

**The Hebrew University in Jerusalem  
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**Are Educational Systems Converging or  
Diverging? A Cross-Country Empirical Test of  
Theories on Primary Education Official Curricula.**

**M.A. Graduation Thesis**

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**ID # 320493612**

**Date of Submission June 1<sup>st</sup>, 2007**

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## **Chapter 1: Introduction**

The educational knowledge is a social construction, determined by “internal” societal authors such as national stakeholders, economic elites, disciplinary gatekeepers and educational specialists, which advance their interests and objectives through educational policies. The educational system reflects and is shaped by ideological and organizational processes at the individual, group, societal and even at world level (Fiala, 2006). This knowledge consists of the content taught to children, and its form: how classes are organized, school year, examinations, pedagogy, educational system structure (division of educational levels) and official national curriculum. The way a society selects, classifies, distributes, transmits, and evaluates the educational knowledge it considers to be public, reflects both to the distribution of power and the principles of social control (Goodson, 1994). School fulfills various social roles in a nation-state, from socialization to the transmission of basic living skills to children. Delors (1996) describes four central areas of learning performed by the public education system: ‘learning to be’, ‘learning to know’, ‘learning to do’ and ‘learning to live together’. Educational knowledge is determined by state’s official curriculum where “The written curriculum is the visible and public testimony of selected rationales and legitimating rhetoric for schooling (...) it is also one of the best official guide books to the institutionalized structure of schooling” (Goodson, 1994:19). School curriculum reflects a social process of valuing and selecting elements of collective memory that occurs in every society. It has an agenda-setting function, which provides a country’s frame of knowledge and selections of important issues to be dealt at the public sphere level. In other words, the official curriculum reflects ideologies, values and knowledge a state chooses to transmit to future generations. Education as a human right acquired at the public sphere is a relatively new concept, which emerged in the XX century after World War II. In the next session I will briefly describe the process of consolidation of public education systems and its curricula.

## **History of Public (Mass) Education and the Curriculum**

The first idea of expanding education for the masses came about during the time of the Thirty Year’s War, when the bishop John Amos Comenius (1592-1670), known as “teacher of the

nations”, formulated his political utopia and religious vision of education for the general population. His main objective was to spread education for peaceful co-existence in order to avoid future conflicts and wars (Seitz, 2004). At that time education was already regarded as a potential weapon against conflicts, a social institution that played a fundamental role in promoting interpersonal cooperation and understanding, and reinforced social cohesion.

Between the XVI-XVIII centuries in Europe, public education systems were created and detached from religious institutions. The first country to offer compulsory public education was Scotland in 1561 as part of the protestant reform. In the XVII century other protestant states of north Europe and North America started to implement compulsory education as well. In the XIX-XX centuries, with the consolidation of nation states and following industrialization and democratization, education became a public task and was overspread to masses. Inequalities in availability and attendance were declining as mass education expanded. At the beginning, public education was not available to the whole population, but rather to minor elite groups that attended academic classic schools; non-elite groups attended technical vocational schools. Girls were discriminated at the public education system, once schools were single sexed with gender-specific programs. Following World War II an expansion of educational system occurred, becoming more democratic and massive. For this purpose schools became mixed-sex and shifted from elitist academic or vocational programs to general comprehensive programs that attempted to include all types of pupils. The post-WWII era was characterized by “education for modernization”, in which new objectives emerged such as the development of the individual, the economy and the nation (Fiala, 2006). Today school knowledge is more child-centrist and individualistic, and values such as rationalization, ecology, post-national citizenship and trans-national topics are emerging, showing a shift to a more global world adaptation of knowledge. Classical languages disappeared and were replaced by modern foreign languages as a tool to cope with a boundary-less world and economy.

Compulsory Mass Schooling legislation was often enacted in new European nation-states at the XIX century with the objective of consolidating the new states’ authority control over people and territory. Some states encouraged the creation of public schooling in order to weaken the influence of religious institutions over citizens, promote secularization, and create a common national ethos to consolidate the new nation (Benavot and Resnik, 2005). The National curriculum was first

formulated in Europe at the beginning of the XX century when nation states created public educational systems and started to expand it to include the whole population at the national education system: “Mass education curricula are closely linked to the expansion of the nation-state systems and the increasing dominance of standardized models of mass education” (Meyer et al, 1991). In France, for example, the state used public schools to foster national identity and linguistic conformity at the expense of separatist movements and regional dialects. Public school system in the United States for example, has also been credited with being an important instrument in the assimilation of large numbers of immigrants. Before that, education was not a state’s responsibility but rather a private task performed by churches or private elitist institutions. The spread of national public education system occurred first in European and North American societies, and was reproduced in colonial societies, which inherited the educational system and legacies from their ruling countries. The reproduction of educational systems and curricular contents in colonial and post-colonial societies was de-contextualized and not always successful due to the cultural and socio-economic differences which were disregarded (Benavot and Resnik, 2004). These legacies are present in developing countries’ educational systems until today although colonialism and imperialism formally ended.

The National Curriculum reflects states’ priorities and objectives concerning public knowledge (Rosenmund, 2006). It is a guideline of school knowledge content, what should be taught in every school in the nation state, types of subjects and their proportion, the yearly, weekly and daily intended instructional hours, length of school year, number and duration of instructional periods, and content of subjects. In this work I will attempt to define what are the forces influencing curricular change and development. There are two main approaches to explain curricular change: the convergence approach argues that modernization, economic development and globalization are the main forces influencing curricular change on a homogenizing way. The divergence approach claims that despite economic development and globalization, the XX century is witnessing a phenomenon of turn back to the roots, ethnicity and localism (Moreno, 2006). According to it, these values create diversity rather than homogeneity in national curricula. I attempt to verify what kind of changes occurred in the curricula – whether convergence or divergence; and what forces (variables) are pushing it to occur. Is economic development the main force changing educational knowledge following “modernization theory”? Are the official curricula

across the world becoming homogeneous due to globalization? Are educational systems really becoming more “modern”, secular, individualistic and rational or more ethnocentric, local and diversified? What are the subjects that most respond to convergence and divergence? Empirically, what approach best describes reality of our changing world? What variables are the most important for education decision makers? What shapes educational policies? Chapter seven of this paper attempts to answer to the questions regarding convergence and divergence patterns occurring over education curricula over the world.

This study focuses on cross-country educational policies over curriculum, and compares official timetables set by national governments in two periods of time: the 1980’s and the 2000’s. Organization of school time is the object of control used by educational authorities to maneuver educational knowledge and objectives. “School time policies are not simply an issue of teaching and learning; they demarcate an institutionally embedded time interval where societal purposes, educational ideals and parent-child ties intermesh” (Benavot, 2006: 5). The object of study in this paper is the curricular timetable that specifies these features, but do not relate to the subjects contents. Curricular timetable determines the intended yearly instructional hours of each subject for each grade of the public educational system (see templates and examples of timetables in annex 1 and 2 respectively).

## **Chapter 2: Theoretical Background**

### **1. The Curriculum and its Features**

Curriculum is a socio-historical construction in which the educational content (or curriculum) reflects what part of the cultural heritage a society wishes to pass on to the next generation. It is also related to what a society perceives as an improvement of its situation. We would expect that each country with its unique culture, values and rules would have its unique curricular guideline and content, which would reflect its needs and values. However, Benavot (2002, 2006) and Meyer and McEneaney (2000) argue that despite cultural differences, curricula of different countries present the same guidelines and form. Official curricular timetables and time emphasis, mainly at the primary education level, are increasingly standardized. Most of the timetables include the same core subjects that can be classified into four categories: languages, mathematics, physical education and aesthetic education, and “cluster studies” as social studies (including history,

geography, civics, religion, moral education) and sciences (including physics, chemistry, biology, computers and technology). These subjects usually compose 80-90% of the total instructional time during the first six grades of schooling. Common subjects found in official curricula are also vocational education, environmental education, health/ hygiene, agriculture and other elective subjects. On average, countries mandate that children spend about 750 hours per year in primary education. Languages (1/3 of total time) and Mathematics (1/5 of total time) are predominant subjects in primary school curricula. The other cluster studies receive about 1/10 of the total instructional time.

Curricular isomorphism became more apparent after International Organizations adopted the philosophy of “education as a human right”. Mass education became a major goal and NGOs such as UNESCO and World Bank started to intervene more, what may have increased standardization. One of the first commitments of international organizations to promote compulsory mass education was in 1948, when the United Nations adopted the Universal Declaration of Human Rights (Benavot and Resnik, 2005). Member countries enacted “compulsory free education laws”, yet many developing countries have not implemented it until today. The second wave of international organization concern on educational equality occurred in the end of XX century. The “World Declaration on Education for All” in 1990 and “The World Education Forum” in Dakar, 2000 encouraged all UNESCO member states compromise to provide education for all and reduce the adult analphabetism. Meyer et al (1991: 94) argue that “... countries are drawing from increasingly standardized global models rather than from their own unique history or developmental requirements”.

Another important feature about official curricula is that it has not changed much throughout history since the 1920's when education was first institutionalized as a state's duty (Benavot, 2002, 2006; Meyer and McEneaney, 2000). Instruction of core subjects such as language instruction, mathematics, sciences, physical education and artistic education (arts or music) in all countries has not changed much since 1920's (Meyer et al, 1991). For example, England and Wales implemented a “New National Curriculum” in 1904, which defined core subjects:

“The course should provide for instruction in the English Language and Literature, at least one Language other than English, Geography, History, Mathematics, Science and Drawing, with due



provision for Manual Work and Physical Exercises, and in a girl's school for Housewifery. Not less than 4 1/2 hours per week must be allotted to English, Geography and History; not less than 3 1/2 hours to the Language where one is taken or less than 6 hours where two are taken; and not less than 7 1/2 hours to Science and Mathematics, of which at least 3 must be for science." (Goodson, 1994). The "1904 New National Curriculum" without classic subjects such as classic languages and philosophy looks similar to the actual British official curriculum.

The importance and emphasis of each group of subjects has not changed much as well, thus when it does occur, it means that policymakers see curriculum as obsolete and not proper to deal with new socio-political situations. According to Tawil and Harley (2004) some countries that have reformed their curricular policy did it after or during socio-economic crisis. As other policies, education is formulated inside the political arena, thus curricular content is a product of ideologies and political matters. UNESCO sees the curriculum as a tool to reach social objectives within a certain society or even at a global level. The global project "Education for All" (EFA) is an attempt to change educational features on a global level where all the UNESCO country members are committed to make the same changes in the educational system and curricula. Changes are designed to reach socio-cultural objectives such as poverty alleviation, conflict and social cohesion, coping with AIDS and HIV. Projects are built with the premise that curriculum can shape and influence socio-economic situations of a Nation State. Not only international organizations see curricula formation as a bigger policy tool but also local policy makers use this tool to create socio-economic changes (IBE, 2006). Curriculum is one of the principal tools of skills transmission which enables an individual to live and interact within his society, but it also represents a set of moral values considered by the nation state as important knowledge to its citizens (The World Bank, 2005). Therefore, its content reflects a country's set of priorities.

## **2. Why Does Curriculum Change Anyway?**

Educational reforms are difficult to be implemented and do not occur very often. It is too expensive to make educational changes and can take 20 years for a policy to be fully implemented. Napier (2005) brings four main approaches that explain why countries change educational policies and curricular guidelines despite the aforementioned difficulties. First, the human capital approach to development states that a crucial part of human capital is attained in school through its curricular

content, thus, development and change is needed in order to keep improving human capital and consequently country's development. Second, the linear input-output "factory model" of educational production explains that educational outputs (children performance, knowledge improvement, etc.) are defined by inputs of the "black box" educational system. Changing inputs in order to improve outputs can include changes in curricular content and timetable, study hours, pedagogic changes and structural changes. This approach has been strengthened by international evaluation measures and cross national comparisons (PISA, IEA and TIMSS tests) which measure educational outputs of countries and encourages low-ranked countries to change their educational inputs, usually curricular guidelines. The third approach is the world culture theory and the global-local continuum, in which developed countries are thought to have a better educational knowledge which is copied by developing countries either on a voluntary or enforced manner. Developed countries are considered to know "educational priorities" and best practices, and developing countries import these priorities "creolizing" them when implementing at the local context. Very often this adaptation of school reform distorts the original plan and does not yield positive consequences or outputs to developing countries.

National curriculum develops and adapts itself to social change, therefore socio-cultural and economic changes have great influence over curriculum development: "curriculum change cannot simply be seen as a planned 'technocratic' reform to improve the productivity of the education system, but should also be understood as a political measure that re-shapes relationships between individuals and institutions of the nation-state through the selection and organization of school knowledge" (Rosenmund, 2006:177). At the late XX century the idea of "canon knowledge" to be acquired by all was substituted by a self-directed learning approach which meets various individual interests and needs. If until the 80's national curriculum was intended to create disciplined citizens, today the curriculum also meets cosmopolitan people's needs. Individual needs change and are more dynamic than canonic knowledge, and this can explain why countries are implementing more educational reforms at the XXI century.

### **3. Two Forces Influencing Curriculum Change**

Decisions to establish and expand school systems and its official curricula were less influenced by ideologies and ideas of educational thinkers, than by political, economic, and social forces

(Benavot and Resnik, 2005). As explained previously, there are two main approaches that explain curricular change: the convergence and the divergence approach. The convergence approach assumes that the world is becoming global and homogeneous due to economic development and changes in production modes which lead to socio-cultural changes such as modernization, secularization and democratization. Homogenization processes occur also on educational policies, mainly in curricular contents. This approach is based on “modernization”, globalization and neo-institutional theories. The divergence approach states that despite economic changes and modernization processes, countries and peoples not only maintain their cultural differences and values, but there is also a movement of return to the roots and fight for local culture, values and traits. This approach is expressed through the comeback to ethnicity which can lead to ethnic conflicts and terrorism. Here, cultural differences of countries and ethnic groups will be emphasized in public education, through curricula development.

Both the convergence and divergence approaches are based on Marxist and Weberian theories that argue respectively that economy and culture influence and shape society's behavior. According to Karl Marx (1848, 1867), the “base” (mode of production and economy) is the reality in which elites own means of production, capital and exploit masses. Elites create an imaginary superstructure (culture, ideas and values) – which does not exist by itself – in order to support the structure and maintain masses alienated from reality. The mode of production change more than social relations of production and this is the main cause of conflicts. Contemporary neo-Marxist scholars (Inglehart, 1997; and Inglehart and Baker, 2000) also support the thesis that economic development has cultural and political consequences. Although this is not an iron law, they found a strong statistical correlation between economic change and cultural change. In their study, Inglehart and Baker (2000: 29) found that “economic development seems to have a powerful impact on cultural values: the value system of rich countries differs systematically from those of poor countries”. Following the Marxist approach, education can serve as an alienatory tool of culture and values transmission (superstructure). Education is a mechanism that supports the way of production, given that it provides people tools to participate in the economy. In other words, Marxist theories argue that economy and modes of production are the main forces shaping educational guidelines and contents.

