PUBLIC HIGHER EDUCATION FINANCING: A COMPARISION OF THE HISTORICAL AND FORMULA-BASED MECHANISM

Adrian Miroiu¹, Paul-Dragos Aligica²

The starting point assumption of this paper is the idea that the funding mechanism is a key component of the institutional arrangements that define a higher education system (and for that matter any education system). The funding mechanism generates a set of incentives, behavioural patterns and specific institutional processes that are pivotal both for the understanding and the management of the education system. Given its importance it is one of the key reform tools in the higher education reform process.

The paper focuses on the Romanian case. Relying on an analytical framework inspired by the new institutional theory, it presents the changes in the funding mechanism, and then analyse their consequences at the operational level in Romanian universities i.e. the transformations in the organization of curricula, the management of the student flows, the staff policy, etc. The paper argues that many of the dysfunctions the Romanian higher education system experienced at the end of the past decade could be explained as a result of the incentives and constraints provided by the historical funding mechanism. One way to test this idea is to see if these dysfunctions are more likely to disappear under the new formula-based funding mechanism. The paper presents some evidence in this respect and argues that one can identify the beginning of a trend moving in that direction.

1. Mapping Funding Mechanisms of HEIs and locating Romania’s place on the map

The funding mechanisms of higher education could be described using both an input-output and a supply-demand framework (Kaiser, Vossensteyn, Koelman 2001). Both frameworks reveal the basic criteria and character of the funding process.

The supply- or demand framework focuses on the factors that determine the resource allocation by looking at the aggregate actor that shapes the process. The underlying idea is that the number of students enrolled is the major component that drives the funding formula. If students could influence the budgets of higher education institutions by their choice of programme (voting with their feet) then one has a case of demand-side funding. If the number of students enrolled in a certain program is established by the public authorities, then one has a case of supply-side funding.

The input- and output-orientation of funding framework focuses on a different set of criteria to allocate public funds to higher education institutions. Input criteria are, for example, the number of teaching and non/teaching staff, the number of square meters in teaching and other university facilities, the number of students

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enrolled in different programs, etc. Output criteria are, for example, the number of graduates or the number of study-credits obtained.

The input-output framework requires a further distinction. We consider that for the input criteria could be defined in terms of either student flows or university structure. The student flows criteria include the number of students enrolled in undergraduate and in graduate programs, the number of students enrolled in different study areas, etc. University structure criteria include the number of teaching positions, the number of administrative positions in the university, the teaching facilities, social services, or research carried out in the various departments. This distinction is important because it could expose crucial aspects or differences in funding systems, aspects or differences that otherwise could pass undetected in the standard input-output, supply-demand framework.

Traditionally, input criteria were most common. It is worth noting that in the past two decades, due to the severe cuts in the higher education budgets, the debates on the role of the two types of criteria were significant. Reliable arguments have been advanced that input-based funding entails a more limited set of incentives for an efficient operation of higher education, while introducing output criteria is regarded as a way to increase the incentives for efficient operation. However, as shown in Figure 1 below, input criteria are still dominant.

**Figure 1**
Positioning of countries by funding base

(Aus: Australia; Dk: Denmark; Fl: Flanders; Fr: France; Ger: Germany; Nl: the Netherlands; Nz: New Zealand; Sw: Sweden; UK: United Kingdom) Source: Kaiser, Vossensteyn, Koelman 2001.

It is interesting to note that input criteria in the countries studied by F. Kaiser, H. Vossensteyn, J. Koelman belong to both subcategories introduced above. The number of the new entrants is the dominant criterion, but floor surface is sometimes taken into account (e.g., in France), and research is also included (e.g., in Australia, Germany, France, New Zealand and Flanders). In Flanders the formula used includes salary costs for certain members of staff. In France, one of the four criteria used to distribute of financial resources is the need for additional staff hours, etc. But in these countries such university structure criteria pertaining to the costs related to the number of teaching or additional staff do not play a significant role in the model. As regarding the demand-supply orientation, the countries studied by F. Kaiser, H. Vossensteyn, J. Koelman do not seem in
general to meet the conditions necessary to classify their funding systems as demand side oriented. Romania is not different in this respect. However, the distinction between student flows and university structure criteria is especially relevant in the case of the reform of higher education funding in Romania. The fundamental reform move was not from input to output criteria, but from university structure to student flows criteria.

