

The International Higher Education Market: Mexico's Case

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For years student scholarship programs to promote knowledge or international cooperation have functioned without question in Mexico. Economics of education literature has questioned the validity of similar programs, and the paradigm is shifting from scholarship support to loan schemes and from merit- to need-based grants. This article, based on the Mexican case, analyzes two large governmental scholarship programs to finance international higher education: CONACYT (Mexican National Science and Technology Agency) and Fulbright. Using data published by the two programs, I conclude that the U.S. and Mexican administering agencies have implemented a scholarship policy that benefits a population group that did not need public support in the first place. Evidence seems to indicate that the taxpayers' funds have been used inefficiently. This calls for a significant change in policy for the Mexican case. Some lessons may be drawn for other countries with similar programs and similar levels of economic development.

Keywords: *international scholarships; costs and benefits; Fulbright-U.S.; CONACYT-Mexico*

International higher education is a field of increasing study among experts in education policy and economics of education. Governments from around the world spend a lot of resources to support higher education. There seems to be, as well, a growing interest in international higher education as shown by the number of enrolled international students and the increasing marketing (de Wit, 2002) component of universities around the world trying to lure potential applicants.

There are many rationales behind this increasing internationalization of education (de Wit, 2002). One possible categorization is the one offered by Hans de

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Wit (2002) into four main clusters of rationales: political, economic, sociocultural, and academic. In this study, I will deal only with two rationales: the foreign policy (within the political cluster) and the economic growth and competitiveness (within the economic cluster).

I will look only at one or two of those rationales and try to document whether the U.S. and Mexican governments are really promoting international higher education or they have chosen a wrong instrument to an adequate end. Specifically, my focus is on the financing, with public funds, of international education programs through scholarships for Mexican college graduates.

I have documented that the Mexican government through its CONACYT's scholarship program and the U.S. and the Mexican governments through their Fulbright program have chosen irrational instruments to develop their own goals.

There are three different groups of literature when one looks at the financing of domestic and international higher education.

One is composed of economists, mainly, who study the matter from a social welfare and externalities point of view (public goods). Within this group, we find Becker (1974, 1997), Creedy (1994), Lächler (1998), Arcelus and Levine (1986), Blaug (1989), Hare (1980), Hope and Miller (1988), and Heller and Marin (2002), among others.

A second group is represented by education policy experts that analyze the subject from an institutional point of view. They also study policy programs as these target outcomes, such as coverage, institutional development, quality, and evaluation, among others. In this group, one finds Albrecht and Ziderman (1993), Johnstone (1993, 2001), Altbach and Johnstone (1993), Johnstone (1998), Johnstone and Shroff-Mehta (2000), and Woodhall (1987). This group is also composed of experts in comparative studies of policy and educational financing such as Eisemon and Salmi (1995), Salmi (1997, 2001), Castellanos (1997), Téllez Fuentes (1997), and de Wit (2002).

The third group is found in the area of international relations; it comprises experts and practitioners in the international and education and graduate education who study the matter from international relations, public relations, and international exchanges points of view. This group focuses on the flows and stocks of educational exchanges, the budgets that governments devote to the exchanges, and the bilateral or multilateral governmental agreements that promote such exchanges such as Adelman, Borja, and Bolton (2002), Fernández de Castro (2002), Goodman (1999), and Desruisseaux (2000).

In Mexico, the literature on the subject of international higher education finance, that is, financing programs (scholarships or credits) to study abroad at

the higher education level, is very limited. Even at an international level the literature in this precise subject is very limited, too.

Therefore, to place my study within a theoretical framework and to draw some lessons from studies before me, I will look into the literature of higher education financing, as studied by the first two groups, and apply their findings analogously to the finance of international higher education.

The Hypothesis

The policy of providing scholarships for studying abroad financed with taxpayers' money as part of educational and cultural cooperative programs among governments is wrong; more so, if such programs are viewed as instruments to reward merit,¹ or even worse to promote public relations or the governments' public image. Recent evidence for the U.S. market seems to show that merit programs have turned out to be regressive and perverse, increasing the inequalities between the population of higher and lower levels of income and wealth (Heller & Marin, 2002).

Graduate and undergraduate international higher education is not a public good. Economists and education policy experts have dealt with this issue before. There is debate about it because we are dealing with a very complex topic. Nevertheless, after a review of the literature and analysis of the limited but available data, I conclude that international higher education is not a public good. An innovative piece that summarizes the relevant literature may be found in Creedy (1994).