In his book "The General Economic History" (1961), Weber describes the emergence of capitalism as a production mode from an opposite perspective. For him, this type of economy was only possible because there was an ideology to support it: the notion of private propriety, market and trade freedom, rationality, free labor among other. In his book "The Protestant Ethic and the Spirit of Capitalism" (1958), Weber explains that the Puritan ethics and protestant religion permitted the development of capitalism, bureaucracy and rational-legal state. The main idea behind Weber's writings is that ideas shape social structures such as economy, social relations, politics, legitimacy and authorities. Contrary to the Marxist approach, according to the Weberian approach ideas motivate the human behavior and actions. It can be said then, that societies' ideas, beliefs and culture shape education systems and curricular guidelines. Educational transformation and development cannot be understood in isolation from the cultural context. In ethnic conflict countries for example, one has to be aware of the pre-colonial and post colonial legacies left by the metropolis-country. Similarly, one cannot examine post-communist states without considering the communist and pre-communist historical legacies (Napier, 2005).

## **Chapter 3: The Convergence Approach**

### **Modernization Theories**

Modernization theory or "developmentalism" aroused in the late 1950's in developed countries and presented the world as a collection of autonomous nations in which leaders shape policies in an effort to achieve development objectives. All nations could follow the pattern set by advanced countries and develop toward the well-being enjoyed in developed countries. According to it, economic development is linked to a compound of changes that includes changes in the mode of production (industrialization), urbanization, mass education, occupational specialization, bureaucratization, and communications development. These changes are in turn linked to cultural, social and political changes. Economic development has predictive consequences ranging from lower birth rates to democratization, political participation, higher life expectancies, secularization and rationalization (Clayton, 2004). Inglehart (1997) was one of the first scholars that checked the verisimilitude of modernization theory. His extensive empirical research checked the correlation between economic development, traditional vs. secular values, survival vs. well-being and self expression values. The findings show that there is a strong correlation between economic

development and secular, well being and self expression values; and that economic development, cultural change and political change go together in coherent and even predictable terms. Inglehart attempted to demonstrate that modernization indeed is a valid theory in which economic changes generate cultural and political changes. For him, “Modernization is, above all, a process that increases the economic and political capabilities of a society: it increases economic capabilities through industrialization, and political capabilities through bureaucratization. Modernization is widely attractive because it enables a society to move from being poor to being rich” (pp. 5).

During the XX century many countries were in a race towards industrialization and economic development in order to reach the “well-being” of developed countries. One of the consequences of modernization was the expansion of mass literacy and public education development. Modern states demanded skilled citizens and therefore schools became a states’ duty for its citizens. Early industrial societies introduced universal primary education, wide-spreading literacy. As industrial societies developed knowledge-based economies, enrollment in higher education increased. Education allowed social, economic and “cognitive mobilization”. And Cognitive Mobilization is the prerequisite for democracy. This optimistic view of modernization was one of the factors that pushed states to create national official curricula that met modernization knowledge needs. This is one of the forces of convergence of the curricular content and form. According to the modernization approach education is an important tool of knowledge to promote development, given that it provides social capital and skills for citizens to advance the technology and economy. Developmentalists adopt the “education expansion-economic growth” black box model which sees education as a key input to economic development (inputs on education generate outputs on economic development).

The main criticism to modernization theory is that it is too deterministic and reality might not behave according to the theory. The main objector of modernization theory is “dependency theory”, which arose in the 1960-70’s. “Dependentistas” suggested that the world is a single capitalist economic system in which different countries perform different roles and functions. “Core”, or “developed” countries produce industrialized high-value added products and sell it to “periphery” or “developing” countries that provide low-value raw material to core countries. Therefore, not all

countries have the same opportunities to reach the same economic development. Economic development not always leads to the same socio-cultural changes (Cardoso and Faletto, 1970).

## **Globalization Theories**

Globalization is not a “force” that shapes policies and eliminates nation-states in order to create a boundary-less world. It is rather a process in which nation-states adopt certain policies that shape internal features to enable capital to grow and move easily. “Globalizing” policies occur within states local structures and institutions, processes and practices. In other words, globalization is a joint of policies that occur inside the national arena: in economic and fiscal systems, social policies, and educational systems (Boli and Thomas, 1997). “Forces of globalization do not sweep away all before them and homogenize everything. At one level this is because the installation of global processes and practices is not totally determinative in its needs and expectations; on the contrary, it can live alongside a range of existing (national and local) institutions and combine with them in a range of ways to obtain the desired ends” (Dale and Robertson, 2002:12). There are three main processes occurring within nation-states that increase homogenization of curricula across the world and build globally structured agendas for educational policies: (1) local laws and international agreements that open commercial boundaries to treat imported goods as national goods; (2) international and “Aid” organizations that shape education policy and curricular models to the world but mainly to developing countries, and (3) international evaluation and education ranking systems through exams like PISA and TIMSS that impose specific standards and benchmarks.

When states adopt curricular changes in contents, practices and forms recommended by international organizations or developed countries aid agencies (such as USAID, AusAID, JICA), they are adopting convergence policies that make educational systems more homogeneous. These organizations are agents of “modernization” and “globalization” for usually they are built on world-cultural principles of universalism, rational voluntaristic authority, progress, and world citizenship (Boli and Thomas, 1997). Transfer of educational models from rich to poor countries has occurred since the development of national curricula and compulsory mass education. Bennet (1991) describes four processes that can lead to global convergence: (1) emulation, when decision makers copy actions taken elsewhere, (2) elite networking, when transnational policy communities shape policies, (3) harmonization, where international organizations or regimes advance their

recommended policies, and (4) penetration, where external actors and interests shape local policies.

A similar homogenizing process occurs when countries participate in international evaluation exams that impose specific standards and benchmarks of evaluation. External examinations have a remarkable potential to legitimize and consolidate new subjects and knowledge areas (Moreno, 2006). Countries are forced to modify their curricula, national goals and aspirations for education in order to meet international demands to be ranked in a good position at international evaluations such as PISA. Usually these exams focus on specific subjects that prepare the children to a changing global economy: mathematics, sciences, technology, computers, etc. This pattern of external organizations influencing public policies has become common in the second half of the XX century. Boli and Thomas (1997) show that there is an expansion of the state via agencies and policies responding to global models introduced by international NGOs which are sometimes stronger than the state itself. Steiner-Khamsi (2004) describes an “imaginary international community” that sets international standards and become a worldwide recognized authority. These standards are applied also on education and knowledge, becoming then a force influencing education policy change in countries that feel part of the international community.

Globalization takes place through policies of economic “neo-liberalization”. Policies such as labor deregulation and flexibilization, fiscal discipline, public expenditures priorities, trade liberalization and privatization enable capital to move more freely. Opening commerce to international markets – including the commercialization of education – is a process through which educational systems and curricula become more isomorphic. The World Trade Organization (WTO) and other “boundary opening” commerce treaties such as General Agreement on Trade and Services (GATS) and Regional Organizations (NAFTA, Mercosul, European Union, APEC and etc.) increased the commercialization of education tools, forms and systems. It occurs mainly in one direction: from developed to developing countries. These agreements avoid economic protectionisms and enforce imported goods to be treated no less favorable than domestic goods. Education falls into this category where “agreements view most public goods – such as education – as goods that might also be provided by the market and, therefore, as tradable items under the same terms as other tradable commodities” (Dale and Robertson, 2002: 22). Commercialization of education is common

today for higher levels of education (secondary and tertiary), but it occurs also in the primary education through importation of Technologies of Information and Communication (TIC).

The globalization approach is not a consensus among scholars; some refute the myth of globalization in education as a twentieth-century phenomenon, since waves of globalization have occurred since the XV century in commerce. In addition, globalization is not an inevitable force that leads to international convergence of knowledge. Researches show that educational policies and curricular guidelines in many countries did not become international, but rather focused on local contexts. In many developing countries adoption of international recommendations did not lead to homogeneous curricula, but it was adapted and “creolized” to the local context (Napier, 2005; Steiner-Khamsi, 2004). The next chapter presents an alternative theory that explains that despite economic development and neo-liberal policies, socio-cultural features remained a differentiating agent.

## **Chapter 4: The Divergence Approach**

Modernization and Globalization theories claimed that developed societies would show the future to less developed societies. Modernization is the goal of every country and it is associated with economic development, modern values and western cultures. However, there are countries that succeeded becoming modern and economically developed without cultural changes or becoming western (e.g. Japan after Second World War, and the “Asian Tigers”), which gave place to the school of “persistence” of traditional values despite economic and political changes. “Different societies follow different trajectories even when they are subjected to the same forces of economic development, in part because situation-specific factors, such as cultural heritage, also shape how a particular society develops” (Inglehart and Baker, 2000: 22). Following this school, Huntington (1993; and 1996, cited in Inglehart and Baker, 2000) defines eight major civilizations or “cultural zones” that compose the world, based on cultural differences that persisted for centuries. These zones are shaped by religion, culture, and traditions that differentiate the regions today despite forces of modernization and globalization. The zones are: Western Christianity, the Orthodox world, the Islamic world, the Confucian, Japanese, Hindu, African and Latin American zones. The world can also be divided into rich and poor societies due to similar values and cultures that prevail



among the groups (Inglehart, 1997). The most important value for building social structures on which democracy depends and for creating social organizations on which economic development can base itself is “interpersonal trust”. Developed and healthy societies have high levels of “interpersonal trust” in their culture, whereas the opposite occurs in developing countries. “Interpersonal trust” has an opposite correlation with “ethnic fragmentation” (Easterly, 2001), thus it is important to teach and spread this value in conflict countries. Education plays a key role in transmitting interpersonal trust values to children and teenagers.

Contrary to the convergence approach, the divergence approach explains that despite economical changes and developments, culture and local identity remains stronger than expected. Although the world has developed and modernized as a whole (including developing countries), religiosity and ethnicity are far from disappearing (McNeill, 1986; Connor, 1993; Smith, 1995; Huntington, 1993). These differences are products of centuries; they will not disappear because of economic changes and globalization. In the education field, Rosenmund (2006) and Moreno (2006) suggest that endogenous forces and interrelationship networks lead to a high degree of variety instead of isomorphism. Globalization does not yet has the greatest impacts on national discourses on educational content and the need for change; only one fifth of the countries refer to secularization while many countries refer to the increasing importance of religion, local nationalism and civic values. Nevertheless, the majority of the countries agree about desired outcomes of the curriculum: creating an autonomous citizen, improving national development and welfare and connecting nation-states with global interchange. Globalization measures not always are implemented in the same way everywhere, concepts like “creolization” and “indigenization” reflects the transformations of global patterns into local features, or in other words, divergence. Goodson (2006) suggests that globalization forces do influence curricular change and development, but it is likely to be a temporary phase.

“Against the fading away of national identities as a result of globalization, there is a paradoxical emergence of a series of local identities underpinned in religion, language and ethnic background. Thus, the more globalization advances, the greater the resurgence of local identity as a way of not giving in to the logic of homogeneity. As a reaction to the identity crisis brought about by globalization, many contemporary education systems tend to highlight local cultures as a way to

offset the fading national identity” (Moreno, 2006:202). Ethnic and religious fundamentalisms are also part of the globalization phenomenon once it empowers a cultural identity that transcends any national project. But it is a divergence force, mainly in education. Moreno suggests that the creation of ethnic identities and diversity in a democratic environment represent increasing divergence forces influencing curriculum change and development.

The divergence phenomenon is reflected by ethnic conflicts that have emerged in the 1960's, and the increasing adherence to religious extremism in all religions, strengthening of national rightist movements and parties against immigration, blacks, Muslims, Latinos, and Chinese. “revitalized ethnic ties [sustain] interaction networks in the face of the depersonalizing, bureaucratic structures of late modernity, and a need of distinctive cultural and psychological ethno-national conceptions...” (Hutchison and Smith, 1996:14). Conflicts are far from being third-world phenomena: European countries have approved xenophobic laws against immigrants and non-Christians in parallel to liberal laws providing civil rights to homosexuals and legalizing drugs. Huntington (1993) argues that the fundamental source of conflicts in the modern world will not be ideological or economical, but cultural. According to his theory, the great division among humankind and the dominating source of conflict will be cultural. States are still powerful actors in world affairs, but conflicts now occur between nations and groups of different civilizations. Cultural characteristics and differences are less mutable than political and economic ones. Civilization is a cultural entity and it overlaps with “ethnicity” in the sense that it requires the group to have common objective elements such as language, history, religion, customs, institutions, and the subjective self-identification of the people. Ethnic conflicts are the latest stage of conflicts: in the XVIII century nation states were being shaped through conflicts between emperors and monarchs who were expanding their bureaucracies. The French Revolution aroused a new type of conflict between nations instead of princes. This type of conflict lasted until the Russian Revolution, when ideologies conflicts emerged and lasted up to the end of the cold war. Now the interaction is no longer between western civilizations only, but the encounter between western with non-western gives place to conflicts between civilizations and ethnic groups.

The XXI century is witnessing the strengthening of the “localism” through racism, xenophobia, religious extremism, terrorism, civil conflicts. For analytical purposes, I relate to these phenomena

as a movement back to ethnic identities and consequently an increase of ethnic conflicts. Religion is not treated as religion solely, as race is not the main issue. Both are part of a bigger ethnic identity that combines religion, race, local beliefs, customs and features. People are fighting for their uniqueness and ethnic identities, against the global forces aforementioned. Globalization has its role in the increase of ethnic conflicts, given that the world is becoming a smaller place and people from different places and cultures have more possibility to interact they also become more aware of their differences and competitions. Of the nineteen major armed conflicts in 2003, only two (between Iraq and the multinational coalition led by the United States and the United Kingdom, and the long-standing conflict between India and Pakistan over Kashmir) were interstate. All the others were internal or 'ethnic conflicts', which differ from political and ideological conflicts (Dwan and Gustavsson, 2004).

Economic development not always leads to homogeneity and globalization. World-System scholars explain that globalization is not a modern phenomenon. It rather begun during the medieval era when merchants moved between various feuds and burgs carrying with them international influences. The second "globalization" wave occurred in the XVI century with Spanish and Portuguese colonialism, and later in the XIX century with the new European Imperialism. If globalization occurs in all socio-political institutions, and is pushed by free trade and people's movement, than it is not related to modernization only and limited to the XX century (Wallerstein, 2004). Moreover, during the XX century local economic blocks were formed in modern countries in order to strength their local forces: ALCA, NAFTA, Mercosur, Asian Pacific Economic Cooperation (APEC), and South Asian Association for Regional Cooperation (SAARC). These regional blocks maintain free trade between similar civilizations or cultures, which are a form of local globalization, far from being homogenizing (Huntington, 1993). Given that education is part of states' policies and it can be an important tool of socialization, it might be influenced by this shift back to localism. I will define "ethnicity" and "ethnic conflicts" and explain how it can be influencing the official curriculum.

## **Introducing Ethnicity**

According to the "imagined communities" theory, a nation is a community socially constructed and ultimately imagined by people who perceive themselves as part of that group, and nationalism is the "social glue" that maintains people together within the nation-state (Anderson, 1991). Ethnic

ties, sentiments and communities existed in all periods of history, but the term “ethnicity” as an object of study is relatively recent. It appeared in the 1950’s when conflicts emerged between ethnic communities with the end of World War II and the fall of the European imperialism in Africa and Asia. Indigenous groups had been organized by European imperialists into countries disregarding their ethnic identity and affinity. Communities were split between new countries and rival communities were put together constituting new countries. Conflicts reached big proportions when the European ruling countries left the new “independent” states with different ethnic rival groups within it. The communist revolution was also the beginning of many ethnic conflicts we face nowadays. The Soviet Union rearranged peoples and countries, cultures and beliefs under a restrict regime. With the end of the cold war and the fall of the communist regime, ex-soviet countries started to redefine their national ethos based on ethnic nationalism, which ended up being not an easy task (Rabi, 1994). The latest phenomenon which I consider the focus of new ethnic conflicts is the increasing immigration of people from poor to rich countries. This movement of people also mixes many different ethnic communities in the same territory, with claims for rights and freedom. There were three main waves of emergence of ethnic conflicts: the first one was in the 1960-70’s as a result of European imperialism in Southeast Asia, the Pacific and Africa. The second wave occurred in the 1980’s in Middle East and African countries, and the third wave started at the late 1990’s with the fall of the Soviet Union at ex-soviet countries (See Table 1 in annex 3).

