

FINANCING MECHANISMS

Their Impact on Postcompulsory Education

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This chapter will discuss the effects of various financing systems on recurrent postcompulsory education. First, a number of criteria will be introduced for assessing the probable impact of financing mechanisms on recurrent education. Second, several alternative financing models will be presented. Three models are presented in this volume (see Chapters 2, 3, and 4) so they will not be discussed in detail in this chapter. Other models which have not been proposed explicitly here will be discussed more fully. Third, an attempt will be made to evaluate each of the mechanisms in the light of the criteria—that is, to speculate on whether and to what extent the various systems of financing are likely to satisfy the objectives of recurrent education. One essential part of this discussion will be the identification of possible trade-offs between those objectives. The fourth step will be the attempt to find out which financing mechanism promises to fulfill the criteria most adequately. Such a “best” financing system very well may be a mixed one. Finally, the impact on macroeconomic activities of financing recurrent education as well as some caveats will be discussed.

CRITERIA FOR EVALUATING FINANCING MECHANISMS

In this section various criteria are set out for evaluating financing plans for recurrent education. Although much of the discussion of recurrent education has been limited to equality of educational opportunity and efficiency, several additional criteria will be introduced here.¹

ENCOURAGING RECURRENCE

The first criterion is to encourage the replacement of traditional schooling patterns with a flexible and recurrent alternation of education, work,

leisure, vacation, and retirement. This criterion is referred to as "encouraging recurrence," and advocates in particular part-time work as well as flexible work and vacation schedules. Also considered is the ability of alternative financing schemes to induce educational institutions to offer recurrent education.

INCREASING EFFICIENCY

The second criterion, "increasing efficiency," entails several different aspects of efficiency. The first is *internal efficiency*, which refers to optimizing the organization and mode of production within the educational industry by choosing cost-minimizing combinations of production factors, optimal firm sizes, time-minimizing decisions, and efficient management procedures. Internal efficiency also entails the matter of output quality—in other words, teaching contents. The second aspect is *external efficiency*, which is concerned with the efficient use of educational resources as it affects the functioning of the economic sector (i.e., of the labor market and its branches). While recurrent education is concerned with reducing unemployment, it also aims at preventing it by giving employed workers the opportunity to take part in recurrent education activities in order to alter their skills even before the threat of unemployment occurs. In this sense, external efficiency implies flexibility of the labor force (Clement and Edding, 1979).

As a result of recurrent education activities, productivity of the labor force is likely to increase in two ways: Recurrently educated workers and employees can be expected to be more productive than those who are not; and preventive recurrent education is likely to minimize the costs of structural and technological changes by ruling out or at least mitigating structural disequilibria in the labor market. Beyond this, external efficiency is also affected by the existence of external benefits and costs of education and the way they are taken into consideration by the financing schemes. Finally, achieving greater harmonization of labor markets through avoiding or mitigating cobweb cycles and over- or underinvestment in recurrent education will also enhance the external efficiency of postcompulsory education and training.

ENCOURAGING INNOVATIONS

The third criterion aims at increasing the innovative potential of the recurrent education system. The regulatory and financing mechanisms

of the existing postcompulsory education systems are said to prevent drastic innovations in education. Thus scrutinizing the impact of alternative finance systems on educational innovations will be of interest. Some innovations can be easily sold in the educational market place and aim at increasing the market value of human capital (marketable innovations). Others may have a low value in the market place, but they have high social value.

ENCOURAGING MARKETABLE SKILLS

Fourth, a recurrent education system may be designed and financed such that primarily marketable skills and knowledge will be produced while nonmarketable abilities are suppressed, or vice versa. Hence, it is important to assess whether or not financing models for recurrent education foster a system that primarily produces marketable or nonmarketable skills or both in an appropriate mixture.

ENCOURAGING INTEGRATION

One salient feature of current activities in both continuing education and present postcompulsory education is the segregation of vocational training and general education as well as the lack of coordination among the diversity of other educational activities. Recurrent education stresses a systems approach to all recurrent offerings, so it is important to know if the various financing schemes foster the coordination of recurrent postcompulsory educational activities in a holistic and systematic way. It would be desirable to achieve an integration of the present subsystems and offerings of postcompulsory education and training into one general module system of recurrent postcompulsory education and training (Edding et al., 1974: 22). This integration should not be confined to the matter of organization and coordination; it should also refer to the integration of theoretical knowledge and practical know-how as well as of general education and vocational training. This criterion will be called "encouraging integration."

ENCOURAGING INDIVIDUAL CHOICE AND PERSONAL DEVELOPMENT

There is wide agreement among critics that in most countries present educational institutions and processes are marked by authoritarian

hierarchical decision structures dominated by the state bureaucracy that do not give any significant decision-making power or influence to their clientele. Virtually all proponents of recurrent education project a system of postcompulsory education and training that will be tailored to the individual needs of learners, most of whom will be adults with some work experience and with specific perceived needs (Lowe, 1975).

For this reason, the criterion of increased individual choice and freedom for the learners is an important one for recurrent education. Hence, the sixth criterion for evaluating the alternative financing mechanisms will be the extent to which individual choice and freedom will be enforced. Such choice should foster personality enrichment and self-development, self-determination and self-responsibility, self-independence and self-control, democratization of educational decisions, and individual participation in shaping recurrent education activities. This criterion will be referred to as "encouraging individual choice and personal development." But note that this criterion (as well as others) very well may be in conflict with other criteria, as will be shown later.

EQUALITY OF EDUCATIONAL OPPORTUNITY

The seventh criterion is to promote equality of educational opportunity and encourage the demand for recurrent education. Here, the question will be whether and to what extent alternative financing modes are likely to encourage participation in recurrent education activities. Although precise information on the contribution of different factors to the demand for postcompulsory education and training does not exist, the available information on recurrent education suggests that several types of variables have an influence on the demand for it (O'Keefe, 1977).

First, there are ascriptive factors like sex, race, ethnic origin, and age. Second, career and promotion perspectives are said to be important determinators of recurrent education demand. This argument refers to the position of the potential learner in the job ladder and the labor market segment in which he or she is situated. In this context, some researchers have introduced the terms "recurrent education value" or "recurrent education closeness" of the respective jobs and work content. A related component is job security or the obligation to reemploy persons who have interrupted their work to undertake recurrent education activities.