**Figure 2**

![The Romanian Reform on the Funding Systems Map](image)

<table>
<thead>
<tr>
<th>Input</th>
<th>Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Structure</td>
<td>Student Flow</td>
</tr>
<tr>
<td>Supply</td>
<td>Romanian System Pre 1999</td>
</tr>
<tr>
<td>Demand</td>
<td></td>
</tr>
</tbody>
</table>

To sum up, the Romanian funding system was supply side, input oriented with a strong university structure element. The expectation was that by changing the funding criteria, i.e. taking student flows as reference, the university structure will also change.

2. An Institutional Framework for the Analysis of Higher Education Funding

During the last decade there was a real need to rethink and reformulate the conceptual and theoretical structure behind the reform projects and policies, and the new institutional theory emerged as one of the most powerful and relevant tools in that respect3 (Clague, 1997; Ostrom, Schroeder, Wynne 1993). Our study employs a new institutionalist framework by applying as an analytical device the notion of (rational) social actors acting within levels and meta-levels of decision making. From that perspective an institutional analysis case could be approached at three levels or action arenas: the operational level, the collective choice level and the “constitutional” or “constitutive” decisions level (Ostrom, 1986; Crawford and Ostrom 1995). “Constitutive” decisions are the most fundamental because they are decisions about rules governing future collective decisions. They determine the rules to be used in crafting the set of collective choice rules that in turn affect the set of operational rules. They also determine who is eligible to do that crafting. The collective choice level is the level at which it is determined, enforced or altered the basic framework within which actions take place. This level shapes who and how will be affected by rules at the operational level. The operational level consists of direct

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3 The new institutionalist analytic approach is to create conceptually a scenario/model in which individuals conceptually constructed interact in a specific environment (whose features are clearly defined) and generate specific outcomes as a result of their interactions, outcomes that at their turn could be formally described and analysed too. The theoretical framework consists of four main elements: (1) characterization of the actor, (2) characterization of the environment as a set of rules or incentives, (3) interaction in the specific setting defined as strategic or (quasi) rational actions and (4) problems and solutions to those interactions. These together or in various combinations are a core to which, if necessary, new elements are added. In our case, some elements pertaining to the social and cultural background in which university officials acted could be added.
actions and strategies depending on and directly reacting to everyday, concrete circumstances, expectations etc. In this case, the sphere of action and decision is established by the other, higher levels. Although these actions and decisions affect the higher levels, they do it in only an indirect and aggregate way.

Given this conceptual structure the task of the analyst is to identify in any social situation or institutional structure the relevant actors, the three levels or action arenas, to disentangle these arenas, to explore how they generate interaction in the specific setting they create and to trace to them the problems and solutions to those interactions. Indeed it is not necessary to retain all the time the three level approach. The idea of metalevel institutional rules is sufficient for analytical purposes in many circumstances. That is precisely the case with the institutional configuration explored by the present study.

As any other institutional configuration the funding system within the overall institutional system of higher education could be conceptualised in an institutionalist framework. The procedure has two steps: (a) to define it as an institutional incentive setting system and to conceptualise it as a metalevel structure and (b) to identify the relevant actors and their basic preferences and rationality parameters. To set up a feasible stage for analysis the study identifies the relevant actors as the top officials of the universities, and especially their rectors. We do not go into further detail, and explore other actors, like deans, or department chairs, although the way they acted had a very important impact on the evolution of their universities. We consider that the actors act as maximizers of their available resources. According to the law, top officials are elected for a period of four year, and they could be re-elected only once. This made them be to a large extent short sighted, and constrained by the interests of the other actors within the university, especially the deans and the department chairs, whose support they needed to be elected or re-elected. The deans and the chairs tried to attract as many resources as possible in their faculties or departments, and they competed for them. The short sightedness of the main actors has specific institutional consequences like for instance it resulted in a neglect of the quality of education and of the future, medium- and long term consequences of the actions they took (for example, the could not resist the pressures of their colleagues in the establishment of new, very narrow, specializations). Moreover, the top officials are risk adverse. Their social and cultural background induced them a large dependency on Ministry officials, and they feared taking actions that could be viewed as wrong by the Ministry. This specific configuration of the actors and preferences and rational action profile has a strong explanatory power when coupled with the specifics features of the institutional or metalevel rules context within which they act.