Some scholars (Hutchison and Smith, 1996; Rabi, 1994) argue that ethnicity overlaps with other features that cause conflicts such as poverty, economic and political inequalities. Yet, the major sources of ethnic conflicts are cultural and religious differences, political struggles for independence, rights and freedom. The term “ethnicity” comes from the ancient Greek term “ethnos” which was designated for the foreign barbarians, similar to the terms “gentile” or “pagan” for Christians and “goy” for Jews. The dichotomy that separates members from outsiders exists in many cultures. There are two main approaches to define “ethnic group”: the primordialist approach and the instrumentalist approach. The “Primordialist” approach (Geertz, 1963) focuses on “biological” tie elements such as religion, blood, race, language, region, and custom that constitute an “ethnie”. The criticism to this approach is its static and naturalistic view of ethnicity and its lacking explanatory power. In contrast, the “Instrumentalist” approach treat ethnicity as a social,

political, and cultural resource for different interest and status groups. However, this approach focuses on the socially constructed nature of ethnicity in which identities and heritages can be easily cut and mix. This approach is not very realistic as well, therefore I prefer using Hutchinson and Smith's (1996) definition of basic elements that an ethnic group needs to be defines as "a common culture":

*"...Ethnie [is] a named human population with myths of common ancestry, shared historical memories, one or more elements of common culture, a link with a homeland and a sense of solidarity among at least some of its members"* (pp.6). With the appearance of the modern bureaucratic state and capitalism, ethnic communities take a political role struggling for their rights, territory, independence, equality and respect among the broader society. Ethnic communities gathered in form of nations. Nations had to create ethnic ethos in order to define itself among the various bordering peoples. This new ethnic identity was created mainly through language and race. Today this imaginary community is still prevalent although other local ethnic identities are taking bigger place in people's self definition (Hutchinson and Smith, 1996).

If Ethnicity is a socio-cultural construction, it is transmitted to its members through socialization in which school has an important role (Benavot and Braslavsky, 2006). Children form their identity and culture based on what they see in their houses and through what they learn at school, therefore education has a lot to do with ethnicity and ethnic conflicts. This paper focuses on ethnic conflicts among other kinds of conflicts because first, it composes the majority of conflicts during the late-20<sup>th</sup> century (Rabi, 1994), which is the time-frame dealt with in this paper, and, as argued above, it has been increasing in the last decades. Thus, focusing on ethnic conflicts I deal with the majority of contemporary conflict cases. Second, this kind of conflict is more linked to education and schooling than other kinds of conflict due to the important role of schools on children's socialization and identity formation.

## **Ethnicity and Conflict**

"[Conflict is] a real or apparent incompatibility of interests or goals; a belief that parties' current aspirations cannot be achieved simultaneously; a struggle over values and claims to status, power or resources; an intermediate stage of a spectrum of struggle that escalates and becomes more destructive" (Insenhart and Spangle, 2000). Interpersonal conflicts arise when the actions of one

person block, prevent, or interfere with another individual's ability to accomplish personal goals (Stevahn, 2004). Conflict occurs when two parties perceive differences between them and seek to resolve them to their satisfaction (Kegley and Wittkopf, 1999). Conflicts are not always harmful; they are not abnormal and not necessarily destructive once they can promote social solidarity, creative thinking, learning and communication – factors critical to resolution of disputes. Conflicts do become harmful and violent when the parts perceive that differences are irreconcilable. When violence occurs in conflicts, it enters to the sphere of warfare.

Ethnic conflicts rise because of social, cultural and ethnical disparities within a society. they differ from other types of war and conflict because they are not rational and is driven by symbolic processes or self and group identity consolidation (Kaufman, 2006; Rabi, 1994). According to Anderson (1991) and Wallerstein (2003), nationalism is a social construction which assembles “imagined communities” that are the nation-states. Ethnic identity consolidation passes through a similar process of self definition differentiating one from “others” and adopting leaders to better define groups boundaries. Rabi (1994) differentiates three types of ethnic conflicts: the first involves conflicting territorial claims by two neighboring states, where the conflict is primarily due to the partition of people rather than the territory itself. The second type involves disputes between different ethnic, cultural, or religious groups living together in one land under one state authority (such as Kurds in Iraq). Finally the third type involves a small nation living in its homeland under a rule it views as foreign, discriminatory and colonialist; for example Kashmiris living under the Indian government, Tibetans under Chinese government and Palestinian under the Israeli government. Stavenhagen (1991) presents an alternative description of ethnic conflict situations: First, ethnic groups can live in coexistence in multi-ethnic states such as Switzerland, India. There can also be one single ethnic group within a state such as the Bretons in France. Alternatively there can be national minorities in foreign states such as Chicanos (Mexican) in the USA or multiple ethnic groups within a state in which none enjoys a particularly dominant position. This situation occurs more in recently independent countries in Africa. There are ethnic minorities dispersed with minority status such as Basques in Spain and France. Separate categories are ethnic immigrants and refugees and finally, the last category of ethnic groups is indigenous people within a country or more such as the Mayas in Mexico and Guatemala.

The typology and terminology definitions used in this paper are based in Gurr's (1993, 1996, 2000) work where he develops a model of ethno-political behavior. Gurr's definition of "ethnic group" is: people who share a distinctive and enduring collective identity based on a belief in common descent and on shared experiences and cultural traits (also called communal and identity groups). Ethnopolitical groups are ethnic groups, whose ethnicity have political consequences such as conflicts. This work refers to ethnopolitical groups, since ethnic groups do not enter into conflict – when an ethnic group have claims and enter into conflict it is considered "ethnopolitical". There are 275 ethnopolitical groups struggling to define their traits, goals, and relation to the state. Gurr (2000) uses a typology to distinguish more homogeneous sets of groups: National peoples are regionally concentrated groups that have lost their autonomy to states dominated by other groups but still preserve some of their cultural and linguistic distinctiveness. Minority peoples have defined socioeconomic or political status within a larger society. Their identity is based on their race, ethnicity, immigrant origins, and religion. Minority peoples are concerned mainly about protecting or improving their status within the broad society. To make the distinction more sharp, national peoples ordinarily seek separation from or greater autonomy within the states that govern them, whereas minority peoples seek greater rights, access, or control. Disadvantaged and politically active minorities are present in 116 of the world's 161 larger countries. They constitute 1/6 of the global population, and are located mainly in Africa and the Middle East, and less in western democracies. Post-communist States and Asia have relatively large number of minorities, but they make up a small proportion of the regional population. For an ethnic group to start a conflict it needs mobilization capacity, incentives from relative deprivation, and opportunities from structural political opportunity theory. In other words, conflicts will occur within groups with high and (1) *cohesive identity*, suffering from (2) *grievances* that supply the incentive to (3) *organize* the mobilization, in an external environment that gives (4) *opportunities* to mobilize (Saxton, 2005). Education can influence the two causal parameters of the ethnic conflict (identity and grievance). Education is a key tool on the identity construction and deprivation from education is a key variable determining regional grievances.

## **Education and Conflict**

*“... it is clear that conflicts where ethnic identity or religion emerge as an explicit dimension of struggle (...) place particular demands on educational reconstruction, particularly with respect to language and curriculum”.*

*(The World Bank, 2005)*

Education (whether religious or laic) has been used to avoid or create conflicts and violence since the ancient ages. World's religions following the teaching of such prophets as Moses, Lao Tse, Jesus Christ, Buddha and Mohammad have scriptures to promote both peace and war. Immanuel Kant introduced the liberal notion of peace through social institutions such as legal and judicial systems. School and education became really involved in peace/war ideologies in the XX century after First World War. This was the first event that influenced mass education: in the 1920's and 1930's "Interbellum Period" the new subject "international relations" was first taught in schools with the objective to avoid future wars. In the 1950's after World War II the interest for "Education for World Citizenship" emerged and the first peace studies were taught in 1948 at the academic level. In the 1970's, Vietnam War re-shaped the "peace studies" which was expanded to colleges and secondary education levels. The 1980's were marked by the cold war nuclear threat which expanded education for peace to the primary and secondary levels of schooling. The 1990's was marked by domestic violence and ethnic conflicts and it was when peace education, civics and culture studies were overspread to developing countries. The beginning of the new millennium is being marked by school violence and ethno-cultural prejudices, which is influencing curricula and the creation of new subjects such as multicultural education, cooperation, feminism, human rights, and other anti-prejudice studies. Peace education has been overspread to developing countries nowadays through conferences and developing programs on education promoted by international agencies. The modern peace education teaches children about social norms such as sexism, ethnic hatred, religious intolerance, racism, and human rights (Harris, 2002).

## **Chapter 5: Ethnic Conflicts and Curricular Change**

*“Processes of curricula change aim to reflect the ways in which society has been altered as a result of conflict or to provoke the types of social changes required for consolidating or reinforcing social*



*cohesion. It is the crux of the process of educational reform. (...) This is particularly true in societies divided by identity-based conflicts where the very existence of select communities is perceived to be under threat.” (Tawil and Harley, 2003).*

### **Ethnic Conflicts as Windows of Opportunity for Curricular Change**

Conflicts are regarded as key catalysts for social change and educational reforms. Countries that have reformed their curricular policy usually did it after or during ethnic conflicts or socio-economic crisis (Tawil and Harley, 2004). As other policies, education is formulated inside the political arena. Therefore, the curricular content is a product of ideologies, political matters, socio-economic and cultural forces. Conflicts affect not only foreign and internal policies, but also curriculum making. Education policy changes are also likely to occur in times of political change because changes in political leadership imply in a reorientation and recertification process. Countries in political changes are more likely to borrow external educational policies than re-implement internal successful policies because there is a need of shifting away from the existing political philosophy to a new one, even if the results are not known (Steiner-Khamsi, 2004). Major curricular changes were performed at the following post conflict situations: Germany after World War II, Bosnia when became independent from Yugoslavia, Rwanda when the civil war concluded, Northern Ireland, Sri Lanka, The Palestinian Authority and Israel, Peru. According to the World Bank (2003) a window of opportunity opens for curricular change in two main situations: the first is in post conflict situations given that under new governments memories of the conflict's high price is still fresh; there is struggle for changes, reconciliation and unification. The second situation is when a society is opening for democracy where the government makes commitments for long-standing social equity and justice.

One of the most devastating impacts of violent conflicts is degradation of educational systems (The World Bank, 2005). Children and teachers suffer psychological traumas, material losses, displacement, and lost of family members. School buildings and properties are destroyed, and sometimes governments fall and are replaced. In cases where political authorities seek to distance themselves from the previous regime education reforms, a window of opportunity opens and changes are more likely to occur. This is also a proper timing to get support from international organizations (Sommers and Buckland, 2006). Given that conflict-countries and international

organizations are compromised to improve the affected educational system, there are good reasons to suspect that these countries will change their curricular policies. The 2000 Dakar Framework of action stated that Education for All “must take account of the needs (...) of children and adults affected by armed conflict.” Changes in curricular policy are more effective and legitimate when initiated by a stable and recognized government. Therefore, in conflict times, when a political authority is missing, international organizations and donors have more room and autonomy to shape curricula. As a consequence of conflicts, states usually enter into economic crises, which results in budget cuts. Outcomes of this cut off at the educational system can be: (1) reduction of total hours of instruction per year, (2) shrinkage of school year, (3) reduction of school personnel and teachers, (4) fusion of classes – even pupils of different ages and grades, and (5) introduction of double and triple shifts per school. Concerning the curriculum, subjects can be extinguished or merged (for example ‘history’ and ‘geography’ can be combined into ‘social sciences’), new subjects can appear and others disappear, the relative importance of subject within the curriculum can change or hours allocated to the subject.

### **Education Changing Ethnic Conflicts Changing Education**

Contrary to the modernization theory argument that education improved economic development and that changes were predictive, the influence of education on ethnic conflicts is still ambiguous. Education can influence ethnic conflicts either reducing or worsening them, depending on the approach used by the state. One important issue that defines the educational approach is “**social cohesion**”. Tawil and Harley (2004) explain that ‘social cohesion’ can function “as a framing concept for thinking through the complexity of policy issues”. Social Cohesion is a paradigm under which public policy is shaped. It is a subjective concept that shapes policy guidelines and includes values such as multiculturalism, inclusion, diversity and tolerance. Countries that emphasize social cohesion in their education system are less likely to enter or worsen ethnic conflicts. Schools and education are crucial in conflict affected countries to deal with trauma and psychological stress, with civil reconciliation and reconstruction.

Other scholars (Bush and Saltarelli, 2000; Davies, 2004; Al-Haj, 2002) also see education as a double faced weapon towards ethnical conflicts, and propose curricular changes to turn education

into a positive peace-builder against violence and identity-based conflicts. They identify two problems related to curricular guidelines and contents: the first is the bad use of school to increase identity-based prejudices and hate. The second is the exploitation of the educational system by elites to ensure their privileges and impose their point of view over a different majority. This exploitation can be destructive when population groups become disconnected from the mainstream such as indigenous groups in Guatemala, who cannot participate in the political, social or economic life because they do not speak Spanish. In Israel the multicultural approach of humanities subjects failed and did not improve the relationship between Jews and Arabs Israeli. Multicultural education does not succeed improving social cohesion and peace in conflict societies if there is a preference of one culture among the others and no emphasis on equality: "The education system, in this sense, serves as a mechanism of control and as a tool of perpetuating the status quo and legitimizing the dominant ideology. Thus, deeply divided societies, especially those under conflict, usually produce a deeply divided curriculum" (Al-Haj, 2002). In conflict times rival ethnic groups tend to 'forget' the times of coexistence and cultural hybridism, and this occurs in school environments as well. Thus, themes such as social cohesion, multiculturalism and tolerance are important in an attempt to diminish the conflict magnitude.

On the other hand, curriculum changes can help overcome social and political problems once it can reinforce social cohesion and contribute to social balance and development. It is important, though, to note that there is no magic formula that can be applied to every case. For example, in Bosnia and Herzegovina, the government created two different educational systems for the two ethnical groups. This policy was positive there given that it decreased the ethnic conflict level and opened a door for conflict resolution. The same policy was implemented in South Africa, Rwanda and Northern Ireland yielded harmful consequences to the mutual understanding between ethnic groups because it isolated more the populations, ethnic differences were emphasized in school and segregation encouraged mutual ignorance and suspicion. In other cases, countries in the same ethnic conflict situation implemented opposite educational policies with positive outcomes: while Bosnia and Herzegovina restored 'religious education' under the inclusive approach subject "culture of religions", in Rwanda the new ministry of education suspended subjects such as 'history', 'political education' and 'civics'. Concluding, education can avoid or diminish ethnical conflicts if it

(1) appeals to development, (2) values diversity and multiculturalism, and (3) if it stresses the disadvantages of conflicts and wars.

