USING LANGUAGE ECONOMICS AND EDUCATION ECONOMICS IN LANGUAGE EDUCATION POLICY

*Guide for the development of Language Education Policies in Europe
From Linguistic Diversity to Plurilingual Education*

Reference Study

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Preface

This text, part of a series published by the *Language Policy Division*, is clearly significant in its own right because it deals with certain influential factors in the organisation and sociolinguistic foundations of language teaching and in the linguistic ideologies at work in problems related to the languages of Europe. It is however part of a larger project since it is one element of a collection of publications focused on the *Guide for the Development of Language Education Policies in Europe: From Linguistic Diversity to Plurilingual Education*.

This *Guide* is both a descriptive and programmatic document whose purpose is to demonstrate the complexity of the questions involved in language teaching, often dealt with in a simplistic manner. It aims to describe the processes and conceptual tools needed for the analysis of educational contexts with respect to languages and for the organisation of language learning and teaching according to the principles of the Council of Europe.

There are several versions of this *Guide* for different audiences, but the 'main version' deals with a number of complex questions, albeit in a limited framework. It seemed necessary to illustrate these questions with case studies, syntheses and studies of specific sectors of language teaching, dealing in monographic form with questions only touched upon in the *Guide*. These *Reference Studies* provide a context for the *Guide*, showing its theoretical bases, sources of further information, areas of research and the themes which underlie it.

The *Modern Languages Division*, now the *Language Policy Division*, demonstrates through this collection of publications its new phase of activity, which is a continuation of previous activities. The *Division* disseminated through the *Threshold Levels* of the 1970s, a language teaching methodology more focused upon communication and mobility within Europe. It then developed on the basis of a shared educational culture, the *Common European Framework of Reference for Languages* (published in its final version in 2001). This is a document which is not concerned with the nature of the contents of language teaching but rather with the form of curricula and syllabi for language teaching. The *Framework* proposes explicit referential levels for identifying degrees of language competence, and thus provides the basis for differentiated management of courses so that opportunities for the teaching of more languages in schools and in lifelong learning are created. This recognition of the intrinsic value of plurilingualism has simultaneously led to the development of an instrument which allows each learner to become aware of and to describe their language repertoire, namely the *European Language Portfolio*. Versions of this are increasingly being developed in member States and were at the heart of the European Year of Languages (2001).

Plurilingualism has been identified in numerous *Recommendations* of the Council of Europe as the principle and the aim of language education policies,

and must be valued at the individual level as well as being accepted collectively by educational institutions. The *Guide* and the *Reference Studies* provide the link between teaching methods and educational issues on the one hand and policy on the other, and have the function of making explicit this political principle and of describing concrete measures for implementation.

In this text François Grin presents the contribution to policy development which can be made by considering the costs and benefits of language learning. He does this by drawing on the discipline of economics. He provides an overview of the ways in which values for language learning and teaching can be calculated but also points out that quantification is not the only way to approach the issues. He argues that the value of language learning can be calculated for societies as a whole and for individuals in their contexts. This paper thus provides policy makers with a basis for considering the economic advantages and disadvantages of certain policy choices although it does not pretend that decisions can be made only on economic grounds.

This specific aspect of the problems of language education policies in Europe gives a perspective on the general view taken in the *Guide* but nonetheless this text is a part of the fundamental project of the *Language Policy Division*: to create through reflection and exchange of experience and expertise, the consensus necessary for European societies, characterised by their differences and the transcultural currents which create 'globalised nations', not to become lost in the search for the 'perfect' language or languages valued at the expense of others. They should rather recognise the plurality of the languages of Europe and the plurilingualism, actual or potential, of all those who live in this space, as a condition for collective creativity and for development, a component of democratic citizenship through linguistic tolerance, and therefore as a fundamental value of their actions in languages and language teaching.

Jean-Claude Beacco and Michael Byram

1. Introduction

1.1. The issue

The formulation of language policies often relies on approaches rooted in the language sciences, particularly applied linguistics, and the education sciences, particularly language didactics. Hence, concepts and tools from these disciplines tend to be emphasised; this applies in particular to a specific category of language policies, namely, those that have to do with second or foreign language acquisition, and on which much of this report focuses.

Reliance on these two disciplines has advantages as well as drawbacks. The main advantage is that resulting policy proposals usually demonstrate a deep understanding of language as a core element of human experience, and an acute sensitivity to the realities of (second) language acquisition. The drawback of such approaches is that they are not always well-equipped to address language education at the macro-level of *public policy*, of which a core element must be the *rationale for decision-making*.

It is also true that in the discipline of *policy analysis* (which is mainly rooted in political science, with significant conceptual and methodological imports from *economics*) language policies have received little attention. At the time of writing, more than policy analysis, it is a sub-field of economics, known as the 'economics of language' or 'language economics', that provides some of the analytical tools that can be brought to bear on the analysis of language policies *as public policies*.

The chief aim of this report is therefore to provide an overview of *language economics* as an instrument for the selection, design and evaluation of language education policies. As such, it is also hoped that it can serve as a stepping-stone towards the elaboration of a full-fledged 'policy analysis approach' to language education policies, whether in general or for some European countries. I will therefore endeavour to outline the rationale underpinning the economic approach to language, and then move on to a discussion of how it can contribute to the analysis of language education policies. The questions such an approach gives access to are the following:

- For what reasons should the teaching and learning of *some* languages rather than others be prioritised?
- Given general language acquisition priorities, what can an economic approach tell us about the degree of proficiency to be aimed at in various languages?
- How can we evaluate the benefits, for individual learners or for society as a whole, of learning and teaching second languages?
- What do we know about the relationship between the costs and the benefits of language teaching and learning?

- How do policy choices made with respect to language teaching and learning relate to broader questions of language policy *across* areas of social, political, cultural and economic life?

It is useful to introduce from the start the classical distinction between *internal* and *external* efficiency evaluation. 'Efficiency' is, of course, a desirable feature of all processes - if such processes are evaluated in economic perspective. This also applies to policies[1]. In the case of education, 'internal efficiency' denotes the relationship between inputs in the teaching and learning process (teacher/student ratio; pedagogical materials used; per capita spending; etc.) and the outputs of this process (essentially, the educational results of learners, usually represented by standardised test scores). The adjective 'internal' reflects the fact that the relationship between inputs and outputs takes place *within* the educational sphere.

'External efficiency' denotes the relationship between the results of the education process, namely, indicators of results, skills, etc., which are then treated as *inputs*, and *outputs*, which are then defined as the various benefits obtained by actors in their professional, social and personal life, *because* they have certain skills. Generally, earnings differentials accruing to better-educated persons are used as outputs in this type of analysis. The adjective 'external' reflects the fact that this relationship between inputs and outputs takes place *outside* of the education system.

The central problem of language education *policies* is not whether one or another school programme, syllabus, teaching method, etc. performs better or produces more fluent L2 speakers: such questions only arise 'downstream' in the policy process, after overall goals have been set. One would expect these goals to have been set on the basis of a broad-based reflection about *why* they are worth pursuing at all. More precisely, goal setting presupposes not just a political debate, but also a well-grounded analysis of the reasons for setting particular goals, of how much they are really worth to society, and, consequently, on how much resources it is reasonable to devote to them. These are typically *external efficiency* questions. Hence, in the case of language education policies, what is needed is information and analysis about *which languages should be taught, aiming at what level of proficiency, for what reasons*, *and at what cost.* The most sophisticated analyses in, say, language didactics, do not address such questions.

These questions do not, far from it, exhaust the range of those that have to be addressed when analysing language education policies. Furthermore, an economic approach to them only delivers partial answers. However, it offers a way to impose some degree of structure on the issues at hand, to parse those

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[1] Technically, 'efficiency' and 'effectiveness' are not synonymous; however, no distinction will be made between the two concepts in this report, and both terms will be used interchangeably; on the distinction between them and its relevance in language education, see Grin (2000d).

problems for systematic analysis, and to examine questions which other approaches generally do not consider.

1.2 Definitions and limitations

1.2.1 The meaning of 'second language'

The 'language education' referred to here concerns *second* languages. Second languages can of course be many, and represent a learner's second, third, fourth, etc. language(s). They are, however, considered distinct from a learner's *first* language. For most people, 'first language' means 'mother tongue'. Although the concept of mother tongue is *not* an unambiguous one, owing, in particular, to the frequency of early bilingualism in multilingual families, or to the frequency of migration situations, it remains relevant for a majority of residents in most European countries[2]. Although I shall, in this report, mostly be using the term 'second language', it is not analytically problematic, for our purposes, to speak of 'foreign languages' instead. The concept of 'second language', as distinct from 'foreign language' often presupposes a higher degree of competence - at least, this implication can be derived from some of the literature in sociolinguistics or applied linguistics. No such distinction will be made here.

However, language policies are determined at the level of governments, whether national or regional (or less frequently local). The definition of 'second language(s)', from the standpoint of the authorities (or at the level of society as whole), needs to be different from the definition at the level of individual actors. Generally, a 'second language', at the societal level, will be one which is not the mother tongue of the majority of the population living under its jurisdiction - for example, French in Britain; Italian in France; English in Austria; Spanish in Sweden; etc. Where language territoriality makes this relevant, the above criterion will apply not to the entire territory of the state, but to the language regions that compose it. A second language is often called a 'foreign language', *even if* the language in question is not, *stricto sensu*, 'foreign', but is actually the mother tongue of another language community in the same state[3].