The “metalevel rules” this study is referring to are those that define the two funding mechanisms: the historical and the formula-based ones. These rules determine the other levels, at which the substantive institutional process is determined, enforced or altered. In the historical funding setting, a set of procedures was determined to define the level of funding for each university. Negotiations between universities and the Ministry of Education, largely based on political criteria, played an important role. The bargaining power of each university had a very important role, too. The rules that determined who is eligible to be funded materialized in the so-called “accreditation of the study programs”. As a consequence and not surprisingly, the race for new specializations speeded up and a series of adverse effects ensued. The formula-based mechanism was introduced to fix the problems created.

The basic thesis is that the metalevel funding rules determined different structures of the operational level decisions in universities and their institutional dynamics. The rest of the paper will overview first the dynamics in the traditional historical funding system considering several issue-areas and analysing the operational level, as
shaped by the actions of the actors within the framework defined by the that funding mechanism. Then we’ll show that under the formula-based funding mechanism, the collective choice rules entail at the operational level a quite different set of actions and strategies. We will exemplify this by focusing on five issues while in parallel exploring how the dysfunctions produced by the historical approach are more likely to be eliminated under the new formula-based funding mechanism.

3. The Historical Funding and the New Funding (Formula-based) Mechanism

Immediately after 1989 the Romanian higher education experienced huge changes. First, the structure of the university programs was previously extremely unbalanced: nearly seventy per cent of the new places allocated by the government were in the field of engineering while social sciences, economics or medicine were severely undersupplied. Secondly, the public universities enrolled a small number of students, compared to the demand for education. The economy of queues and shortage so widespread in socialist societies had as their counterparts in higher education a fierce competition among candidates for one of the few places in a university program. Five to fifteen candidates for one place represented the normal state in the case of medicine, law, humanities or economics programs. From this perspective the changes in the nineties were drastic but not surprising. The demand for engineering fell down dramatically. Technical universities continued however to offer a large number of government-subsidized places, but often less than one candidate competed for one place. However, in absolute terms, the number of places offered by them did not decrease significantly (in relative terms, in 1999 the number of students enrolled in technical programs dropped to 36.5%). The number of places offered in the fields of medicine, social sciences, including economics, and business increased, but the lack of public resources prevented public universities from coping with the demand. Not surprisingly, the newly established private higher education institutions succeeded in attracting a large number of students, most of them in these fields.

However despite these changes, until 1999, public universities were funded according to principles more or less inherited from the socialist period. Roughly, the mechanism was based on supply side input, university structure criteria. The largest part of the state funds was distributed according to the number of faculty and auxiliary staff positions. Other funds were distributed on predetermined destinations like utilities, investments, etc. The level of funding for each university was dependent upon historical funding, and to a large measure the officials in the Ministry of Education had a discretionary control over it.

One of the most interesting institutional consequences of this incentive system was that not all positions were filled; actually, the universities preserved a large number of them vacant. The reasons were complex but all can be accounted of in a rational-actor framework: first the staff could be better paid, on a cumulative scheme, when a person occupied more than one position. Second, in case of budgetary cuts, universities dispensed with vacant positions, and avoided firing their employees. A third, and compelling, reason was that, since the university budget was highly correlated with the number of positions, university officials tried to expand the number of positions for which they received funding. However, the Ministry of Finance limited the total number of positions in the higher education system; the interests of university officials to maximize their budget
competed with the interests of the officials of the other universities, as well as with the interests of the officials in the central ministries.