Although it is not clear whether education can improve ethnic conflicts, it is clear that other types of solutions have been not effective. There are very few cases of successful settlements of ethnic wars since World War II (Zimbabwe 1984, South Africa 1993-4, Niger 1995, East Timor 1999, and Ghana 1996). When ethnic conflicts end it is usually a result of military victory by one side, which does not put a real end to the conflict (Kaufman, 2006). The only positive way to end an ethnic conflict is reconciliation, changing hostile attitudes, overcoming prejudices and stereotypes and accepting the other with tolerance and social cohesion. This is the reason that public education is so important to overcome ethnic wars and conflicts, mainly in lower levels of primary education, when children are still building their self and group identity.

There are still few theories about how and if education influences conflict and vice versa: "Despite the large number of publications on the peace education there is increasing criticism of the theoretical backwardness of peace education. Critics note that the entire field suffers from a conceptual confusion, which is reflected above all in the lack of clarity on the subject matter and objectives in peace education" (Seitz, 2004:10). Most scholars present theories about the influence of conflict on creation of textbooks, teacher training, pedagogy, child's capacity to learn, school environment and school principals. Education specialists and international organizations suggest different recommendations on education for conflict affected societies: recommendations on subject contents, pedagogy, classroom practices, education materials, textbooks, language of instruction, teacher training. But there are no clear recommendations for curriculum itself, how it should be reshaped or changed. The recommendations are vague and some contradict each other. It seems that no evaluation was made to check if these policies were indeed implemented what the outcomes were. Few researches attempted to check the relationship between ethnic conflicts as an influencing force on the curriculum making. Chapter eight of this paper attempts to empirically verify if there is a clear and significant correlation between ethnic conflicts and curriculum change. It also measures what are the variables that most influence curriculum change. Do economic forces create predictive changes on culture and consequently on education as the Marxist, Modernization and Globalization theories assume? Are local cultural differences the main force

influencing curricular policy making as Weberian theories predict? Or are “Divergence” forces, expressed through ethnic conflicts, the strong force that can cause a curricular change? There was no empirical attempt to check whether worldwide curricula are converging or diverging, and this is what I attempt to show in chapter seven.

## **Chapter 6: Methodology**

This work searches for the main forces influencing curricular change in the beginning of the XXI century, whether economic, cultural or political. For this purpose I make a comparison of proportion of studied hours of subjects in each grade of the primary education in each country between two time periods: the 2000's and the 1980's. The data collected for the 1980's period range from 1975 to 1985, and the data collected for the 2000 period ranges from 1995 to 2005. I compare these two decades because first, I wanted to make an actual and relevant comparison. Second, educational policies and changes take a long time to be implemented and for outcomes to be perceived. Thus, I compare the actual period with the 1980's in order to give enough time for changes to occur and different policies to be implemented. Third, the end of the XX century was marked by a strong globalization process which started in the 1980's: The 80's was the period of neo-liberal policies, privatization, labor flexibilization, opening of markets and trade. The Margaret Thatcher government (1979-1990) initiated its neo-liberal reforms, which were later in this decade implemented by other developed and developing countries. In this period Mikhail Gorbachev implemented the Glasnost (1985), or openness of the regime for people's freedom; and the Perestroika (1987) which is the economy reconstruction and liberalization. Finally, the 80's period was also characterized by the emergence of new ethnic conflicts and worsening of the existing ethnic conflicts.

I will work with the primary education level only due to the following reasons: first, it is the level with the greater percentage of pupils' attendance. Usually as we ascend the educational structure the dropout is greater, thus the primary education reaches and influences more people. Education in early grades is more effective than in upper grades: the content taught in primary education is more formative, relevant and influential than upper system levels. For example, Benavot (1989) argues that primary education has strong and significantly positive impact on economic growth and development and that this impact weakens in secondary and tertiary education respectively (mainly

for girls). His conclusion is that it is more effective to invest on primary education, mainly in poor countries in order to attain social and economic development. The same might be right to attain social cohesion and inclusiveness. Moreover, the primary education level is the crucial age for children's socialization.

Since I am comparing proportions and changes of studied hours of different subjects at all grades of the primary education, my dependent variable is the "change in proportion of studied hours of each subject in each grade of the primary education". In order to determine curricular changes I compare the curricular timetables of each country's national curriculum. The National Curriculum specifies how many hours each subject should be taught in each grade, but does not reveal the content of each subject. Curricular timetables for the 2000 period were taken from the World Data on Education (IBE, 2003) and for the 1980's period were taken from countries' national reports presented at various International Conferences on Education (ICE) sessions organized between 1977 and 1984 (for a more detailed methodological description about the timetables, instructional hours and sources, see Benavot, 2006: 6- 7; 18-19; and Amadio et al. 2005: 2). This unique and vast information was available only at the archives of the IBE (International Bureau of Education) – UNESCO in Geneva, Switzerland. As part of an international project I was sent by Dr. Benavot (in 2002) to collect the data and organize it in timetables, since most of the relevant information was dispersed in many documents. The timetables were then coded into an SPSS in order to perform statistical analysis. The information for the first period (80's) is incomplete; therefore a certain degree of caution is suggested when looking at the results of the analysis. The timetables provided information about the yearly intended instructional hours of each subject per grade. In this study I used the "proportion of instruction of each subject per grade" instead of the "gross" hours (the number of hours for the subject divided by the total hours per year). The proportion of hours was used because it is more effective to compare the importance (relative emphasis) that each country gives to the subjects, which is translated into the proportion of instructional hours that this subject receives in the timetable, than the number of instructional hours of each subject. For example in the 2000 period, Ecuador allocated 3 weekly instructional hours for sciences in grade 4 from a total of 30 weekly hours, which means 10% of the instructional time. Sri Lanka allocated 3 hours from a total of 40 hours, which means 7.5%. Although both countries allocated the same number of hours for sciences, Ecuador gives more relative emphasis to the subject than Sri Lanka.

As stated above, the **dependent variables** used in this work are the "change in proportion of allocated time for each subject at the curricula of the different countries" (from now on "delta of proportion of subjects' instruction"). This index is a subtraction of the proportion of the subject in a certain grade in the 2000 period from the 1980's period (for example: proportion of religion in grade 6 for the 2000's – proportion of religion in grade 6 for the 1980's). This index is a delta that can be positive (the proportion increased) or negative (the proportion decreased), high (the change was significant) or low (the changes were not significant). The advantage of using this variable is that the curricular content and educational policies are reflected in the timetable and it provides the importance of the subjects and the countries' priorities for the educational knowledge. The disadvantages is that it is not possible to know what is actually taught in the subject "sciences" for example and if it means the same content in Panama, Belgium or Botswana. In a cross-country study of curricula it is difficult to compare the content of each subject in each grade of each country. Each country defines its subjects and names them differently; however the various subjects can be classified into 32 categories of subjects suggested by Benavot (2006). From a list of 32 different subjects (see annex # 1 for the complete list), I combined them into 16 subjects in order to work with less variables and ease the analysis:

1. Official Language (includes also national language)
2. Local Language
3. Foreign Language
4. Mathematics
5. Sciences
6. Computers and Technology
7. History
8. Geography
9. Social Studies
10. Civics
11. Environmental Education
12. Religion
13. Moral Education
14. Hygiene/ Health Education
15. Traditional Vocational Education
16. Agriculture/ Horticulture

I did not include the following subjects to the research: "Aesthetic Education" and "Sports/ Physical Education" because these subjects are present in 90% of the curricula and do not reflect countries' economic, social and cultural features; and "Elective and Other Subjects" because the percentage

of curricula that include this subject is low and its content is too diversified what limits making assumptions and conclusions about this group of subjects.

## Chapter 7: Variables Description – Convergence or Divergence?

### Description of the Dependent Variables – "Proportion of Subjects"

First I will describe the variables that represent the proportion of instructional hours of each subject in each time period (from now on "Proportion of Subject" 1980 and 2000) to give a general idea of the curricular composition at the two periods. Then I will describe the variables "Delta of Proportion of Subjects", which will express the curricular changes, occurred during the two decades. I ran "Factor Analysis" for all the dependent variables in order to choose the most representative grades of each subject to work with. Otherwise we would have an enormous amount of variables for each subject, grade and time period. The most representative grades that appeared in the Factor Analysis component matrix are:

**Table 1: Grades of subjects selected by factor analysis**

subject	grades
Official Language	3, 7
Local Language	4
Foreign Language	2, 5
Mathematics	2, 7
Sciences	3, 7
Environmental Education	2, 5
Technology and Computers	2, 7
History	1, 6
Geography	1, 6
Civics	3, 7
Social Studies	4, 8
Moral Education	3
Religion	3, 7
Hygiene/Health education	4, 8
Traditional Vocational Education	3, 8
Agriculture Education	4, 7
Skills	1, 4, 8

Nearly all subjects have two "most representative grades" – from the lower primary education (1 to 4) and the upper primary education (5 to 8). These results are not by chance, and there are



different features for each period of the primary education. The most important feature is that the lower primary is characterized by including mainly "core subjects" in a high percentage, while in the upper primary this percentage decreases and more subjects are included in the curriculum. Table 2 summarizes the subjects' main descriptive statistics.

There are three subjects that receive the greatest importance in the curriculum throughout the world, so called "core subjects": Official or National Language, Mathematics and Sciences. These subjects receive high percentage of studied hours both in the 80's and the 2000's, but as explained above, this percentage changes throughout the primary education: the mean percentage of Official Language in grade 3 of the curriculum is 32.8 in the 80's and 33.9 in the 2000's, while this percentage is reduced to 19.4 and 19.8 respectively. With Mathematics the reduction is less drastic: from 19.8% in the 80's and 20.2% in the 2000's in grade 2 to 14.8% and 14.5% respectively in grade 7. With sciences the opposite occurs: from 5.8% in the 80's and 5.2% in the 2000's at grade 3 it rises to 11.6% and 11.9% respectively in grade 7.

**Table 2: Descriptive statistics of Dependent Variables "Proportion of Subjects" in 1980's and 2000's**

Descriptive statistics of Dependent Variables "Proportion of Subjects" (1985-2000)									
Core and Exact Subjects									
Subject	grade	1985			2000			Trend	
		Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance		
Official Language	3	32.8	10.5	111.7	33.9	9.5	91.2	Convergence	
	7	19.4	8.8	79.1	19.8	6.3	40.6	Convergence	
Local Language	4	0.7	4.1	17.1	0.6	2.7	7.3	Convergence	
Foreign Language	5	5.3	8.2	67.3	6.7	8.1	66.9	No change	
	2	0.4	2.4	5.8	2.5	6.5	43.5	Divergence	
All Languages	3	35.5	10.5	111.8	38.1	9.8	97.0	No change	
	2	38.1	10.3	106.3	40.3	10.3	106.5	No change	
Mathematics	2	19.8	5.7	33.4	20.2	5.7	33.2	No change	
	7	14.8	4.7	22.5	14.5	3.8	14.4	Convergence	
Sciences	3	5.8	4.9	24.4	5.2	5.1	26.5	No change	
	7	11.6	5.3	29.1	11.9	5.4	29.4	No change	

Computers and Technology	2	0.4	1.8	3.2	0.8	2.2	4.9	Divergence
	7	1.1	3.3	11.3	2.4	3.6	13.6	No change

### Humanities Subjects

Subject	grade	1985			2000			Trend
		Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance	
History	6	3.3	3.3	11.0	2.8	3.1	9.9	No change
	1	0.3	0.9	0.9	0.4	1.3	1.7	No change
Geography	6	3.3	3.2	10.7	2.8	3.1	9.7	No change
	1	0.3	1.0	1.2	0.4	1.2	1.6	No change
Social Studies	4	1.7	2.6	7.1	1.0	1.9	3.8	Convergence
	4	3.7	5.2	28.0	3.8	5.2	27.9	No change
Civics	8	4.1	5.9	35.4	4.2	5.3	28.9	No change
	3	0.6	1.6	2.8	0.9	2.1	4.4	Divergence
Environmental Education	7	1.4	1.8	3.6	1.6	2.3	5.5	Divergence
	4	1.1	3.6	13.3	1.8	4.0	16.2	No change
Religion	2	1.5	3.9	15.4	1.7	3.6	13.6	No change
	5	1.0	3.6	13.0	1.2	3.5	12.5	No change
Moral Education	3	4.2	6.5	42.5	3.4	5.0	25.8	Convergence
	7	3.2	4.5	20.3	2.6	3.7	14.0	Convergence
	3	1.3	2.6	7.2	1.0	2.7	7.5	No change

### Skills, technical and "old" subjects

Subject	grade	1985			2000			Trend
		Mean	Std. Deviation	Variance	Mean	Std. Deviation	Variance	
Hygiene/Health Education	4	1.7	2.4	6.0	2.3	1.9	3.9	Convergence
	8	1.1	2.0	4.2	1.0	2.4	6.0	No change
Traditional Vocational Education	4	4.1	5.0	25.4	2.3	3.9	15.7	Convergence
	3	3.6	4.8	23.1	2.4	4.7	22.9	No change
Agriculture	8	6.7	6.7	45.9	4.0	5.4	29.5	Convergence
	4	1.0	2.7	7.4	0.3	1.2	1.5	Convergence
Skills and Competencies	7	0.8	2.6	7.0	0.3	1.6	2.7	Convergence
	4	6.9	7.3	54.0	3.6	5.1	26.6	Convergence
	1	5.2	5.9	35.5	3.2	5.4	30.1	No change
	8	8.6	7.9	63.1	5.5	6.7	45.3	Convergence

Regarding other non-core subjects, most of them increase with the grades. The only subjects that present drops from the lower to the upper primary education are: Environmental Education, Religion, Hygiene and Health Education, Agriculture and Skills and Competencies. These subjects are "general subjects" which transfer ideologies, morals and "way of life" rather than hard knowledge, and therefore are taught more in lower grades. These results enforce the theory that countries' most immediate goals for education systems are socialization and values instruction. While comparing non-core subjects in the 80's and the 2000's it is clear that the last group of subjects (Skills, technical and "old" subjects) had their curricular proportion reduced, excluding Hygiene and Health. Core subjects did not change much between the two periods, but from the first group of subjects presented at table 2 Foreign Language and Computers and Technology had their proportion increased. Humanities' subjects have a mixed pattern, which will be described later on.

Another important descriptive statistics worth a deeper look is Standard Deviation, since it is the most representative dispersion measure. It is especially important for this work because it also reflects patterns of "divergence" and "convergence". In other words, if a subject was more homogeneous in the 80's than the 2000's (lower std. dev. in the 80's than 2000's) there was a process of "divergence" because countries became more different one from the other. If, otherwise a subject had a higher standard deviation in the 80's than 2000's it means that countries became more similar in their curricular composition, thus there was a "convergence" process. According to Table 2 there are more subjects converging<sup>1</sup> (8) than diverging<sup>2</sup> (3) and some subjects not changing<sup>3</sup> (7). It could be said that the world is converging since there are more subjects converging than diverging; however there are many subjects not changing at all. If we have a look on the types of subject **converging** we realize that most of them are "old fashioned" subjects: religion and the skills and technical subjects, Official and Local Languages. From the list only "official languages" is not an "old" subject but its importance in the curriculum has decreased from the 80's to the 2000's as well. In other words, all the subjects that are converging are doing so

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<sup>1</sup> Official Language, Local Language, Mathematics, Religion, Hygiene and Health, Traditional Vocational Education, Agriculture, Skills.