A third set of variables likely to affect the demand for recurrent education is related to social background. The most common of these variables seem to be the education, social status, profession, income, and wealth of both the potential learner's parents and the learner as well as the number and kind of recurrent education activities he or she has already experienced.

Fourth, from a human capital theory perspective, the expected economic and noneconomic benefits—that is, the improvement of income or the expected rate of return from an investment in recurrent education—should exert a major influence on the demand for recurrent education. Fifth, the attitude of individuals towards mobility and change might be an important variable of demand. So might the sixth factor, the organization of work with respect to shift work, part-time work, and flexible work-time schedules.

Seventh, the recurrent education activities themselves (their regulatory as well as informational systems) are said to be important in motivating or discouraging demand for recurrent education. Important characteristics in this regard are as follows: the duration of recurrent education units, their contents and curricula, their module character, time schedule (during the day, evening, or weekends, and block or sequential), the regional distribution and the local distance of the recurrent education institutions, the variety of courses with respect to the clientele and their diverse interests, the mode of regulation of access, eligibility and admission rules, the degree of participation and learner influence on the activities, and the certification of performance and transferability of credits. The latter is likely to be of great importance as long as certificates are a prerequisite for entering career tracks and for promotion.

Finally, it is believed widely that the form and amount of financial contribution has a very strong impact on the willingness and ability of individuals to participate in recurrent education. The less the potential participants have to contribute out of their own pockets or through income foregone (at present in fees or in the future through loans) and the higher the subsidies, the more likely they are to demand postcompulsory education and training activities (Jackson and Weatherby, 1975). Encouraging additional demand for recurrent education is seen as an important criterion for assessing the impacts of diverse financing proposals. The view that it is desirable that the demand for recurrent education should behave in an anticyclical fashion reinforces this social

perspective. The goal is that when demand for labor is low there will be more participation in recurrent education, and vice versa. Anticyclical behavior in the demand for recurrent education would not only relieve the labor market but also the public budget: It would reduce the need for unemployment compensation during recessions as well as avoid or mitigate "withdrawal effects" (losses of economic growth) in boom phases. Hence, it seems worthwhile to analyze the degree to which the financing schemes in question do initiate or enforce a specific demand behavior as to economic cycles.

Alternative financing mechanisms for recurrent education can affect the demand for recurrent education in two ways: first is the extent to which the potential participant has to pay for the education and has to forego income during the education period; second is variations in the types of recurrent education activities engendered that may result from different financing schemes. In comparison, social background and labor market as variables affecting the demand for recurrent education seem to be least alterable through different funding modes. The criteria of equality of educational opportunity and demand for recurrent education will be referred to as "encouraging demand for recurrent education" and "increasing equality of participation in postcompulsory education and training," respectively.

SOCIAL AND ECONOMIC EQUITY

The eighth criterion is that of "social and economic equity." It is comprised of a number of related aspects. The first one is equity among regions in the distribution of recurrent activities. The second facet has to do with equity of the financial burden between individuals, social classes, and generations, which brings up the "ability-to-pay" versus "pay-as-you-use" controversy. The third concern is directed towards equity of financial support for individuals, social classes, and generations, and the next means equity in the distribution of skills, education, and training between and within generations as well as equivalency of general education and vocational training. Finally, some researchers call for equity of financial and nonfinancial benefits of income, as well as of career outcomes and life chances between and within generations. All these different aspects of equity will be called "equalizing the distribution of recurrent education implications."

DEMOCRATIZATION OF EDUCATION AND WORK

The ninth criterion that is widely discussed in the literature and should be taken into consideration is “democratization” of education and work. However, as employment is beyond the reach of schemes for financing recurrent education, we aim at democratization of education alone, excluding the dominance of particular interests (Edding et al., 1974: 27). Furthermore, we should evaluate whether financing recurrent education models encourages activities and processes in postcompulsory education and training that are likely to endanger or enforce the social cohesion and integration of different social classes, races, or ethnic groups.

Some politicians and researchers are also concerned with the extent to which different financing schemes are likely to increase the total costs of education as well as specifically the burden upon the public budget. These concerns will be considered as the eleventh and twelfth criteria, respectively.

ALTERNATIVE MECHANISMS OF FINANCING POSTCOMPULSORY EDUCATION AND TRAINING

Six basic models for financing a recurrent system of postcompulsory education have been suggested in the past:

- model 1: self-financing
- model 2: drawing rights
- model 3: entitlements (vouchers)
- model 4: single-employer financing
- model 5: parafiscal funds
- model 6: state financing

Three of these models (the drawing rights model by Rehn, the entitlements model by Levin, and the parafiscal funds model by Clement) are presented in this volume. As the other three models (the self-financing model, the single-employer financing model, and the state financing model) have not yet been introduced and may be new to the reader, they will be described briefly before being evaluated.

The impacts of these financing models on recurrent education will be discussed with respect to the criteria introduced above. The discussion is followed by a matrix scheme that will show the impacts of the alternative financing mechanisms on the criteria. This scheme should also allow for a cautious comparison of the impacts of the various models that can then be used to draw some prudent conclusions as to what financing mechanism (a pure or a mixed one) seems to be most promising. These conclusions will clearly depend on value judgments with respect to the weight of the various criteria as well as to the assessment of the impacts; thus each weight-assessment system is likely to come to different conclusions. Hence, the choice or construction of a specific financing scheme for recurrent postcompulsory education and training is not possible without strongly involving personal and political preferences and judgments—in other words, without elements of arbitrariness.

THE SELF-FINANCING MODEL

A system of self-financing recurrent education requires individuals to pay for their own postcompulsory education and training out of their own resources. This can be achieved in a threefold manner: using up former savings, expending current income, or paying through loans which will be repaid out of future earnings. Individuals are assumed to consider themselves as consumers of and investors in recurrent education. In a free educational market, private producers would offer recurrent education services in order to make profits.