For analytical purposes the budgetary funds used to cover the personnel expenses can be conceptualised as a common-pool resource (Ostrom, Gardner, Walker 1994). The increase in the number of teaching and non-teaching positions resulted at the end of the previous decade in the ‘overgrazing’ of the budget. In many respects the introduction of the new, formula-based funding mechanism could be seen as a response to the coordination problems raised in this framework. The explosion of the number of students who paid their fees was in this respect an instrument to add new resources (in a different market). The formal models offered by Ostrom, Gardner, Walker (1994) could be applied to prove that the optimum in the ‘grazing’ of the budgetary funds was attained around 1995. Using the function that describes the consumption of the common-pool resource, one can show that the efficiency in using it reduced as the number of university positions tended to extend.

A noteworthy institutional dynamics took place in the area of increasing the number of university positions allowed by the state authorities. One way to increase them was to propose a new study program. (The procedure was in fact complex: the university had to proceed to authorizing the new program, by presenting it to the National Council for Academic Evaluation and Accreditation.) Then the university asked for some new budgetary places for students to be enrolled in the new program; it entailed the need to cover the courses, and this resulted in new teaching positions the Ministry was forced to accept. Second, universities argued that the existing programs did not overlap significantly, and that similar courses and other teaching activities must be counted separately, in different teaching positions. For example, the same introductory course in mathematics was taught for each and every specialization in a technical university but counted separately. Third, the pressure to make larger and larger the weekly number of courses and seminars a student was required to take was difficult to resist; and these larger numbers translated into new teaching positions, etc. The number of non-teaching positions expanded mostly when related to student services. Most governments in the nineties tried to assure the support of the students’ associations, and therefore did not hesitate to accept their demands on the side of the universities.

Universities appealed to student flows criteria, but only in an instrumental sense, since larger flows resulted in more university positions. But the number of students enrolled could be increased in two ways: first, by getting more places the costs of which was supported from the state budget; and second, by offering new places for students who were willing to pay themselves the tuition fees. The competition for more students became very fierce but even more important than that an intense lobbying and interest group, “public choice” type pressure was set into motion (Buchanan and Tullok, 1999). On the one hand, public universities tried to prevent private, newly established universities from attracting many and competitive candidates. The instrument they used in this sense was to block them from being accredited, and hence get a higher legal status. Two examples could offer a good illustration in this respect. First, for more than four years, medicine programs in private universities were all blocked from being even temporary authorized to enrol students. Second, although many private universities satisfied all criteria set as conditions of the accreditation process (by law), the decision was postponed for more than three years – from 1998 to 2002.

Conversely, private universities lobbied to block a Cabinet Ordinance according to which public universities could enrol students who paid their own taxes. (As a result, given that state-supported places in higher education were limited, a large number of young people could thus be directed to private universities.) As
it happened, public universities were allowed to enrol such students only beginning with 1998, roughly in the same period when the cabinet passed the Ordinance according to which the new funding mechanism was established. The Ordinance was enforced by 1999.

The Ordinance could thus be seen as a solution to two basic problems: (a) the pressure on the budget generated by a “common pool resource” over-usage logic and (b) the self-impairing dynamics created by the lobby competition between public and private universities acting in a typical “public choice” logic. With the passing of the Ordinance the stage was set for a substantial institutional change.

The new funding mechanism was based on few simple principles. First, funding consisted in two large categories: basic funding, and complementary funding. Complementary funding was allocated on criteria like research, investment projects, etc. Basic funding was distributed according to the number of (state budget supported) students. Secondly, the number of students enrolled was weighed according to the field and the level of the program (undergraduate or graduate). The root formula used to compute the funding of a public university was this:

\[ N_{se} = \sum_{i=1}^{N_{fi}} (N_{fi} \cdot K_i) \]

where \( N_{se} \) is the number of weighted (or ‘equivalent’) students of the university, \( N_{fi} \) is the (average) number of (state supported) students enrolled in a program of type \( i \), and \( K_i \) is the weighted coefficient corresponding to the program \( i \). The weighting coefficients took into account personnel costs and material costs. Figure 3 below exemplifies these coefficients (when the ratio of material expenses is 20% and, respectively, 40%).