Excluding 'mother tongues' reflects two types of considerations. First, their social, political, cultural and economic meaning places them in a class of their own; second, the conditions under which they are taught are completely different

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[2] Well over 95% in the case of a traditionally multilingual country such as Switzerland, according to survey results. It does not necessarily follow that one's 'mother tongue' is always the language one knows best; hence, it is useful to adopt a broad definition of mother tongue, such as that of the Canadian censuses, in which 'mother tongue' refers to the first language acquired during childhood *and* still understood. In this report, the languages concerned by the policies to be analysed are *other* than mother tongues so defined.

[3] For this reason, 'German' is often called a 'foreign language' by the press, the general public, teachers, and learners themselves, in French-speaking Switzerland, and 'French' a 'foreign language' in the German-speaking part of the country, even though, in official parlance, the term 'langues nationales' (in German: 'Landessprachen') is used. The object of this report therefore also includes Dutch in Wallonia or French in Flanders. The definition of languages as 'second' or 'foreign' (or not) in countries harbouring linguistic minorities recognised as such (e.g., speakers of Swedish in Finland, of Catalan in Spain, etc.) is more resistant to typological exercises; see 1.2.2 below.

from those that apply to 'second' languages. It is therefore unsurprising that from an economic perspective, the case of mother tongues requires a rather different set of analytical instruments[4].

1.2.2   The case of regional, minority, or lesser-used languages

For the most part, this report addresses language education issues as they arise in the case of 'larger' languages. This restriction reflects the analytical necessity to put aside 'small' languages—variously referred to as 'lesser-used languages' (in the parlance of the European Union) or 'regional or minority languages' (to use the expression frequently adopted in publications of the Council of Europe, and formally defined in Art. 1 of the *European Charter for Regional or Minority Languages*).

Although the distinctions between the above terms would open an interesting discussion in itself (as would the examination of the reasons that have led to the use of one or another term in different geopolitical contexts), discussing them is not the point here. The sociolinguistic commonality of these languages is that they are *threatened* languages. 'Threatened' in this context, means that the languages in question would not, but for deliberate policy intervention, have a 'self-priming mechanism of language reproduction' - using here the illuminating concept proposed by the sociolinguist Fishman (1991).

From the standpoint of the economics of language policy, minority languages are in a particular position. More precisely, whole segments of the 'benefits' accruing to individuals as a result of their language skills are not relevant if some of those skills are in minority languages. This is not to say that these languages have no 'economic value' - simply that *some* elements of 'value', in such cases, are negligible. This holds in particular for most of the *market* components of value. This is regrettable, because it contributes to their endangered position; the inference is that additional, targeted measures for their protection and promotion are required, *if* one accepts the premise that 'diversity is good'. In terms of economic analysis, it means that their case has to be treated separately. The type of contribution that language economics can offer in such cases is briefly described in Section 6.2. Hence, the bulk of this report concerns 'non-threatened' languages, though of course, the distinction between these two categories of languages is not always empirically simple.

One last point must be made here; it regards the *speakers* of minority languages and what should be regarded as a 'second language' in their case. For most persons whose mother tongue is a minority language, there is an incontrovertible need to learn the locally dominant language, which therefore could hardly be called a 'second language' in the sense of this report. The individual problem of *which* language(s) to learn, and the corresponding policy problem of which language(s) to teach in the education system, arises *as a problem* when the answer is *not* obvious (or the need not 'incontrovertible'). In the case of minority

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[4] Interestingly, there has been remarkably little research on the economics of first-language or mother tongue acquisition.

language speakers, this question appears not for the first *other* language they need to learn, but for the *next* one (which is then, in practice, their *third* language). This simply reflects the fact that being a member of a minority and contributing to the preservation of collective minority experience carries *costs* - which can indeed be considered unfair.

1.2.3 Focus and restrictions of an economic analysis

This report was written with the European experience in mind, and the European context influences, directly or indirectly, my choice to emphasise some issues and to ignore others. The thrust of this report is theoretical and methodological, and I eschew descriptive accounts of patterns of second language teaching and learning in Europe. There already is a wealth of information about numbers of learners of second languages in various European countries[5], and there is no need to duplicate this information here. For the same reason, the references quoted in this paper are almost exclusively made up of 'language economic' contributions. Not only would a more ambitious review (encompassing, for example, language didactics) far exceed the competence of the author, but it would also exceed the goals of this report.

The chief usefulness of an economic perspective on language is not that it helps us understand language-related processes *as such*. Economics has no claim to being particularly well-suited to this task, although some interesting insights into patterns of individual language behaviour or meso-level patterns of language dynamics can be acquired through economic modelling. The chief usefulness of language economics has to do with its capacity to formulate, document and compare policy options and hence to assist in decision-making. Accordingly, the emphasis of this report is placed on the instruments on the basis of which such choices can be made.

It is important, however, to stress that economic tools do not replace political debate or the contributions from other disciplines. Turning first to the latter question, the economic analysis of language-related processes, as they are affected, among other factors, by policies, does require reference to some concepts developed in other disciplines, in particular sociolinguistics. This alone indicates that the endeavour must be an interdisciplinary one. The second and no less important point is that language education *policies* ultimately require *political* decisions. Even if our emphasis in this report is on *policy* aspects (which presuppose that *political* choices have been made upstream), the policy discussion cannot take the place of the political one. Hence, propositions derived from a language economics perspective on language education policies are only intended as an input in the political debate on possible options regarding 'language-in-society'[6].

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[5] For example on English, see e.g. Graddol (1997); on German see e.g. Stark (1998); etc.

[6] It is not my intention to belabour this point further ; however, experience suggests that many people react negatively to the very notion that economic analysis can be used to analyse language issues. Let

Finally, I wish to point out that this report does *not* make recommendations of the type 'young Europeans should learn a major international language, then a 'proximity' language' (or the reverse). Such recommendations are all too often made with hardly any attention at all to the logic of the criteria used for making them. The focus of this report is first on providing an introduction to the economics of language, as well as of some relevant elements in the economics of education, and then on explaining the workings of some of its analytical instruments. The following chapters show that if any recommendations are to be made, it can only be on the basis of a fairly involved analytical process, both in theoretical and empirical terms. Such an analysis would exceed the scope of this report. However, this report indicates how this enterprise could be structured.

2.   The economics of language: brief literature review

2.1   Historical overview and definition[7]

The history of the economics of language as a field of research on the fringes of economics as a discipline dates back to the mid-sixties. For a long time, economists' contributions on language issues remained unrelated to each other, and it is only in recent years that a greater degree of interconnection has appeared, reflected in more frequent (though still far from systematic - see e.g. Lazear, 1999) cross-referencing. Furthermore, early studies in the field directly responded to the social and political issues their authors were confronted with - namely, the relative socio-economic position of Latinos in the United States, or English-French earnings differentials in Canada, particularly Québec.

The beginnings of the economics of language can be represented in terms of three 'generations' of studies.

The 'first generation' of studies tended to look at language primarily as an *ethnic attribute*: having a particular language as one's mother tongue *ascribes* a person to a particular group, and this language-based ascription may have an effect (often captured in terms of *discrimination*) on that person's socio-economic status, particularly his or her earnings. This approach has been used to analyse earnings differences between black and white US residents, or between anglophones and francophones in Canada.

A 'second generation' of studies emphasised the *human capital* nature of language, about which more will be said in the following chapter. This opened the way to a different perspective on language, favouring, in particular, linkages with *education economics*, which also developed in the sixties (but it was much more successful at establishing itself as a recognised field of specialisation in the

it therefore be made clear once and for all that the approach presented here is only one perspective, among many others, for analysing language issues and making choices about language.

[7] For general introductions to the economics of language, see e.g. Vaillancourt (1985) ; Grin (1994, 1996a, 1996c, 1999) ; Grin and Vaillancourt (1997)

discipline). Particular language skills could therefore be interpreted, in the same way as other types of skills, as an area in which individuals and societies could profitably invest, as a *source* of economic advantage.

A 'third generation' of studies, particularly since Vaillancourt (1980), considers both dimensions jointly. Languages are not seen only as elements of identity or as potentially valuable skills, but as a set of linguistic *attributes* (embodied in individuals) which together influence actors' socio-economic status.

Quite independently of these three types of studies, a small number of authors have explored other parallels, looking in particular as language as a *medium of trade*. It is important to note that this parallel must be used with caution, since it opens the door to tempting, yet misleading interpretations. *Differences* between languages can indeed be seen as elements of transaction cost, and therefore relevant to the broad economic process of *exchange*. However, despite this direct link with exchange, it is inaccurate to infer a parallel between 'languages' and 'currencies', or to suppose, as some non-economists have, that there is a 'linguistic market' on which language productions (words, sentences) circulate 'as commodities do'. Economic goods and services are normally exchanged for money, under a certain state of information; but sentences are not at all 'exchanged' in the same way as goods and services.

For the most part, the studies mentioned so far were the work of North American economists, and stressed the role of language as an *explanatory* factor of *economic* variables (for example, the role of language as a determinant of labour income). In the late eighties, however, some European economists became more active in the investigation of the language-economy relationship, often focusing on the reverse causation, namely, the role of economic variables as explanatory factors of linguistic variables. Examples include the effect of prices or earnings on individual patterns of language use or on the dynamics of language (maintenance, decline and spread).

Finally, since the eighties and more so in the nineties, a small number of contributions, both in Europe and North America, started looking at the role of economics as a tool for evaluating the effects of language policies, particularly in terms of the costs and benefits of different policy options. In this case, standard economic variables such as prices, earnings, transaction costs, etc., do not necessarily intervene, and the 'economic' nature of the approach is evidenced by the fact that the advantages and drawbacks of language scenarios are weighed against each other[8].