Yet it seems unlikely that this kind of free market provision for recurrent education would help meet the objectives that were implied by the preceding criteria. First, there is no reason why the recurrence of education and the alternation of work and education or training should be encouraged in a free market system of education to any considerable extent. Recurrent education is likely to increase the labor costs for employers; hence, they will prefer cheaper (i.e., traditional) forms of education and training, and so the demand for recurrent education by the mass of workers is not likely to emerge.

Second, pressure for internal efficiency can be expected to increase remarkably as consumers insist upon getting efficient services for their money and competition among producers forces them to look for cost-minimizing production. Thus, the production of recurrent educa-

tion will tend to focus on the short run (and be more expensive for the demanders in the long run) and new production functions may reduce the production to only marketable outputs (i.e., to outputs that have a market value in the first place for the educational firm as well as for the demander). Those outputs that are not of value in the market but are of great value for society are more likely to be ignored.

Given a short-run orientation of a free-market system of recurrent education, overall external efficiency is not likely to improve very much either. First of all, as a response to structural or technological unemployment, recurrent education activities can be expected to be only reactions to unemployment—it is very likely that the motive of prevention will be absent. Second, the short-run market orientation of postcompulsory education will not help to increase flexibility in the labor force and the labor market; instead cobweb cycles of over- and underproduction of specific qualifications in various educational and labor markets are likely to prevail. Moreover, external effects of recurrent education will not be internalized at all, and in the long run private monopolies may emerge within the educational industries.

With respect to innovations, it can be expected that new educational technologies will be developed and used for recurrent education in a free-market system such that the internal efficiency of the education industry will increase as asserted above. Also, innovations in subjects, teaching contents, teaching methods, and so forth will emerge. However, these innovations are likely to be limited to marketable ones rather than be applied to those of high social import but little private demand.

As one consequence, the recurrent education system will focus on the improvement of marketable skills, whereas general education will be neglected widely. However, the integration of general education and vocational training as well as of the various activities of adult and further education in a recurrent education system will be encouraged, and the links between theoretical knowledge and practical know-how are likely to be strengthened (at least within postcompulsory vocational education).

There is no doubt that a free-market and self-financing system of recurrent education will strengthen and widen individual choice and freedom (Friedman, 1962; Coons and Sugarman, 1978; West, 1964) and consumer sovereignty. This will allow for a much broader variety of postcompulsory educational activities than is witnessed at present. It is likely that those broader activities will be shaped more to the specific

needs of the buyers of recurrent education. But note that some inefficiencies can also result from individual choices based on individual purchasing power and preferences. First, there is the problem of imperfect information that may lead to "bad" or "wrong" decisions. Second, there is the problem of the short-run orientation in making choices: According to Bohm-Bawerk's law of time preference, the individuals' time preferences tend to overestimate present consumption with respect to a quick pay-off and to underestimate future benefits. This disposition implies a number of consequences which have already been mentioned above: short-run and quick pay-off demands for recurrent education, focus on marketable skills, cobweb cycles in the educational sector as well as in partial labor markets, and underinvestment in recurrent education.

Moreover, we would expect a self-financing system of recurrent education to have a detrimental effect on the demand for postcompulsory education relative to the effects of the subsidies offered by the present system. The increase in direct costs would discourage demand, particularly among disadvantaged and "education-distant" groups. We cannot foresee whether incentives created by increases in career and promotion possibilities, job security, and the "recurrent-education value" of work will occur and encourage demand for recurrent education.

Finally, demand for postcompulsory education and training seems very likely not to behave anticyclically with respect to the business cycle. Those laid off in phases of recession will lack the necessary resources to be able to bear the financial burden of paying for the direct cost of education. Many of those still employed who might be interested in pursuing recurrent education measures are likely to refrain because they may fear losing their jobs. Hence, most of the potential clientele for postcompulsory education and training can be expected to participate in recurrent education in periods of economic prosperity when the labor markets are tight and jobs rather secure. However, during such periods of full employment or even overemployment, withdrawal effects (output foregone) would be high, and wage as well as price pushes might occur in the wake of scarce labor. Generally, from an investment perspective, rational behavior would induce individuals not to postpone their education and training. Rather, to enjoy the maximum pay-off it would seem advisable to demand education in the early years as much as possible in order to get a high entry-level job and then receive on-the-job training afterwards (Stoikov, 1975).

Another important question is whether the self-financing (free-market) model of postcompulsory education and training would tend to reduce social and economic inequality. In this respect there is little reason to be optimistic. A free-market system would tend to enforce the disparities in the regional distribution of recurrent education activities such that the great bulk of offerings would be found in urban areas, where purchasing power and demand is concentrated, rather than in rural areas. Without subsidies,² the price of recurrent education, family income, and the expected return from the investment in recurrent education will be the main economic variables determining demand behavior.³ *Ceteris paribus*, more recurrent education will be demanded by individuals of higher income. Individuals will demand post-compulsory education and training as long as they can pay for it. Therefore, the distribution of demand for recurrent education will probably mirror the present distribution of income rather than be more equal.

The drawing rights model as proposed by Rehn would use social security accounts to enable individuals to finance recurrent education as well as pensions and other periods out of the labor market. Inequal educational opportunities and life chances are very likely to continue from generation to generation. Also, equity of general education and vocational training will not be achieved.

Moreover, democratic participation in the decision and power structures of education as well as in the employment system will not be increased. The market mechanism is likely to reproduce these structures such that powerful interests in the economic sector will tend to dominate the choice of individuals. Self-financing and a market system in recurrent education also may lead to a higher degree of social stratification of the population and to social norms and values that might endanger social cohesion in the long run. While the total cost burden for education might decline substantially in such a financing system, the public sector would, of course, be relieved completely from the burden of financing postcompulsory education and training.

THE DRAWING RIGHTS MODEL

Before going into some detail on the drawing rights approach, two remarks seem necessary. First, the evaluation of the model depends to a great extent on the knowledge of the supply system of recurrent

education. Rehn's model restricts itself to the demand side (the principles of raising, administrating, distributing, and using up the drawing rights from, among, and through potential demanders) but says nothing about the supply side of postcompulsory education and training. In particular he leaves open whether recurrent education activities should be offered in a free market by private firms, exclusively in a regulated market by state institutions, or in a partly regulated mixed market of private and public supplies (obviously, the latter currently prevails in most countries).

