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THEMATIC REVIEW OF THE FIRST YEARS OF TERTIARY EDUCATION

COUNTRY NOTE: SWEDEN

This Country Note was prepared by a Secretariat-led review team as input to the first stage of the OECD Education Committee's Thematic Review of the First Years of Tertiary Education. The views expressed are those of the review team. They do not commit the OECD or the countries concerned.

A comparative report for the first stage of the thematic review will be published by the OECD in the last quarter of 1997. Inquiries may be directed to OECD Publications.

Introduction

In February 1996, at the invitation of the Ministry of Education, an OECD review team visited Sweden to examine and report on developments in tertiary education. The focus of the review was "the first years", those leading to the first qualification providing entry to the labour force. Sweden is one of ten countries participating in an international comparative study of trends, developments and issues arising in the first years of tertiary education. The findings of the review team, together with the response of the Swedish authorities, will be drawn upon in the overall report of this study, to be published in 1997.

Thanks to a most informative background report prepared by The Swedish National Agency for Higher Education and to the care taken in the design of the visit, the reviewers were able to take full advantage of a relatively short but very rich programme of meetings, discussions and institutional visits. We are most grateful for the courteous reception we received, for the information and viewpoints presented to us and most especially for the guidance throughout of Mr Erland Ringborg who accompanied us everywhere.

We found tertiary education in Sweden to be in a vigorous state of growth and development. A combination of strong national policies and increased autonomy in institutions is the basis of developments in which both new national structures and regionally based innovations are marked features. Whilst acknowledging the continuing role of and innovations in the established universities, we took particular note of the development of the university colleges. These institutions are set to become major players as efforts continue to deliver tertiary education nation-wide, to an increasing proportion of the age group and a kind that addresses contemporary and likely future needs.

In respect of the early years of tertiary education, OECD countries face a number of challenges. They may be stated as needs common to most if not all of these countries:

- to take increasing numbers of students into readily accessible forms of tertiary education;
- to provide adequate funding;
- to develop curricula appropriate to the requirements and expectations of the student, of society, the economy and of the discipline(s) concerned;
- to establish a proper relationship between tertiary educators and their social partners;
- to maintain quality while providing a diversity of course offering and flexibility of choice;
- to develop forms of teaching and arrangements for learning that marry the best of the new with successful established educational methods;
- to ensure a sound institutional, intra-institutional and supra-institutional basis for policy and its implementation;
- to inter-relate the research, developmental and teaching activities of institutions;
- to strengthen constructive relations between education and employment.
- to respond and to contribute to shaping the emerging knowledge-based society.

Each country faces these challenges in its own special way, born of factors like size, history, culture, politics. The needs are common but the responses will vary. Sweden is an industrialised, multilingual nation of some 9 million people, with strong contacts with its neighbours and with the English-speaking world, but without a recent colonial past. Relatively recent membership of the European Union is resulting in a strengthening of relations with its continental partners.

There is in Sweden a great sense of national cohesion and purpose and its democratic culture is characterised by strong social welfare and egalitarian traditions. A guiding principle of education at all levels is, in the words of the Swedish Background Report, equal opportunity for all, regardless of location or ethnicity, building on the 9 year common school.

In some respects these traditions and values are challenged by trends in the international environment which is an increasingly important factor for Sweden as for other OECD countries. New balances are needed between public and private sector employment, between international competitiveness and the cherished values of equity and social equality, between efficiency, the rights of individuals and the particular needs of different social groups.

The challenges are recognised but there is uncertainty about how in "the Swedish way" they can best be met. Recognition of the increasing role played by advanced knowledge, innovation and high levels of technical expertise in economic growth has resulted in scenario building and prognostic studies of the knowledge-based society/economy of the future. Specifically in educational policy, there is a recognition that the educational level of the whole population must be adapted to the new needs; tertiary education participation rates need to be increased and success rates improved. There is increasing recognition of the importance of research as an engine of the knowledge-intensive society, hence of the research role of the universities. Taking all this together, Sweden is undergoing or preparing to undergo some fundamental changes of purpose and direction. These changes not only have significant implications and consequence for tertiary education; their success is ultimately dependent on the standards, quality and relevance of the educational base, stretching from pre-school to the graduate school.

Sweden has a justly admired history of educational reform, research and theory and has a great deal to contribute to the present international debate on tertiary education as to earlier debates. Tertiary education is highly valued and well-supported and is the subject of intense policy efforts. What the reviewers aim to add to a well documented and widely debated system is both a comparative perspective and some questions and issues relating to the transformations noted above.

Like other countries Sweden has taken its tertiary system through a number of phases since the second world war. Some of the distinctiveness of its current approach arises from what it did earlier. In 1958, for example, it responded to the increased demand for university education by creating besides the professors, categories of teachers without the obligation or indeed the opportunity to undertake research, thus in some sense placing within institutions a tension that in some other countries tends to occur among them.

The next major change came with the creation of a national system of tertiary education in 1977. Though in fact diverse in character, institutions were placed in a single framework and on a single funding basis, and their first degree qualifications derived from the system of points (in essence based on the simple calculation that a year's work for a full-time student is reckoned at 40 points).

The third major change came in 1992-93. The earlier system was underpinned by a considerable amount of central regulation. For example, frame curricula were set centrally for "lines" of study directed towards different professions or vocational areas. The non-socialist Government, which came to power in 1991, aimed at greater student choice in the selection of studies at secondary and tertiary level and expanded the autonomy of the institutions to organise themselves, to use their resources more effectively, to develop curricula, and to attract students.

At the beginning of the 90s, decisions were also taken to expand the numbers in the tertiary system. During the 1980s they had remained remarkably stable. Now the economic downturn, international comparisons and Sweden's special concern for equity, induced a determination to expand, even at a time of financial difficulty.

At present Sweden clearly remains committed to this expansion. The numerical goals are ambitious, but may still fall short of what is required if Sweden's aim to be a leader among the knowledge-based economies is to be realised. The vast majority of youth are in the three year upper secondary school, which extends to the age of 18 or 19. Reforms in recent years, at this level, have resulted in a better balance between vocational and general education lines, clearer pathways in the vocational sector to tertiary education, and increased local authority control. An increasing percentage is going on to tertiary education, while there is an expanding demand from older citizens who need re-training. The Swedish tradition, in common with many European countries, is to provide tertiary education free of tuition fees. Free or well supported study opportunities exist for adults, echoing a long tradition of adult education which, in the 1970's, was strongly reinforced as the concept of recurrent education took hold. Even so, further attention is needed to participation and success rates in both upper secondary and tertiary education.

This report is not directly concerned with graduate education and research, but clearly they cannot be entirely left out. The universities have a very large national research role, while new institutions of higher education are anxious to find their own niches in relation to industry and community. In several OECD countries, greater emphasis is being placed on graduate studies than in the past. We return to the issue of research, in its relation to undergraduate teaching, in section 10 below.