Although the economics of language remains a field of specialisation in the making, we can propose the following definition (Grin, 1999a: 13): 'The economics of language […] refers to the paradigm of mainstream theoretical economics and uses the concepts and tools of economics in the study of

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[8] This is, indeed, the very essence of an economic approach, according to Lionel Robbins's classic definition of economics as 'a discipline which studies human behaviour as a relationship between ends and scarce resources that have alternative uses'.

relationships featuring linguistic […] variables; it focuses principally, but not exclusively, on those relationships in which economic variables also play a part.'

Some thirty-five years since the first publications in this field, the 'economics of language' remains a rather marginalised field of specialisation on the fringes of the discipline of economics. Discussing the reasons for this situation would far exceed the scope of this report, but they rest largely with the facts that (i) language economics is necessarily an interdisciplinary endeavour, and *mainstream* economics, as a discipline, is notoriously impervious to interdisciplinarity; (ii) theoretical economic modelling, and the set of concepts on which it rests, typically requires the use of quantitative variables or at least variables that lend themselves easily to an interpretation in terms of 'more' or 'less'; however, the study of language issues usually requires taking account of variables - which it is difficult to shoehorn into quantitative interpretations, and makes modelling less relevant[9]. Given the popularity of modelling in mainstream economic departments in universities, any field of specialisation that is unsuited to the application of algebraic instruments is likely to be neglected[10].

2.2   *Main directions of research*

In a short report such as this, it is convenient to break down the literature in four main categories, although more detailed groupings are possible (see e.g. Grin, 1996b, for a more extensive survey).

2.2.1   Language and labour income

This direction of research remains, to this day, one of the most important in the economics of language; it is also one which, as we shall see in the following chapter, has direct relevance for language education choices. Its basic idea is that linguistic *attributes* can influence earnings in two ways.

On the one hand, the mere fact of belonging to a language group (particularly if this group holds a relatively lower share of physical or financial capital in the economy) may result in a wage rate disadvantage. Of course, if educational levels or other 'legitimate' determinants of income are correlated with linguistic attributes, members of a particular language group will logically tend to earn *less* than members of another language group. The question therefore is whether language itself, *other things being equal*, does result in earnings differentials.

Such language-based differentials may arise as a result of a deliberate intent, by another (presumably dominant) language group, to exert discrimination, possibly by manipulating the rate at which the goods primarily produced by one of the two groups are bought and sold (Raynauld and Marion, 1972); a variant of this

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[9] Some of the epistemological implications of the economics of language are discussed elsewhere (e.g. Grin, 1996a, 1999a, 2001b).

[10] Yet this tension between topic and methods is also precisely what makes language economics an intellectually stimulating field of research.

phenomenon, relying on another (and presumably less deliberate) discrimination strategy, has to do with the existence of different networks of access to employment (Migué, 1970): the employer of the A-group will prefer to hire workforce from the same group, because cultural proximity will make it easier to assess *ex ante* the employee's productivity (this strategy is sometimes called 'statistical discrimination'). Lang (1986) explains earnings differentials not as the result of any prejudice or discriminatory intent, but simply as the consequence of communication costs between A-speaking employers and B-speaking employees.

The existence of some significant language-based earnings differentials has been shown empirically for immigrants in the U.S. by comparison with the 'white' workforce[11] (see e.g. Chiswick and Miller, 1995; for an overview, Bloom and Grenier, 1996), between anglophones and francophones in Canada (for an overview, see Vaillancourt, 1996), between *Gastarbeiter* and native Germans in Germany (Dustmann, 1994), and between three language communities in Switzerland (Grin, 1997). A closer investigation into the value of language skills at different levels of skills has been carried out in Switzerland for this country's three main national languages, German, French, and Italian, as well as Swiss-German dialect (Grin, 1999b) and for the value of Italian and Turkish immigrants' skills in their language of origin (Grin, Rossiaud and Kaya, 2000). In these latter two contributions, languages are primarily seen as elements of human capital in which individuals invest (or are led to invest because the state includes particular languages in its education policy), and the approach developed there, being directly germane to the question of the priorities in language education policy, will be examined at closer range in the following chapter.

The strategic importance of this line of work lies not only in its capacity to provide *estimates* of the actual effect of language attributes on earnings; it also enables us to reconsider critically the oft-encountered metaphor of 'language as value', which, tempting as it is, usually falls short of a reliable guide for policy action (see Section 3.1).

2.2.2   Language dynamics

Sociolinguists themselves have claimed that their discipline has not produced a general theory of language dynamics (Appel and Muysken, 1987). This issue has been attracting considerable attention, particularly in the case of English (Crystal, 1997, 2000; Graddol, 1997), but a general theory still needs to be developed, although considerable progress has been made with Fishman's analysis of *threatened* language revitalisation (under the expression of *reverse language shift*; see Fishman, 1991).

Economists have also tried their hand at this problem, developing various models of language behaviour.

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[11] Although inappropriate, the distinction between 'white' and 'non-white' is still part of the US cultural worldview and also encountered in analytical work on inter-group earnings differentials.

Some models are 'static', in that they assume a one-period 'calculus' in which (often bilingual) individuals will decide which language to use in different activities (Grin, 1990); other models are 'dynamic', in that the economic model of language use at time t influences language use at time $t+1$, then $t+2$, etc. (Grin, 1992). A particularly interesting range of models examine the *network* effects associated with languages (e.g. Pool, 1991; Selten and Pool, 1991; Church and King, 1993): one intriguing dimension of languages (which sets them apart from most other 'commodities' in an economic sense) is that when more people use a language, the more *useful* it becomes, all other things being equal, to *other* people. This is markedly different from, say, a public transport system (which becomes less and less *usable* the more people travel with it) and of course from a standard 'private' good (say, an apple) which cannot be eaten (used) by different people simultaneously[12]. There is little doubt that the network effects of language play a major role in language dynamics, and hence on the attractiveness of learning particular languages. Hence, they also influence the context of language education policies. Network effects raise highly complex technical problems, which at this time are not solved in the literature (or can be solved only in part, at the cost of severely restrictive assumptions which detract from the practical usefulness of the analysis). Further research into the 'network externality' effects of languages and their implications for spontaneous *or* policy-induced language dynamics should undoubtedly be considered a priority.

2.2.3   Language and economic activity

This category contains extremely diverse, even heterogeneous lines of work, which focus on the processes of production, consumption and exchange and examine the role of language in them. Most of the work in this area proposes little in the way of general theory, focusing instead on an inductive approach (offering a theoretically plausible explanation for an observed consumption, production or exchange situation in which language appears to make a difference) or simply describing or documenting patterns of language use in those economic activities). Many of the contributions in this group try to quantify the impact, on the regional economy, of the presence of language-specific activities (e.g. Ó Cinnéide and Keane, 1988; Sproull, 1996). Cremer and Willes (1991) have used small-scale survey data to analyse language use in trading activities in the Far East, showing that such trade can take place with a remarkably *low* degree of second language competence among the various trading partners.

Some work has also gone into the study of language use in advertising and consumer relations; most of the (few) contributions on this topic are empirical or descriptive, documenting a general preference by bilingual customers in Catalonia or Québec for being offered goods and services in their own language

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[12] Unless, of course, the apple is cut up in smaller pieces; but then different consumers will not get the apple, but a small part of it; furthermore, it is difficult to see how a language could be cut up into small bits, for different bits to be used by different people. The reader should note, however, that the network effect is *not* unambiguously positive; see Section 3.1.

(even if they can perfectly well understand another - usually dominant - language).

Separate mention should be made of some research rooted in 'intercultural management', which is inspired less by the paradigm of economics than by concepts from business administration and management. These contributions attempt to assess the role of minority language maintenance as a factor of regional economic vitality (e.g. Taddei and Antomarchi, 1997; Price, 1994); these contributions, whose conceptual basis is related to that of the work on immigration and 'ethnic business' (see e.g. Berset *et al*, 2000), do not single out analytically the role of language as a variable in a causal process, but point to the importance of culture (which, ultimately, turns out to be in part defined by language) in some aspects of production and exchange.

Two theoretical contributions on the problem of 'language and economic activity' are those by Hocevar (1975), who analyses changes in production costs functions depending on the language characteristics of the outputs, and Sabourin (1985), who examines the process of 'matching' between employees with given linguistic attributes and specific positions in a firm, which require a higher or lesser degree of language skills (practically, more or less bilingualism). These contributions, which remain essentially theoretical, remain in need of further work and empirical testing.

Moving from the micro-economic level (to which most of language economics belongs) to the macro-economic level, some researchers have attempted to relate the linguistic profile of workers in an economy with the latter's external trade (Stanton and Lee, 1995). The implied theoretical links are, at this time, not elucidated, and no empirical results stand out. Another example of macro-economic work is Arcand (1996), who discusses the integration of language as an explanatory factor in economic models of development and growth in third-world countries.

It is important to observe that the production, consumption and exchange of 'language goods' and 'language services' (such as courses, books or other cultural products in a particular language, etc.) do *not* constitute a significant part of language economics. This simply reflects the fact that the production, consumption and exchange of such commodities is not markedly different from the production, consumption and exchange of *other* (i.e. *non-linguistic*) commodities, and therefore does not justify specific analysis - other than, possibly, in the form of case studies on a specific market[13]. Generally, the analytical concepts of supply, demand and market for any given good or service also apply to 'language' goods. The situation is different, of course, when talking about 'supply and demand *for* a [particular] language' (that is, when the 'commodity' is 'a language' taken as a whole, not specific goods and services *in*

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[13] However, the question of economies of scale in translation and distribution is currently being investigated; see Mélitz (2000).

this language), where it is important to reconstruct the concepts of supply and demand carefully (on the problems that arise then, see Grin, 1997b).