The structure and ruling principles of the supply system are of great importance for the way in which a recurrent education system functions, and hence for an assessment of it. Since Rehn stresses the freedom and responsibility of individuals for their own lives and the liberation of individuals from the bureaucratic state, it seems logical to assume that a free-market supply system fits best into his financing model. Hence, the completed model is basically a free-market system of postcompulsory education and training, differing from the self-financing model in one major way: Individuals are free to save for later consumption of or investment in recurrent education in the self-financing case, while in the drawing rights system individuals are forced to save a certain amount of their current income in order to acquire drawing rights which they then are free to use (for recurrent education or other activities). The basic contradiction in Rehn's model can be put as follows: Why should individuals gain more freedom for themselves by being forced to save? Why not allow them to decide whether to save or not and, if so, what amount to save?

Second, Rehn's model describes primarily a labor market strategy rather than an educational policy. However, the model can obviously be extended to serve as a strategy for financing recurrent education. The problem here is that Rehn tends to reduce the financing issue to solely a matter of bookkeeping. By doing so he overlooks the fact that shifting a financial amount from one account to another may induce substantial changes in the behavior of the respective account owners.

Generally, the drawing rights model is in many ways very similar to the self-financing model. That is why the following evaluation has been placed closed to the preceding one and, hence, can be shorter. Again, there is no reason to believe that a recurrent alternation of work, education, leisure, and training would emerge solely through the free-market forces. Within a free-market approach to recurrent education, alternation of work and education is more likely to be achieved through

collective agreement or legislative actions rather than solely through the market forces which are independent of the way postcompulsory education is financed (i.e., whether through self-financing, drawing rights, or entitlements). As in the self-financing model, recurrent education programs will develop as a response to the respective demand. However, as drawing rights depend directly on earnings, the power for purchasing recurrent education will be distributed as unequally as earnings are. In addition to the remarks in the preceding evaluation, large quality differences within recurrent education are likely to occur in a free-market supply system.

Two other important issues are those of underinvestment in recurrent education and of equality of opportunity and life chances. First, it seems that underinvestment in recurrent education is very likely within the self-financing model. The drawing rights solution will also lead to that tendency because it does not restrict the use of the drawing rights to recurrent education but allows for leisure, early retirement, sabbaticals, vacation, and other activities too. We can expect that a great number of individuals will not use their drawing rights for education and training.

Second, the drawing rights model implies a strong relationship between earnings and the ability to pay for postcompulsory education and training. Earnings being distributed unequally, the opportunity to spend on recurrent education is also distributed unequally. Hence, those with high earnings accumulate more drawing rights than low-earners and are able to purchase more recurrent education. If education affects future earning power, those with high present earnings can increase their future earnings through recurrent education much more than those with low incomes. This mechanism will widen the inequality of educational opportunity as well as of the income distribution. Moreover, we can expect high-earners to be more likely to use their drawing rights for recurrent education than low-earners, who might use most of their drawing rights for leisure, vacation, and so on. Thus, inequality of education and of life chances would increase.

High earners who use most of their drawing rights for recurrent education while they are in their 20s and 30s will not only enjoy growing earnings but also a growing stock of drawing rights from these earnings. This will enable them to enjoy more leisure, sabbaticals, and other types of free time in their 40s and 50s. Moreover, the unemployed are not able to accumulate drawing rights during the unemployment period. This fact reduces their power to purchase recurrent education in the future. Finally, while the public budget will not be burdened in this model, it is

impossible to estimate whether the total costs for education would increase or decrease. It is important to note that subsidies might be used to supplement drawing rights in meritorious cases such as those of the poor, as Rehn suggests.

THE ENTITLEMENT MODEL

The entitlement proposal has been introduced and discussed by Levin in this volume. Essentially, the government would guarantee a specified sum or entitlement for each citizen at the end of postcompulsory schooling that could be used for recurrent education. Like the two preceding models the entitlement scheme is a free-market model for the supply of postcompulsory education and training. The main difference lies again on the demand side. While demanders have to raise the budget for recurrent education totally out of their own resources (in the first case voluntarily, in the second case by requirement) in the preceding models, the entitlement solution requires the state to raise most of the financial resources. The state, then, has to transfer these resources to the individuals in the form of entitlements. These individuals are obliged to use them only for postcompulsory education and training but are free to choose among various suppliers.

The main characteristic of the model is the redistribution of income. This can occur through a system of finance that provides larger entitlements to the poor while requiring lower tax contributions from them. Again, as there are a number of similarities resulting from the free-market characteristics of both preceding models, the focus will be on the criteria in which substantial differences occur. Generally, as with the first model, efficiency gains will not be high except those resulting from competition and from a better-integrated approach to recurrent education.

The main effect of the entitlement solution may be the improvement of equality of educational opportunity and social equity. It should be clear that the strength of this effect depends on the size of the entitlement, its composition of grants and loans, and the incidence of the tax system. It seems safe to state that the higher the entitlement and the lower the loan component, the more demand there will be for recurrent education from disadvantaged groups and the less inequality there will be in educational opportunity. We can at least imagine an entitlement system in which educational opportunities and life chances are distrib-

uted rather equally. This would include the economic and noneconomic benefits of recurrent education as well as the distribution of skills, knowledge, education, and training within and between generations. However, that system is still likely to focus on vocational training, although this orientation may be weaker than in the two preceding models. The entitlement system is very likely to increase the total costs of education as well as the educational burden of the public budget.

THE SINGLE-EMPLOYER FINANCING MODEL

This model can be seen to be an extension of the on-the-job training system as well as of the apprenticeship system. Within this model, there are two investors: private or public employers who offer their own recurrent education activities to their employees (or apprentices) or pay for comparable activities offered by the (private or public) educational industry, and the employees who invest in their human capital through these activities. Both the employer and the employee enjoy a return on these investments in the resultant productivity growth: The employee experiences an increase of earnings, and the private employer experiences a higher profit. Also, the public employer is assumed to produce better (more productive) services (Becker, 1975: 15-80). Both parties are likely to pay for recurrent education in this system. The employer's expenses are for the direct educational costs and the subsistence of those employees engaged in full-time recurrent education; the employee foregoes income during the training periods and may be paid below his or her marginal productivity afterwards.