<sup>2</sup> Foreign Language, Computers and Technology, Civics.

<sup>3</sup> All languages, Sciences, History, Geography, Social Studies, Environmental Education, Moral Education.

because its importance in the curriculum is decreasing, the percentage is lower and so is the standard deviation.

It is important to have a look at the **diverging** subjects: Foreign language, Computers and Technology, and Civics. These are non-core subjects that are becoming more important in the 21<sup>st</sup> century and reflect not badly patterns of globalization (which is defined as a "converging process"). Ironically these subjects are diverging. Thus, we can see the appearance of more hours of "modern-globalizing" subjects but in a more diversified curriculum. Countries are teaching global values and tools but their curricula are becoming more homogeneous. Is this convergence or divergence? I would have to make a significance test in order to check whether the changes occurred in standard deviations between the two periods is significant or casual. If it was significant I could say that the world is converging because there are more subjects that are converging than diverging.

Since I am having a look on almost the entire world, there is no point in checking whether the changes occurred in the subjects' standard deviations between the 1980's and the 2000's are significant or not. I am not working with a population sample, but rather with whole populations. Checking for results' significance is checking whether my sample would fit the real population, and whether my conceptual model would fit the "de facto" behavior of the whole population. In other words, significance tests check if what happens in my sample is similar enough to what would happen in the entire population, so I can infer any conclusion from my analysis and research. But in my research I am working with countries, and they are not samples of anything. They are a whole population of a certain nation-state. Therefore, I do not have to check for results significance, mainly change in standard deviations.

Finalizing my analysis I would say that there is no way to determine if the education system is diverging or converging worldwide. More subjects are converging than diverging, that is true. But there is nearly the same number of subjects in which the standard deviation is not changing at all and nothing is happening. The converging subjects are "old" subjects that are being removed from curricula or at least losing its importance. These are low-percentage subjects and therefore their standard deviations are smaller in anyway. On the other hand, new and important subjects (foreign

languages, computers and technology, and moral education) are becoming more popular but not in a homogeneous way (are diverging). I tend to conclude that in general countries are adopting a more homogeneous curriculum which reflects convergence and globalization forces. Policy changes in education are known to take slow pace and that explains why many subjects (including core important subjects) are not changing. They have not changed in centuries! It is easier to change non-core subjects and that is what policy makers are implementing.

### Description of the Dependent Variables – "Delta of Proportion of Subjects"

Now I present the descriptive statistics of the created variables “delta of proportion of subjects’ instruction” (see table 3). The variables show the magnitude and direction of change in instructional hours between the two periods: 1980’s to 2000’s. Most of the subjects presented an increase in the proportion of studied hours. “Official Language” and “Local language” presented a small decrease in the mean proportion of studied hours (mean = -0.06). “Foreign Languages”, however had a relative high increase in proportion of studied hours (mean = 1.5), which reflects the increasing importance countries are giving to this subject. This increase can be explained by influence of globalization forces, which require countries to understand foreign languages but mainly to master the common international language nowadays (English). Many countries started to teach languages relevant to their “economic blocks” – for example, Brazil’s foreign language was English only, but at the 1990’s Spanish received a more important role.

**Table 3: Descriptive statistics of created variables “Delta of Proportion of Subjects’ Instruction”**

Core and Exact Subjects							
Subject	grade	Mean	Median	Std. Deviation	Variance	Skewness	Kurtosis
Official Language	3	0.3	0.8	10.5	110.9	-0.5	2.9
	7	-0.06	-0.7	7.6	59.2	0.7	2.9
Local Language	4	-0.07	0	4.7	22.2	-3.5	28.7
Foreign Language	2	1.5	0	4.8	23.3	1.8	3.8
	5	1.0	0	4.8	23.9	0.5	1.6
All Languages	2	0.8	0	9.3	86.5	0	2.5
	3	1.2	0	10.1	102.7	0.3	2.7

Mathematics	2	-0.2	0	6.7	45.2	-1.5	8.0
	7	-0.6	0	4.3	18.5	-1.4	4.4
Sciences	3	0.3	0	5.9	35.5	-0.3	2.7
	7	0	0.3	5.6	31.3	0	1.2
Computers and Technology	2	0.4	0	2.7	7.8	-0.4	11.0
	7	1.2	0	3.9	15.7	0.7	4.1

### Humanities' Subjects

Subject	grade	Mean	Median	Std. Deviation	Variance	Skewness	Kurtosis
History	6	-0.2	0	3.5	12.7	-0.6	4.9
	1	0	0	1.4	2.0	0.3	7.4
Geography	1	0	0	1.4	2.0	-0.8	8.4
	4	-0.5	0	2.7	7.4	-0.2	1.7
Social Studies	6	-0.5	0	3.5	12.8	-0.3	2.6
	4	0.6	0	5.2	27.6	0	2.7
Civics	8	0.7	0	6.5	43.4	-1.2	5.6
	3	0.3	0	3.0	9.4	0.8	6.3
Environmental Education	7	0.5	0	2.8	8.2	0.6	1.3
	2	0.2	0	4.7	22.2	-0.1	3.8
Religion	4	0.2	0	5.0	25.2	0	8.0
	5	0	0	4.9	24.1	0	9.7
Moral Education	3	-0.2	0	3.4	11.8	-0.5	3.2
	7	-0.2	0	3.5	12.5	-2.6	13.9
Moral Education	3	-0.3	0	3.1	10.0	1.5	12.8

### Skills, technical and "old" subjects

Subject	grade	Mean	Median	Std. Deviation	Variance	Skewness	Kurtosis
Hygiene/Health Education	4	-0.9	0	2.5	6.4	-0.9	2.1
	8	0	0	2.4	5.8	0.7	7.1
Traditional Vocational Education	3	-0.4	0	5.2	27.9	2.1	12.9
	4	-1.2	0	4.2	18.0	-1.1	2.8
Agriculture	8	-2.1	0	6.7	45.4	-1.9	6.1
	4	-0.7	0	2.3	5.3	-3.4	11.4
Skills and Competencies	7	-0.5	0	2.4	6.2	-4.9	33.5
	1	-0.9	0	5.8	34.2	1.7	11.7
	4	-2.8	-0.3	6.5	42.3	-1.4	2.7
	8	-2.7	0	8.1	66.2	-1.1	2.4

“Mathematics” also had a slight decrease in its curricular importance (mean = -0.05), which is not expected by two reasons: languages and mathematics are the main core subjects, and both are slightly losing its importance at the curriculum. In addition, “mathematics” gained importance until the 80’s (Benavot 2005) and it is surprising that this pattern has stopped now. On the other hand, “Sciences” somewhat gained importance in the curriculum (mean = 0.2) and “Computers and Technology” gained even more importance (mean = 1). These are the “new subjects”, and reflect the role of the computer inside the classroom and Information and Communication Technologies (ICTs).

Humanities subjects are changing in an interesting interdisciplinary pattern: “History” and “Geography” lost its importance (mean = -0.2 and -0.5 respectively). Yet “Social Studies”, which is usually composed by a combination of these subjects, have gained importance in the curricular guidelines (mean = 0.7). Another humanities’ subject that is becoming important is “Civics” (mean = 0.5). The “old fashioned” subjects now are “Religion” (mean = -0.3) and “Moral Education” (mean = -0.3). Concluding, in the field of the humanities, “history” and “geography” are giving place to “social studies” while “religion” and “moral education” are being replaced by “civics”. The two “new” subjects are more interdisciplinary and comprehensive than “old” ones, which gives an indication that the curriculum keeps the track of comprehensiveness.

The “skills” subjects are also becoming “old fashioned” and losing their importance at the official curricula: “Hygiene and Health Education” (mean = -0.6), “Traditional Vocational Education” (mean = -1.5), “Agriculture” (mean = -0.7), “Skills and Competencies” (mean = -2.7) are the subjects with highest decreases in proportion of studied hours. However, contrary to this pattern, the subject “Environmental Education” is becoming popular (mean = 0.2). The picture reveals again the global shift towards models of comprehensiveness and less technical skills.

The distribution of the samples is symmetric in the great majority of subjects (low Skewness). The only “tailed” subjects are “Local Language”, “Religion”, “Agriculture” (left tail) and “Traditional Vocational Education” (right tail). It means that there are few exceptional observations that could create “tails” to the samples. The above subjects are very non-core subjects and present a high

variance of proportion they receive in the different countries. Many countries do not teach these subjects, thus, when a country dedicates a high percentage of its curriculum to the subject it becomes an anomalous observation. In addition, there are various subjects with high Kurtosis, which means that there are many observations around the mean, indicating that the samples are very homogeneous. The subjects with very high “peaked” distribution are: local language, computers and technology, religion, moral education, skills and competencies and agriculture. These are non-core subjects, which have a low percentage in the curricula. The “peaks” are due to the fact that many countries do not teach the subject. Concluding, the aforementioned subjects are non common subjects and most of the countries do not include them in the official curricula. Core subjects present a bigger variance and more normal distributions due to the bigger importance they receive in the different countries. Core subjects present samples with the highest standard deviations (official languages, mathematics, social studies) because they receive the higher proportions in school curricula. It is easier to have high standard deviations in subjects that are taught in all countries because the importance they receive vary much more than subjects that are taught in only 20% of the countries. In addition, the proportion of studied hours of a core subject, which is usually high (15% or more), can vary more than the proportion of a non-core subject that receives a low percentage at the curriculum (around 2%).

### Description of the Independent Variables

Based on the assumption that curricular guidelines reflect and are influenced by economic and socio-cultural features of the state, I searched for independent variables that would represent these features. In addition to economic and socio-cultural features, it is important to control educational features to check if the educational structure also influences the curricular content and timetable changing. Below is the list of independent variables collected for the multiple regressions. For each variable there was data from the two periods (1980's 2000's):

**Table 4: List of relevant independent variables to be used in multi-variable linear regression**

Socio-Economical features	Socio-cultural features	Educational features
GDP per capita	Year of independence	Gross Enrollment Ratio
Real GDP	Democracy level	Net Enrolment Ratio
Population below poverty line (1\$ PPP)	% of largest Ethnic Group in Population	Illiteracy rate
GINI index		School life expectancy
Human Development I index (HDI)		



The table above shows ten relevant independent variables, though some of the variables have a high multicollinearity since some of the features are linked or can be proxy one of the other. Through Factor Analysis I decreased the number of relevant independent variables and limited the regression with: **Independence Year, HDI index, Net Enrolment Ratio, Gini Index, and Democracy Level** (see annex # 5 for the list of independent variables and the Factor Analysis results and components). These five variables measure without overlapping the three types of features that influence the curricula policy making. In addition to the aforementioned variables I used a variable to measure level of ethnic conflict in the country (Average of Conflict Magnitude – AVEMAGMEAN).

The variable "Independence Year" ranges from year 1700 to 2002 (mean=1922) and shows how "new" the country is, and if it was a colony or an "old" country such as European countries. This information is important for our analysis in order to check for colonial legacies in the educational system and verify to what extent these legacies influence the new curricular policy. The variable "HDI index" measures countries' various socio-economic features and ranks them according to the welfare and well-being (from 0 – lowest well being to 1 – highest well being; mean=0.7), which makes it a preferable variable than other variables that measure economic or social features only. Net Enrolment Ratio ranges from 30% to 100% (mean=58.75%) and shows the extent of effectiveness of the educational system; whether pupils remain enough time in the system as to be alphabetized, absorb the intended values and norms, skills and tools. Gini Index measures income disparity between upper and lower classes economically; it ranges from 0 (absolute equality) to 100 (absolute inequality) but in the year 200 the range was from 24 to 70 (mean=39.5). The inequality level also reflects a country's level of social and economical development.

The variable "Democracy Level" is relevant and should be controlled when studying policy making processes such as curricular change. It ranges from 1 to 7 where 1 is the highest degree of freedom and 7 the lowest (mean=3.6). In order to measure the influence of Ethnic Conflicts on curricular change, I used the variable "Magnitude of Ethnic Conflict". It is the Index of "Magnitude of Ethnic Conflict" (Marshall, Gurr, and Harff, 2005) which ranks ethnic conflicts in countries according to the number of rebel combatants or activists, annual number of fatalities related to fighting, portion of country affected by fighting. It ranges from 0 (no ethnic conflict) to 4 (highest degree of ethnic conflict); mean=0.6. For a better description of the variable see annex 4.

## Chapter 8: Which Independent Variables are Influencing Curriculum Making?

*“School Curriculum is a social artifact, conceived of and made for deliberate human purposes. It is therefore a supreme paradox that in many accounts of schooling the written curriculum, this most manifest of social constructions, has been treated as a ‘given’.” (Goodson, 1994)*

I used Multiple-Variables Regression method in order to verify the correlation between changes in the curriculum (changes in proportion of learned subjects in each grade) and the independent variables: economic, social, cultural and ethnic conflicts. My assumption is that:

Linear (multi-variable) Regression Model: change in subject in each grade =  $\alpha + \beta_1$  magnitude of ethnic conflict +  $\beta_2$  HDI index +  $\beta_3$  Net Enrolment Rate +  $\beta_4$  Gini Index +  $\beta_5$  Democracy Rate +  $\beta_6$  Year of Independence +  $\epsilon$

I made regression analysis with the same independent variables to all the subjects in all grades (16 subjects x 8 grades = 128 analysis).

Below follows the table with the results obtained:

**Table 5: Results of multi-variable linear regression analysis with significant correlation<sup>4</sup>**

Core and Exact Subjects				
subject	grade	independent variables	$\beta$	R <sup>2</sup>
Official Language	7	Gini Index	0.279*	0.078
Local Language	4	Year of Independence	-0.358*	0.160
		Democracy Rate	0.289*	
Foreign Language	2	Gini Index	-0.401 <sup>♦</sup>	0.191
		HDI	-0.272*	
Mathematics	5	Magnitude of Ethnic Conflict	-0.320*	0.103
Sciences	8	Magnitude of Ethnic Conflict	0.296*	0.088
Technology and Computers	8	Year of Independence	0.412 <sup>♦</sup>	0.193
		HDI	0.301*	

Humanities Subjects				
subject	grade	independent variables	$\beta$	R <sup>2</sup>
Religion and moral education	1	Year of Independence	-0.336*	0.171
		Magnitude of Ethnic Conflict	-0.273*	

<sup>4</sup> The subjects and grades listed were the ones with significant correlation with any of the independent variables. Subjects and grades without significant correlation were not listed.