While Sweden's traditions are unique, in the future -- as in the past -- its careful and usually well-researched approaches can be expected to offer other countries useful guidance in their attempts to work out strategies for the further development of tertiary education. Having made some interesting conceptualisations of the knowledge-based society, being very conscious of the function of strong educational foundations for wealth creation, and having fostered a climate conducive to innovation and entrepreneurship in the institutions, Sweden could be poised to move into a significant new phase of policy development and implementation. The conditions seem favourable for creative ideas, with a strong emphasis on the initiative of the institutions and their partners.

Individual Demand, Selection and Admission

In the period 1978-91, 45 000 new students entered the tertiary system each year; in 1993-94 the number was 62 000. Yet at this point there is a substantial unfulfilled demand for places in tertiary education in Sweden. The very large numbers in and the restructuring of upper secondary education, coupled with employment trends, the recognition of the imperatives of a knowledge-based society, and the need for retraining can only ensure the continuance of demand. That a number of those offered places in fact decline them does not deny the general trend. The government intends to increase the number of

places by 30 000 in the next triennium. While this increase is likely to help Sweden to join the leading OECD countries in terms of participation rates, it may still be insufficient to establish parity with those countries with which she wishes to compare herself for competitive reasons.

It may be premature to suggest that, in some form, tertiary education will become the norm for Swedish people in their twenties, as upper secondary education has now become for youth. Nevertheless, as in several other countries participating in this review, an important cultural shift does seem to be occurring: the twenty-three year old Swedish person of the future may be enrolled in a tertiary education programme, combining this with part-time work, travel and some form of partnership or family life.

This is to speculate but not independently of the mounting evidence. As for tertiary education, the nature of that demand is no longer so predictable as it was, and, though there is a widespread conviction that Sweden needs more scientists and engineers, different programmes are being adapted to the signals that the market may give and to client preferences. More students are in fact choosing humanities or social sciences than natural sciences or technology. It is expected that demand for economics and some technical specialisations will decline. There is a tendency for young students to prefer programmes leading to occupations in service industries. It is also recognised that, for this as for other reasons, the system needs to offer a greater range of educational and training opportunities. As against confidence in choices in the market place, there is a view that fields of study for which there is a declared national need should be made more attractive, but this is no easy matter.

The expansion of choice at the senior secondary school, where almost all students now enter three-year courses, coincided with greater freedom for institutions to set the criteria for selection at tertiary level. Before the 1993 reform there were national rules for admission to most national programmes of study, handled by a central authority, and based on the national programmes of the upper secondary school. This system was abolished in 1993 and power was given to the institutions to decide upon very general requirements, earlier decided upon centrally, and selection criteria (within a very general central frame regulation). Increased freedom of choice was the objective. In a further set of changes, national guidelines have been recently reaffirmed.

Entry and selection criteria for tertiary education will always affect the choices made by students at the upper secondary level. The challenge is to secure that admittance rules will affect students at the upper secondary level in a positive way. It ought perhaps to be seen as a failure of the upper secondary school system if too many of those who at some stage enter tertiary education need not three but four years of secondary education to meet admission requirements. On the other hand it is of course positive to protect most pupils from dead ends and give individuals the possibility to reorient. Moreover, in raising the issue of "failure" we are not suggesting that there is no role for tertiary education in reconsidering its own entry requirements and especially the facilities provided for student orientation and guidance. The general point is the need for a still closer articulation of policies and procedures for the transition from secondary to tertiary education. Admission requirements are but part of this but they do provide signals which need further attention by both sectors.

Good information is necessary. For the choices that need to be made on completion of secondary education or in taking up tertiary education after a period of work, travel or child rearing, both clear and timely information and equitable and efficient admission procedures are necessary. They need not be an infringement of institutional autonomy, but they do require well co-ordinated action consistent across the country. This is being sought in policies now in place. Students nevertheless pointed out to us how difficult it was to plan their future. An unduly complicated system may also favour those who have parents with an academic background rather than first-generation recruits. There is a recognition that

strong, national-level decision making is required. Very soon after our review visit, the government presented proposals of strengthening national co-ordination, and during the Spring 1996 session these proposals were accepted by Parliament. The National Agency for Higher Education has been authorised to settle, in consultation with the higher education institutions and the National Agency for Schools, a number of standard qualification requirements, formulated in terms of knowledge acquired in the upper secondary school. The Agency decides which of these requirements is to be applied to nationally regulated vocationally oriented programmes, while the universities and university colleges themselves decide which to apply to any other programme or course. In this way a national framework has been created, facilitating the overview for prospective students and their families as well as for the secondary schools and their teachers and counsellors. The National Association of Universities and University Colleges has played an important role in the dialogue preceding the decision on standard requirements.

Examples of tertiary/secondary liaison interested the review team. Teachers at the University of Stockholm meet with teachers in the upper secondary schools in the Stockholm area and close contacts exist in the university colleges visited. But, irrespective of whether the single institution has a recruitment base for students of local or national character, we question whether the potential for contact with upper secondary schools in the local area is being used to a sufficient extent. There could be scope for a division of labour: the institutions of tertiary education could simply divide the country amongst them, not to seek students merely for themselves, but to promote secondary/tertiary transition more generally. It may also be necessary to put more effort into the last year of lower secondary school where important decisions on future education are taken. Institutions are working individually on these matters but the experience of all countries participating in this review suggests that transition issues require greater attention: more mutual knowledge of -- and indeed respect for what each sector is doing; more frequent and action-oriented personnel contact; more effort to harmonise teaching and study practices in the upper years of secondary and the first year(s) of tertiary; more frequent, up-to-date flows of information to prospective tertiary students; more and better guidance and orientation; and -- as already remarked -- improved selection and admission procedures.

The need for and nature of possible foundation year studies or other forms of first-year orientation towards tertiary education is a highly contested issue in many countries. As with selection and admission procedures, it is part of the wider concern, namely that transition and orientation towards tertiary studies have received too little attention. This issue requires further investigation and analysis not only to draw out the specific problems but to identify and disseminate successful responses to them. The question, which the reviewers wish to raise, is whether there may be value as the numbers of those entering tertiary studies continue to raise, in considering a new kind of orientation year, with increased emphasis on study skills.

While numerus clausus exists, selection and its problems are unavoidable, and the expansion of the system suggests that attempts to overcome them must include new forms of teaching, changes in curricula and new directions for student learning. We return to these matters later in this report.

Numerus clausus does, of course, limit choice as well as opportunity. Some students may end up attempting programmes for which they are unsuited or feel unmotivated, not being able to enter those of their first choice. Some will defer entry to tertiary institutions while trying to build up the qualifications to enter a particular programme. Others, seeking to construct programmes of their own within an institution, may find it difficult as a result to realise an individual plan of education. Clearly there are arguments not for expanding without respect for quality, but for making sure that there is diversity within the unified system. This needs to be in terms of institutions, programmes and content of study but also in how, when and where students learn. Rigid views about standards and quality can stand in the way of moves of this

kind. In the mass systems that have now emerged it is essential that there be a fresh approach to redefining, maintaining and where necessary strengthening quality. We return to this point in Section 5 below.

