

## Previous Related Literature

### 4.1 Some Preliminary Remarks on Methodology

It is interesting to note that almost all empirical studies are cross-sectional analyses. Since such an analysis provides snapshots of the incidence at particular points of time, they can be criticized due to the fact that they ignore the longitudinal dimension of the point at issue. This critique also applies to the distributional effect of higher-education subsidies. In analyzing that effect, we have to distinguish between an analysis of children from various household types and an analysis of educated and non-educated individuals going through their life cycle. For the former, a cross-sectional examination is the only possibility; for the latter, a long-run analysis might be helpful. One question related to longitudinal analysis that needs to be addressed is whether or not graduates actually *pay back* their received benefits from public subsidization within their lifetime (see, for example, Grüske (1994) and confer also the discussion in Chapter 4.2). Another related question is how public higher education affects the income inequality in subsequent years.

The non-empirical literature often ignores the longitudinal-cross-sectional distinction and deals with a mixture of both views. Basically, a long-run analysis does not yield a distributional effect among *rich* and *poor* (cf. Grüske (1994), (Sturn and Wohlfahrt, 1999, ch. 6.1.3.3) and Barbaro (2001)). A relationship to such a socioeconomic variable is possible if a strong underrepresentation of students from socioeconomically disadvantaged backgrounds in higher education could be ascertained. Then, one can argue that students from higher-income families benefit the most from the subsidies and that those fortunate enough to get their higher education subsidized will receive all the returns from the human-capital investment, but the costs would be borne by all taxpayers, including the poorer ones. As we have seen, there is no evidence – at least for Germany – to support such a conclusion.

One of the most cited empirical work concerning the long-run effects is, again, Grüske (1994), whose study includes both a cross-sectional analysis and a long-run approach. The study became of policy concern, after some

policy advice with reference to it has been put forth. For instance, in his paper commissioned by the *Sachverständigenrat* (German Council of Economic Advisers, see the footnote on page 14), Richter (1999) recommended a deep reform of the higher-education funding system in Germany also with regard to the unwanted distributional effects, as they have been pointed out by Gröske. Moreover, recent (German) reform proposals toward fees, vouchers, and loans (e.g. Ziegele et al. (1998); Bareis et al. (1999), and Sachverständigenrat Bildung (1998)) support their argumentation with the results of Gröske explicitly.<sup>1</sup> Hence, it seems to be worthwhile to speculate on this examination, in particular on the methodology. This is what the following Chapter 4.2 aims to do. The main goal by doing so is to critically assess the methodology of the study.

## 4.2 Gröske's Long-Run Analysis

### 4.2.1 Method

In this examination, the difference between the education-related tax payments of the former student during her working life and the received benefits during the time a student obtained higher education is calculated. The analysis considers only male students (cf. Gröske, 1994, p. 101).

The received benefits represent – similar to the cross-sectional analysis – 60% of university expenditures, which equal 2% of the whole tax revenue. If the received benefits during the period of higher education exceed the later return flow, we can observe a net benefit, which Gröske cites as an indication for redistribution.

Gröske restricts the examination design considerably when he stresses: “External effects and broader dynamic incidence effects due to adjustment reactions are neglected.” (Gröske, 1994, p. 73) (own translation).

### 4.2.2 Results

In his examination, Gröske studied five groups of subjects. It was possible to obtain a positive net benefit for all of them. Table 4.1 provides the net benefits per students and with respect to the department.

These values are not discounted to the present value. Thus, academics carry between 24% and 40% of their costs of education themselves. “If the different time of usage and pay-back burden is taken into consideration and both figures are discounted to the present value, this portion falls to between 10% to 20%. To put it differently, a person without tertiary education and with

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<sup>1</sup> At the time of writing, the current issue of the German weekly journal *Die Zeit* also refers to this study and presents table 4.1 on page 41 with the main results of the examination in order to illustrate the regressive distributional effects.