2.2.4 The economics of language policy

Economics can make useful contributions to the analysis of language policy, not so much because it specifically brings linguistic and economic variables in relation with each other, but because it helps to look at different choices about language in terms of advantages and drawbacks. As we shall see in Section 3.1, this does *not* imply looking at languages in a narrowly materialistic perspective, or gauging them strictly in terms of the monetary advantages or money costs associated with them.

Quite simply, society *is* confronted with choices regarding language (or languages) and has to make decisions in this area - just as it does regarding transport, health, the environment, etc. This raises the question of the *nature* of language policy and what language policy is expected to modify. An in-depth discussion of these questions would exceed the scope of this paper, and the reader can find discussions of language policy in a growing number of scholarly journals and various textbooks (Maurais, 1987; Cooper, 1989; Kaplan and Baldauf, 1997; various contributions published by the *Generalitat de Catalunya* 1997, 1999; or in *European Cultural Foundation*, 1998; etc.).

Most of the economic work on language policy addresses the position of one language *vis-à-vis* other languages, or the broader question of *linguistic diversity*. Status issues (in a broad sense) are therefore central in the economic approach to language policy, whereas corpus questions have practically never been studied; the approach is mainly about how human action can affect our *linguistic environment* (the concept of linguistic environment as the object of language policy is developed in some of the recent contributions quoted in this report, e.g. Grin 1999b, Chap. 10).

No distinction is made here (nor is it made in the economics literature) between 'language policy' and 'language planning'. In this paper, both expressions refer to '[…] *a systematic, rational, theory-based effort at the societal level to modify the linguistic environment with a view to increasing aggregate welfare. It is typically conducted by official bodies or their surrogates and aimed at part or all of the population living under their jurisdiction*' (Grin, 1999a: 18, adapted from Cooper, 1989 [Chap. 2]).

It is also important to note that no restrictions apply regarding the sources of the 'welfare' referred to in this definition: in line with fundamental economic theory, welfare is not just a matter of material consumption or well-being; it can also include non-material elements, such as the preservation of cultural heritage. This, of course, establishes links with other branches of economics in which non-material or symbolic values are taken into account, such as 'cultural economics'. However, contrary to a frequently encountered belief, the closest 'cousin' of language economics is *not* cultural economics, but environmental

economics, because the latter field is largely concerned with the weighing of the advantages and drawbacks of different policy options regarding the environment. Because of the particularities of the environment from an economic perspective (which are related to the 'network' aspects of languages), the type of trade-offs to be envisaged regarding our *linguistic* environment are akin to those that have to be considered with respect to the *natural* environment. Such considerations lie at the root of our choice to talk about the *linguistic* environment (that is, a more or less *diverse* one) as the fundamental *object* of language policy—at least when approached in economic perspective.

This overall perspective on the nature of language policy, mainly implicit in the earlier language economics literature (see e.g. Breton, 1978; Vaillancourt, 1978), has become explicit in recent years (see e.g. Grin, 1994b, 2000a, 2001b), and much of the ongoing economic work on language policies goes towards identifying and measuring the elements of benefits and costs which *characterise* policy options (Grin and Vaillancourt, 1999; Vaillancourt and Grin, 2000) or with transposing analytical criteria in the context of decision-making (Grin, 2000b). The thrust of this line of work is to identify the main sources of benefits and costs, from the perspective of individuals *and* of society, attaching to various policy alternatives, and to propose estimates of the order of magnitude of such benefits and costs.

The corresponding concepts and methodology are examined in the following chapter. However, it is useful to point out here that *education economics* provides an important input in such work, principally because education is the single most important channel of government intervention in the sphere of language, although others, of course, do exist (e.g., language use in the administration or in the judicial system, state-financed or at least state-supported audio-visual media, cultural policy in literature and the fine arts, etc.). Still, education is a key area of state intervention (it typically represents about 15% of aggregate government expenditure in developed countries, and is usually the single largest budget item) and as such remains the most important vehicle of language policy. Accordingly, the benefits and costs associated with education-based language policies also tend to be larger, in money terms, than those which proceed from intervention in language issues at other levels.

The boundaries between economics and some neighbouring academic disciplines, such as the 'rational choice' orientation in political science, can be somewhat fuzzy, and much of the methodology is common to both fields. It is therefore appropriate to mention here some work in the 'rational choice' tradition on the criteria for adopting one or another solution regarding the number (and identity) of official languages in multilingual states or supra-national organisations (Pool, 1991b, 1996). These contributions show that, contrary to popular belief, it is far from obvious that a particular solution is 'naturally' superior in terms of the respective benefits and costs of these various solutions (Grin, 1997d).

2.2.5 Other directions of research

This brief overview does not exhaust the rich field of language economics. In addition to further detail and references which could be provided for each of the above sub-groups, other (more isolated) contributions on other dimensions of the language experience also exist. Let us briefly mention Marschak's (1965) attempt to explain patterns of internal language change as a drive towards efficiency in communication; Colomer's (1991) work on the choice of language in conversations between people having different linguistic attributes; or Rubinstein's (1999) formalised analysis of the structures of language. Finally, the reader should be aware that there exists a whole strand of literature on *the language of economics*; yet this is largely an analysis of economics discourse (Henderson, Dudley-Evans and Backhouse, 1993; McCloskey, 1990), and hence not relevant to the issues addressed in this report.

3. Language education policy in economic perspective

3.1   The 'value' of language

At some stage or other, much of the political debate about language raises the question of the 'value of language', with some participants in this debate referring to language as a 'treasure', a form of wealth, etc. It is easy to forget that most of the time, such statements amount to little more than metaphor; some seem to consider the notion that language is 'valuable' as a forgone conclusion, and go on to assume that *as a consequence*, languages are obviously valuable *in an economic sense*. This is not necessarily so, and some attention needs to be devoted to the notion of 'value'. Limitations of time and space prevent us from presenting the economic concepts of value and their implications for language (Grin, 1997c). Suffice it to say that when something is valuable in the eyes of social actors, this is reflected in their behaviour. For example, if learning Sámi were obviously valuable, people would notice without being told, they would learn and use it, the language probably would not be in such a perilous position, and would not be, as it is, in need of strong support measures. This is not to say that Sámi (or any other minority language) is *not* valuable. However, to make this point clear, it is important to consider different forms of value.

Let us first consider the question of value from the standpoint of the individual actor. A distinction must be made between 'market' and 'non-market' values. Market values are reflected in prices or some such indicator. Suppose for example that speaking language *X* makes it easier to sell goods to the *X*-speaking public and thereby gives rise to higher profits, or that an *X*-speaking employee earns more, all other things being equal, *because* he knows language *X*: in this case, *X* has *market* value.

However, *non-market* value also exists. For example, knowing language *X* gives access to *X*-language culture, facilitates social contact with members of the *X*-

speaking community, etc. Such value is typically *not* reflected in market prices, but it will be experienced by individual actors if their tastes, or 'preference structure' includes contact with *X*-ish culture and communities. The argument may be extended from the case of one specific language (*X*) to the *diversity* of languages; there may be some non-market value attaching to linguistic diversity, on the condition that a sufficiently large proportion of people value diversity in their *linguistic environment*, in the same way as they may value a certain (natural) environmental quality. Some people, however, may not care.

The market and non-market value that attaches to language *X* for a given individual can serve to explain his choice to learn or not to learn language *X*, and to agree or not to agree to the spending of tax resources for programmes in favour of language *X*. Yet an additional step is required to analyse choices at a social level - and hence to tackle policy questions.

So far, market and non-market value have been described at the 'private' level. At the social level, the distinction between 'market' and 'non-market' is still relevant, but social value is different from private value and has to be computed somehow. Most economists would agree that social values should be computed as the *aggregate* of private values. Generally, aggregation amounts to a simple sum; this means that the sum of private market valuations, over all individuals in a given society, yields social market value, while the sum of private non-market valuations yields social non-market value. The value of language *X*, or of a particular linguistic environment defined, among other traits, by the status of language *X* in it, is therefore the sum of social market value and social non-market value. This is summarised in Table 1 below.

TABLE 1: ELEMENTS OF VALUE

	PRIVATE	SOCIAL
MARKET	A	C
NON-MARKET	B	D

A represents private market value, B private non-market value, C social market value, and D social non-market value. Total social value SV is therefore equal to C+D. How should this be computed? Generally, for a society with *N* persons *(1,2,...,i,...,N)* whose individual market valuation of language *X* or of a given linguistic environment is mv_i, and non-market valuation is nmv_i, total social value SV is given by:

$$SV = \sum_{i=1}^{N} mv_i + nmv_i$$

A simple yet general decision rule can be derived from this way of formulating language policy choices: the policy that ought to be selected and implemented, all other things being equal, is the one which maximises *SV*, *minus* the corresponding costs of the policy, because this means adopting the policy from

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which maximal welfare can be expected. This may sound like stating the obvious; unfortunately, macro-level language policy recommendations are routinely made with only the most tenuous attempts at checking that welfare would indeed be increased.

However, while this provides a general structure for estimating value, several conceptual and empirical problems arise.