	3	Democracy Rate	-0.292*	0.085
History	3	Democracy Rate	-0.289*	0.084
Social Studies	5	Year of Independence	0.303*	0.092
	7	HDI	-0.397 <sup>♦</sup>	0.158
Civics	7	HDI	0.290*	0.084
Environmental Education	1	Year of Independence	-0.370 <sup>♦</sup>	0.327
		Net Enrolment Rate	0.331**	
		HDI	0.293*	
	5	Year of Independence	-0.305*	0.181
		Net Enrolment Rate	0.378**	

Skills, Technical and "Old" Subjects				
subject	grade	independent variables	$\beta$	R <sup>2</sup>
Hygiene/Health education	2	Gini Index	-0.312*	0.181
		Magnitude of Ethnic Conflict	0.295*	
	3	Magnitude of Ethnic Conflict	0.492 <sup>♦</sup>	0.186
		HDI	0.328*	
Traditional Vocational Education	7	Year of Independence	-0.303*	0.092
	7	Gini Index	0.290*	0.084
Agriculture Education	5	Net Enrolment Rate	-0.363**	0.185
		Year of Independence	0.328*	
Skills and Competencies	7	HDI	0.349**	0.121
	7	Gini Index	0.350**	

\*\*  $\alpha < 0.01$

Clarification: It is important to state that although I will try to explain the results obtained from the regressions, some of the correlations obtained were not strong and do not explain an acceptable percentage of the changes occurred for social sciences' standards. It is possible to infer from the results that there was no strong correlation between the dependent variables (change in subject proportion) and the independent variables. It might be unlikely to find a clear explanation for the curricular changes. An additional conclusion obtained is that the dependent variables (curricular hours, proportions and changes) might not be sensitive enough to detect and explain changes occurred in curricular policies, trends of convergence or divergence. In another future research, a better way to learn about curricular policies and changes in ethnic conflict and post-conflict countries would be searching subjects' contents instead of the allocated hours and proportion at the timetable. However, this would be a different research, which would make a cross-national comparison impossible. Therefore, despite these limitations I will attempt to explain the correlations found with the statistical data gathered in order to find a pattern of behavior for curricular policies across the different countries.

As explained above, according to "the linear input-output factory model of educational production", curricular changes are initiated in order to improve a country's socio-economic and ethnic conflict situation. However, it is not clear and not easy to find curricular "best practices" that will yield the desired social results. Curriculum specialists (Tawil and Harley, 2003; Davies, 2004; Hansen, 2002; Bensalah, 2002) and international organizations such as UNESCO and The World Bank define three main groups of subjects which are recommended to be reevaluated in conflict countries: (1) humanities' subjects, (2) basic skills such as literacy and numeracy and (3) "reconstruction subjects". It would be expected to find certain correlation between curriculum specialists' recommendations for curricular reforms for ethnic conflict countries and the policy reforms taken place in fact. However, as this analysis shows, this has not occurred and it seems that countries build their curriculum based on internal political issues, other than specialists' recommendations.

## **1. Post Conflict Expected Changes in the Curricula – humanities subjects**

The "Humanities subjects" group include: "**social studies**", "**civics**", "**religion education**", "**history**", "**geography**", "**moral education**", and "**values**" or "**culture education**". Subjects

like civics and citizenship, religion, environmental education, moral education and social studies are subjects linked to the expansion of the mass education systems because they transmit universal principles and national ideas that compose world-institutionalized standard principles (Boli, Ramirez & Meyer, 1985). Tawil and Harley (2003) argue that these subjects have influence on the society's ethos and tolerance given that these subjects can shape values and encourage (or discourage) respect for human dignity and diversity. The subjects deal with collective memory, identity, sense of citizenship and respect for diversity and coexistence. The instruction of these subjects is controversial (mainly in conflict societies) because it can both increase and reduce the conflict magnitude. Ethnic conflicts have a correlation to the society's perception of citizenship, "the group" and "the other", freedom, diversity and coexistence. Since these values can be shaped in "humanities" subjects, they are considered key target on curricular change for ethnic conflict countries.

The instruction of **history** is one of the central subjects used to create a national ethos. Children learn about their country's past (who was there before), which can give legitimacy to a certain ethnic group to be there and denies the right of the rival group; or to stress the fact that many people were always there and there is no reason to give preference to one group instead of other. Children can learn about heroes, wars, big events, which enforces the 'obviousness' of their natural right to be at that land, or about the history and characters of other ethnic groups that existed at the same time in the country. Concluding, the subject can be used either to enforce the ethnic differences and disputes between the groups, or to blur these social constructions<sup>5</sup>. In countries of the former Soviet Union for example, the instruction of history was used in order to change the perception of the Caucasus' history and nowadays it is being reformulated to include all the ethnic groups' identities and history to the mainstream. According to the multi-variable regression analysis, the subject presents a significant negative correlation with "democracy level"<sup>6</sup> in grade 3, which suggests that the more free a country is it is more likely to teach history. It seems that internal political matters such as democracy level have more influence over changes in the subject "history" than economic (convergence) or ethnic conflicts (divergence). The fact that the proportion of this

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<sup>5</sup> Anderson (1983, cited in Davies 2004) explains in his book "Imagined Communities" that nations are imagined by its members, they are social constructions invented in the 19<sup>th</sup> century.

<sup>6</sup> In the variable "Democracy Level" 1 is the highest level of freedom for a country and 7 is the lowest degree of freedom.

subject is decreasing in the curriculum points to the fact that democratic countries are teaching less history.

Hansen (2002) explains that although there is no common unified concept of what is and what contains the subject '**civic education**', issues such as humans rights, liberty, tolerance, democracy, participation, rule of law, international interdependence and global responsibility seem to appear in the majority of this subject descriptions. The issues could also be integrated in other subjects such as 'social sciences', 'history' or 'mother tongue'. However, international organizations and curriculum scholars suggest that the important goal of this subject is to treat conflict and prejudice, and educate for conflict resolution. Alternatively, Davies (2004) explains how this subject can have an inverse role over societies because it builds and defines citizens: it creates freedom and civil rights to some groups, but restricts it to other. The regression results show that the instruction of "civics" is related to the Human Development Index of the country, which means that the more developed and equalitarian is the country, highest is the probability to learn "civics" (and more civics that developing countries). It enforces Hansens' theory that this subject contributes to people's well being and tolerance.

As per "**Social Studies**", the results show a correlation with "Year of Independence" in grade 5, and with "Human Development Index" in grade 7. Younger countries (with more colonial legacies) and less developed countries provide more importance to "social studies".

From the multi-variable analysis we can see that the subjects "**Religion and Moral Education**" were influenced by "year of Independence" and "Magnitude of Ethnic Conflict" in grade 1 and "democracy rate" in grade 3. The youngest the country and the more conflictive, less hours are devoted to religion and moral education in grade 1; the more democratic, less hours are devoted in grade 3. In other words, religion and moral education are subjects preferred by non-democratic old countries, but with no ethnic conflicts within it.

Regarding "**Environmental education**", it seems to be influenced by "year of independence", "Net enrollment rate" both in grades 1 and 5 and HDI in grade 1 only. The "oldest" the country with higher net enrolment rates and higher HDI indexes, the higher is probability to teach environmental

education. It seems that developed (mainly European and North American) countries give more importance to this subject than developing countries. Developed countries often show higher rates of enrolment, but educational features of the country are a main determinant for this subject. Countries that invest in education will invest also in "environmental education", which enforces the "input-output" approach where education is considered a tool to transmit values.

## **2. The Core Subjects: Language and Numeracy**

Language is the tool that enables human beings to understand and interpret the world. Different languages provide different tools to discover the world in different ways. Languages are also strong social unifying glue which puts in evidence nationalities and origins of people. Communication is the most basic requirement for a citizen to participate in the states' life. Ethnic minorities groups who cannot use their "Local/ Indigenous language" or who do not speak the "official language" cannot participate in the states' political, cultural and social life. They are not active players in the most basic environments, and can never reach their participatory roles and struggle for their rights. Groups of minorities' people that do not know and use the official language are automatically excluded from the socio-political life of the country. It is essential for a country that all its citizens know the "national/official" language in order to participate in social and political life. At the same time, it is also essential for a country to give place and recognize all the ethnic groups' languages in order to include them as citizens. This requires the inclusion of local languages to the official curriculum. Ethnic groups are usually minorities within a broader dominant society where indigenous and local languages are discriminated as is the indigenous identity. Language is a symbol of domination, and a recognized language gives the group sense of respect, dignity and public legitimacy (Hutchinson and Smith, 1996).

The language of instruction influences the experience of learning the other subjects. According to Freire (1985) languages define discourses and world concepts, and usually dominant groups set their own language as "Official" or "National" language, enforcing minorities to adopt its language and concepts. Freire suggests that 'oppressed groups' should use their own languages to describe their world. Inclusion of local languages to official curricula not only gives legitimacy to minorities, but also raises their self esteem and a sense of belonging which can ameliorate their feelings

towards the majority and retreat from conflicts. For children that are starting to be in touch with new concepts and experiences at school, the language of instruction is an important part of the learning experience. It is important to teach the minorities' languages to all the children in order to break stereotypes and prejudices. Guatemala and Mozambique are examples of curriculum changes concerning language instruction that were result of post-conflict dialogues and which helped the country to overcome conflict prejudices and tensions.

The subject "**Official language**" presented a positive correlation with "Gini" Index, which means that the highest income disparity in a country, more importance it will give to official languages. Developing countries such as African countries spend a high percentage of their curriculum teaching languages. Since many of them were colonies and adopted foreign languages (such as English and French) as official languages, these countries have to allocate hours to local languages and official languages more than other countries. "**Local Language**" is influenced by "year of independence" and "democracy rate". The "older" and democratic the country, more it gives legitimacy to minorities and allocates local languages to the official curriculum. It sounds very logical, since the oldest the country, higher the probability of being democratic and only a democratic country would allow minorities' languages to be taught officially in schools. Countries such as Spain, France, Italy and Canada have ethnic groups living democratically within the country, speaking different dialects and receiving legitimacy from the government. As per "**Foreign language**", it is influenced by "Gini Index" and "HDI", two disparity indexes that reflect development levels of countries. However, they have opposite influence over this subject: the more economically equal (lower Gini), more foreign language is taught, but the lower the human development index also more foreign language is taught. This paradoxical result leaves no room for logical and certain conclusions to be taken, which may be because different countries have similar policies regarding this subject and/or similar countries do not behave equally. In addition we saw that the standard deviation of the proportion of time this subject is taught has increased significantly since the 1980's, showing a pattern of divergence of the subject with no common guidelines.

The most surprising findings from the regressions were in "**Mathematics**" and "**Sciences**" that are related with "Ethnic Conflicts" variable. The more peaceful (not in conflict) the country, more



mathematics it allocates in the curriculum. Yet, the more conflictive the country, more importance is given to "sciences". According to some scholars, mathematics should be taught in post-conflict countries as part of the "reconstruction curricula". It seems that the more a country is or was under an ethnic conflict, it allocates less instructional hours to mathematics. The conclusion is that countries are not following specialists' recommendations on "reconstruction curricula" although the change in the policy is linked somehow to the ethnic conflict the country has experienced. The subject "sciences" presented also surprising findings with the positive correlation with "ethnic conflicts" variable. This is the only subject not recommended by specialists to be included or changed at conflict or post-conflict country curriculum, however according to the findings, the more a country is or was under ethnic conflicts, more it allocates hours for sciences. Again it seems that specialists' recommendations are not followed by countries in distress, and that educational policies not always are linked to economical or social forces. Curricular changes can be consequence of internal political history that cannot be explained on a cross-country comparison study.

The subject "**Computers and Technology**" presented a correlation with "year of independence" and "HDI". The youngest the country and the most developed, more it added hours to this subject in the curriculum, which appears to be logical: the more developed a country (higher score of Human Development Index) it is more likely to have the resources to include the subject "Computers and Technology" as part of the national curriculum. Developed countries also have a post-industrialized economy, which demands labor force with academic higher education mainly in sciences, computers and technology. The instruction of these subjects at the primary education has a clear objective to prepare pupils for the higher education in these fields, and to provide skills to succeed in the technology world. In western societies, knowing how to operate a computer is a basic skill that has to be learned in the primary education. It seems that meanwhile, only developed countries can afford to provide computers to all the schools for the pupils to learn "Computers and Technology". Although other countries might see this subject as a need too, they cannot afford the cost of the subject. It is not clear however how the variable "year of independence" can be influencing policy making of this subject.

### 3. Skills, Technical and "Old" Subjects: "Reconstruction and Peace" Subjects

An additional recommendation for states under ethnic conflicts is the instruction of "Reconstruction Programs" (Davies 2004) or "Emergency Education Plans" (Bensalah, 2002) in order to provide the new generation with tools to cope with crisis situation and overcome the existing socio-economic difficulties. Conflict and post-conflict societies carry with them traumas that can affect the educational system. As stated above, in these societies there are material and psychological losses. UNESCO's recommendation for these states is an 'emergency education plan' which provides the basic skills and knowledge to children: basic literacy, numeracy and life skills education, vocational training, health education, agriculture. It would be plausible to find increases in the time allocation of such subjects inasmuch they are essential for children formation according to UNESCO. Other recommendations to conflict and post-conflict states curricular guidelines is to include recreational activities and survival skills such as health and hygiene, HIV/AIDS prevention, landmine awareness, and environmental, peace and reconciliation programs"

International organizations are developing and implementing curricula for peace programs and education for emergency and crisis situations in many countries such as Burundi, the Republic of Congo, El Salvador, Guatemala, Honduras, Lebanon, Liberia, Mozambique, Nicaragua, Sri Lanka, Sudan and former Yugoslavia. They include subjects such as "Health education", "AIDS safety education", "life skills", "vocational training", "conflict management skills" accompanied by psychological support. "Peace education" was taught directly through special 'peace subjects' but it is more effective to include peace education issues and contents inside other general subjects such as literature and history (Davies, 2004; INEE, 2002). Scholars (Salomon and Nevo, 2002; Napier, 2005; Harris, 2002; Kaufman, 2006) are conscious that more research and theory is needed and there is no clear definition of what is "peace education", what are its contents and subjects.

The findings of the multiple regression show that the subject "**traditional vocational education**" failed to attain correlation with "Ethnic conflict" variable, which again could suggest that the recommendations proposed by specialists and international organizations are not followed. In addition, few countries include this subject to the timetable and the instruction of this subject has been declining since the 80's (Benavot, 2006). Instead, this subject is positively correlated with

"gini index" which means that the more unequal the country, higher the chances that children learn traditional vocational education. The instruction of this subject is expected to appear more in developing countries due to the type of predominant economy (industrial and agrarian). Countries with a post-industrial economy need less "traditional vocational education" hours in the curriculum because the most needed workforce is academic, which implies in a comprehensive and not technical education. Industrial and agricultural countries though, present higher needs of technical instruction. It seems that the inclusion of this subject to the timetable is related to socio-economic variables.

An additional subject that is part of the "emergency reconstruction programs" proposed to post-conflict countries is "**agriculture**". According to the findings, however, the subject has no correlation with the variable "magnitude of ethnic conflicts", but rather a negative correlation with "Net Enrolment rate", and a positive correlation with "Year of Independence" and "HDI". Agriculture is taught mainly in developing countries with agricultural economy, mainly in Sub-Saharan and Latin American countries. The mean proportion of hours at the timetable (2000's) for agriculture is 0.2% to 0.67% of the yearly instruction hours in developing countries and 0% in developed countries. The multiple regressions show that colonial legacies have an influence over this subject (younger countries allocate more time to "agriculture") and the development index as well, which enforces the premise that socio-economic (internal) forces influence curriculum making. In addition, the educational variable "net enrollment rate" has a negative influence over the subject suggesting that

The subject is commonly taught in countries where children work and need to learn such skills. In this case it is possible to confirm that curricula are built with clear and practical objectives to serve the nation's economic needs.

The subject "**Hygiene/Health Education**" presented correlation with "gini Index", "Magnitude of Ethnic Conflict" and "HDI": the more developed and equal the country, more importance it gives to this subject at the curriculum. In parallel, conflict countries also allocate more percentage of this subject to their curricula. One conclusion taken from this finding is that the subject is influenced by socio-economic forces but also conflict forces. Another conclusion is that different countries include

this subject to their curricula (both developed and conflict countries), which enforces the idea that there is a convergence force that influences different countries to apply similar educational policies.