However, as long as politicians and policy makers of international higher education (IHE) financing programs continue to consider them public goods, by mistake or by perception, all the possible recipients of the generous taxpayers' help will free ride.

Governments spend a lot of scarce resources on academic exchanges and IHE. This means that there are better economic uses for such resources than those that they are currently targeting. Given the enormous challenge that governments of developing countries have to provide basic education and nutrition, for example, I agree with Gary Becker's (1997, p. 68) conclusion that these governments spend too much in activities and organizations that are not needed, such as financing the deficit of state-owned enterprises or excessively costly universities. The conclusion is suggested with more detail by Johnstone and Shroff-Mehta (2000) when they say,

Elementary and secondary education, public health and sanitation, environmental restoration and preservation, housing and other public infrastructure, and a social safety net for the elderly, the unemployed and the unemployable are almost certainly ahead of

higher education in most countries. Without some additional cost sharing, it is almost certain that enrollments will be restricted, and/or the higher education that is available to the masses and still “free” will be of increasingly lower quality.

Cost sharing of higher education is a concept turning into a paradigm more so if international higher education is involved (Johnstone & Shroff-Mehta, 2000). However, as pervasive as it may seem, this fact has not reached all levels and programs of higher education. Despite the sound economic rationale behind the cost-sharing argument, governments have been very slow in their response.

There is a wrong perception, mainly among international exchange program administrators, that governments should intervene in the higher education international market through scholarship subsidies. They often support their position with social arguments to compensate for income or wealth inequalities or with cultural ideas to increase human interaction in the same way governments have stimulated globalization through trade and investment without barriers. They will frequently argue, sometimes in defense of their area of study or program of work, that governments should intervene in this market to promote international cooperation or to face globalization. Bottom line, what they are saying is that there is a public good to be provided in international higher education and that because governments have stimulated trade openness, they must also promote higher education beyond borders.

From the government intervention or “participation” point of view, what is good for the exchange of goods and financial flows is not analogously good for the exchange of people in higher education.

I am not saying that exchange per se or that international education per se is not a valuable social good or aim. My argument is much simpler: Governments should not intervene in the international higher education market, at least not in the way they are doing so.

Policies to promote trade, investments, and financial flows are usually an externality of deeper public policies of deregulation and barriers dismantling. When governments deregulate or reduce protectionist barriers, they generate trade, financial development, investment, and growth. These, in turn, translate into externalities that benefit us all: higher growth through increased efficiency and productivity.

Governments do not spend scarce resources to promote trade and investment. They simply stop receiving income from tariffs, duties, and investment taxes, but this decrease in revenue will be more than compensated for by an increase in income obtained with the shift in economic growth.

Governments, when promoting exchanges and international education, use very costly scarce resources.

The Graduate “Super Bonus”

Grantees receive the largest benefit, if not all, of programs to promote international higher education exchanges. It is important to promote science and technology, and it is also important to promote higher level education. However, the present value of an individual with more rather than less education is, in general and on average, greater than that of a person with less education. This is very soundly documented by Johnstone and Shroff-Mehta (2000). Gary Becker (1997), as well, in this regard sustains that

After 11 to 15 years of work experience, the average college graduate earns almost 60% more than a high school graduate. Over their lifetimes, college graduates receive some \$600,000 more than high school graduates, equivalent to more than a 10% rate of return on the average cost of higher education. (p. 78)

In Mexico's case, higher salaries are earned by those with higher levels of education. According to the National Employment Survey 2000 of the Instituto Nacional de Estadística, Geografía e Informática (INEGI, 2001) (National Institute for Statistics, Geography and Information), the higher the educational level, the higher the salary. Figure 1 shows that incomes of 10 or more minimum wages are earned by a very small portion of the employed population (around 3%); 70% of this group are people with higher or degree education.

This evidence shows that higher education is a good private investment. This higher education bonus is very well documented too by Ulrich Lächler (1998). Furthermore, the dynamic growth of higher and degree education around the world is evidence of a very active market for higher education, perhaps a little more aggressive than that without governmental intervention. In any case, even without the governmental intervention, we would still have a strong market because the share of governmental financing of all international higher education is relatively very small.