It is an open question whether this financing mechanism would encourage a recurrent alternation of work, education, and training. This would depend primarily on the needs of employers for such alternation and, beyond that, on collective agreement or legislative action. However, the educational activities in this system are very likely to be reduced to specific postcompulsory training (as expressed by Becker, 1975: 26) as employers will aim at capturing the returns to postcompulsory training while trained employees could improve their earnings by changing employers (Mattern, 1979: 122). However, specific recurrent training seems very likely to restrict the mobility of employees: Such mobility might conflict with macroeconomic goals of encouraging shifts from declining industries to expanding ones. Hence, single-employer profitability calculations very well may conflict with labor market needs and

reduce the external efficiency of the recurrent education system even though internal efficiency for a particular employer can be expected to be high (Sadowski, 1980: 5).

Employers will probably minimize the necessary time and cost needed for a certain amount of education and training. Moreover, it is likely that the single-employer financing mechanism will induce employers to seek a quick return by placing learners in productive work during their education and training period. Firms that are able to gain net returns from education and training through paying lower wages during the training period will be stimulated to train more individuals than they will be able to employ afterwards. This has been found to be true for most firms in the craft sector in West Germany (Mattern, 1979: 123; Sachverständigenkommission Kosten und Finanzierung, 1974: 93). Also, the large quality differences and the short-run orientation towards specific marketable outputs with respect to labor market changes indicate that a reactive (rather than preventive) policy of recurrent training prevails.

The single-employer financing systems can be seen to suffer from substantial external efficiency losses. Not only may individual profitability calculations conflict with labor market needs regarding the quality and quantity of recurrent training, employers who offer training will enjoy a significant competitive edge over those who do not (Sachverständigenkommission Kosten und Finanzierung, 1973: 32).

A general tendency of underinvestment in recurrent education can be expected. Overinvestment in areas with positive (high) net benefits during the training periods will occur, while those areas with high net costs probably will be characterized by underinvestment in recurrent training. The inclination of these branches to invest in recurrent training will decline particularly in recession periods, while branches with net benefits will be induced to expand these investments by substituting cheap trainees for expensive workers. Moreover, those who are trained in net-benefit branches that do not find a job there probably will be able to find employment only in an unskilled or semiskilled position within another branch, thus their investment in recurrent training will not pay off. Inflexibility of the trained, cobweb cycles in the markets for trainees, overinvestment in one set of branches, underinvestment in others, a general tendency toward underinvestment, and competition biases will produce structural misallocations in the education and training market as well as in the labor market.

Another serious problem is that the unemployed would not be able to participate in recurrent education. Also, since innovations can be expected to respond to employer-specific marketable offerings, general, political, and cultural education will not be addressed by this financing system. Integration of general education and vocational training also will not be encouraged, while individual choice will be strengthened. There will be only a restricted range of educational offerings, mainly of specific training, and choices will be influenced substantially by employers.

It is hard to see how demand for postcompulsory education and training would be encouraged in this system, and particularly not that of disadvantaged groups. Career and promotion perspectives, job security, and recurrent-education value of work will not be affected to a substantial degree. Employers would restrict postcompulsory education activities to their economic needs. Restricted participation in recurrent education is not likely to reduce inequality in the distribution of skills and knowledge, of education and training between and within generations, of the distribution of career outcomes, or in the distribution of financial and nonfinancial benefits. The individual financial burden of trainees and individual financial support by employers may be subject to large variations. Sectoral, regional, and quality differences are likely to exist, and (an even more serious problem) the system is likely to imply a redistribution of burden and benefits in favor of those who can undertake the postcompulsory education and training activities. By means of a general wage reduction to below marginal productivity, by regressive tax-reduction incidence in the case of tax-deductible training costs for employers, as well as by the shift of training costs to the consumers, all workers and employees (as workers, consumers, and taxpayers) will pay for recurrent training but only a minority will profit. More concretely, those who remain unskilled or semiskilled workers or employees will help to finance the recurrent education of the skilled workers and of highly qualified workers. Hence, a redistribution from those with less recurrent education to those with more training is very likely to take place in the single-employer financing model. As in the first two models discussed, a polarization between qualified and unqualified manpower seems likely to develop. The dominance of particular employers' interests will prevail in the range of offerings. Total costs for education are not likely to increase, and the public budget will only be burdened in the case of tax reduction for training costs.

THE PARAFISCAL FUNDS MODEL

The financing mechanism of parafiscal funds has been analyzed in length by Clement in this volume. As should be clear from his analysis, in such a solution private and public employers are required to pay a levy on total wages (a payroll tax) or on value added into a funds system. The funds system can be organized into a central fund or a system of decentralized funds; the criterion of decentralization being alternatively professions, regions, or branches. (For discussion of the funds solution with respect to the German apprenticeship system and these alternatives see Hegelheimer, 1977; *Sachverständigenkommission Kosten und Finanzierung*, 1974: 245; Sadowski, 1980).

There are two possibilities of funding postcompulsory education and training within the model. One—which has not been discussed at all up to now—is an entitlement or voucher version. Under such a solution, the funds would transfer vouchers to employees at the beginning of their careers. Employees would be free to ask for recurrent education in those participating institutions and firms. Those institutions would be reimbursed for their training expenditures by redeeming the vouchers with the funds. The alternative possibility is direct institutional funding: The institutions and firms participating in the funds advance the expenditures themselves and are compensated directly from funding resources according to the regulations.

The parafiscal funds system has a number of favorable characteristics with respect to our criteria, although some serious problems remain. Generally, the funds system can be expected to encourage recurrent alternation of work, education, and training, and to initiate flexible work and nonwork schedules more than any of the models discussed before because a political will for establishing a recurrent education system within the funds is likely to develop. Comprehensive post-compulsory education and training programs may emerge. These programs would not only focus on specific short-run, marketable education and training, but would also stress general education, a long-run orientation toward training, and diversity. Hence, recurrent education could be freed from the cost-benefit calculations of single employers. Internal efficiency of recurrent education within training firms is likely to be high, although the funds may involve time-consuming and costly decision processes as well as high administrative costs, particularly for centralized funds.