(1) First, simple summation can be an inappropriate mode of aggregation, as a simple example will show. If person h learns language X, anticipating a money return on this investment, she increases the pool of speakers who know X. This will affect the situation of another person, say k, in different ways. Suppose that k already knows language X. On the one hand, the fact that h has learned X increases the *relevance* of language X and hence the value of k's language skills. At the same time, one more X-speaking person on the labour market may erode the wage premia accruing to X speakers, and k may see his wage situation deteriorate. The social market value of teaching language X to those who do not speak it therefore cannot be computed as the *sum* of the gains that each non-speaker stands to make, if only because, among other reasons, (i) existing speakers may gain or lose; (ii) the potential gains to non-speakers will be affected by the numbers of other non-speakers who decide to learn the language (for a more extensive discussion of this problem, see e.g. Grin and Vaillancourt, 1997). At this time, this problem (which is typically a 'network externality' one) does not seem to have found a satisfactory solution in the theoretical literature.

(2) The components of non-market value are very difficult to identify theoretically, and no less difficult to measure empirically; furthermore, they are likely to be also subject to the 'network externality' problem just described in the case of market value.

(3) Policy is about moving from an existing linguistic environment to another (supposedly better) linguistic environment. This entails benefits, but also costs; while some elements of cost have just been mentioned (in the form of losses for some members of society), the extent of other direct costs (for example, the level of expenditure required to achieve the benefits expected from a policy plan) are difficult to evaluate.

In short, it is not possible, at this time, to really calculate (i) the 'value' of a language; (ii) the 'value' of a linguistic environment as compared to another; (iii) the 'benefits' (market and non-market) that can be expected from a particular policy; (iv) many of the costs, direct and indirect, associated with such a policy move. This means that in practice, analysts need to settle for more modest goals, and to concentrate on parts of the problem of value. Typically:

- *network effects* are ignored, largely on the grounds that some are positive while other are negative, and are thus likely to cancel each other out to a significant extent;

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- the emphasis is placed on *private market value*, largely by estimating the statistical relationship between language skills and wage rates;
- these estimates of (average) private market benefits associated with language skills can then be combined with average (per person) public spending for imparting those skills in order to compute *social market value*.
- *non-market values* are kept out of the calculation, largely on the grounds that for lack of data, there is practically no choice (although some useful evaluation methods could be imported from environmental economics).

In what follows, we shall therefore mostly focus on this subset of the general problem of the value of language, and of the teaching of second or foreign languages in the education system.

3.2 *A foray into education economics*

The next stage of this overview requires a brief excursus in the field of *education economics*. It will be confined to some essentials, but for an excellent textbook treatment, see e.g. Lemelin (1998), and for an extensive survey of its subfields, Psacharopoulos (1987).

Education economics as an identified field of specialisation in economics was born around the early sixties. One of its main pillars is human capital theory, whose thrust is as follows. An actor with specific skills will tend to be more productive than another without those skills. Since wage rates generally reflect productivity, a more skilled person will tend to earn more. If skills are acquired through the education process, education yields benefits represented by wage premia. Even if education is costly, both for individuals and for society, it can therefore be seen as an investment whose *rate of return* can be estimated. Typically, most the investment takes place in the early years, while the returns on the investment appear during working life. Let us compare two education scenarios: the 'long' (A) and 'short' (B) ones. These scenarios, which start diverging for individuals reaching the age of 15, are represented with age-earnings profiles as shown in Fig. 1.

FIG. 1: AGE-EARNINGS PROFILES

Expenditure per year
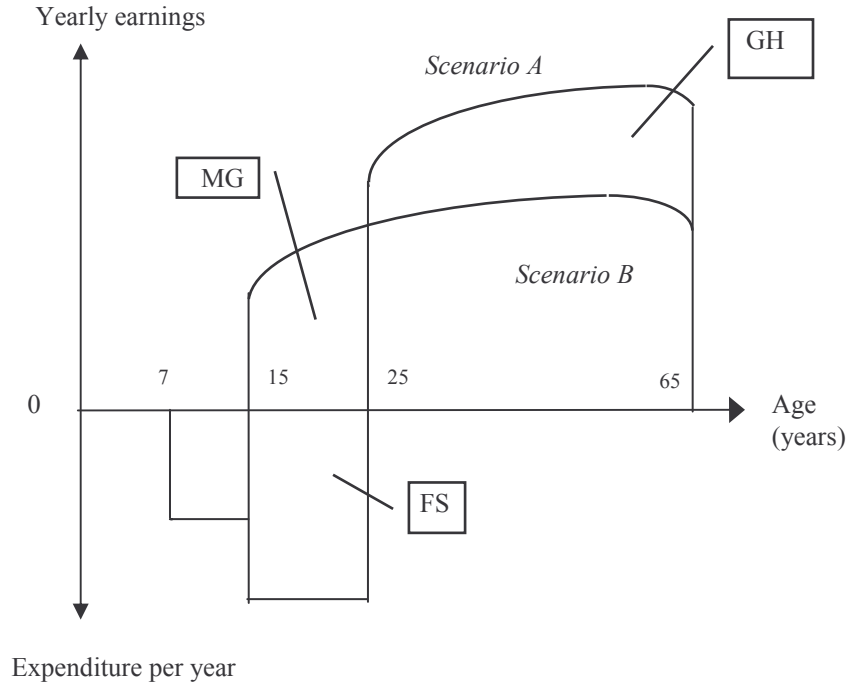
The surface MG stands for 'forgone earnings', while the surface FS stands for 'schooling expenditure' (by the individual), and surface GH represents the gains resulting from longer education. At first sight, the investment is profitable if *GH > MG + FS*. However, time must be taken into account. Let us assume, for simplicity, that we are considering the choices of a young person contemplating either scenario, and that all the extra expenditure entailed by choosing 'long' studies would take place in the *current* period; the 'current' values of FS and MG therefore represent costs reasonably accurately. However, the gains will only appear over successive years in that person's working life. This means that the *present value* of future earnings needs to be compared with the sum of FS and MG.

Assume that working life stretches over forty years, from 25 to 65. Let us define the earnings profiles as A and B respectively, stretching over those 40 successive years *(1,2,...,j,...40)*. The *rate of return* on the investment is the value *i* which verifies the equation:

$$\sum_{j=1}^{40} \frac{A_j - B_j}{(1 + r)^i} - MG - FS = 0$$

Hence, calculating private market value comes down to estimating the value of *i* in the above equation, using appropriate data and standard econometric tools described in the following chapter.

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The economic analysis of language education policy focuses mainly on external efficiency issues, leaving the question of more or less well-performing education systems and programmes to sociolinguists and education specialists.

3.3   The costs of human capital investment

Evaluating the costs of investment in second languages as elements of human capital raises a number of difficulties.

Costs borne by the individual getting an education include two parts: direct expenditure on books, tuition, etc., and forgone earnings. For our purposes, these costs can be omitted for the following reasons. In most countries where education is publicly provided and languages taught as part of this education, students' direct expenditure on school materials, though not nil, is relatively minor and can be assumed away (if it were taken into account, it would not result in a major difference in the estimated rates of return). As regards forgone earnings, they tend to zero for learners under legal working age (because they would not be allowed to sell, on the labour market, time *not* spent at school); furthermore, even beyond the legal (minimum) working age, it would be impractical to trade for a wage the amount of time *specifically* taken away from *language* classes scattered over the weekly schedule. Hence, MG and FS can be assumed to tend to zero.

There are also other elements of private expenditure, such as fees paid for evening classes as part of adult education. Usually, however, adult or continuing education is a privately made decision, not a state-imposed policy, and hence not part of the costs of a public education policy.

The main component of expenditure is therefore made up of state spending on language teaching. However, data on this component of education spending are generally almost non-existent, or at least extremely rare, because current education accounting practices generally fall short of 'analytical accounting', and hence do not yield figures on expenditure *by subject*. The costs of specific school programmes offered through the medium of a specific language have occasionally been estimated (e.g., Patrinos and Velez, 1996); to my knowledge, the only example of such cost figures being systematically derived from aggregate spending figures is a study on language teaching in Switzerland (Grin and Sfreddo, 1997). They suggest a total spending of CHF 1,500 per student and per year for the teaching of all second languages[14]; on average, 10% of total education spending is devoted to second-language teaching. This figure excludes postsecondary education. It can nevertheless be used as a reference point, taking account of the fact that it reflects an education system in which learners in 'short' streams typically learn one foreign language for three years, while learners in 'long' streams learn one foreign language for seven years and another for four

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[14] At the time of writing, 1 Swiss Franc was worth 0,6572 Euro. This figure is well inside the range of fluctuations between the two currencies over the preceding 12 months. For our purposes, we shall assume that CHF 1,500 equals EUR 1,000.

years[15]. This figure of 10% is probably not markedly different from shares observable in other developed countries, so that a range of 5% to 15% of total education spending can be seen as an acceptable *a priori* approximation of public spending on second language teaching for those countries[16].

3.4   Macro-level policy choices

We have seen earlier in this chapter that *if* we wish to ground policy choices about language in some notion of 'value', it is important to steer clear of metaphors, and to parse the problem in order to identify and measure components of value; yet this exercise has revealed that conceptual and empirical difficulties are such that a full estimation of the respective social value of alternative linguistic environments remains largely out of reach, forcing us to concentrate on a subset of the problem, namely, the evaluation of private market values. The general inference is that some essential dimensions of language education policy cannot, at this time, be satisfactorily handled by an economic approach, even if the latter offers the advantage of providing a structure which is often lacking from many policy discussions.

However, one general theoretical result can be ventured regarding the relative value of more or less diverse linguistic environments. It suggests that society is likely to be best off not when it tries to eliminate diversity, nor when it attempts to embrace limitless diversity. The argument goes as follows: diversity carries advantages and drawbacks, which for simplicity we shall call benefits and costs, it being understood that these are not confined to monetary ones (i.e., non-market elements are taken into consideration).