Access, Equity, Efficiency

While there are high levels of demand, and, after a period of slow, or no growth, demand is increasing, access is still affected by social status. The Swedish authorities are conscious that this is not in accord with their progressive traditions and policies, and that it risks a waste of the talent that the country needs to turn to account. Thus the new higher education institutions in the Stockholm area and in Malmö are being designed to address some of this need. The regionally-based university colleges also have an important role to play in this respect. But by themselves, more or different kinds of institutions are not enough. Tertiary education everywhere still has a strongly meritocratic character. This is to a degree inevitable and has indeed often been promoted as a significant contribution to equity and social mobility. Yet, the culture of tertiary education even in its wider reaches is still inimical to certain sectors of society; more radical changes are needed to open the doors to a wider range of talents, interests and socio-economic backgrounds than hitherto. Sweden, with its strong interest and experience in developing equity policies and in well-conceived national policy frameworks, is well placed to provide international leadership.

By contrast to several other OECD countries but in common with much continental practice, there are no tuition fees in Sweden, and there is no disposition to introduce them. Subsistence support (loan and grant) is available for up to six years for full-time students and for half-time students. The grant portion is 28 per cent. Repayment of loan is income-related, and begins not less than six months after the final receipt of study assistance, at a rate of 4 per cent of annual income. Currently it is thought that the loan forms too high a proportion of the support. Many students will never be able to pay it back by age 65 and this fact introduces an element of incoherence and inefficiency into the funding system. Even on fiscal grounds, it is thought, it might be better to increase the grant and set the loan at a realistic level that will mean that it can be paid back. In June 1996 a government commission proposed an increase of the grant portion to 40 per cent and some changes in arrangements for loan repayment. At the time of writing no policy decision had been taken.

Equity can be considered geographically, as well as by way of economic and social status. The reform of 1977 was designed to enhance access throughout Sweden, strengthening relations, and developing links between the older universities and the regional university colleges. More recently this has been backed up by stressing regional responsibility for secondary provision and, by implication, for tertiary provision as well, and by the decision to establish new university colleges south of Stockholm and in Malmö (close to the University of Lund). The areas chosen need further development socially and economically and education has a major role to play. In the southern Stockholm area, for example, fewer pupils from upper secondary school traditionally go on to tertiary education. Regional arguments, or rather perhaps arguments of social equity, thus have been used for the establishing of new institutions even within metropolitan areas.

Not only the universities, but also to a certain extent the university colleges, are, however, national in terms of their specialisations and their student enrolments. No system can expect to provide everything for everyone everywhere. But there may indeed be some tension between local obligations and national aspirations. Moreover student preferences for the large urban institutions need to be balanced by vigorous policies for the smaller regional centres.

Before leaving the topic of equity, we have a remark on the matter of age. This is of particular concern, given that a phase of rapid growth in enrolments is following a phase of relative stability. To what extent should the numbers be drawn directly from those now leaving the secondary system and to what extent from older citizens who could not or did not take up the opportunity earlier? To those questions is added a third: in what ways can the system respond to the demand for retraining that the demands of the economy are likely to put on those currently employed or having to change their employment? It is, of course, not merely a matter of numbers. Older would-be students are likely to have greater domestic commitments and to be less able to take up full-time study. Sweden compares well with many other countries in engaging adults in study. However, the tertiary system may still not be sufficiently flexible in this respect. Even the funding of institutions prompts them to favour younger full-time students in regular programmes, a common tendency in public systems.

Virtually 100 per cent participation in upper secondary education is a target well in sight. Coupled is the goal that 100 per cent of each age cohort shall be generally eligible for tertiary entry. To achieve this while maintaining high standards will be more of a challenge. That, it was said, does not mean 100 per cent will enter, for not all will want to. But, as we have suggested, it must generate demand. The goal is a clear target for quality improvement and appropriately recognises that there is all too often a very weak economic role and only a limited social role for those with low educational attainment. A new goal is being set and it implies a different concept of standards. Just what is meant by high standards when virtually 100 per cent of the age cohort complete upper secondary education and qualify for tertiary education is an issue yet to be satisfactorily resolved, not only in Sweden but throughout the OECD membership. However that matter is resolved, it would be naive to suppose that entry can continue to be denied to those who have qualified. This point has equity and financial implications not easily addressed. Expansion is continuing and the pace may well reflect the overall budgetary situation. In keeping with the policies of national steering, transparency and equity, the government may wish to make a clear statement about targets as distinct from a general goal of expansion. Regardless of this, Sweden has demonstrated a striking commitment and new levels of knowledge and competence throughout the society by its goal of 100 per cent eligibility for tertiary entry.

Regionalism

The review team had the pleasure of visiting two very interesting regionally-based university colleges. The university college in Karlskrona/Ronneby is a modern institution which specialises heavily in IT in close co-operation with the local authorities and local enterprises. The county of Blekinge, where the university college is situated, is severely hit by unemployment mainly by unskilled or semiskilled labourers. Due to their skill profile, these people will probably not be recruited into the companies in the information technology area. Their needs are real and important but fall outside the scope of this review. However, a powerful and expanding array of industries in different fields of information technology requires highly educated staff. Enterprises are working closely with the university college in course planning, design and delivery and students have opportunities to carry out some of their studies in or in close association with enterprises.

Similar opportunities exist for students in the University College of Orebrø. That institution numbers among its interesting developments responsibility shared with a highly innovative local entrepreneur for the education of future chefs, and other hotel and restaurant personnel. Close relations are maintained with other sectors of the business community, for example in courses in the social sciences. The future academic strength of this and of similar institutions is being enhanced by the appointment of

professors -- in the case of Orebrø in close association with the University of Uppsala. We strongly commend the care being taken to build up academic profiles and the highly supportive role being played by the older universities.

The regional institutions are striking examples of the combined efforts of national, regional and local authorities, of the public and private sectors, to collaborate closely in setting new directions for tertiary education. The purpose is not short term adjustments to a fluctuating labour market but to ensure that the overall activity of the institutions has, as one of its major orientations, economic development of the region in which it is located and opportunities for students and staff to work with the enterprise sector. The institution itself, by virtue of its payroll and scale of operation, is a significant economic actor both directly and indirectly. By working in close co-operation with the public authorities and enterprises, it can strengthen this role and participate in the achievement of regional growth on a number of fronts. Undergraduate students can benefit in many ways including closer contact with the working world. Given the rather unbalanced profile of employment in Sweden, to which the OECD Jobs Study Follow Up has drawn attention, and the need for a more entrepreneurial climate and greater private sector growth, these regionally-based partnerships are of considerable significance.