There is still an additional body of evidence coming from CONACYT's² grantees: “The average monthly income of CONACYT's former grantees is \$17,450 pesos. Three times higher than income earned by peers with higher education only.” Around 25% of former grantees earn monthly salaries above \$20,000 pesos (SEP-CONACYT, 2000). CONACYT's report (SEP-CONACYT, 2000, p. 37) sustains that “after students [former grantees] finished their studies, 65% of them got into the job market within three months.” Furthermore, the employment rate in this group is very high; only 3% of the group was unemployed at the time the survey was conducted, and “the vast majority work under stable conditions, since 82% of the group are permanently employed” (SEP-CONACYT, 2000, pp. 36, 38).

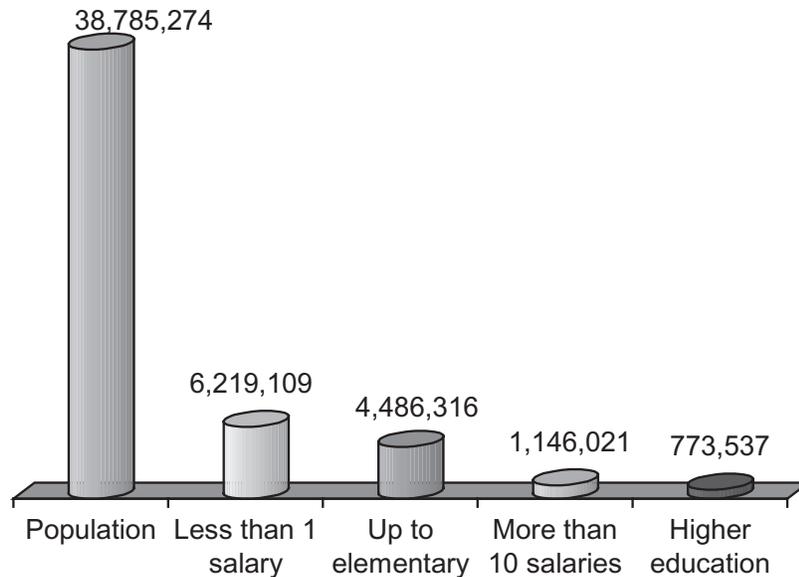


Figure 1. Wages and Levels of Education

Source: Based on National Institute for Statistics, Geography and Information (INEGI, 2001, p. 324).

Apparently, the data above show that most of the benefit of the society's investment in human capital is accrued by the students.

The fact that students receive most of the benefits (returns) on the investment does not mean that they will be willing to pay the cost of their education. We frequently hear the argument that students from low-income families would not go to college or that for cultural reasons some students, such as Mexican students, would reject, *prima facie*, loan programs for international (even domestic) higher education degrees. These arguments do not seem correct for two reasons: first, the high return on investment in higher education and, second, the existence of a very active market for international higher education.

The International Market for Higher and Graduate Education

There exists an active international education market, probably explained by two factors: government intervention through scholarships and grants to fuel demand or the market's own supply and demand forces. Which of the two factors is more relevant in explaining the active and large market? To answer this question, I will first show that there is indeed an active and growing market for IHE, then I will show some data about the source of financing of IHE consumers (see Table 1).

Table 1 Foreign Students by Host Country

Rank	Host Country	2000
1	United States	547,867
2	United Kingdom	211,800
3	France	183,214
4	Germany	171,743
5	Russian Federation	78,594
6	Japan	57,476
7	Australia	45,558
8	Canada	38,078
9	Belgium	37,557
10	Austria	28,875
	Other	389,104
	Total	1,789,867

Source: Own estimations based on data from UNESCO, Yearbook, 1999 and 1998, assuming an annual constant rate of growth of 1.014% from 1996 onward. The year 1995, the last year of country by country statistics in the yearbooks showed a yearly growth of 1.014% on average.

As we can see in the table above, there is a strong higher and graduate education market growing in the world. The United States and Great Britain are the leading countries as exporters of education, whereas China, Korea, and Japan are the leading importers (Table 2).

Table 2 shows importing countries of education such as China, India, and Japan. These are also countries with very large populations and therefore the relative number of students involved in the international market for education may be misled by the sheer large numbers. Therefore, Table 3 shows the relationship per 100,000 inhabitants. With this new index, the share of the international market of education changes dramatically in favor of Singapore, Hong Kong, Greece, Malaysia, and Korea. Mexico, in both cases, is ranked 26, which in a way is surprising inasmuch as the geographical and cultural proximity to the largest exporting market of education, the United States, would amount to fewer transaction costs for Mexico relative to other countries.

The same story is shown for countries importing from the largest producer of international higher education: the United States. In this case, Mexico is higher ranked as it is shown in Table 4.