The general starting point is the idea that more diversity will entail more benefits *and* more costs. But benefits tend to rise at a *decreasing* rate, while costs tend to rise at an *increasing rate[17]*. It implies that benefit and cost curves will generally behave as in Fig. 2, yielding an optimal level of diversity at d*, which is *neither* zero *nor* infinite.

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[15] Since these estimates were made (1993-94), reforms in the cantons' school systems have resulted in the earlier introduction of foreign language teaching.

[16] Such an estimate, however, probably not apply to English-speaking countries like the USA or the UK, who are notable for their neglect of foreign languages.

[17] The economically-minded reader will recognise the concepts of decreasing marginal utility in consumption theory and rising marginal cost in production theory.

FIG 2: OPTIMAL DIVERSITY
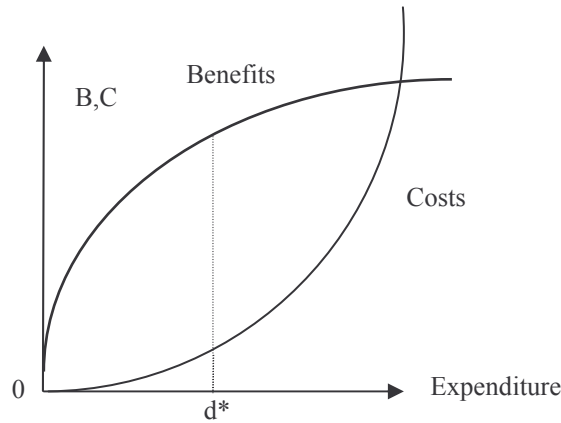
Though apparently innocuous, the result that socially optimal diversity is *positive* and *finite* has major political implications, because it implies that from an economic standpoint, policies striving to preserve or impose linguistic homogeneity - or, in other words, 'zero diversity' - are ill-advised, since they underestimate the benefits and overestimate the costs of diversity. Conversely, generous calls (often motivated by 'human rights' concerns) to embrace boundless linguistic diversity, and to set up policies for the integral recognition of all languages in society, including those of immigrant groups, however small, tend to make the symmetrical mistake.

As a shortcut to the estimation of benefits and costs, two approaches can be adopted. One is simply to leave the comparison procedure to the political debate, possibly by presenting a range of detailed choices to voters. In theory, preferences expressed through the vote will embody voters' valuation of market and non-market benefits and costs, and even if majority voting offers no solution to the problem of externalities, particularly 'network externalities' as discussed above, the procedure at least presents desirable democratic credentials[18].

However, in order to get a clearer picture of the non-market components of value involved, it is theoretically possible (though, to my knowledge, untried as yet) to apply to language choices evaluation methods derived from environmental economics (for a more extensive discussion, see e.g. Grin, 1993, 1994b). Essentially, a representative sample of residents or citizens may be asked in a survey *how much* they would be willing to pay (e.g., through extra taxes, or as a proportion of their current tax contribution for society) to move from the current linguistic environment to another linguistic environment which a proposed policy would aim at achieving. Conversely, respondents may be

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[18] However, the results of majority voting cannot be interpreted as necessarily yielding the 'best' solution in the sense of economic theory - as indicated by Arrow's 'impossibility theorem'.

asked how much they would be willing to pay for a policy whose aim would be to *avoid* a presumably undesirable change in their linguistic environment. An example of a policy matching the first situation would be a massive increase in average second language skills in the population (benefit) through a generalisation of bilingual classes in the education system. An example of policy matching the second situation would be stepped-up support in favour of a threatened language whose decline would become unstoppable (loss) in the absence of such a policy.

Alternatively, estimates of the aggregate cost of a given language policy can be presented to survey respondents, who would be asked if they consider this cost acceptable or not. This implies that costs have first been estimated, which, most of the time, is not done. It is important to point out that in cases where such calculations have been carried out, costs often turn out to be much lower that is commonly assumed. For example, the extra cost of offering bilingual education in the three provinces of the Autonomous Basque Community, instead of offering education through the medium of Castillian only, represents some 5% of total education spending (Vaillancourt and Grin, 2000). Given that education constitutes an essential element in the strategy for the revitalisation and maintenance of the Basque language, this is most certainly an acceptable expenditure. In the same way, the total cost of Québec's language policies, including the indirect costs of the contested 'francisation' programme requiring firms with 50 employees or more to use French for internal communication, remains under half a percentage point of provincial GDP (gross domestic product) - again, this is a price that a majority of voters is probably quite willing to pay in order to secure the linguistic environment they desire[19].

4. Selected models: a closer look

4.1 Estimating the private rates of return to second-language skills

One of the most strongly established models for the selection and design of language education policies is derived from the combination of the language economics perspective with human capital theory developed in education economics. The fundamental set of concepts used in this combination has been described in the preceding chapters of this report. We now turn to the application of this model to assess the private rates of return to second language skills.

The term 'rate of return', in this context, is not fully appropriate. As explained above, the concept of rate of return presupposes that human capital is treated as an investment entailing (mostly) current expenditure in order to generate future benefits. In other words, the passage of time should be explicitly taken into account. However, the overwhelming majority of existing statistical work on the private value of second language skills eschews the question of time. Typically, information will be gathered on the *current* value of a range of variables for

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[19] Estimates range from 0.28 percent (best-case scenario) to 0.48 percent (worst-case scenario); see Vaillancourt (1987).

individual observations, and these values related to one another through multivariate analysis; hence, it is more appropriate to speak about 'earnings differentials'.

In what follows, I present the case of the value of English as a second language, using the example of Switzerland, and drawing on current work on this topic (Grin, 2001a). The reason for referring to this case is that it is, at this time, the only one in Europe for which the necessary data are available. The type of information needed includes *at least* earnings, second language (L2) skills, education and age; such data are typically not collected by national censuses (the long-form questionnaire of the Canadian census being one notable exception ; there usually is no such thing in other countries). This means that one has to use survey data, and such surveys are expensive and technically demanding. At the same time, the quality of the observations obtained plays a major role. For example, if people are asked whether they 'speak' another language, what does this actually mean in terms of actual competence levels?

The Swiss survey (known as the FLCS project, for 'Foreign Language Competence in Switzerland'; see Grin, 1995, 1999b), probably the first telephone survey of its kind, covers a representative sample of 2400 observations over three of Switzerland's four language regions. It contains questions on the following items :

- respondents' L2 skills, differentiating between the four skills (understanding, speaking, reading and writing) and for each skill, four skill levels (fluent, good, basic, none) ;
- non-school channels of L2 acquisition ;
- L2 use on the workplace ;
- standard socio-economic characteristics (education, etc.), including labour income.

This certainly makes the FLCS one of the richest data bases internationally in this field. Only a fraction of the information it contains will be called upon in this report[20]. The first point to establish is whether there is any kind of 'gross' association between competence in English and earnings. To this end, the simplest approach is to calculate the *average* earnings of groups defined in terms of their competence in English. This latter point, of course, implies some methodological choices : are we interested in active or receptive, oral or written competence ? In this report (and given that the correlation coefficients between the levels reported in all four skills are always very high), I use an indicator based on the average score for the four skills. Results are reported in Table 2 below.

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[20] A specific methodology was developed in this survey for the collection of language competence variables through telephone interviews ; see Grin, 1999b, Chap. 4.

TABLE 2
INDEX OF MEAN LABOUR INCOME BY FLUENCY IN ENGLISH
IN SWITZERLAND, 1994/95, MONTHLY LABOUR INCOME BEFORE TAXES
AND SOCIAL SECURITY PAYMENTS
(INDEX VALUE 100 : NO ENGLISH LANGUAGE SKILLS)

	Men (n=1141)		Women (n=803)	
	Reported	Full-time equivalent	Reported	Full-time equivalent
Fluent	148	150	149	143
Good	128	129	143	132
Basic	112	116	119	110
None	100	100	100	100

Source : Grin (2000c)

What this table immediately reveals is that there is a very strong correlation between earnings and competence in English. As competence rises, so does income, and this progression is stronger when computations are made using not reported incomes, but the full-time equivalent of reported incomes. These figures may be considered more relevant, because by showing what people would earn if they all worked full-time, they eliminate the 'noise' due to the fact that some people work part-time. On the other hand, the uncorrected figures (left-hand column in each panel of Table 2) give a truer reflection of the reality experienced by individuals.

Is this enough to conclude that in the case of Switzerland, English is a vastly profitable investment? Certainly not. The reason is that English-language skills are correlated to other determinants of income, particularly education, and that higher earnings accruing to those who speak English may simply reflect the fact that, having a higher education, they can hold better-paying jobs, and this may have nothing to do with the fact that they have some competence in English. In the same way, better-educated people who earn more usually have had more Latin at school than others, but one would not necessarily conclude that they are rewarded for some (residual) ability to translate Cicero.

In order to circumvent this problem, the classic solution is to use a statistical instrument called 'ordinary least squares regression' (OLS for short). OLS methodology will not be presented here; suffice it to say that is serves to separate the effect of various determinants of income. Typically, the equation to be estimated will be of the form:

$$Y = \alpha + \beta_1 E + \beta_2 X + \beta_3 X^2 + \beta_4 L + \beta_5 F + \varepsilon$$

where *lnY* stands for the logarithm of labour income, *E* for educational level (measured in years), X for experience (also measured in years), *L* for some indicator of language skills, *F* for other factors considered relevant in the determination of labour income (for example, a respondent's type of

employment) and ε is a random term whose expected value is zero. Using, in the example below, not just English language skills, but also education and experience (both measured in years) as regressors, we obtain the set of results presented in Table 3. In this table, the coefficient for each level of competence in English reports, in percentage points, by how much the earnings of an individual displaying that level of competence will exceed those of someone who has no competence in English, but has equivalent education and work experience[21].