**Figure 3**
Funding coefficients for types of university programs

<table>
<thead>
<tr>
<th>Type of program</th>
<th>Coefficient for personnel expenses</th>
<th>Coefficient for material expenses</th>
<th>Aggregated coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Material expenses: 20%</td>
<td>Material expenses: 40%</td>
</tr>
<tr>
<td>Social-humanities</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000 1.000</td>
</tr>
<tr>
<td>Experimental sciences</td>
<td>1.472</td>
<td>2.000</td>
<td>1.578 1.683</td>
</tr>
<tr>
<td>Psychology</td>
<td>1.280</td>
<td>1.280</td>
<td>1.280 1.280</td>
</tr>
<tr>
<td>Applied mathematics</td>
<td>1.280</td>
<td>1.280</td>
<td>1.280 1.280</td>
</tr>
<tr>
<td>Economics</td>
<td>1.000</td>
<td>1.000</td>
<td>1.000 1.000</td>
</tr>
<tr>
<td>Technical</td>
<td>1.472</td>
<td>2.000</td>
<td>1.578 1.683</td>
</tr>
<tr>
<td>Agriculture</td>
<td>1.643</td>
<td>1.643</td>
<td>1.643 1.643</td>
</tr>
<tr>
<td>Medicine</td>
<td>1.708</td>
<td>2.500</td>
<td>1.866 2.025</td>
</tr>
<tr>
<td>Sports</td>
<td>1.838</td>
<td>1.950</td>
<td>1.860 1.883</td>
</tr>
<tr>
<td>Music-Arts</td>
<td>2.477</td>
<td>2.477</td>
<td>2.477 2.477</td>
</tr>
<tr>
<td>Theatre-film</td>
<td>5.374</td>
<td>5.374</td>
<td>5.374 5.374</td>
</tr>
</tbody>
</table>

Source: Miroiu, Dinca 2000, p. 52; see also Nica 2001.

Like the old, historical, funding mechanism, the new one, formula-based, invoked input criteria, and has a supply-side character. The differences were, however, essential as it involved a shift from university structure
to student flows criteria. The funds were directed to universities on a block scheme. As a result, their autonomy increased: the state authorities lost their control on the number of teaching and non-teaching positions in universities, that now could be established autonomously. Universities retained full control on the use of their facilities, and on their investment policies. Since funding was based on a formula, allocations became more transparent. As a matter of fact, the formula was applied by a buffer organization, the National Council for Higher Education Financing. However, the state authorities maintained a powerful instrument to influence universities: the new funding mechanism preserved the supply-side character of the funding as the Ministry of Education strictly controlled the student flows. The Ministry established the number of student places in each specialization, and for each university. This entailed that it retained the control on the size of budgetary funding. Interestingly enough, there were no transparent criteria for allocations of student places; in this respect, the discretionary power of Ministry officials was still very large.

However under the new rules, public universities, especially the ones that offered programs for which the demand was very high had a powerful means to contravene this. The solution was simple: they enrolled a larger number of students who paid the tuition fees, at the expense of state-supported students. The Academy of Economic Studies in Bucharest offers a stark example. In 1997 it enrolled a number of 21410 state-supported students. However, as soon as the Academy was in a position to enrol students who paid their fees, the number of state-supported students decreased. In 1999, their number was 15989, while the number of students who paid their tuition fees reached more than 5800. This tendency continued up to present, so that in 2001, while the number of state-supported students did not increase, the Academy of Economic Studies enrolled a number of 30394 students.

The question is how the new funding formula focused on student flows affected the structures and policies of the universities. The rest of the paper is an attempt to explore some of the issue-areas affected by the change and to show how under the formula-based funding mechanism, the metalevel rules entail a quite different set of actions, strategies and institutional consequences at the operational level. The approach tries to exemplify this point by focusing on five issues. Some of the statistical data we used in our analysis are offered in Figure 4.