As to external efficiency, ultimately postcompulsory education and training under parafiscal funds very likely will raise the flexibility of the labor force, and hence may contribute to the prevention of structural or technological unemployment. Structural disequilibria in the labor market are likely to be mitigated, and productivity gains can be expected.

However, there may be some aspects that would reduce efficiency. Different results may arise between labor-intensive and capital-intensive employers in favor of the latter, as well as between large and small firms in favor of the former. Differing abilities to shift the levy on to the consumers by raising prices will not only boost inflation but also will create new competition distortions. The expectation that the funds revenue will change in cadence with the business cycle (Hegelheimer, 1977: 102) seems attainable as the funds could accumulate a surplus in boom periods in order to support sufficient postcompulsory education and training in recession periods. This could contribute to steady development of recurrent education. But it is hard to foresee whether and (if so) why the funds system would be able to avoid cobweb cycles in recurrent education and the structural misallocations produced by them.

Innovations in postcompulsory education and training will be high within a funds system and will include nonmarketable innovations as the innovational risk will be shared by all institutions and firms. Moreover, by setting certain quality standards for the provision of general and specific education and training, not only marketable skills and knowledge will be improved significantly but also the general, political, cultural, and social qualifications that are desired by the members of the fund. The fund system may also encourage integration of general education and vocational training, theoretical knowledge and practical know-how, and various activities in adult and further education into the recurrent education system.

The major weakness of the parafiscal funds model is its inability to encourage demand for recurrent education and to diminish the inequality of participation in postcompulsory education and training, particularly with respect to disadvantaged groups, as long as job structures, job contents, and employment hierarchies remain unchanged. As long as job security does not exist and the recurrent-education value of work is not achieved for these groups (i.e., for the great majority of employees), the parafiscal funds system will suffer from the "law of participation"

mentioned above. Another problem will be the fact that young people leaving the compulsory schooling sector and not finding an entry job, will be excluded from recurrent education.

With respect to the equity issue, the parafiscal funds model will not fare much better than the preceding models, with the exception of the entitlement solution. While the inequality of general education and vocational training might be lessened, and while the inequity in the regional distribution of recurrent education activities might be done away with completely through affirmative actions of the funds (Mattern, 1979: 128), the issue of inequality of educational opportunity and of life, income, and career chances is very likely to remain acute for the very same reasons presented in the context of the single-employers financing model. Through shifting the levy back on wages of all employees, forward on prices for all consumers, and, in the case of tax-reduction possibilities, forward to the tax payers, all employees and workers are condemned to bear the financial burden as wage-earners, consumers, and tax payers while probably only a minority will benefit (at least as long as the "participation with respect to demand law" is effective). Hence, there will be a redistribution over time of income from those who do not participate or who participate only a little in recurrent education to those who participate intensively. More concretely, the disadvantaged (the unskilled and semiskilled, the poor, women, blacks and ethnic minorities, and foreign workers) will pay for the postcompulsory education and training of skilled workers (white men) and particularly of highly qualified manpower. This redistribution effect could be overcome through self-financing contributions or income-contingent loans—funds that could make recurrent education available to those interested in taking part.

While the funds system would not necessarily increase individual choice for trainees, the funds system is likely to exclude the dominance of a particular employers' interest by establishing a kind of group democracy of trainees, employers, unions, parents, educators, and the state (Mattern, 1979: 129). However, this democratic participation in decision processes concerning recurrent education would be restricted to the administration of the funds and would not include the training activities themselves. On the other hand, a polarization between the trained and untrained parts of the labor force and between the disadvantaged and advantaged groups may emerge and grow within a funds system. While it seems difficult to see whether the total costs of education would increase in such a system, the public budget would be

substantially relieved by shifting the largest part of the costs for post-compulsory education and training from the state budget to funds budget(s).

THE STATE FINANCING MODEL

The term "state financing model" may seem ambiguous in that the entitlement approach could also be understood to be a state financing mechanism because it is the state who issues the vouchers and redeems them (i.e., supplies the money). However, contrary to the entitlement approach, our state financing model assigns two functions to the state: first, that of financing postcompulsory education and training (as does the voucher approach); second, the function of producing and providing education and training through public institutions (which the entitlement approach does not do). This functional difference between the two models generates a number of differences in their impacts. Hence, our state financing model turns out to be a model for state finance and production of recurrent education. It extends the education monopoly of the state (which prevails in many countries in the schooling and higher education sector) to the whole postcompulsory education and training realm. Such a system could introduce a radically different system of education. The following is a description of one possible method.

- (1) Compulsory schooling begins at the age of 6 for each individual and ends after having participated in a comprehensive school system at age 16 with the first high school diploma (high school diploma I). This would qualify a person for both work and for attendance in the second phase of high schools.
- (2) The phase of postcompulsory education and training is organized according to the recurrent education concept. One becomes eligible attending the second phase of high school by earning the high school diploma I and accruing a minimum of four years of work experience. By way of exception, only extremely talented persons may be allowed to skip the work experience (in order to recruit scientists). The second high school phase ends after two or three years with the diploma II which again qualifies the individual for work and study. Admission to higher education is only possible for persons with diploma II or for those with diploma I and seven years of work experience. The attendance of high schools in the second phase and of institutions of higher education is possible on either a part time or full-time schedule.

- (3) High schools and higher education institutions offer a highly stratified variety of education and training possibilities. These are developed in response to the various needs of individuals according to their work experience, their interests, and their educational prerequisites. Institutions of higher education carry out postgraduate studies in order to recruit young scientists.
- (4) The state is the sole agent to offer all education and training activities during compulsory and postcompulsory education and training.
- (5) The state bears all direct and indirect costs of education and training through the public budget.
- (6) Each person with diploma I (i.e., who has completed compulsory education with success) gets a quota of "life education hours" or "points" in order to keep the demand for recurrent education within reasonable limits. These points can be used according to individual plans and preferences during the postcompulsory period. Only unemployed persons with specific characteristics (e.g., long unemployment) are restricted as to their freedom of choice: Unemployment compensation will be paid on the condition that one takes part in postcompulsory training activities.
- (7) The state alone is responsible for the training and recruitment of teachers and trainers as well as for the size, structure and contents of education and training.
- (8) Responsibility for the educational system forces the state to undertake research in qualification, technology, education, training, and the labor market in order to be able to carry through a plan of recurrent education. State planning of education is the dominant mechanism of allocation within the system of financing and producing recurrent education through the state.