TABLE 3
NET EARNINGS DIFFERENTIALS
(DECLARED EARNINGS ONLY)

	Men	Women
Constant	1505.96	1308.79
Education (years)	4.45	5.83
Experience (years)	5.90	n.s.
(Experience)^2	-0.09	n.s.
Fluent	24.09	25.19
Good	18.03	39.52
Basic	8.93	18.09
Adj. R2	0.360	0.095

Source : Grin (2000c).
All reported coefficients are significant at the 99% level ;
n.s. : non-significant

4.2   *Interpreting net earnings differentials*

This simple table could lend itself to extensive commentary; let us however confine ourselves to the essentials.

1° English language skills are highly rewarded on the Swiss labour market. Controlling for education and experience, the premia clearly rise along with the level of competence in English.

2° The wage premium for the top level of competence exceeds 20%, which is remarkably high. Even at lower levels of competence, a little English is always better than none at all.

3° The results also hold for women, which is noteworthy (in the Canadian studies, results for women often are statistically not significant).

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[21] Technically, this estimation procedure yields results in *log* points ; these have, however, been converted in *percentage* points in Table 3 for easier interpretation.

4° The progression of differentials is non-monotonic in the case of women. This is largely due to the fact that women work part-time more often than men, and that the occurrence of part-time work is probably not independent of the degree of fluency in English.

5° Even when similar calculations are carried out using incomes expressed in full-time equivalent, the non-monotonicity remains, suggesting that other effects are at work, in particular, that women's language skills are rewarded not so much because they are put to use on the workplace as because they work as a 'signal' for the employer, indicating that a worker has a certain combination of skills in which language may be useful, but not crucial.

Extended analysis (see e.g. Grin, 1999b) confirms the econometric robustness of the results; it also shows that reality is much more complex than these simple figures suggest. Let us simply mention the following points.

First, there are significant differences between language *regions*. When the analysis is carried out for the three regions separately (German, French and Italian-speaking) much higher rates of return for competence in English appear in German-speaking Switzerland. In French-speaking Switzerland, by contrast, knowledge of German as a second language is more highly rewarded than knowledge of English.

Second, one can show that returns are sector-dependent: in some economic sectors (typically, those that display a strong orientation towards international trade), English is highly rewarded; in other sectors, the rates of return are low.

What emerges is a complex picture in which English can be interpreted as a valuable commodity, but where it would be incorrect to assume that policy should be content with promoting English and forget about other languages. It is important, in particular, to note that current net earnings differentials as reported in Table 3 tell us nothing about the value that these will have in the mid to long term. A strong case can be made that even if English *is* valuable, providing an incentive for people to learn it, English language skills will, as a consequence, become more *banal*, and that the salary gains accruing to speakers of English as a second language will progressively erode (Grin, 1999c). This evolution is likely to affect most countries in which English is (increasingly) learned as a second language and considered indispensable for economic activity. In other words, circumstantial evidence suggests that *other* language skills are likely to become relatively more valuable as English generalises, implying that language education policies should focus not just on English as an L2, *but on other languages as well*. It is important to stress that this view rests *not* on political or cultural considerations, but on an economic perspective on the likely evolution of the labour market value of second language skills. At this stage (and largely because the phenomenon of the dominance of English is an entirely new one, which cannot be compared with the spread of other languages such as Latin or French in preceding centuries), it is difficult to make predictions about the level of language-based earnings differentials just a few years from now.

Nevertheless, the often-made assumption that a language education can be content, *for economic reasons*, to teach learners English and disregard other languages, is economically not founded.

In addition, a number of reasons speak in favour of teaching a broader range of languages. Apart from the economic considerations above, two types of arguments can be invoked. First, bypassing any reference to economic analysis, the teaching and learning of other languages can be advocated for case-specific historical, political or cultural reasons (for example, the teaching of the *national* languages, German, French, and Italian in Switzerland—Romanche being a special case). Second, it bears repeating that *non-market* values need to be taken into account (see Section 3.4), and that large segments of the opinion can be made aware, if they are not already, that linguistic diversity is an important element in the quality of our linguistic environment. Hence, teaching a variety of languages is not just a question of political principles, but one of welfare in the economic sense.

4.3   Social rates of return

The estimation of social rates of return usually does take the time dimension into account, and estimates therefore *do* deserve the label of 'rate of return'. The techniques required, however, are significantly more complex than in the case of the estimation of (private) net earnings differentials, and will not be presented here. The general logic of the model, however, is the following (for a detailed explanation, see Grin, 1999b, Chapter 9):

- Two distinct age-earnings profiles are estimated, for 'unilinguals' and 'bilinguals' respectively;
- Respective figures for labour income in each period are estimated;
- The difference between both profiles at each period is obtained by subtracting the lower from the higher profile;
- If resulting figures reflect (as may be the case depending on the nature of the data used) underlying monthly earnings, they will be multiplied by 12 to obtain yearly amounts;
- An assumption is made regarding the point in time at which estimations are carried out - usually, the outset of the typical agent's working life;
- Future earnings differentials, estimated for one typical agent, are discounted over the time horizon from that particular point in time;
- Figures on per-capita spending on the teaching of the language concerned are then brought into the calculation;
- The earnings differentials on the one hand, and per-capita spending on the other hand, are entered into a rate-of-return equation as presented in Section 3.2;
- The discount rate which annuls the left-hand term of the equation represents the social rate of return on the teaching of the language concerned, given estimated earnings differentials and teaching expenditure.

Swiss results indicate that the social rates of return for the teaching of second languages (English, German or French) vary, according to L2 and to language region, from 5% to 14%. This compares favourably with the average rate of return on financial capital. In this case at least, the teaching of foreign languages is a very valuable investment—independently of the political and cultural reasons that may be called upon for teaching those languages.

Although figures are unlikely to be markedly different in other European countries, it would be hazardous to attempt to generalise directly from the Swiss case. In order to gain knowledge about the rates of return on public investment in language teaching in other countries, it is essential to gather appropriate data, a question to which I turn in the following chapter.

5. Data needs

Apart from scientific motivations (which would justify data collection as a matter of principle, provided such data are new and reliable), policy considerations will necessarily inform data needs. The data needed to orient language policy logically depend on the following parameters:

- the scale of the policies considered (local, regional, national, supra-national);
- the scope of the policies (is the entire linguistic *environment* being targeted, or just some well-defined sectors of it? If only some sectors are being targeted, which are the sectors concerned? Is intervention in specific sectors expected to indirectly influence other parts of the linguistic environment?)
- the preferred approach to policy (a welfare-based one, as in our definition of language policy, or one rooted in a legal/political approach?)

Let us assume that the scale of the policy is *national*; that it focuses on the *education* sphere, and more specifically on second/foreign language teaching; that there are expectations that decisions made in this area will ultimately affect, in an indirect yet positive way, the *overall* linguistic environment; and that a *welfare-based* perspective is required as an input in the *ex ante* assessment procedure.

Data need to be collected from three types of actors: the general public; business firms; and the state.

Turning first to the general public, data ought to be collected by means of a survey on a representative sample of adequate size (N should be at least equal to 1,000 observations *per language community* in the population that will be affected by the policy, in order to allow for various statistical analyses to be carried out). Because of the nature of the data, strict anonymity is of the essence, which presumably requires *telephone* interviewing, at least in those countries where social custom and the percentage of households with a telephone line

makes this a feasible option. The information to be retrieved should cover, for each observation, the following variables:

(a) <u>language skills and language learning</u>

[a1]   competence levels in listening comprehension, speaking, reading and writing in each of the L2s concerned

[a2]   number of years during which each L2 was studied in the education system

[a3]   other channels of L2 acquisition (language use during childhood, language stays in regions where the L2 concerned is spoken, evening classes, etc.)

(b) <u>socio-economic profile</u>

[b1]   marital status
[b2]   age of children, if any
[b3]   education (years)
[b4]   experience (years)[22]
[b5]   profession
[b6]   sector of economic activity
[b7]   gross and net monthly labour income
[b8]   if possible, indications on household or personal wealth

(c) <u>language use</u>

[c1]   linguistic characteristics of job currently held
[c2]   frequency of use of various languages at work
[c3]   nature of tasks for which various languages are used at work
[c4]   importance of foreign language skills for hiring
[c5]   languages used in various activities in social and family life
[c6]   self-evaluation of correspondence (or not) between L2 skills acquired during school years and L2 needs in adult working life

(d) <u>attitudinal factors</u>

[d1]   perception of objective aggregate importance of different languages
[d2]   perception of objective importance of linguistic diversity
[d3]   personal (subjective) preferences regarding linguistic diversity
[d4]   indicators of 'willingness-to-pay' for a range of specific manifestations of linguistic diversity

To my knowledge, no existing data base comes close to containing such an extensive range of data (although a large proportion of data listed in groups (a) through (c) have collected in two successive surveys in Switzerland).

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[22] Generally, for lack of appropriate data, the term 'Experience' is replaced by 'Age *minus* number of years of schooling *minus* 6'. The regression equation also includes a term X^2 which allows to take account of the obsolescence of skills.