Data in Tables 3 and 4 show that there is a very active and large market for IHE. Furthermore, this market has grown steadily albeit increasing costs of education. The higher education inflation has been significantly higher than the consumer price index of the main host countries. What explains the growth and vigor of this market? Is it due to some kind of governmental intervention? Or is it due to the market's own forces?

Table 2 Foreign Students by Home Countries

Rank	Home Country	2000
1	China	130,366
2	Korea	77,066
3	Japan	69,048
4	Greece	58,079
5	Germany	53,572
6	Malaysia	53,075
7	Turkey	45,006
8	Italy	43,676
9	India	43,445
10	France	42,053
26	Mexico	13,209

Source: Own estimations based on data from UNESCO, Yearbook, 1999 and 1998, assuming an annual constant rate of growth of 1.014% from 1996 onward. The year 1995, the last year of country by country statistics in the yearbooks showed a yearly growth of 1.014% on average.

Table 3 Foreign Students by Home Country per 100,000 Inhabitants

Rank	Home Country	Students per 100,000 Inhabitants
1	Singapore	647.58
2	Hong Kong	559.78
3	Greece	527.99
4	Malaysia	230.76
5	Korea	163.97
6	New Zealand	161.30
7	Morocco	138.79
8	Tunisia	123.92
9	Canada	102.71
10	Algeria	79.67
26	Mexico	13.62

Source: Own estimates based on Table 2 and population data. Population data were obtained from World Bank, *World Development Report 2000/2001*.

FINANCING SOURCES FOR INTERNATIONAL HIGHER EDUCATION STUDENTS

Figure 2 shows that the largest share of financing of demand for international higher education is from nongovernmental origin. If the shown data are real, the governmental share of the international education credit market in the United States amounts to less than 6% of the total credit market. This means that if the governments suddenly pull out from this market the damage will most probably be minimal. Notwithstanding, an argument could be made that governments,

Table 4 Foreign Students in the United States by Home Country per 100,000 Inhabitants

Rank	Home Country	Students per 100,000 Inhabitants
1	Korea	97.20
2	Canada	81.55
3	Japan	36.61
4	Thailand	18.04
5	Turkish	17.16
6	Taiwan	14.28
7	Mexico	11.00
8	Indonesia	5.62
9	India	5.48
10	China	4.80

Source: Own estimates based on data from Institute of International Education (IIE, 2002a). Population data were obtained from World Bank, *World Development Report 2000/2001*.

through this intervention, have propelled a demand a bit higher than an otherwise free market would come up with, pushing prices up. What experts and practitioners have said regarding the individuals financing the higher education from private sources seems to be true for the international market of undergraduate and graduate education as well.

In Mexico's case, it is very difficult to obtain disaggregated data about the sources of financing of international higher education for Mexicans. Based on my own estimates, there are around 13,000 full-time higher education students abroad (Table 2). Students are financed by public and private scholarships and loan programs. The governmental programs are by far the most important ones in terms of the number of scholarships and loans. The main public financing sources of international higher education in Mexico are CONACYT with 4,237 (SEP-CONACYT, 2000, p. 290) (FIDERH included), COMEXUS, with around 200 (Comisión México-Estados Unidos para el Intercambio Educativo y Cultural, 2000), the National University, UNAM, with around 11³, and FONCA (Dirección de Fomento a Proyectos y Co-Inversiones Culturales, 2002) with around 96. Other higher education institutions, governmental agencies, private foundations (such as Brockman, FUNED, Ford, McArthur, Hewlett, Harvard), rotary clubs, and private companies also contribute with grant programs sometimes open to the public and other times open only to their employees or students.

There is no public information about the grantees of all these institutions. The best I can do is to estimate the total number of grantees without an itemized list of them and their funding organizations. An additional problem in measuring or

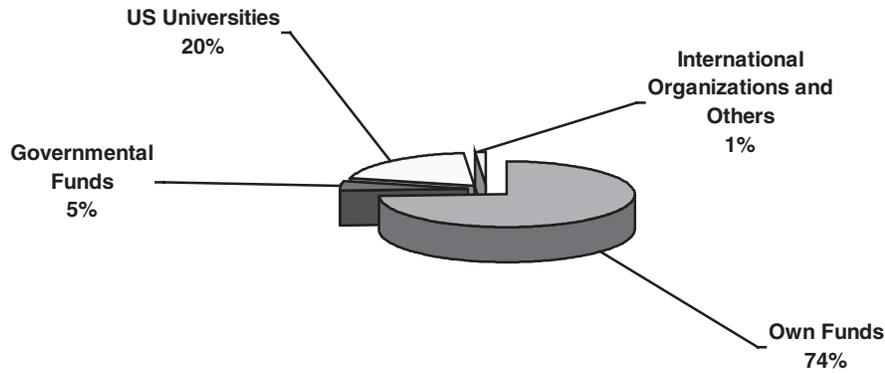


Figure 2. Sources of Financing International Students

Source: Institute of International Education (2002a).