Such a system could encourage the recurrent alternation of work, education, leisure, and training, and promote a general flexibility of work and nonwork time. Moreover, the integration of general education and vocational training and of theoretical knowledge and practical know-how would be likely to occur. Also, participation of the population in recurrent education can be comprehensive and equitable. Quality differences can be expected to be low, while the minimum standards of general education probably would be high. However, performance in vocational training might not satisfy employers. The regional distribution of activities would be equal, and social cohesion would generally be strengthened (Lowe, 1975: 44).

But note that a comprehensive high standard may imply uniformity instead of variety, and boredom rather than diversity. This characteris-

tic may conflict with the postulate for more individual choice in education. Moreover, the federal structure of the state may be seen to endanger comprehensive solutions while it is feared that state responsibility for all kinds of education and training will reinforce the alienation between education and training on the one side and work on the other (Hegelheimer, 1978; Oberhauser, 1970: 27). We may also question the ability of this financing system to restrain the dominance of particular state interests in favor of the democratic participation of learners (Edding et al., 1974: 131).

The impact of the state financing solution on the efficiency of the recurrent education system is hard to estimate. Improvements of internal as well as innovational efficiency are unlikely to be substantial because of a lack of stimuli and of efficient possibilities of control, and also because of political and bureaucratic slowness in decision processes (Friedman, 1962; Levin, 1976; Weizsacker, 1975). External efficiency effects seem to be more complex: Efficiency may improve by internalizing external effects; these gains, however, may be lost through overinternalization—that is, encouraging overinvestment in recurrent education through a zero-price offer, creating a divergence between private and social rates of return (Friedman, 1962).

While we would expect the coordination between the education and employment systems to improve because of the productivity and flexibility of recurrently educated people and because of preventive training strategies, these efficiency gains may be compensated for (if not nullified entirely) by global and structural misallocations and misplanning by the state resulting from a lack of necessary information or political quarrels. Moreover, business cycles may destabilize recurrent education activities over time, and short-run interests of politicians are likely to cut resources for education in times of growing financial stress. Furthermore, recurrent education may become a victim of political conflicts and political cycles (Widmaier, 1976: 81; Downs, 1972).

The state financing model allows realization of social objectives in recurrent education (Edding et al., 1974: 127)—for example, equality of educational opportunity or similar equity principles—more than other models do. Through the progressivity of the tax system, the financial burden created by recurrent education can be redistributed to the benefit of those with low income. However, the basic question of whether the tax system actually can be constructed to work progressively is hard to answer. Apart from this problem, the lack of direct charges for recurrent education, new and flexible structures for work

time, and attractive programs may suffice as incentives to attract those disadvantaged individuals and groups who are said to be education-distant today. Thus the possibility of enforcing equality of educational opportunity and of redistributing economic burdens and benefits in favor of the poor and disadvantaged supports the state financing model. In addition, the model could be extended by income-contingent loans or self-participation of those who are well-off in the case of a nonprogressive tax system. Finally, it seems very likely that such a model would increase the total costs as well as the state budget for education. This may again raise the question of an upper limit for the state budget.

CONCLUSIONS

The evaluation of the different financing mechanisms shows that none of the "pure" models can attain all of the goals. Each is characterized by deficiencies, although they are different for each model. This difference in deficiencies makes a comparison of the models very hazardous, particularly when this comparison is intended to identify the "preferable" financing mechanism. The assessment suggests a general trade-off between economic and noneconomic criteria (i.e., between efficiency and equality or social cohesion)—this trade-off becoming more significant to the degree that individuals are expected to finance recurrent education out of their own resources.

One way to determine the "best" financing system is to comprise a cost-utility analysis for each alternative model. First, this analysis would have to ask specifically which model is most able to meet each particular criterion. Each system would be evaluated on its ability to do the following: to maximize external and internal efficiency, minimize structural misallocations and efficiency losses, internalize external effects, maximize the quality of educational output and guarantee minimum quality standards, maximize innovation efficiency, minimize inequality of opportunity, maximize individual choice, prevent both underinvestment and overinvestment in recurrent education, minimize social and economic inequality, encourage demand for recurrent education, (particularly from disadvantaged groups and classes), maximize democratization and social cohesion, encourage integration, and so forth.

Second, in the course of such an analysis specific weights expressing the preferences of researchers, politicians, and others would have to be

assigned to each criterion. This procedure would allow one to establish a definite order among the financing mechanisms and determine which is the "best" one. However, it is likely that there will be as many different orders and "best" financing modes as there are different preference structures.

My own evaluation of the impact of the various financing schemes suggests that a proper financing scheme for recurrent postcompulsory education should focus on entitlement, parafiscal funding, and state financing. These models seem to have a stronger impact on those criteria that should be met by a financing system of recurrent education than do the self-financing, the drawing rights, and the single-employer financing models. However, as the favorable models suffer from serious deficiencies as well, it seems obvious that we should attempt to construct a financing scheme that is composed mainly of various elements of the preferred models, but that capitalizes on their advantages while avoiding their deficiencies as much as possible.

A MIXED MODEL FOR FINANCING POSTCOMPULSORY EDUCATION AND TRAINING

The mixed model of financing recurrent education (model 7) should start with the assumption that the individual learner, the individual employer (public and private), and society in general will accrue monetary and nonmonetary economic as well as noneconomic benefits from postcompulsory education and training. Therefore, individuals, employers, and the state should pay for postcompulsory education and training. However, the extent to which each of these audiences should pay is open to discussions and political dispute since there is no knowledge of the distribution of these benefits among the individual learner, employers, and the society. In order to encourage demand for recurrent education, the contributions of individuals should strictly follow the "ability-to-pay" principle. The basic features proposed for this mixed model of financing recurrent education (model 7) are as follows:

- (1) A parafiscal fund will be established, and all public and private employers will be required to contribute to this fund by a levy on their value-added. (A further question is whether a central fund or decentralized funds should be utilized. This question will not be discussed here.)