Governance and Decision-Taking

The Swedish tertiary education system consists of 7 universities, 16 small and medium sized university colleges, 5 institutions of research and vocationally oriented higher education and several special institutions for nursing, fine arts etc. Legally the tertiary institutions have been treated as a unitary system since the reform of 1977. The Higher Education Act of 1993 places the institutions directly under the Ministry of Education with no intermediate body of governance related to funding and steering. (The Swedish University of Agriculture is the responsibility of the Ministry of Agriculture.) The Ministry is small, and the new National Agency for Higher Education has been given responsibilities in quality audit and quality enhancement, in the accreditation of degrees and in supervising the application of the legal framework. The Agency is not superior to the institutions, which receive their assignments directly from the Parliament and the Government. Consensus is sought in defining the objectives, funding levels and overall steering of the system. There is close and frequent contact between the institutions and the central Ministry, the Agency and, increasingly, regional authorities. The scale of the system is such that people know each other and can communicate informally, resulting in a considerable sharing of experience and of aims and values. We return to the work of the Agency in the following section.

The nature of co-operation between the Ministry and the Parliament, between the Ministry, the National Agency and the institutions seems to be oriented towards the finding of common solutions, perhaps with fewer conflicts and differences among points of view at the different levels of the system, than in some other member countries. A key role is played by government commissions, sometimes one-person commissions, who both seek consensus and draw up recommendations.

At the national level Sweden thus preserves a deep sense of cohesion and a desire for consensus. There is, at the same time, a readiness to discuss and to innovate. To some extent that is assured institutionally by these arrangements. In addition, the parliamentarians are deeply interested in educational matters and we had a most valuable and interesting meeting with the all-party education committee. It is important that Ministry and Agency provide material to the parliamentary committee in a form that enhances its understanding and facilitates its role. Several members of this parliamentary committee, expressing their close interest in the current stage in the evolution of the system, called for even closer communication and dialogue.

A mixture of pluralism and consensus is sought not only at the centre. Decentralisation has been another objective, particularly since the early 1990s. Some turbulence has ensued and this is inevitable. At the centre, there is a tendency to question both whether decentralisation has gone too far and whether it has gone far enough. In fact institutions have responded to a new sense of autonomy by a variety of initiatives, while municipalities, and regional bodies pressed in part by labour market problems, have also been active in taking up their additional responsibilities. There is some sense indeed in which the system is seen to be attaining a new balance.

For its part, the review team felt that the gains of the overall moves towards devolution of responsibility to institutions and the growing role of regional authorities considerably outweighed the drawbacks. The scale and rapidity of change were bound to bring problems. Adjustments take time. The transitional difficulties are not, it believes, arguments for a return to centralisation. Nor did it find that that view was common. Clearly Parliament, Minister and Ministry have the fundamental role of setting directions and steering the system. The real challenge is not this but calling forth the energies and expertise of all the actors. The follow-up role of the Agency for Higher Education is of great importance in furthering a new culture which draws together both central and local elements of the system

Given the effective operation and the widespread acceptance of the concept of national steering, and the opportunity the National Agency of Higher Education has to provide very comprehensive monitoring -- and guidance -- there is a case for further extending the decentralisation process. The reviewers were struck by the informed interest shown by regional authorities and regionally-based enterprises as they were by the creativity and strength of the institutions. Avenues could be explored for even greater involvement by regional government and the enterprise sector -- in partnership with the academic community and central authorities. If a more entrepreneurial climate is to be established, the tertiary institutions have key roles to play. The same point applies to decision-making and the exercise of responsibility within the institutions and we welcomed evidence of moves in this direction.

The Higher Education Act is a framework for regulating a decentralised system of higher education. The Act mainly sets principles for the structure and tasks of the system; it regulates the relationship between the central level and the institutions; it regulates internal organisation and institutional procedures to a very small extent. The Act, however, regulates the rights of professors and other teachers and establishes rules concerning their competence and obligations.

Each institution has a board with full responsibility for all institutional matters. The institution has a Vice-Chancellor (rector) as a leader for both educational and administrative matters directly under the board. The Vice-Chancellor is elected in an internal process but appointed by the Government after a proposal from the board. The Vice-Chancellor is today, according to governmental regulations, chairman of the board, though there is a proposal, whose point we see, that she/he would be a member but not the chairman and that one of the external representatives would then chair board meetings. The Government appoints the majority of board members (see above). Teachers and students are represented on the board whereas representatives of the employees have the right to be present and speak in board meetings. Deans, and in the university colleges heads of departments, are appointed by the Vice-Chancellor after an internal election process. A dean or head of department may in principle also be dismissed by the Vice-Chancellor. Proposals are now under consideration for various changes to institutional governance. They include an external chairperson and an appointed (not elected) vice-chancellor. If adopted, they will set new targets for senior recruitment policy, institutional management and senior staff development programmes. There is an opportunity here to reduce existing rigidities and to foster initiative, creativity and a sense of individual responsibility among faculties and departments, staff and students.

The Act allows the institutions considerable flexibility. But with the process of decentralisation, it becomes more important for the institutions themselves to develop appropriate structures for governance, for the development of curriculum, and for the maintenance of quality. Many autonomous universities in OECD countries have, for instance, institution-wide academic boards or senates where academic issues are discussed and new and existing teaching programmes vetted. The prospects of interdisciplinary approaches can be more readily explored and departments and faculties be informed of best practice.

In Sweden the university/university college board does not deal with academic matters. This strengthens the position of the Vice-Chancellor while leaving intact the prerogatives of faculty, departmental and subject committees. It is important that institutions pursue appropriate internal procedures in respect of academic decision-making and include students therein in decision-making at all levels. Establishing a supplementary academic board or committee would be one way of securing interchange of views and communication across the faculty or department borders. An academic leadership that influences the education and research policy of the different departments and individual staff members needs to be built upon academic authority within and between the disciplines and their various outreach arrangements. The Vice-Chancellor therefore needs to use faculty and department leaders to build up an academic leadership. At the University College of Örebro the intention was not to build a departmental sub-structure beneath the faculties. Whether this will make real academic leadership possible remains to be seen. The direction favoured by the review team would see a strengthening of both collective academic decision-making and individual responsibility within the institutions, greater participation by outside members of governing bodies, increased efforts to engage external expertise in the teaching and learning processes, and enhanced managerial authority for the executive head and his/her senior team. A combination of the "collegial" and "management" styles of governance and decision-making would seem most appropriate in a situation where increased demands are being placed on the institutions and they are being assigned greater responsibility.

In some other systems, autonomous university institutions proceed by collaboration as well as by competition, and establish forms of institutional collaboration. Sweden might further develop its newly created Association of Universities and University Colleges. Institutions in a tertiary system have much to learn from each other, and such a body can facilitate the maintenance and development of contacts among the institutions as well as among their staff and with the wider world. Even where institutions are disparate in background, size and resource, that will be worthwhile.

The development of curriculum in university level institutions in Sweden appears now to be highly decentralised. While the earlier system of "lines" has left a legacy in the form of a Degree Ordinance, where the different general and vocational national degrees and the normal length of studies for obtaining them are fixed, institutions have a high degree of autonomy in developing the content of programmes and courses. Nationally, since the 1977 reform, programmes and courses are reckoned in terms of points, 40 representing a year's academic work. Assignment of points to particular blocks of work and determining appropriate levels of difficulty appear to be matters for the institutions concerned, and for the staff within them. That increases the need for good systems of academic approval and quality assurance within institutions and for inter-institutional collaboration, particularly if students are to have the opportunity of carrying credit from one institution to another.