estimating the right number of grantees is that many of them are funded partially or fully by several organizations. This situation inflates the total number of grantees if we add up the number of grantees each agency publishes independently. Nevertheless, CONACYT is by far the largest granting organization for Mexican international higher education students. Mexican students abroad financed by CONACYT total 4,237. This, plus 200, more or less, financed by COMEXUS, 96 by FONCA, and 11 by UNAM amount to a grant total of 4,544 students from identified sources. All of them are graduate students. Therefore, if the estimated number of Mexican students abroad, undergraduate and graduate, is 13,209, only 34% of these are financed by public origin funds.

To estimate the number of grantees funded with public funds, I will assume that some of the students from unidentified sources are financed by public universities. If this assumption is correct, I will assume next that the grants given by such universities will go to students pursuing graduate education rather than undergraduate. This is a plausible assumption because public universities have a lower risk in financing graduate students rather than undergraduate students. The probability of a university's already financing their undergraduate students, graduates, or faculty to pursue graduate work is higher than financing undergraduate students to pursue undergraduate studies. By financing the former, the university invests in human capital that will most probably return as professors to develop new fields of study for the same university, whereas an investment in undergraduate students is less safe in that same perspective.

I will make more or less the same assumption for the unidentified students: Some of them are financed by governmental agencies, at the federal and state

levels. For them, as in the case of the universities, it is less risky to finance more mature students (graduates) than less mature students (undergraduates).

Therefore, there is a high probability that most of the publicly financed Mexican students abroad are graduate students. And most Mexican undergraduate students abroad are financed by private sources or exchange programs among public or private universities. These exchange programs are usually financed by the students themselves (or their families).

How many of the 13,209 grantees are undergraduate students and how many are graduate students? Because there is no public information to answer the question, I will have to make more assumptions. Based on the IIE's (2002b, p. 33) data, there are 10,670 Mexican students in the United States. Among these, 57% are undergraduate students and 36% are graduate students. Assuming that the same share is maintained for the rest of the world (that is, 57% undergrads and 36% graduates), we could account then that there are around 4,755 Mexican grantees in the world doing some type of graduate work, of which 4,544 are funded by CONACYT, COMEXUS, FONCA, and UNAM. What this means is that around 211 grantees are funded by other sources. Most of these other sources, by the arguments made above, are public or governmental sources.

Notwithstanding, a significant number of grantees is financed by private sources (companies and families). One overall conclusion, if I am correct, is that most of the privately funded Mexican students abroad are undergraduate students.

Two caveats: Many of the CONACYT's grantees (at least those pursuing professional degrees, i.e., LLMS, MBAs, MPPs) are granted loans with a subsidy component only for the interest rate component; and many of the grantees cofinance their studies with other funds of their own, family, or company origin. In any case, there are many Mexican students that finance their graduate education abroad with nongovernmental funds. Around 60% of Mexican students abroad finance their education with private funds.

Compared with the rest of the world, where 94% of students abroad finance their education with private funds (Figure 2), one may ask: Why do Mexican students receive higher publicly financed support than their peers to pursue the same level and quality of education? What makes Mexican students different from other students to receive higher subsidies from their government to pursue the same education as their peers? Should we not expect that Mexican students have greater incentives to study in the United States than students from other countries such as Korea, China, Singapore, Malaysia, and India, given the physical and geographical proximity? Despite the fact that there are lower transaction costs for Mexican students, they receive greater governmental support than their colleagues from other countries.