**Figure 4**

Statistical data on Romanian higher education system (public universities)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Students (undergraduate and graduate)</td>
<td>254084</td>
<td>255678</td>
<td>259715</td>
<td>301359</td>
<td>355901</td>
<td>415171</td>
</tr>
<tr>
<td>State-supported students (undergraduate)</td>
<td>233390</td>
<td>233015</td>
<td>230207</td>
<td>244032</td>
<td>251728</td>
<td>254675</td>
</tr>
<tr>
<td>Students who pay fees (undergraduate)</td>
<td>8514</td>
<td>8046</td>
<td>10166</td>
<td>32761</td>
<td>72166</td>
<td>126103</td>
</tr>
<tr>
<td>Teaching positions</td>
<td>36016</td>
<td>37547</td>
<td>43756</td>
<td>47434</td>
<td>45575</td>
<td>44949</td>
</tr>
<tr>
<td>Occupied teaching positions</td>
<td>21145</td>
<td>21714</td>
<td>22268</td>
<td>23697</td>
<td>24641</td>
<td>25433</td>
</tr>
<tr>
<td>Total positions in universities</td>
<td>52583</td>
<td>54818</td>
<td>63446</td>
<td>67830</td>
<td>65628</td>
<td>64726</td>
</tr>
<tr>
<td>Weekly load for students (hours)</td>
<td>28,1</td>
<td>27,9</td>
<td>26,9</td>
<td>25,3</td>
<td>24,2</td>
<td>24,1</td>
</tr>
</tbody>
</table>
First, under the historical funding mechanism, the academic curriculum became excessively loaded. The subject matters and the weekly timetable accounted for 1.5-2 times more than in similar educational programmes in relevant universities from other countries. This reversed the relationship quantity-quality as well as the ratio attendance-individual study, with negative effects on the education and training process. One expects, however, that the curriculum becomes more attuned to needs and the market under the incentive structure given by a formula-based funding mechanism. It is very important to note that this seems to be one of the most conservative characteristics of a study program. Faculty tended to resist the change to a less loaded academic curriculum, and argue that it entailed a deficient quality of education. Further, the changes meant that some of the courses (included in the teaching load of each professor) lost their compulsory status, or even cease to be offered, and that entailed a strong opposition. However, despite the opposition, the data show the existence of a trend in the expected direction. The problem is that it is not correlated directly with the change in the funding mechanism. Indeed, the trend started earlier: after a climax of 28.1 hours/week in 1996, the number of the weekly load reduced continuously. The last year when the historical funding mechanism was applied was 1998, when the average weekly number of hours a student enrolled in an undergraduate program had to attend was 26.9, while in 2001 it decreased to 24.1. The reason for this situation is that under the historical funding, universities could afford to reduce this number, while also reducing the size of study patterns. The new funding mechanism gave an impetus to this already emerging trend.

Second, the busy academic curriculum, the weekly timetable with a high number of classes and the reduced number of students per study units (especially for the subjects taught in the first two years), involved a big number of teaching and non-teaching positions which had to be financed from the budget. At a time when the ratio students-staff was 15-18 students to one teacher in European countries, Romanian universities could ‘afford’ to have a ratio of 5-6 students to one teaching position. The result was a large number of teaching workloads as well as additional costs, which small universities couldn’t cover only from budget allocations. Although dysfunctional when judged on academic standards, these transformations represented, however, the rational answer of the universities to the historical funding framework. One expects that introducing the global funding in conjunction to the system of transferable credits and global management of the common courses from the lower cycle of the academic training is more likely to involve cost rationalisation. The existing data confirm this dynamics. The number of students per teaching position was in 1999 as low as 6.35. If all positions in the university are considered, the ratio was 4.44. Two years after the new funding mechanism was implemented, the two ratios increased to 9.23, respectively 6.40.