Institutions are free to decide on the number of students to admit to different types of studies as long as requirements for the minimum numbers set by government are met, except that the government sets minimum and, in certain cases, maximum numbers for vocationally-oriented programmes.

Specialisation within disciplines where the institutions are granted the authority to award degrees is also an institutional matter.

In some OECD countries, institutions develop "profiles", which are negotiated with government especially for funding purposes. Profiles relate to overall student enrolments, areas of disciplinary specialisation, the discontinuance of existing and the introduction of new disciplines or professional fields, capital works, and recurrent funding. Profiling may be a helpful means of reconciling centralisation and decentralisation, balancing between government and institutions. It may also be a means, not of stopping competition, but of turning it to account. Discussions by inter-institutional bodies -- The National Agency for Higher Education and the Association of Universities and University Colleges -- might help to develop such profiles and avoid undue repetition of programmes and other initiatives. The Agency certainly has an opportunity to strengthen and enrich dialogue between the government and the institutions.

Quality

Decentralisation after a long phase of centralisation, makes the adoption of quality assurance systems essential. The funding mechanism points the same way. Funding by results set against national goals and priorities must not mean loss of quality.

In keeping with the spirit of decentralisation, quality systems must centre on the individual institutions and parts thereof. They have the main responsibility for sustaining quality and they must have adequate procedures. The auditing activities of the National Agency should support such an institution focus. It should put its emphasis on academic audit, that is, on making sure that institutions have adequate procedures in place. The present practice entails a three years cycle, directed by the Agency, within which institutional self-assessment is the key procedure. The focus -- at present -- is not the institution as such but the disciplines. The purpose is not to fund according to the results of the quality assurance process but to identify problems and work out ways to resolve them. The Agency has in fact responsibility for conducting evaluations from different perspectives: accreditation of programmes and private institutions and university colleges; accreditation of professorial chairs at university colleges; quality audit; national programme evaluation. Still at a relatively early stage, the work of the Agency will become increasingly important as a contribution to repositioning undergraduate programmes and the development of teaching strategies. The test will be, not so much the ability of the Agency itself to oversight or undertake significant audit and evaluation procedures -- which is considerable and has already been exercised to good effect -- but the match between these functions and the readiness of the institutions to make positive and constructive responses. Follow through is thus important and this might usefully include a particular focus on the developmental tasks facing the institutions.

An example of how institutions are evolving their own procedures is the University of Uppsala where a "total system" approach has been adopted under the leadership of the chair of the university's quality assurance group with emphasis on longer term appraisal of performance, on inputs as well as outputs (how to attract good staff and good students), on dialogue with staff and between staff and students. Academic leadership, especially at the departmental level, receives close attention and the Uppsala quality assurance group highlights the need for a variety of evaluation approaches, at the departmental level. Is all this unduly incestuous? The chairman thinks not, as the group operates with an international advisory panel, reports to the University Board, and participates in the international quality debate.

Alongside such an approach the national agency is developing appropriate measures for the national evaluation of disciplines. The present "Nordic" thrust in discipline reviews could perhaps be further internationalised.

Given the number and range of academic disciplines, moves to develop interdisciplinary studies and the relationships being established between academic subject matters and work experience, traditional discipline reviews will no longer suffice. The Agency, working with the institutions, will have an interesting and significant task in redefining the discipline-review concept to adapt it to changing institutional realities and social and economic needs.

Employment Prospects

The upward trend in unemployment experienced in most OECD countries over the 1980s and 1990s has been of special concern in Sweden: the unemployment rate which was around 2 per cent of the labour force in 1980 peaked at 8 per cent in 1993. The protracted recession that began in 1990 triggered a 14 per cent decline in total employment by late 1993. A long period of full employment had shaped the Swedish approach. So, of course, the downward employment trend resulted in a deep sense of concern for social cohesion. In recent years, education policy, particularly at the upper secondary and tertiary levels has been more closely related than hitherto to the labour market.

The transition to working life has become increasingly difficult. As in other countries, youth and young adults (15-19, 20-24) have higher unemployment rates than mature adults, for which there are many reasons. What is disturbing, however, is that the unemployment rate of 20-24 year-olds relative to the total unemployment has inched upwards since 1970 and peaked at about two and a half times in the mid 1980s. Since then, the ratio has fluctuated a little but not diminished significantly despite a favourable demographic profile. At the same time, the employment/population ratio for young adults (20-24) declined very sharply over the 1994-93 period and is only now beginning to trend upward.

From the labour market perspective, however, there are good reasons for the increased demand for tertiary education. Despite the expansion of tertiary education provision, employment experiences of graduates are still very favourable. The unemployment rate of individuals with some form of post-secondary education is about half the total unemployment rate and the unemployment rates for those with post-graduate degrees is only one-quarter. In terms of earnings as well, the rate of return to university graduates has been one and a half times that of secondary school graduates and this differential has remained practically unchanged over the late 1980s and early 1990s.

The labour market context raises another question, namely the weight placed on various programmes and lines of study. There is concern in Sweden, as in several other OECD countries, that too few students are entering science and technology. This is often ascribed to inadequate secondary preparation in science and mathematics, and in turn perhaps to inadequate teacher training. But it is hard to be sure that students are not making the choice according to their personal values or in response to their perceptions of career prospects, which might be as realistic as those of opinion- or policy-makers, if not more so. In any case, there are several cultural and societal influences at work on young people's attitudes towards science and technology. It is not clear that action, confined to the education sector would suffice. Further research on the factors affecting attitudes and perceptions is required; it is likely that a community-wide effort, involving several sectors, will be needed. This is not to say that no progress can be made through educational initiatives. Courses at all levels can be made more appealing, more directly related to students' interests, and more engaging of their activities in and out of school-college-university.

Sweden could, with advantage study efforts being made in some other countries, including the U.S., develop quite new approaches to the teaching of science in the university. The Country Note on the U.S. (Commonwealth of Virginia) in this series of country notes will be of interest in this regard.

In the funding of student places, there must be some general guidance as to the number of places institutions may offer in the various fields, if only because their costs differ and openings on the labour market are changing. How precise should that guidance be?

Emphasising the role of the market, while yet promoting expansion, can create the impression for some that the object is merely to get the young off the streets. Education becomes not a way to employment but a substitute for it. Morale falls all round. Yet the very positive effects of tertiary education on employment and earnings should help counter such impressions.

There is of course, a contrary risk, partly arising from decentralisation and institutionalisation. All the more anxious to respond to the needs of new industries, tertiary institutions may tend to offer courses that are too narrowly focused. They may in the short-term lead the way to employment, and industries often like to have ready-to-work recent trainees at hand. But in the longer term graduates of this kind may not be in a good position to find further employment, or even undertake further training should labour market needs again shift with greater or lesser suddenness.