Imperfect Markets, Irrational Governments, or Cultural Factors

There could be three possible answers to the questions above. The market is imperfect, the governments mingle into the market even though there is no reason for it, or there are cultural factors that impel Mexicans to reject risk over and above the average student from other importing countries of education around the world. The first and third answers do not seem plausible because a market open for all, with information for all, is not closed, therefore, for Mexicans only. Furthermore, given the geographical and cultural proximity between Mexico and the United States, one would expect the contrary: that the market is more open, more informed, and more perfect for Mexicans than for the rest of the world. The second, therefore, seems to be the right answer. The irrational government intervention feeds the field with free riders. However, because all resources are scarce, certainly public funds, the effects of the irrational intervention are perverse. This irrational behavior prevents the main beneficiaries from internalizing the costs of their education. The outcome at the end of the day is fewer resources toward basic and secondary education because government funds are directed to IHE. The second perverse outcome is that the irrational behavior creates the expectation among potential beneficiaries and their families that it is the government's obligation to support IHE with scholarships. This, in turn, feeds an attitude against credit markets for education in a culture that apparently is adverse to loans.

Based on data and evidence from previous paragraphs, markets seem to acknowledge that most of the benefit of IHE accrues to the students themselves.

If students appropriate most of the benefit of their IHE, why do governments subsidize them?

Governments spend a lot of scarce resources in higher education in general and in IHE in particular. As has been documented, the probability of earning higher income or salaries during a person's work life is much greater the higher his or her level of education. Therefore, there is room for these students to internalize the cost of their benefit. This is especially true for people holding professional degrees (MBAs or LLMs or MEng) but is even true for the nonprofessional areas such as basic sciences or philosophy, for example, because people holding higher or doctoral degrees increase their probability of securing a stable academic or consulting job albeit a lower expected pay.

Governments' Stubbornness: Knowledge Markets or International Relations

Nevertheless, governments maintain programs to support higher education. I will elaborate around two widely implemented programs or rationales: pro-

grams to promote science, technology, and knowledge (STK) and programs to promote educational exchanges as a country's foreign policy instrument.

In the first case, governments spend taxpayers' moneys on STK under a domestic rationale.

There is, however, debate about the argument that STK is a public good. Evidence from international examples suggests that STK is not necessarily a public good. Countries with higher levels of STK development show relatively large and significant private financing.

As shown in Tables 5 and 6, Mexico's position in both tables is last and very far from the average of the group. Mexico's GERD (gross domestic expenditure on research and development) is just around 0.4% of GDP (Table 5), 7 or 8 times below that of its trade partners or countries with the highest GERD's ratio.

Furthermore, for the Mexican case, the nongovernmental share of GERD is very small, particularly if we compare it to the nongovernmental level of participation from the other countries in Table 6. Mexican's private sector share is not even a fourth of the total amid a very small base.

This limited private sector participation in GERD's financing also helps to explain too the low level of invention in Mexico (see Table 7).

One possible explanation for the gap between developed and less developed economies is that at lower levels of development, STK activities are a public good, whereas for higher levels of development, the same activities are better provided by the market forces.

If this is true, the governments of countries such as Mexico should devote more public resources to science and technology to provide the public good. However, this does not mean that the government has to provide the public good in question by financing IHE through scholarships.

CONACYT is the Mexican agency responsible for providing the "public good" STK. CONACYT also administers the largest scholarship program for higher education for Mexican students beyond college who want to study in Mexico and abroad beyond college.

Is this instrument adequate for providing the public good STK? Is the government really providing a public good or, by mistake or misconception, only irrationally subsidizing population clusters whose need of a subsidy is hardly justifiable from an economic point of view?

Under a different perspective, governments also devote scarce budgetary resources for IHE grants under a public relations (PR) argument to improve international relations and understanding. Generally, this program is administered by foreign affairs ministries or the equivalent to the U.S. Department of State (DOS).

Table 5 Gross Domestic Expenditure on Research and Development (GERD) (in percentages)

Country	1993	1999
Sweden	3.27	3.80
Japan	2.88	3.04
United States	2.52	2.64
Korea	2.22	2.46
Germany	2.35	2.44
France	2.40	2.17
United Kingdom	2.21	1.87
Canada	1.63	1.66
Italy	1.13	1.04
Spain	0.91	0.89
Chile	0.65	0.63
Argentina	0.00	0.47
Mexico	0.22	0.43
Brazil	0.61	n.a.

Source: CONACYT (2001, p. 312).

Table 6 GERD's Financing (1999)

Country	Government	Companies	Other
Sweden	24.5	67.8	4.2
Japan	19.5	72.2	7.9
United States	29.2	66.8	4.0
Korea	24.9	70.0	5.1
Germany	33.0	64.3	0.3
France	37.3 ^b	53.5 ^b	1.8 ^b
United Kingdom	27.9	49.4	5.1
Canada	31.2	44.5	7.7
Italy	51.1	43.9	0
Spain	40.8	48.9	4.7
Chile	64.3	21.5	7.3
Argentina	40.5	26.0	30.9
Mexico	61.3	23.6	9.8
Brazil	57.2 ^a	40.0 ^a	2.8 ^a

Note: GERD = gross domestic expenditure on research and development.