The subject “**environmental education**” could be added to the “reconstruction recommended subjects” because it provides practical tools to cope with the new reality as the other subjects presented above. The regressions show that there is a negative correlation between the subject and “Year of Independence” and a positive correlation with “Net Enrolment Rate” and “HDI”. Once again there is no evidence regarding ethnic conflicts, but it seems that the degree of development influences the instruction of this subject: old, developed countries with high enrollment levels tend to give more importance to environmental education than poor developing countries. This can be explained due to the increasing consciousness of the importance of ecology, nature preservation and recycling in developed countries, which started introducing the subject to the curricula at all levels of the primary education. In such countries, a good citizen is one that knows how to preserve the environment, while in developing countries this consciousness is still being developed. Finally, The subject “**skills and competencies**” has a positive correlation with “Gini index” where the more equal the country, greater the chance to include this subject in the curriculum.

## **Synthesis**

The multi-variable regression analysis shows that the majority of “human” subjects were influenced by socio-economic variables. Policies recommended by Tawil and Harley, Bush and Saltareli, and the World Bank suggest that subjects as “history”, “geography”, “social studies”, “civics”, “religion” and “moral education” would be more subject to changes due to ethnic conflict influences. However, these subjects didn’t show relation to the variable “magnitude of ethnic conflict”. One possible explanation for this surprising finding is that these subjects can be used for contrary objectives. Both democratic/autocratic, rich/poor, peace/conflict states allocate the same proportion of hours to these subjects because both believe the subject are important to children’s socialization, but they use the subjects with opposite contents: one group emphasizes equality, tolerance, social cohesion, while the other devotes the subjects for ethnic nationalism, prejudice and inequality.

Based on the analysis, we encountered a pattern of mixed results among independent variables, in which it is not clear what kind of variables most influence curriculum change. Socio-economical

variables such as "Year of Independence" and "Magnitude of Ethnic Conflict" are dominant in almost every field of subjects. These variables tend to lead to a **divergence** process once local features influence educational policies more than international global processes. On the other hand, socio-economic variables are also present in every field of subjects, which implies in a **convergence** process. Democracy seems to influence only local languages, religion and moral education and history, which are non-core subjects that usually receive a small percentage of the instructional time. It seems that this is not an important variable concerning curricular making. Finally, "Net Enrolment Rate" influenced only environmental education and Agriculture education. These two last variables reflect internal features of countries and stress the fact that these internal features are not crucial for decision making. In other words, there is not a clear pattern of behavior of variables influencing changes in subjects and curriculum making.

## **Conclusion and Discussion**

The organization of formal schooling and official curriculum are means to serve ideological ends such as reinforcing dominant societal values and cultural norms, supporting the growth of national economies, legitimating political principles and policies, fostering scientific and technological knowledge, and developing the full potential of young learners and their integration to adult life (Benavot and Braslavsky, 2006). Curricular timetables represent countries' knowledge and skills priorities to be bestowed to new citizens. It is a cultural construction that can perpetuate or modify a country's identity. Curricular policies are tools used to reach desired outcomes regarding future knowledge, way of thinking, values, behavior and morals.

In this paper I attempted to check if educational systems are converging or diverging through an analysis of curricular timetable guidelines and contents. The work is based on Marxist and Weberian paradigms in which economy influences culture and vice versa. I assume that education is a crucial part of culture and it is also a crucial tool of culture transmission and socialization. I use curriculum timetable as the dependent variable to represent educational policy guidelines and priorities. I also assume that my independent variables represent economic forces (convergence) and that the variable "magnitude of ethnic conflict" represents minorities' struggle to reinforce local forces, and thus divergence. Through regression analysis I attempted to check what kind of

variables are correlated with curricular change: whether economic convergence variables, or social and ethnic (divergence) variables.

The Convergence approach is based on Modernization and Globalization theories in which economic development transforms states into a similar network of nations. This process occurs when policy-makers adopt market-opening and neo-liberal policies; when international aid organizations influence developing countries to build their educational system and mainly curricular timetable; and when international cross-countries evaluation become central guidelines to curriculum making. The divergence approach is based on world-system and ethnicity theories that emphasize nations as imagined communities, localisms, cultural differences and ethnic groups as political actors. I showed that despite strong globalization processes that are occurring lately, there are still many local differences that are consolidating and imposing their struggles in form of ethnic conflicts and terrorism. It is important to be aware of the role of education and curriculum in both approaches in order to be able to avoid known socio-economic problems such as economic disparities, poverty, racism, conflicts and terrorism.

The first conclusion I got is that part of the subjects is converging and a small part is diverging. There is also a big amount of subjects that are not passing through significant changes, which fits the explanation that curricula do not change much over time. In general, "culture"-related and "old" subjects are converging but losing its importance in the curricular timetable. "New-globalization" subjects are diverging but gaining relative importance. Therefore I conclude that the strongest pattern occurring is the emergence of new "globalization" subjects but adopted in different manners and proportions by the different countries. Although these subjects are "diverging", it seems to be a convergence process. In addition, the traditional subjects are "converging", thus I would say that "the education world represented in curriculum timetables is converging". It could be said also that curricula are becoming more "modern", secular, individualistic and rational than ethnocentric, local and diversified.

Regarding the types of forces influencing curricular policy making, there was not a clear answer. In one hand humanity subjects are mainly influenced by socio-economic (divergence) variables. It looks to be logical that humanities subjects shape and are shaped by local social variables. On the

other hand, exact and modern subjects are also influenced by socio-economic variable, although not in the same intensity as humanity subjects. Economic (convergence) variables influenced all types of subjects thus there is not a clear pattern of behavior to be explained by these variables. Ethnic conflicts (divergence) also influence different types of subject: religion (humanities), hygiene (“old subject”), Mathematics and Sciences (“modern” subjects). Therefore I cannot claim that ethnic conflicts are influencing curricula in a specific way, but rather in a mixed pattern. It is also hard to tell if education has improved ethnic conflicts. “There is little evidence so far that the formal systems that we have had in place for over a century in many parts of the world have directly made the world more ‘rational’ or ordered place.” (Davies, 2004:4). Education impacts and consequences are so complex and show such a high level of unpredictability that other parameters should be checked regarding influence by conflicts such as textbooks contents, educational structure (de division into the different levels), subjects descriptions, teacher training, and the school environment. Maybe curricular guidelines are not a sensitive parameter to the ethnic conflict influences.

What this paper adds to previous work is the empirical test of the convergence and divergence approaches, which were theoretical and not based on empirical data until now. It also perform an empirical (regression) analysis to check what variables influence curricular policy making. Its importance is the application of theoretical frameworks and beliefs on an empirical study that checks the verisimilitude of such theories. The model has proven that the world is converging more than diverging. However, the limitation of my work is the lack of clear results regarding the types of variables influencing curriculum making, which suggests a lack of efficacy of the model. It seems that curricular timetables are not the best data to analyze in order to answer my questions. Possibly a qualitative research would find clearer answers and behavioral patterns, but it would be a tremendous hard work to make a cross-country comparison with this kind of data. It is also a totally different research that should be considered for further researchers. It is not an easy task to perform global comparisons qualitatively, but it might be more efficient than a quantitative analysis, which may not be sensible enough to explain educational policy changes.

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**Annex 1:** Template of Timetable for the Primary Level Official Curriculum

Name of Country:

	Subject Category	Actual Subject Name	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
1	National Language									
2	Official Language									
3	Local Language									
4	Foreign Language									
5	Literature									
6	Mathematics									
7	Arithmetic									
8	Geometry									
9	Science/ Natural									
10	Chemistry									
11	Biology									
12	Physics									
13	Environmental Science/studies									
14	Agriculture/ Horticulture									
15	Technology									
16	Computer									
17	History									
18	Geography									
19	Social Studies/ Social Sciences									
20	Civics/ Citizenship Ed									
21	Religion									
22	Moral Education/ Ethics									
23	Arts/Handicrafts									
24	Dance or Music									
25	Physical Ed/Sport									
26	Hygiene/Health Ed									
27	Domestic Science									
28	Manual Training									
29	Vocational Ed/ Skills									
30	Business									
31										
32	Electives?									

What instructional time unit has been coded in the table above? 1) weekly periods 2) weekly instructional "hours"  
3) daily minutes 4) annual hours 5) other unit: \_\_\_\_\_

**Calculation of Intended Hours of Instruction:**

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8

Total Intended Hours of Instruction per Year								
Number of Weeks or Days in School Year								
If Weeks, Number of Days in the Week								
Number of Instructional Hours or Periods in a School Week or Day								
Length of an Instructional Hour of Period (in minutes)								

## Annex 2: Example of Bolivia's Timetable at first period (1980's)

Coding Scheme for Primary Level Official Curriculum – 1980's

The timetable is an average between the urban and rural schools

	Subject Category	Actual Subject Name	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
1	National Language						
2	Official Language	Language	10	10	6	6	6
3	Local Language						
4	Foreign Language						
5	Literature						
6	Mathematics		6	6	6	6	6
7	Arithmetic						
8	Geometry						
9	Science/ Natural	Ciencias naturales	2	2	4	4	4
10	Chemistry						
11	Biology						
12	Physics						
13	Environmental Science/studies						
14	Agriculture/ Horticulture	Educacion agropecuaria	1	1	1	1	1
15	Technology						
16	Computer						
17	History						
18	Geography						
19	Social Studies	Estudios sociales	2	2	4	4	4
20	Civics/ Citizenship Ed						
21	Religion*	Religion y moral	0.25	0.25	0.25	0.25	0.25
22	Moral*	Religion y moral	0.25	0.25	0.25	0.25	0.25
23	Arts/Handicrafts						
24	Dance or Music	Educacion musical	1	1	1	1	1
25	Physical Ed		1	1	1	1	1
26	Hygiene/Health Ed	Educacion para la salud	1	1	1	1	1
27	Domestic Science	Educacion para el hogar	1	1	1	1	1
28	Manual Training	Actividades manuales	-	-	3	3	3
29	Vocational Ed/ Skills						
30	Business						
31		Recreaciones	1	1	1	1	1
32	Electives?						

What instructional time unit has been coded in the table above? **1) weekly periods** 2) weekly instructional "hours"  
3) daily minutes 4) annual hours 5) other unit: \_\_\_\_\_

\* Appears in the timetable as a single subject called "Religion y moral".

## Coding Scheme for Lower Secondary Level Official Curriculum 1980's

The timetable is an average between the urban and rural schools

	Subject Category	Actual Subject Name	Grade 6	Grade 7	Grade 8
1	National Language				
2	Official Language	lenguage	6	4	4
3	Local Language				
4	Foreign Language	Ingles	-	1	1
		Frances	-	1	1
5	Literature				
6	Mathematics		6	5	5
7	Arithmetic				
8	Geometry				
9	Science/ Natural	Ciencias naturales	4	3	3
10	Chemistry				
11	Biology				
12	Physics				
13	Environmental Science/studies				
14	Agriculture/ Horticulture	agropecuaria	1	2	2
15	Technology				
16	Computer				
17	History				
18	Geography				
19	Social Studies	Estudios sociales	3.5	3	3
20	Civics/ Citizenship Ed				
21	Religion		1	1	1
22	Moral Education/ Ethics				
23	Arts/Handicrafts	Artes plasticas	-	1	1
24	Dance or Music	Educacion musical	1	1	1
25	Physical Ed		1	1	1
26	Hygiene/Health Ed	Educacion para la salud	1	1	1
27	Domestic Science	Educacion para el hogar	1	1	1
28	Manual Training	Actividades manuales	2	2	2
29	Vocational Ed/	Tecnica vocacional	2	2	2
30	Business				
31		Recreaciones	1	1	1
32	Electives?				

What instructional time unit has been coded in the table above? **1) weekly periods** 2) weekly instructional "hours"  
3) daily minutes 4) annual hours 5) other unit: \_\_\_\_\_

### Calculation of Intended Hours of Instruction: Primary Education and Lower Secondary Education

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Number of Weeks or Days in School Year	36	36	36	36	36	36	36	36
If Weeks, Number of Days in the Week	5	5	5	5	5	5	5	5
Number of Instructional Periods in a School Week	26.5	26.5	29.5	29.5	29.5	30.5	30	30

Length of an Instructional Hour of Period (in minutes)								
--	--	--	--	--	--	--	--	--

**Annex 3: List of Countries in Ethnic Conflicts**

Table 6: List of Countries that entered into Ethnic Conflicts per Three Waves

<b>First Wave: 60's-70's</b>	<b>Second Wave: 80's</b>	<b>Third Wave: 90's on</b>
Burma – Myanmar	Angola	Afghanistan
Chad	Azerbaijan	Bangladesh
China	Burundi	Bosnia
Congo	Guatemala	Croatia
Ethiopia	Iran	Mali
India	Israel	Papua New Guinea
Indonesia	Lebanon	Russia
Iraq	Morocco	Yugoslavia
Kenya	Nicaragua	
Laos	Senegal	
Nigeria	Somalia	
Pakistan	South Africa	
Philippines	Sri Lanka	
Rwanda	Turkey	
Sudan	Uganda	
	United Kingdom	
	Zimbabwe	

Source: Marshall, Gurr and Harff, 2005.

**Annex 4: Methodological Appendix for Index of “Magnitude of Ethnic Conflict”  
REVOLUTIONARY AND ETHNIC WARS**

Definitions and coding instructions for the case selection and updates of revolutionary and ethnic wars for the State Failure Problem Set are summarized in the following sections. Cases and codings are based on information compiled from multiple sources; discrepancies in the historical records are scrutinized and reconciled by analysts to construct unitary estimates of factors that identify and characterize each distinct event. "Wars" are unique political events that are characterized by the concerted (or major) tactical and strategic use of organized violence in an attempt by political and/or military leaders to gain a favorable outcome in an ongoing, group conflict interaction process. "Revolutionary and ethnic wars" are both primarily internal, domestic, civil, intrastate, or "societal" wars, although they are often "internationalized" to some extent as one or more of the contending groups may receive substantial indirect, or direct, support from foreign governments or other groups.

**Ethnic wars** are episodes of violent conflict between governments and national, ethnic, religious, or other communal minorities (ethnic challengers) in which the challengers seek major changes in their status. Most ethnic wars since 1955 have been guerrilla or civil wars in which the challengers have sought independence or regional autonomy. A few, like the events in South Africa's black townships in 1976-77, involve large-scale demonstrations and riots aimed at sweeping political reform that were violently suppressed by police and military. Rioting and warfare between rival communal groups is not coded as ethnic warfare unless it involves conflict over political power or government policy.

As with revolutionary wars, there are the two minimum thresholds for including an ethnic war event in the state failure problem set: a mobilization threshold, wherein each party must mobilize 1000 or more people (armed agents, demonstrators, troops), and a conflict intensity threshold, whereby there must be at least 1000 direct conflict-related deaths over the full course of the armed conflict and at least one year when the annual conflict-related death toll exceeds 100 fatalities. The fatalities may result from armed conflict, terrorism, rioting, or government repression. The "full course" of the armed conflict is defined as a continual episode of armed conflict between agents of the state and agents of the opposition group during which there is no period greater than three years when annual conflict-related fatalities are fewer than 100 in each year, see section II.2 below ("Dating Beginning and Ending of Conflict").