One perceived weakness in Sweden's vocational education system is its failure in meeting middle level skill needs, while the demand for such skills is believed to be increasing, especially as Taylorism breaks down and the service sector expands. The gap grows between what the upper secondary schools provide and what is available at the tertiary institutions. School-based vocational programmes require that 15 per cent of study time is spent on learning at a place of work. This is a welcome development; however, in practice it has proven difficult to find places. There is not much of a tradition for companies to get involved in vocational programmes offered by schools. Steps to improve this situation could include greater participation by business in curriculum planning; part-time teachers from business; exchanges between business and educational personnel; arrangements to ensure that education institutions have access for their students to the latest equipment and so on.

To meet the deficiency in intermediate skills and to develop pathways of further studies for people from the vocationally oriented programmes of the upper secondary school, Government in March 1996 set up a national committee to implement, on an experimental basis, the new vocationally-oriented programmes at the tertiary level, to come into operation in Autumn 1996. The plan is to provide 1700 places for (an average of) two-year programmes to develop middle level skills, covering both the manufacturing and service sectors. The programmes are targeted to upper secondary school graduates, but mature students can participate as well. The general eligibility requirements are the same as for the higher education. A key feature is that at least one-third of learning is at the workplace. Municipalities, universities and colleges and business are invited to develop and offer programmes. Quality of the programmes will be controlled by the national committee, which is like a national agency with its own funding. The commission in charge of this programme will give its recommendations regarding possible future developments in 1999.

The programme should help to bridge the intermediate skill gap provided high standards of quality and relevance are achieved. Private institutions of different kinds do offer courses, especially in commercial fields, but these are not linked in a national framework, so that quality control is not uniform, and the programmes are not clearly linked to learning pathways. In the new proposal, opportunity for credit transfers of appropriate components of the programmes will be more or less automatic. Given the

Swedish tradition of a unitary system, the very distinct nature of the new programme is an innovation and has caused some opposition. There are fears on the part of unions that a shorter course and its separation from the present structure of tertiary institutions might dilute quality of training. However, judging from the high level of applications for offering programmes, there is a fair degree of enthusiasm. The smaller university colleges are generally enthusiastic about the opportunity this initiative offers to engage the business sector. They are already offering innovative programmes, for example Karlskrona-Ronneby in the telecommunications fields. The well-established universities, however, are keeping a distance.

Overall Sweden has reached the conclusion, in common with other OECD countries, that to enhance the education and skills of its people it is important that their education and training arrangements should be flexible. The new proposal should be judged, not on whether it "fits" the existing structure but on the quality and relevance of the study-work programmes it provides. Its results will be of considerable interest not least in those countries where existing structures and the conditions surrounding them make innovation very difficult. It is sometimes necessary to make a break and to encourage the structures to adjust themselves to the innovations.

Given the determination so evident in Sweden to commit resources to upper secondary and tertiary education, and to expand participation, it will be necessary to reflect further both on the significance of lifelong education, and on the pedagogical needs its generalisation will impose. The key is, of course, a combination of learning how to learn and a commitment to the value of learning throughout lifetime, with work-based (or practical) training as an aid to learning. Institutions may well remain the sheet-anchor of provision and quality. But, in conjunction with older methods, new technologies can be turned to account as well.

The unions have expressed concern that the opportunities for re-training at university level for white collar workers faced with structural unemployment were inadequate. They did not have a solution and thought it would emerge through "dialogue". One possibility is large scale part-time distance education, provided by entrepreneurial university colleges, moderately subsidised. It should be noted that the funding criteria currently may have the effect of discriminating against part-time education. This is because from the standpoint of an institution's finance, one full-time student "earning" ten points is less costly than two part-timers together "earning" ten points. This is a form of de facto discrimination which we have observed in some other countries. It merits attention in the trajectory of policies aimed at fostering lifetime learning.

The emergence of a deregulated approach requires the provision of information and advice to the effect that students, and would-be students, employers and would-be employers can make choices as informed as may be. It was good to see at Stockholm University, for example, the development of a dynamic careers guidance office. In Sweden, as elsewhere, institutions can help students both by assistance in the preparation of C.V.s and interview techniques, but also by provision of fuller statements of the knowledge and skills they have acquired as a result, directly or more incidentally, during their period of study.

Also arising is the issue of assessment and recognition of learning at the workplace and other non-formal settings in relation to learning at formal tertiary institutions. Preparation for employment will benefit from work experience: the present seeds need watering. Practice which is highly developed and impressive in some subjects and in some institutions, needs to be more widely dispersed. The bookish tradition need not and should not be diluted but, particularly in the social sciences and humanities, needs to be complemented by learning experiences that relates to everyday life and the working world.

When universities and university colleges make contact with working life, public or semi-public institutions seem to be over-represented. This is a paradox as further expansion and the key to reduced unemployment are likely to be found in the private sector. That is an arena for improvement both by institutions and private sector employers. Interesting discussions between institutions and company representatives on future needs for manpower and competence as well as examples of students doing project work in industry have taken place for instance in Örebro. Those types of contact should be further developed. Board members recruited from business and industry could function as links in this respect.

Costs, Finance, Investment

By contrast to some other OECD countries, Sweden is prepared to increase government funding in order to expand participation in tertiary education. As already noted, the government has committed itself to an increase of 30 000 places in the coming triennium and the grant component in its subsistence support of individual students may be increased. In the longer term, it is recognised that that may not be an additional cost, given the difficulty in repaying loans. Much of the funding for research also comes from government sources. The universities are indeed at the core of Sweden's research effort.

While municipalities have substantial responsibilities in secondary education, will be one of the main actions in the new vocational programmes, and display considerable interest in tertiary education generally, there is little pressure on institutions, as there is in some other OECD countries, to raise money for themselves, with all the advantages and disadvantages that has. Industries, of course, welcome the provision of trained personnel, but, although there are some signs of a change, rarely recognise an obligation to make major financial contributions. Institutions do not see a need, as those in other countries have, to imitate the United States of America in seeking support from alumni. The exception relates to the attempt in some institutions to raise their status by establishing professorships. Even there local and regional public bodies seem to take more of a lead than the private sector. A conversation should be opened between central government, the regional and local authorities, business and industry and the voluntary sector. The continued expansion of tertiary provision, and the need to ensure its continuing relevance to social and economic need point the way, if not yet to specific action then to a well focused dialogue on future forms of support and direction.

Naturally, expansion has been associated with a drive for greater efficiency. One device has been to make an element of funding dependent on success in the students' completion of programmes, risky with respect to standards though that might prima facie appear to be, and tending, it seems, to skew enrolments towards the immediate school-leaver who undertakes full-time study. Other means to greater efficiency are also being explored. The scheme of staff development and appraisal at Uppsala is to be commended. Such procedures and the expressed need for them where they do not exist or function well argue again that institutions need to strengthen their internal academic structures and their quality assurance systems. While there can be too many hierarchies within an institution, structures and systems should extend to the departmental level.

The Agency at present has no role in funding. But it seems that it is in a good position to advise the ministry on funding policies and on their impact; it might be invited to take up that role in order to facilitate overall planning.