Source: CONACYT (2001, pp. 312-313).

a. 1996.

b. 1998.

The history and rationale of these programs is different from those implemented for STK or domestic arguments. Frequently, PR programs are born by bilateral understandings between two governments.

Table 7 Patents by Residents (1998)

Country	Requested Patents	Requested by Residents	%
Japan	434,416	357,379	82.3
United States	254,478	133,033	52.3
Germany	149,493	47,221	3.6
United Kingdom	135,938	19,608	14.4
France	123,167	13,450	10.9
Korea	121,632	50,596	41.6
Spain	113,916	2,304	2.0
Sweden	113,377	4,032	3.6
Italy	109,341	7,102 ^a	7.1
Canada	64,707	3,866	6.0
Mexico	10,893	453	4.2
Argentina	6,320	861	13.6
Chile	2,869	429	15.0
Brazil	9,737 ^a	6,287 ^a	64.6

Source: CONACYT (2001, p. 317).

a. 1996.

In this realm, one of the largest PR programs in the world is the Fulbright Program (FP). Born in 1946 in the United States, it has now extended to many countries as an instrument of foreign policy. Internationally, the program is administered by DOS through two means: U.S. embassies and binational Fulbright commissions. Today, there are 51 binational commissions in 51 countries (U.S. Department of State, 2002). The FP administers a very large PR scholarship program. However, by the number of its new yearly scholarships, 4,500 (U.S. Department of State, 2002), the program is not as large as it seems. CONACYT alone administers 4,237 yearly international scholarships for Mexicans only.

The purpose of this article is not to delve into the nuts and bolts of the administration of the FP but to question its validity under the argument of the public subsidy involved. The purpose of this study is, therefore, to demonstrate that the use of taxpayers' monies for the FP, as it applies to the foreign student component only, has much better uses than the ones they seem to have today.

At the beginning of this article, I said that governments do not need to invest in human exchanges to imitate the good, services, and financial exchanges they have promoted throughout the world.

Trade and foreign investment openness promote international relations, indeed. However, the main benefit of open trade and investment policies is to propel domestic growth. The improved relationships derived from greater interactions and interdependencies is a positive externality of trade and investment openness. But governments seek and sign trade and investment agreements

because there is a win-win pay-off of a coordinated action. This is a coordinated action to promote markets, to promote domestic growth. This coordinated action has nothing to do with subsidies or fiscal sacrifices against other activities. This coordinated action targets institutional reforms, deregulation, rules of the game, and improved access to information and markets, in sum, an improved environment for the market forces to walk their way.

It is easier to show the wrongness of the policy to promote the international higher education markets under a foreign policy PR rationale than to promote the intervention to develop STK or the knowledge society. This conclusion is more obvious but at the same time more difficult to document for the lack of available information.

Following my arguments, we would have to accept that governments bow to these international exchange programs under the perception that those programs one way or another will facilitate a good working relationship between the involved countries.

Because public information about the grantees of the PR programs is not available, I will reach conclusions by making a couple of assumptions about the profile of grantees. Fulbright or PR grantees are not significantly different from CONACYT's grantees. Even more, the profile of these PR grantees in the areas of study they receive support for is similar, perhaps more elitist, than the profile of the domestic rationale, STK programs. They are elitist as far as their reached level of studies. In other words, *ceteris paribus*, there are on average higher entry barriers for PR candidates than for domestic rationale, STK candidates. Usually, the call for applications from PR programs require higher standards: GPAs, proficiency in foreign languages, specialized tests, and so forth. In sum, the argument goes as follows: The profile is similar although a little more elitist for the PR candidates than for the domestic rationale ones.

The higher education system of the host countries (exporters of education) with the best education offer, according to the market, is well organized to welcome the students from around the world. That is the case of the United States and the United Kingdom (Table 1). These two countries, by the way, are the ones hosting the largest number of CONACYT (2001, pp. 290, 292) grantees. Sixty-two percent of all CONACYT's new 2000 grantees were granted for students going to those two countries. This 62% chunk is divided in almost equal slices.