Note that, as with revolutionary wars, if a government perpetrates political mass murder against unarmed members of a rebellious communal group, then two analytically-distinct events may be coded: an ethnic war and a genocide or politicide (the mass murder of members of a distinct ethnic group by agents of the state are usually considered genocide).

### **Annual Magnitude Scales for Revolutionary and Ethnic Wars**

Precise information on fatalities on an annual basis (or even totals) is seldom available. And some episodes have effects that are disproportionate to their fatalities. Therefore three alternative scales for recording annual magnitudes are coded; these variables are described below. The annual magnitude score for each episode is the average of the three magnitude scores. Each open armed conflict episode is coded on each of three magnitude scales separately for every calendar year during the "full course" of the ethnic or political war episode.

As a general rule, scales are coded "9" (for no data) if no information is available. But if contextual information provides the basis for an informed guess, for example that there were very few fatalities in a year, or that fighting was confined to a limited area of the country, the informed guess is translated into a coding judgement.

**Magnitude scale 1 (MAGFIGHT):** *Number of rebel combatants or activists.* Code this scale based on source estimates of the number of "armed supporters," "guerrillas," etc. of rebel and revolutionary movements.

- 0 = less than 100 combatants or activists
- 1 = 100 to 1000 combatants or activists
- 2 = 1000 to 5,000 combatants or activists

- 3 = 5,000 to 15,000 combatants or activists
- 4 = more than 15,000 combatants or activists
- 9 = no basis for judging

**Magnitude scale 2 (MAGFATAL):** *Annual number of fatalities related to fighting.* Code based on source estimates of annual fatalities directly attributed to fighting, armed attacks, and revolutionary protest including rebel fighters and leaders, demonstrators, regime forces and officials, civilians massacred in war zones or caught in cross-fire, and victims of terrorist attacks. Exclude, insofar as possible, victims of government campaigns of genocide and politicide, and victims of disease and starvation that result indirectly from open conflict.

- 0 = less than 100 fatalities
- 1 = 100 to 1000 fatalities
- 2 = 1000 to 5000 fatalities
- 3 = 5,000 to 10,000 fatalities
- 4 = more than 10,000 fatalities
- 9 = no basis for judging

**Magnitude scale 3 (MAGAREA):** *Portion of country affected by fighting.* Code based on source materials about how much of the country is directly or indirectly affected by fighting or revolutionary protest in a given year. A province, region, or city is "directly affected" if fighting/terrorist attacks/revolutionary protest occur there at any time during the year. It is "indirectly affected" if the area has significant spillover effects from nearby fighting, for example refugees flows, curtailment of public services, martial law imposed. If open conflict expands or contracts during the course of the year, code according to its greatest extent.

- 0 = less than one-tenth of the country and no significant cities are directly or indirectly affected
- 1 = one-tenth of the country (one province or state) and/or one or several provincial cities are directly or indirectly affected
- 2 = more than one-tenth and up to one quarter of the country (several provinces or states) and/or the capital city are directly or indirectly affected
- 3 = from one-quarter to one-half the country and/or most major urban areas are directly or indirectly affected
- 4 = more than one-half the country is directly or indirectly affected
- 9 = no basis for judging

**Summary Annual Magnitude (AVEMAG):** *Average of the scores on the three alternative scales.* Indicator based on the average of the three magnitude scores described above. All decimal averages (i.e., non-integers) are assigned decimal scores of ".5" (e.g., both 1.33 and 1.67 averages are assigned the score "1.5"). In cases where there is a missing magnitude score, the average is computed using the two scores listed. There are no cases where there is more than one missing magnitude score.

### Listed Alphabetically by Type with Years Inclusive

Note: An "X" indicates that the episode was ongoing as of early 2005; **ongoing cases are highlighted.**

An asterisk (\*) denotes cases that are listed as both Ethnic and Revolutionary Wars.

### Ethnic Wars (76 cases; 15 ongoing)

<b>Afghanistan</b>	<b>1992-X*</b>	<b>Israel</b>	<b>1987-X</b>
Algeria	1962-62*	<b>Ivory Coast</b>	<b>2002-X*</b>
Angola	1975-02*	Kenya	1964-66
Azerbaijan	1988-97	Kenya	1991-93
Bangladesh	1976-91	Laos	1961-79
Bosnia	1992-95	Lebanon	1975-91
Burundi	1972-72	Mali	1990-95
<b>Burundi</b>	<b>1988-X</b>	Moldovia	1992-92
Chad	1965-94	Morocco	1975-89
China	1956-59	<b>Myanmar</b>	<b>1961-X</b>
China	1988-98	Nicaragua	1981-84
Dem. Rep. Congo	1960-65	Nigeria	1966-70
Dem. Rep. Congo	1977-78	Pakistan	1971-71
<b>Dem. Rep. Congo</b>	<b>1992-X</b>	Pakistan	1973-77
Croatia	1991-95	Pakistan	1983-98
Cyprus	1963-64	Papua New Guinea	1989-97
Cyprus	1974-74	<b>Philippines</b>	<b>1972-X</b>
Ethiopia	1961-91	Russia	1994-96
Ethiopia	1963-64	<b>Russia</b>	<b>1999-X</b>
Ethiopia	1977-78	Rwanda	1963-66
Ethiopia	1999-00	Rwanda	1990-98
Georgia	1991-93	Rwanda	2001-01
Guatemala	1975-94	Senegal	1992-99
India	1956-58	<b>Somalia</b>	<b>1988-X</b>
India	1967-71	South Africa	1987-96
India	1983-93	Sri Lanka	1983-02
<b>India</b>	<b>1990-X</b>	Sudan	1956-72
Indonesia	1967-71	Sudan	1983-02
Indonesia	1975-91	<b>Sudan</b>	<b>2003-X</b>
Indonesia	1981-84	<b>Thailand</b>	<b>2004-X</b>
Indonesia	1997-99	Turkey	1984-00
<b>Indonesia</b>	<b>1998-X</b>	Uganda	1966-66
Iran	1979-85	<b>Uganda</b>	<b>1980-X</b>
Iraq	1961-70	United Kingdom	1971-82
Iraq	1974-75	United States	1965-68
Iraq	1980-88	Yugoslavia	1991-92
Iraq	1991-98	Yugoslavia	1998-99
<b>Iraq</b>	<b>2003-x</b>	Zimbabwe	1981-87



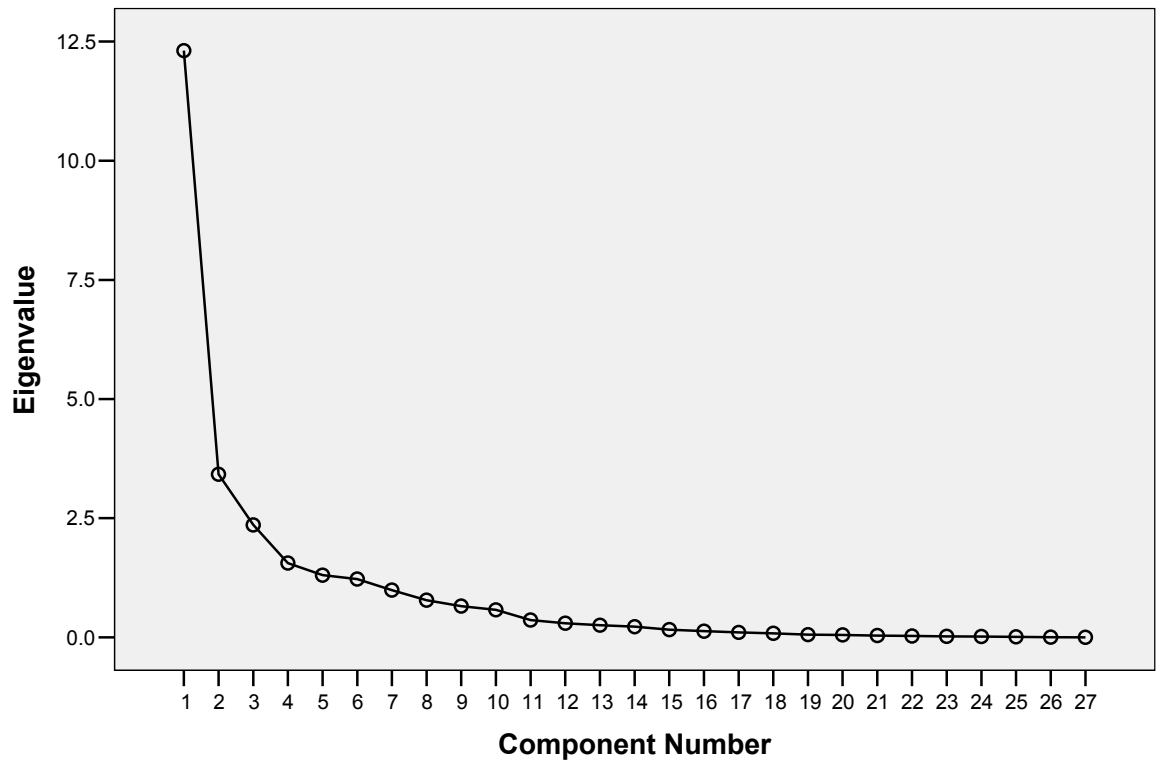
## Annex 5: Factor Analysis for Independent Variables

### Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.309	45.588	45.588	12.309	45.588	45.588
2	3.420	12.667	58.255	3.420	12.667	58.255
3	2.358	8.732	66.987	2.358	8.732	66.987
4	1.557	5.766	72.753	1.557	5.766	72.753
5	1.304	4.828	77.581	1.304	4.828	77.581
6	1.222	4.527	82.108	1.222	4.527	82.108
7	.990	3.668	85.776			
8	.779	2.886	88.662			
9	.656	2.428	91.090			
10	.576	2.135	93.224			
11	.362	1.342	94.567			
12	.296	1.096	95.662			
13	.254	.941	96.604			
14	.222	.823	97.427			
15	.162	.598	98.025			
16	.130	.481	98.506			
17	.103	.382	98.887			
18	.083	.308	99.195			
19	.055	.205	99.400			
20	.048	.179	99.579			
21	.037	.137	99.716			
22	.028	.102	99.819			
23	.021	.077	99.895			
24	.016	.059	99.954			
25	.010	.038	99.992			
26	.002	.008	100.000			
27	1.22E-017	4.53E-017	100.000			

Extraction Method: Principal Component Analysis.

### Scree Plot



Component Matrix(a)

	Component					
	1	2	3	4	5	6
<b>groser00</b> Gross Enrolment Ratio (2000)	.670	.023	.366	.337	.039	.175
<b>neter00</b> Net Enrolment Ratio (2000)	.837	.168	.351	.189	-.056	.119
<b>s_l_expe</b> School Life Expectancy (primary and secondary education) 2000	.905	.054	.309	.066	.093	-.027
<b>sl_exp_g</b> School Life Expectancy by 3 groups (primary and secondary education) 2000	.807	.091	.203	-.194	.105	-.064
<b>indepyr2</b> year of independence	-.312	-.033	.190	-.315	-.324	.545
<b>democl85</b> Democracy Level 1985	-.742	-.112	.356	-.322	.377	-.125
<b>demc00_l</b>	.704	-.002	-.584	-.204	.228	.103
<b>democl00</b> Democracy Level 2000	-.704	.002	.584	.204	-.228	-.103
<b>demc_g00</b> Democracy Level by 4 groups 2000	.706	.018	-.545	-.154	.292	.059
<b>demc_g85</b> Democracy Level by 4 groups 1985	.759	.194	-.276	.260	-.404	.099
<b>gini_00</b> Gini Index (2000)	.432	-.430	.043	.333	.501	.126
<b>hdi1985</b> Human Development Index 1985	.948	.110	.115	.063	.073	-.029
<b>hdi2000</b> Human Development Index 2000	.940	.179	.146	.014	-.003	-.138
<b>gdp2000</b> GDP per capita (ppp us\$) 2000	.805	.302	.019	-.323	-.028	-.126
<b>hdil2000</b> Human Development Index (Levels) 2000	-.854	-.208	-.020	.117	-.057	.023
<b>groser85</b> Gross Enrolment Ratio (1985)	.664	-.092	.397	.365	.195	.118
<b>neter85</b> Net Enrolment Ratio (1985)	-.138	.286	-.058	.093	-.202	-.631
<b>ethhom80</b> % largest ethnic group in pop:1980	.308	.109	.446	-.386	-.075	.382
<b>povppp1</b> % pop below int'l pov line \$1PPP	-.416	-.228	-.375	.431	.179	.237
<b>rgdppc97</b> real gdp per cap (PPP\$) 1997 HDI99	.819	.256	.012	-.276	.017	-.157
<b>hdi97</b> human development index 1997	.947	.126	.144	.041	.023	-.110

<b>dem88 index of democracy 1988 hadenius 1992</b>	.658	.174	-.376	.304	-.445	.112
<b>avemagmean mean average magnitude of ethnic conflict (from 1975- 2002)</b>	-.512	.756	.058	.132	.187	.060
<b>avemag80mean mean average of magnitude of ethnic conflicts between 1975-1985</b>	-.412	.781	.026	.111	.165	.009
<b>avemag80 average magnitude of ethnic conflict at the 1980's</b>	-.491	.663	.092	.260	.157	-.022
<b>avemag90 average magnitude of ethnic conflict at the 1990's</b>	-.426	.753	-.135	.018	.122	.090
<b>avemag00 average magnitude of ethnic conflict at the 2000's</b>	-.212	.716	-.119	-.109	.047	.313

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Extraction Method: Principal Component Analysis.  
a. 6 components extracted.

## Methodology appendix

Sources of independent variables:

### **Democracy Level Variables** (ordinal):

Data on the Democracy Level 1985 and 2000 are from The Annual Freedom in the world country scores survey for these years. The survey has been assembled by the Freedom House researchers.

The democracy level variable was computed as follows:

An average has been done on the Political Rights level and the Civil Liberties level (both are a 1 to 7 scale, with 1 representing the highest degree of freedom). Then, this average score was recoded to quartiles, while the scale got turned over (with 1 representing the lowest degree of freedom).

### **Economic Inequality Variables** (interval and ordinal):

Data on Economic Inequality 2000 (Richest 10% or 20% to Poorest 10% or 20%, and the Gini Index) is from The Human Development Report 2004. The data's source is from different years (late 1990s and early 2000s).

These variables were recoded to quartiles (with 1 representing low ratios).

Note: Some of the surveys are based on Income while others are based on consumption.

### **GDP per capita (ppp us\$) Variable** (interval and ordinal):

Data on GDP per capita (ppp us\$) 2000 is from The Human Development Report 2002.

This variable was recoded to quartiles (with 1 representing low GDP per capita).

### **Human Development Index Variable** (interval and ordinal):

Data on the HDI (Human Development Index) 1985 and 2000 are from Human Development Report 2004.

This variable was recoded to quartiles (with 1 representing the lowest degree of HDI).

**School Life Expectancy Variable** (ordinal):

Data on SLE (School Life Expectancy) 2000 is from The Global Education Digest 2004.

This variable was recoded to thirds (with 1 representing the lowest amount of expect years).

**Net Enrolment Ratio Variable** (interval and ordinal):

Data on Net Enrolment Ratio 1985 and 2000 are from The World Education Report 1998, and from The Global Education Digest 2004.

This variable was recoded to quartiles (with 1 representing the lowest percent)