Diversity and Differentiation

The "massification" of tertiary education has, of course, been associated with growth in size and changes in the number of tertiary institutions in the OECD countries as elsewhere. New kinds of institutions have been created and many long established ones have undergone very substantial changes in efforts to respond to the more numerous and more varied student flows. Some countries have endeavoured to define the roles and characteristics of various types of institution, as in New Zealand, Germany and Norway among others, thereby creating so-called binary or multi-layered systems. Others -- notably among the countries participating in this review, Australia and the United Kingdom, have brought primarily separate layers or sectors together. (In both, a non-university sector still exists so it is misleading to attempt to divide systems into "unitary" or "binary"). Sweden has a single system but, as we have seen, different institutional types exist within it. Endeavours in all countries participating in the thematic review to define distinctive institutional or sectoral missions and roles are frequently countered by other pressures and other decisions. The division between academic and vocational, on which such definitions to some extent rested, was never entirely satisfying, and, without becoming entirely unrealistic, is ever more frequently questioned. Perhaps more significant were two other trends.

One was implicit in "massification". If participation were to increase, it should not create a sense of inferiority. While "university" has meant something different, not only at different times but in different places, it is widely accepted as a term for the crowning institution in tertiary education. The difficulty in specifying the role of other institutions has been as great, if not greater. The tendency in some countries is for all institutions to aspire to be universities, at least in name, if not in function. Sometimes governments have accepted, even decreed this. This aspiration certainly influenced policy in Australia and the United Kingdom and is apparent in several countries participating in this review, Sweden included.

The other trend was and is indeed fiscal pressure. In a unified system, governments appear to have considered that they could better contain and control the substantial expenditure "massification" involved. They might get better value for money. On the other hand, since the goal is the title "University" and that implies research as well as teaching, there can be no assumption that costs will not rise.

These changes have created systems which may be unified by virtue of legislation and a regulatory framework and by a broadly defined set of common purposes, but they are systems which now contain considerable differentials. Not all institutions have the same scope, character or aspiration. Stratification occurs and at least differentiation of functions within the system exists and should be encouraged. But such diversification should not result in institutions retreating into jealously guarded, quite separate domains. The need for co-operation and some sharing of activity is all the greater. Institutions may tend to offer courses -- in IT, in business studies, for example -- that are substantially similar, differing only on the margins. This is wasteful and suggests the need for more systematic co-operation and a division of labour among provider institutions. Distance education is a useful medium for this purpose: one centre (or institution) designing and delivering courses which result from the collective efforts of specialists in a number of institutions. These separate institutions then provide tutorial support and share in the assessment of student learning. Some may regard this as far fetched but such a development is feasible and would contribute to solving resource problems that will only increase as the scale and scope of tertiary education continue to expand.

How many institutions in Sweden will be in a position to offer programmes that are marginal in terms of popular appeal but strategically essential to the country as a whole? The university of Uppsala and the university college of Orebrø are both dedicated to the education of undergraduates. Both undertake research and each has complex relations with its environment. There are many other similarities but the difference in origin, culture, clientele and style are at least as important as the similarities.

Swedish students and society are the pitches for this diversity and the reviewers are of the opinion that, notwithstanding the inevitable status comparisons that will be made -- often superficially -- every effort should be made to maintain diversity and variety, with every institution encouraged to seek quality and relevance in its work but in ways that are often subtly different and should be complementary.

However, maintaining diversity will not be easy. The title "university" has a great appeal, it has currency internationally. There appear to be few means of containing the aspirations of institutions to be "universities" in name, nor indeed of preventing their attempting to become universities in much the same style as the present universities. The Ministry has announced that the position will be formalised in respect at least some of the larger university colleges. It seems likely, too, that stratification is likely to emerge in any case. It will be necessary to consider how far Sweden wishes to fund such a system, while still sustaining some institutions of a very high level of international competitiveness.

The "profiling" of institutions may offer some kind of approach to this problem. The de facto collaboration between Uppsala and Örebro may offer a pattern that could be followed up: co-operation among institutions may be at least as important as competition. It must at this stage be said that the review team met many good examples of a co-operative spirit among institutions. The team met reluctance to launch into distance education from The University of Stockholm because this was a function specially taken up by the University of Umeå. The University of Uppsala has professors who work in the University College of Örebro, interested in keeping up this contact even if Örebro were to be given the right to appoint professors. The team also met a very co-operative interest in creating a new tertiary institution in the Stockholm area.

It will indeed be desirable to ensure that the system offers real diversity. The creation of the new vocationally oriented post secondary education suggests, perhaps, a fear that there is an overall thrust to make "academic" what should be "vocational". There may be other ways in which the unified system, coupled with the aspiration to be a university, will lead to an undesirable homogenisation. Profiling and collaboration may help to deal with the issue. But, most important, the institutions themselves, working together with national and regional government, need to take up the questions of how best to maintain and further develop distinctive profiles and ways of collectively contributing to a national effort.

Research, the Graduate School, and Undergraduate Education

As in other OECD countries, probably to a greater extent than in many, in Sweden research is located in the universities and, to an increasing degree, the university colleges. Many research institutions or foundations, themselves substantially government-funded, sustain research in the universities. Given the relatively small size of the country, and the need for critical mass in much contemporary research, there is indeed no obvious advantage in setting up separate research institutions.

This situation does, however, raise a number of questions for tertiary education and for relations between the university-based research system and enterprises which themselves undertake, carry out, or use research. Increasingly, in OECD countries, such research is carried out in teams whose members may be drawn from the enterprise itself and one or more academic institutions. This is not the place to explore further the emergence, especially in the high technology sector, of new approaches to research through networks in which a single university may be but one of several players.

However, among the many questions arising for the future development of the tertiary education system in Sweden, are some specific issues directly related to the purposes and scope of this review. Is

research to be a distinguishing feature of all the institutions within the unified system? If so, in what ways will the system be able to seek the balance between co-operation and competition that is likely to be necessary to secure adequate focus and adequate resource, and to foster and build on the inter-institutional networks that, in research world-wide, are coming to be seen as necessary for successful outcomes?

A key question, is the contribution that a dynamic research culture in a tertiary level institution can and should make to an inquiry-based, problem-solving approach to undergraduate learning. While it cannot be assumed that all academics are or should be currently active researchers, amongst the roles to be played by research and other forms of advanced scholarship in universities and university colleges is the vitalisation of teaching and the development in the student body of the idea that knowledge is constantly renewed and rebuilt. This approach would be highly consonant with the current emphasis on a knowledge-based society. However, the often sharp distinction between professors working with graduate students and lecturers with undergraduates that has developed in many subjects in Swedish universities seems not to be the best basis for this vitalisation. The review team noted with interest that in the review of academic roles that is being undertaken by a one-person commission, the "return" of the professoriate to undergraduate teaching is being given close attention.

The insistence that research and teaching are not only proper functions, but intimately connected, goes back to the German thinkers of the nineteenth century. Helmholtz, for instance, argued that the best teaching came from those who did not merely mimic "authorities" but knew how conviction was gained in their discipline because they had themselves pursued knowledge across the existing frontiers of it, and were in a position to convey that sense of conviction and make it the inspiration of their teaching. In the founding of the University of Berlin in 1810 Wilhelm von Humboldt gave institutional form to the concepts of research-based teaching and a comprehensive humanistic education for all students. The first of these concepts has, in the two centuries since, become part of a world-wide university tradition and a university rationale. In many OECD countries it is set out in legislation.

