The subsequent tables (tables 9 to 12) consist only of basic data from 1996 and the interview samples from 2002 and 2007. The total data set did not include the types of data that are shown here.

<sup>&</sup>lt;sup>a</sup>Sample A contains only answers from the former special needs students themselves. <sup>b</sup>Sample B includes 11 answers from parents.

Table 9 *Language Background* 

	Basic data set	Sample 2002	Sample 2007	Sample A <sup>a</sup>	Sample B <sup>b</sup>
	1996			2012	2012
Foreign language speakers	5.4	3.4	3.2	2.0	1.9
Norwegian speakers	94.6	96.6	96.8	98.0	98.1
Total	100	100	100	100	100
N	760	494	373	205	216

*Note.* Values are percentages unless otherwise indicated.

As shown in Table 9, the percentage of students with special educational needs with a foreign language background in the basic data set was low. This percentage has decreased still further during subsequent waves of data collection.

During the collection of data in 1996, the students' possible functional difficulties were registered. As revealed in Table 10, the basic data set from 1996 and the samples from 2002, 2007 and 2012 in general are very similar in terms of functional difficulties and functional levels.

Table 10 reveals that compared to the other samples, sample A from 2012 has a higher functional level and fewer specific problems of a somatic, psychological and social nature (with the exception of reading and writing skills).

In the spring of 1996, a detailed report was obtained of what types of specially adapted teaching the students were offered in school. Table 11 shows the percentages of students who received all their individually adapted teaching within the framework of a mainstream class and of those who were offered at least one remedial measure.

<sup>&</sup>lt;sup>a</sup>Sample A contains only answers from the former special needs students themselves. <sup>b</sup>Sample B includes 11 answers from parents.

Table 10

Functional Status, Spring 1996

	Basic data	Sample	Sample	Sample A <sup>a</sup>	Sample B <sup>b</sup>
	set 1996	2002	2007	2012	2012
Normal eyesight	97.0	96.6	96.0	94.6	94.0
Normal hearing	96.4	95.5	96.2	94.6	94.9
Normal freedom of movement	94.5	94.5	93.3	95.1	92.6
No motor difficulties	86.3	85.2	84.5	89.3	86.1
No language or communication					
problems	77.9	78.5	79.9	88.3	83.8
Normal speech & articulation	86.6	86.8	87.7	91.7	88.4
Normal reading & writing skills	41.6	40.1	39.9	40.0	38.9
Normal numeracy skills	53.2	54.3	54.4	61.0	59.3
Normal intellectual ability	52.0	55.1	53.4	64.4	61.1
No psycho-social problems	66.4	69.0	66.8	73.7	70.8
Normal concentration ability	62.2	62.3	62.2	68.3	65.3
No medical problems	82.5	80.8	83.1	82.5	81.5
No psycho-social stress	80.4	81.4	79.4	82.9	82.4
Average functional level <sup>c</sup>	4.5	4.5	4.5	3.7	4.3
N	760	494	373	205	216

*Note.* Values are percentages unless otherwise indicated.

<sup>&</sup>lt;sup>a</sup>Sample A contains only answers from the former special needs students themselves. <sup>b</sup>Sample B includes 11 answers from parents. <sup>c</sup>Arithmetic average of the 13 indicators of functional difficulties listed in the table; the lower the number, the higher the functional level.

Table 11
Individual Adaptation, Spring 1996

	Basic data set 1996	Sample 2002	Sample 2007	Sample A <sup>a</sup> 2012	Sample B <sup>b</sup> 2012
Exclusively in mainstream class	43.3	43.3	44.5	50.2	47.7
At least one intensive remedial measure	57.6	57.3	60.3	58.5	60.6
N	760	494	373	205	216

*Note.* Values are percentages unless otherwise indicated. <sup>a</sup>Sample A contains only answers from the former special needs students themselves. <sup>b</sup>Sample B includes 11 answers from parents.

Fairly tiny differences exist among the basic data set and the two samples from 2002 and 2007 in terms of the percentage of students who are offered all their remedial measures in a mainstream class. However, mainstream students are over-represented in the samples from 2012, especially in sample A. The sample from 2007 and sample B from 2012 have somewhat higher percentages of students with more than one remedial measure than do the basic data set and the interview sample from 2002. However, sample B from 2012 is not biased concerning individuals with at least one intensive measure at the start of upper secondary school.

Finally, we compare the progression of students—that is, whether they are on schedule—in the basic data set and the samples. As shown in Table 12, higher percentages of students with normal progression exist in the samples, especially in the samples from 2012, than in the basic data set.

Table 12

Progression in Upper Secondary School

	Basic data set 1996	Sample 2002	Sample 2007	Sample A <sup>a</sup> 2012	Sample B <sup>b</sup> 2012
On schedule, autumn 1996	34.3	38.1	38.9	48.8	46.3
On schedule, spring 1997	31.2	35.6	35.1	45.4	43.1
Qualified for admission to higher education or vocation, spring 1999	13.9	16.4	15.3	19.5	18.5
N	760	494	373	205	216

Note. Values are percentages unless otherwise indicated.

<sup>a</sup>Sample A contains only answers from the former special needs students themselves. <sup>b</sup>Sample B includes 11 answers from parents.

Table 12 also reveals an over-representation, especially in the samples from 2012, of students who had succeeded in obtaining vocational qualifications or had qualified for admission to colleges and universities by the spring of 1999 than in the basic data set.

Overall, based on those variables that we were able to investigate in this study, there appear to be only small biases in the interview samples from 2002 and 2007 compared to the basic data set.

## **Concluding Remarks**

In longitudinal research, respondent attrition occurs at each wave of data collection. Thus, the samples may be biased, which is a serious problem that may threaten the external and internal validity of the research. This limitation may, however, be somewhat diminished if it is known in what respect the sample is distorted. Such information was acquired by comparing the population and samples in terms of strategic variables. The results of these comparisons are presented in this research note and may help readers assess the representativeness of the different samples established through several waves of data collection.

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