Third, under the historical funding mechanism, the number of study units increased considerably: series of students consisting in only 1-2 groups were introduced beginning with the first year, with a tendency of maintaining them across the entire academic study period. Of course, if costs were taken into account, a rational organization would involve larger study units (4-8 groups) for the first cycle (the first 2 years), and more reduced units (2-3 groups) for the second cycle (3rd-6th years). However, under the historical funding mechanism the covering of the costs was not the business of the universities; on the contrary, the costs were supported at the level of the state budget. By developing schemes with 25-40 students in one unit for the lecturing activities, universities increased their resources, although this had negative effects on the overall covering of the costs. It is
important to explore the trends emerging under the new funding system, and test the hypothesis that the new funding mechanism affects the cost issues at the university level too, by stimulating larger study units. Unfortunately, it was very difficult to collect reliable data in this respect at the national level. Universities are reluctant to offer them. One of the rectors communicated us privately that the reason was that universities fear that if they provided the veridical data, the Ministry would decide to cut the number of student places offered to them. However, the analysis of indirect data supports the hypothesis: a careful examination of the existing data shows that the increase in the number of students per teaching position is higher than the decrease of the weekly teaching load. The most plausible explanation of this difference is that the size of study units increased.

Fourth, the historical funding mechanisms provided the universities an incentive to offer a larger and larger number of programs. The list of academic specialities in the long- and short-term educational offer extended dramatically. In Romania there are 49 state universities of civil education where approximately 570 specialities are being studied. In just four years (1994-1998), the National Council for Academic Evaluation and Accreditation authorised temporarily or fully accredited these specialities, on request. In other cases, academic subjects such as mechanical engineering, energy or chemical engineering have been further divided into tens of specializations across five years of study with apparently different curricula, when it was obvious that (at least in the first two or three years) the training was identical. The diversification of academic specialities at the undergraduate level was generated to a great extent by the historical funding, in conjunction to the deans and department chairs’ need to fulfil personal or group projects, rather than by a needs analysis of the labour market or by a mere reaction to the labour market. This is why the number of narrow, strictly disciplinary specializations grew spectacularly. One expects that in a formula-based funding mechanism the strategic option are moving towards broad specializations for the initial academic training, so that graduates could access, through continuous education, various academic modules, and thus this problem could be functionally solved. Due to the same constraints that have already been alluded to we could not collect reliable data from all the universities. An example might be, however, instructive. The West University of Timisoara is a medium-sized university. It enrolled a number of 9351 students in 1999, and 11988 in 2001. But the number of teaching positions decreased from 2640 in 1999 to 2054 in 2001. Figure 5 below shows how the number of academic specializations offered evolved from 1993 to 2001. One can see that 2001 was the first year when some specializations were not offered anymore although they were accredited; hence the decision not to enrol students in those programs belonged to the university itself.

**Figure 5**

The number of specializations offered by the West University of Timisoara
Fifth, the historical funding mechanism shaped a wide range of aspects concerning the management of human resources. First, the number of vacant, non-stable teaching positions tended to increase dramatically. Second, the regular number of professors and senior lecturers as a share of the total number of stable teaching positions does not exceed normally 33-35% when the organization is rational and structured according to competitive criteria for the selection of the faculty. Under the historical funding mechanism, 25% of Romanian universities exceeded the above-mentioned superior limit. One expects that as universities enjoy their financial autonomy and are encouraged to develop educational and research activities, as well as contracts (supplying services on commercial bases), the academic management will be oriented primarily to taking on more teachers and to obtaining their financial motivation by using extra-budgetary resources. This would ensure the stability of the teaching staff, as well as a regular rate of young people in the teaching staff. Data show that from 1999 to 2001 the number of total teaching positions decreased with 5.24%; but at the same time the number of stable teaching positions filled increased by 7.36%. Unfortunately, one cannot detect an increase in the number of young academics (the number remained stable around 66% of the stable, non-vacant teaching positions).

4. Conclusions

This paper explored the institutional dynamics set into motion in the Romanian higher education system by two different funding methods: the historical funding and the formula based mechanisms. The paper identified the dysfunctions created by the historical funding mechanism and conceptually defined two major institutional processes that were decisive for the move towards its replacement: (a) the pressure of the budget generated by a “common pool resource” over-usage logic and (b) the self-impairing dynamics created by the lobby competition between public and private universities acting in a typical “public choice” logic. The study then focussed on the consequences of the new funding mechanism and offered some evidence that the dysfunctions produced by the historical approach are more likely to disappear under the new formula-based funding mechanism.

References