In Sweden, while there is a strong sense that universities are properly engaged in research, there has been considerably less promotion of the idea that research and teaching in a university be integrated activities. Indeed, there is a tendency in Sweden, as in many other countries, for these functions to be separated from each other -- a trend towards separate resources, staffing, institutional arrangements and so on. The initial expansion of Swedish tertiary education in the 1950s, the legacy of which continues, indeed rather worked against it: professors engaged in research and in supervision of doctoral students; lecturers did not do so, or did not necessarily do so. The aim of an academic might indeed be to emerge from the chrysalis of teacher into the butterfly of researcher.

Different attitudes are now being adopted at any rate in some parts of the system. But to put all those who teach in universities under an obligation or in a position to undertake research is probably quite unrealistic and is a less significant policy objective than the creation of an institutional research culture which is of demonstrable benefit to the ways in which all students learn.

Students in Sweden as in many other countries are commonly quite critical of university teaching. The reviewers heard criticism that it was too much like teaching at school. Unless carefully designed, examinations can reinforce such approaches instead of calling forth the qualities of mind and the competences so often presented in essays on the aims and the virtues the university. The fact that most undergraduates in Sweden, unlike some other OECD countries, are in their twenties, if not older, must make such tendencies very trying. A closer link between research and teaching is one of the means in which to enliven university pedagogy.

Future Directions

Sweden has a long and successful tradition of dealing with education in a thorough manner and in giving high priority to well thought-out and well-researched national frameworks. "Steering" is based on a close knowledge of the actual working of the system and its personnel, is very sensitive to the wider social and economic objectives of overall national policy and sets an example to others in analysis and initiative. Problems currently faced in tertiary education will doubtless continue to be tackled in a similar way.

There is, in Sweden as elsewhere, a continuing need to continue working through the implications of the "massification" of tertiary education and of the "knowledge-based society". These trends have very far-reaching implications touching on every aspect of policy and of the life of the institutions. There is much to be said for building upon existing institutions and structures; they are the best guarantors of quality. But that needs to be combined with innovative and imaginative pedagogy and forward-looking curriculum development. The government has taken an active role in presenting pedagogical development in the university sector and the commission on teacher structure mentioned above has as one of its main tests to promote the considering pedagogical merits when appointing professors and other teachers. The National Agency has a vital role to play in fostering curriculum renewal and change.

Sweden is seeking a new balance between centralisation and decentralisation. In this it seems important to enrich the structure and culture of institutions and to develop inter-institutional collaboration. Institutional creativity and responsibility are extremely important, as are local partnerships which devolution favours. The policy objective for the institutions of "opening up to the world" needs to be vigorously pursued with greater emphasis on market sensitivity, students as clients, customer service and partnerships with industry, regional bodies and cultural institutions. Progress on all of these fronts has been quite striking in some institutions and particular subject areas. There are further gains to be made particularly in subjects which are popular with students but not perhaps directly vocational in nature. This is not to suggest that tertiary education should be circumscribed by short (or long) term vocational goals. Their significance needs to be highlighted since graduates generally want -- and need -- jobs; however, the client orientation recognises the multiple goals of education and is student-centred.

Connected is the balance between the short and long-term relationship of education and labour-market. Forecasting is hazardous and the enthusiasm for planning has waned. The best option may be to give individuals the widest possible choice, coupled with the best possible information. Without a sound educational base, however, and preferably including work experience, graduate choice may be more nominal than real.

The government's policy of continuing expansion is justified on grounds of unmet demand (the need to reduce the queue), equality/equity and the drive towards a knowledge-based society/economy. Participation rates still fall well short of the front runners among the OECD member countries. But growth will require close attention to quality and standards, to relevance and the cost issue.

Maintaining and where necessary strengthening quality is a responsibility of every academic, every institution and indeed of every student. The role of the National Agency is less to direct or require than to foster a climate of self-appraisal. This should not preclude the development of critical institutional profiles in which performance in meeting quality objectives -- for example in the undergraduate curriculum and teaching procedures -- is analysed and publicised. Since there are still concerns and

complaints, for example about archaic teaching practices and insufficient attention to active learning, group work and remoteness of subject matter from contemporary life, the Agency might further sharpen the focus of its reviews and deepen its challenge, thereby stimulating a lively dialogue. This dialogue should not be confined to the official and academic worlds but should bring together the social partners, professional bodies and cultural institutions.

It seems logical to follow quality appraisal with attention to the selection, training and further professional development of the tertiary teachers. We were not able to take up this topic in any depth but raise it as an emerging issue in a number of countries participating in this thematic review. Academics, usually highly trained in research, will find the challenge of teaching increasing as student numbers grow and diversity increases. Pedagogical reform must also draw upon the communications revolution and this calls for a more systematic approach to teaching than has been common hitherto.

The funding regime needs further attention, especially the balance of grant/loan. It is gratifying that this matter has been taken up recently. The more troubling problem, of sustaining an adequate level of funding as the system expands, will require rigorous and sensitive analysis. Sweden will benefit from a careful appraisal of the funding options being canvassed or in place across the OECD before expansion imposes extreme pressures on the present arrangements.

As in all other member countries, the tertiary education knowledge base in Sweden e.g. on student flows, student entry to and experience of employment, the effects of different teaching and study regimes, needs improving. It is not possible at present to gain a clear understanding of parts of the system which have a direct bearing on its efficiency, quality and relevance whether to society, the economy or the individual. Such information is valuable in preparing institutional missions, goals and strategic plans as much as it is for national monitoring and steering. If the knowledge-based society is to become a reality, the knowledge base of education is *sine qua non*.

In this report we have drawn attention to the significance of the regionally based university colleges. The intention was not in any way to minimise the key role of the well-established universities but to draw attention to some trends in further expansion and development of tertiary education which could be of rather more importance in the future than they have been in the past. These include the efforts to integrate academic work and regional development and the pattern of relationship with the longer established universities. After a period of steady development and fostering, these regional institutions are now perhaps at a stage when more definite or unequivocal goals could be set and more definite steps taken to guide their evolutionary development. They are clearly of great significance in the characteristically Swedish endeavour to carry the whole country forward and not to leave pockets of neglect or under-development. The question, now, is what precisely is their future trajectory?

Conclusion

In concluding we wish to reiterate our admiration for the substantial and comprehensive achievements of the policies for and practices of "the first years of tertiary education" in Sweden. Foresight and leadership have brought the system to its present position of strength and resources have been forthcoming to meet many needs and demands. The conditions for further successful development are in place but the race gets harder as the system expands, student enrolments increase and demands multiply in an environment of constrained finances. Swedish education has a proud history of successful innovation and adaptation to change. The next decade in tertiary education will call forth still more expertise, commitment and resourcefulness.

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