- (2) The state pays a certain amount of tax money into the fund, for example as a fixed proportion of the state budget, with the proportion changing over time as needed. The fund will be administered by an agency, which is governed collectively by representatives of the state, employers' unions, and nonunionized laborers.
- (3) Postcompulsory education and training is produced and offered by private as well as state institutions. Both have to meet high minimum standards of program quality and diversity in order to be accredited by the fund.
- (4) The fund issues entitlements to every person who has completed compulsory schooling. Everyone is free to use the entitlements for any education or training activities in accredited institutions over their lifetime. The use is limited to recurrent education activities. Completion of compulsory schooling is the only prerequisite for admission.
- (5) The entitlements consist of a basic grant for each eligible person and a dual component beyond the basic grant. The dual component generally consists of a grant and a loan element. The partition between the two elements depends on the ability of the eligible person to pay (i.e., based on income and wealth considering family responsibilities). This means that the grant (or loan) component decreases with increasing ability-to-pay (income and wealth), and vice versa, such that a disadvantaged low-income person may enjoy a full grant entitlement while an advantaged person who is more able to pay is likely to be supplemented in the form of a loan. Each person is free to pay out of present resources and refrain from using a loan.
- (6) One becomes obligated to pay back a loan on reaching a specified income (for example, one that exceeds the income of a person without recurrent education).

This mixed financing system is likely to develop a comprehensive integrated system of recurrent education and recurrent alternation of education, work, leisure, and training as well as flexible work-time schedules. High minimum standards of output quality as well as a good diversity of programs that are tailored to the interests and needs of the learners seem very likely to emerge. Internal efficiency as well as efficiency in innovation are likely to increase, the latter with respect to nonmarketable as well as to marketable innovations. The labor force will gain flexibility whereby labor market disequilibria very well may be prevented. An anticyclical investment strategy may prevail, and external effects will be internalized but not to the point of overinternalization. While the labor force will gain productivity, general over- or underinvestment may be avoided. General knowledge and specific mar-

TABLE 5.1 Impact of Financing Models on Recurrent Education

Criteria	Degree of Impact																																			
	Model 1				Model 2				Model 3				Model 4				Model 5				Model 6				Model 7											
	vl	l	p	c	vl	l	p	c	vl	l	p	c	vl	l	p	c	vl	l	p	c	vl	l	p	c	vl	l	p	c								
Encouraging recurrence				X				X				X				X				X				X				X				X				
Increasing efficiency			X				X				X				X				X				X				X				X				X	
Internal	X				X				X				X				X				X				X				X				X			
External			0	0			X				0	0			X				0	0			X				0	0			X				0	0
Encouraging innovation			X				X				X				X				X				X				X				X				X	
Improving general knowledge			X				X				X				X				X				X				X				X				X	
Improving marketable skills			X				X				X				X				X				X				X				X				X	
Encouraging integration			X				X				X				X				X				X				X				X				X	
Increasing individual choice			X				X				X				X				X				X				X				X				X	
Encouraging demand for RE and increasing equality of participation			X				X				X				X				X				X				X				X				X	
Decreasing social and economic inequality			X				X				X				X				X				X				X				X				X	
democratization			X				X				X				X				X				X				X				X				X	
Preservation and the enforcement of social cohesion			X				X				X				X				X				X				X				X				X	
Increasing total costs of education			X				X				X				X				X				X				X				X				X	
Increasing state budget burden for education			X	0			X	0			X	0			X	0			X	0			X	0			X	0			X	0			X	0

vl = very likely
l = likely
p = possible
nl = not likely
c = contrary

x = impact seems clear
0 = impact seems not very clear; either/or

- 1 = Self-financing model
- 2 = Drawing rights model
- 3 = Entitlement model
- 4 = Single-employer financing model
- 5 = Parafiscal funds model
- 6 = State financing model
- 7 = Mixed financing model

ketable skills will improve within a system that is able to integrate general education, vocational training, theoretical knowledge, and practical know-how.

The entitlement component will enhance individual choice, and state and employers' participation in decision processes is likely to promote social cohesion. Demand for recurrent education will be stimulated, particularly among disadvantaged groups, because there will be no direct charge for recurrent education for those with less ability-to-pay, and also because we may expect strong efforts to change the job structure in order to increase the recurrent-education value of work.

The distribution of education and training as well as knowledge and skills will probably become more equal across regional and generational distinctions. Moreover, burdens and benefits will be distributed less unequally such that an overall drop in the extent of social and economic inequality would be likely. Furthermore, the dominance of particular interests will be broken and be replaced by democratic participation of all relevant social groups and institutions. While the total costs of education and training will increase, under such a system the state budget could be relieved. Generally, this financing model is likely to require the least trade-off between efficiency and equality. Apart from the problems of designing a financing method as well as the regulatory and information systems in detail, and leaving aside the problems of implementation, the mixed model (model 7) seems to be the most promising alternative. This can be seen in Table 5.1, which gives a summary of the model evaluations.

NOTES

1. All criteria are drawn from the literature on recurrent education. The sequence of introduction does not reflect priorities. Various references with respect to the objectives of recurrent education are to be found in Bengtsson and Schutze (1979); CERI (1973); Clement and Sauerschnig (1978: 12); Levin (1977, 1980) Mattern (1979: 9). More specific criteria have been proposed by Edding (1974), and Edding et al. (1974); and recently by CERI (1982), and Schutze (1982). The system of social indicators of performance of educational systems developed by the OECD (1973) is very detailed but has not been tailored to the needs of a recurrent education system. It has been constructed for the purpose of international comparisons in education rather than for comparing alternative financing models.

2. This is true only for public support. Private support (grants) by firms or other institutions might occur but is likely to remain an exception rather than the rule.

3. It does not seem very likely that loans will have a strong effect on demand (Mattern, 1979: 83).

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