It is more difficult to describe the type of data to be collected from businesses, although a larger number of studies on language use in business has been carried out to date (for example, among many: van Langevelde, 1994; Vaillancourt, Champagne and Lefebvre, 1994; Guléa, 1997; Grin and Strobel, 1999; European Commission [non-dated]; etc.). *A priori*, the data to be collected from them should address the following points:

[e1] general economic characteristics about the firm (size, turnover, economic sector, ownership)

[e2] language use in the firm, differentiated by task, hierarchical level of actors concerned, as well as between oral and written use

[e3] discrepancy between employees' L2 skills and type of skills currently needed

[e4] foreseeable language needs among employees at three- and ten-year horizon

[e5] role of language skills in corporate recruiting practices, differentiated by type of posting and hierarchical level

[e6] corporate policy regarding monetary or non-monetary compensation for better L2 skills

[e7] corporate policy regarding L2 training for employees, whether training is in-house or outsourced.

Finally, authorities should be asked to provide extensive information about school expenditure. Most probably, whatever information authorities can provide will *not* be directly useful, in the sense that it will not contain figures on spending per L2 taught in the system, let alone more detailed figures on spending for language teaching per learner at various stages and for various streams in the education system. Furthermore, even figures on the allocation of hours to the teaching of different languages in the education system tend to be patchy, non-comparable, etc.; information has to be processed in order to generate estimates of such figures (a procedure has been developed for this purpose in Grin and Sfreddo, 1997).

Furthermore, data collection from each type of source should ideally be repeated at regular intervals in order to allow the analysis of the evolution of variables and the relationships between them over time; however, collecting just once the information described above for a few European countries would already be a major step, constituting a priceless data base. The costs of such an enterprise, however, are significant. Nevertheless, it ought to be considered, if only in the form of co-ordinated pilot studies in a selected countries, in order to provide a data base from which a set of estimates can be produced, yielding, if not precise or definitive values, reliable orders of magnitude for the orientation of language education policies.

6.   Concluding remarks

6.1   Summary

In this introductory survey, I start out in Chapter 1 by defining the focus of the 'language education policy' problem in economic perspective, stressing the importance of 'external' as 'opposed' to internal evaluation. I then briefly describe the extent and limitations of this report.

Chapter 2 is devoted to an overview of the *economics of language,* presenting first its historical development and then reviewing the main strands of research. It shows that most of the literature focuses on microeconomic rather than macroeconomic questions, and that attention is devoted to language status rather than language corpus questions. This review also indicates that one of the core questions in this field of specialisation, particularly among contributions on language policy, is that of the 'value' of linguistic diversity, or of languages that represent elements of this diversity. By contrast, the production, consumption and exchange of 'language goods and services' (books, courses, etc.) is peripheral, or almost absent from language economics, because the production, consumption and exchange of such goods and services is not fundamentally different from that of other, non-language goods and services.

Chapter 3 presents the combination of language economics and education economics, showing how this combination can be applied to language education policy decisions by disaggregating the components of value of *linguistic environments*. It also presents a general 'shortcut' model of the value of linguistic diversity, suggesting that at the societal level, 'optimal diversity' is likely to be *positive* and *finite*. I have, however, pointed out that progress in the systematic analysis of language policies requires stepping up research on the *network externality* effects of language.

In Chapter 4, I focus on the application of selected models which throw light on the issue of the *market* value of second language skills, which constitutes one of the essential dimensions of language education policy evaluation. Results are presented on the labour market value of English in one country (Switzerland) for which the necessary data have been collected in recent surveys. English is shown to be a valuable skill on the Swiss labour market, but earnings differentials in favour of workers who know English can vary (depending, for example, on language region or sector of employment). Furthermore, the existence of sizeable earnings differentials at one point in time is no guarantee that such differentials will persist; from an economic standpoint, it is possible that even if knowledge of a 'global' language such as English becomes necessary for a growing part of the population in non-English speaking countries, earnings differentials may erode. Knowledge of English may then become (just like reading and writing) a necessary, but no longer a sufficient condition for socio-economic success, and *other* languages may become more profitable.

Chapter 5 lists the type of data required to produce estimates of private and social value, not just for market, but also for non-market components of value. For the most part, such data are not available, but a subset of essential data ought to be collected through co-ordinated pilot studies in selected European countries, as a necessary step towards the economic evaluation of different scenarios in language education policy.

6.2   Further issues

This introductory survey does not, far from it, exhaust the range of questions that deserve attention. The following can be mentioned here:

The case of *minority or lesser used languages* has briefly been mentioned in sub-section 1.2.2, where I have pointed out that they constitute a special case that needs to be handled separately. The reasons for this should now, with hindsight, be clearer: earnings differentials compensating minority language skills are likely to be low[23]; by implication, the *market value* of lesser used languages will generally tend to be low or negligible. There may, of course, be some specific niches in which competence in such languages is rewarded, but niche effects should *not* be confused with statistical results of general relevance.

It does not follow, however, that minority languages are economically *value-less*, but that most of their value is of the *non-market* kind. Owing to the difficulty of assessing non-market values (although, as pointed out before, some possibilities exist using techniques mainly developed in environmental economics), the focus of an economic analysis of policies in favour of minority languages should be elsewhere. By and large, economists will need to assume, as a precondition, that a political decision *has* been made to devote resources in order to preserve threatened languages. Economics can then become useful by estimating the *costs*, the *effectiveness* and the *cost-effectiveness* of minority language policies (Grin and Vaillancourt, 1999; Grin, 2000b). In such examinations, education emerges as not necessarily the most cost-effective type of policy in terms of ultimate creation of minority language *use*; however, education represents an absolute *condition* for the language to be used at all, thereby justifying minority language education - assuming, of course, a political decision has been made to this effect; such a political decision, in turn, can be supported economically on the grounds of a general approach to the *value of diversity*[24] as presented in Section 3.4.

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[23] Even in the case of a language like Italian, which is not a 'lesser-used language', but technically a minority language in Switzerland, 'rates of return' are statistically non-significant. Furthermore, there is some evidence of language-based earnings discrimination against persons (including Swiss citizens) who have Italian as a *first* language (Grin, 1997a).

[24] Let us also note in passing that the economic analysis of policies whose aim is to maintain linguistic diversity provides economic justification for *state* intervention (as opposed to market *laisser-faire*) (on this, see e.g. Grin and Hennis-Pierre, 1997).

The joint themes of *cost, effectiveness and cost-effectiveness*, however, are relevant for *all* language policies, including those that concern the teaching of languages of wider communication. Although the concepts needed for this type of evaluation have not been discussed in this report (largely because until now, these concepts have, for the most part, been applied only to the evaluation of *minority* language policies), it is important to revisit them with a view to evaluating other types of language policies, including the teaching of other languages. It is important, at this stage, to recall the distinction between 'internal' and 'external' efficiency evaluation introduced at the beginning of this report: the question here is *not* 'internal' efficiency - i.e., whether one or another teaching method, etc. produces more or less fluent L2 speakers. The 'upstream' question, from a policy standpoint, is whether a particular policy changes our *linguistic environment* in a welfare-increasing direction; this is, ultimately, what language policies ought to be about.

Another point not been addressed here is that of the *distributive dimensions* of language policies. In economic analysis, a fundamental distinction is made between the *allocation* of resources ('Are available resources allocated in the best possible way?') and the *distribution* (and *re*distribution) of resources ('Who gains? Who loses? How much?'). The foregoing discussion is largely about how resources are allocated, and about the type of analysis to apply so as to ensure that they are allocated *efficiently*. Evaluating the effectiveness of policies amounts to examining whether they constitute rational resource *allocation*. Yet the analysis of the *re*-distribution that all policies give rise to is no less important. Policies generate benefits, which do not accrue to all people in the same proportion; but they also entail costs, which are not borne by all in the same proportion either. More importantly, the group who benefits from a policy often does not coincide with the group who pays for it. For example, *all* taxpayers contribute to the cost of a public education system; yet *in monetary terms*, it benefits directly to learners and their parents, and only very indirectly to other members of society. The fact that such redistribution is joyfully accepted by most is no reason for ignoring it.

How important is redistribution in the case of language education policies? Who are the winners, who are the losers, and what is the actual extent of this redistribution? These questions have hardly been studied (see however Breton, 1978; Grin and Vaillancourt, 2000), and further research in this area should be among priorities; this is a prerequisite for adequate attention to be paid to the issue of social justice in language policies. When language education policies concern the teaching of languages of wider communication, they may benefit from the blanket consensus that redistribution for general education spending seems to enjoy in most developed countries. If, however, the policy to be financed focuses on the teaching of a *minority* language, such consensus is far from assured; there may be resistance in large segments of majority opinion. In this case, it is all the more important to be able to demonstrate that a particular policy is *cost-effective*, because it can reassure payers that their money is, after all, well spent; this brings us back to *allocative* issues.

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6.3 Overall assessment and priorities for future research

The usefulness of language economics (sometimes in conjunction with education economics) for the selection, design and evaluation of language policies, including language education policies, rests largely with its capacity to offer an analytical framework that other approaches do not propose. It also calls upon empirical techniques which generate results not found elsewhere. All this points not to a competition between approaches, but to a fruitful collaboration between them.

At the same time, there are limitations to what the economic perspective on language can say. Further research is necessary to improve its capacity to contribute to the selection, design and evaluation of language education policies. The priorities for further research are, in my view, the following:

- Further analysis of network externality effects in the study of spontaneous or policy-induced language dynamics;
- Further research into the identification and measurement of the cost, effectiveness and cost-effectiveness of language policies;
- Further research into the methods for the evaluation of the non-market value of linguistic environments;
- Further research into the distributive dimensions of language policies;
- Extensive and co-ordinated data gathering.

It is hoped that this *Introductory Survey* will contribute, even modestly, in creating the conditions for such research to be undertaken.

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