To study in any of these two countries, a high level of English proficiency is required, and for many study programs, specialized standardized tests such as the GRE and GMAT are an admission *sine qua non*.

This is an automatic filter for students. Therefore, the more competitive the targeted programs and universities are for admission, the more competitive the applying foreign students have to be. Now, if these applying students are the best

of their higher education home system, I need to link these highly qualified students to their academic and socioeconomic background or profile, that is, their high school and college of origin, public or private, their income profile, and therefore their capacity to pay.

Unless one is able to use direct information about the profile of the applying foreign students (Mexican, for instance) of large scholarship programs such as the CONACYT or FP, we have to settle for proxies. If appropriate, the proxies will allow us to accept or reject the hypothesis that these students, from an elitist educational background (the best and the brightest—B&B) are also the wealthiest.

If the former is true, what is the justification to subsidize a cohort of people that would in the first place be willing to finance their own international education? This argument seems to be accepted by the specialized literature; for example, Creedy (1994) sustains that “The use of a grant which is available only to those with very high ability, and who would anyway invest in higher education, would have very little to recommend to it” (p. 94). I mention Creedy as a source of the literature opinion because this author, contrary to the opinion of other experts, sustains that under specific assumptions, higher education is a public good. Nevertheless, the subject is debated. Blaug (1989, p. 332) suggests that “We can measure private and social returns to educational investment but since cannot specify, much less measure, the externalities generated by educated individuals, not to mention the consumption benefits of education, the ‘social’ rate of return to education is a bogus label.”

At least partially, the evidence I need to link the profile of the applying students to their academic and socioeconomic background has been already laid out. The data offered by *Encuesta Nacional de Empleo* (INEGI, 2001), by SEP-CONACYT (2000), and by the conclusions of Lächler (1998) help to document such evidence. This body of data and analysis shows that by and large the stratum of the population that earns the highest income (and at a growing real rate) is the one with the highest level of education. Furthermore, in a relatively short time, this group of people is in the job market occupying the highest paying jobs, on average. It is precisely this group of people that runs into the international market for higher and graduate education. The population with access to higher education receives public support as subsidies that at least perpetuate the structural inequalities. “On the other hand, subsidies for tertiary education are regressive, benefiting primarily the non-poor” (López-Acevedo & Salinas, 2000, p. 11).

Notwithstanding, and due to the lack of specific available information, I will draw on three different bodies of aggregated information that will allow me to reach the same conclusions that I would have reached if the specific,

disaggregated information were available. The three sets are education pyramid, academic and socioeconomic background of Fulbright García Robles (FGR) (the FP for Mexico) grantees, and placement and labor history of grantees after graduation. I cannot use disaggregated data for the CONACYT grantees because it is not available. Data are not available either for the FGR grantees. There is some public evidence to draw some conclusions about the profile of these grantees in the same manner I did it with CONACYT's grantees.

The education pyramid is more acute in less developed than in developed economies. This means that a very small percentage of the population in higher levels of schooling has access to higher education. As shown in Table 8, the gap between Mexico and Canada, the United States, and developed European economies is very large.

One would expect that the more unequally distributed income and wealth are and the less developed an economy is compared to others, the enrolled population in higher education programs will belong to the highest quartiles or deciles of income and wealth. Populations with access to international higher and graduate education will be a very small proportion of its age group. But even granting the argument that within the very small proportion of people from countries such as Mexico with access to higher education, there is an even smaller but significant number of students from low-income families. We could extend our argument to these low-income-origin students if we consider them not from their level of origin but from the added human resource value they have earned for their education or their education to be.

In addition to the fact that large scholarship programs such as CONACYT and Fulbright serve a student population group very small in size, hence already privileged, they accept as their grantees students from private or public universities with a higher earning potential than their peers from public universities with a different profile or group, despite the fact that most of the CONACYT grantees, in its 30-year history, have come from public universities. CONACYT does not publish detailed information about the specific home universities of its grantees. The only published data in this concern is the total number of grantees, whether they study in Mexico or abroad: 90% of all CONACYT's grantees have originated at public higher education institutions (CONACYT, 2002). Apparently, this information would lead us to conclude a bias in favor of candidates from public universities. However, further analysis shows that this is not the case. Sheer data shows a proportion of 9 to 1 in favor of public universities' candidates. However, the real proportion is 2 to 1. If we look carefully at Table 9, estimated total population of grantees coming from public universities is about 0.04% of the total student population housed by the public university system. In

Table 8 Enrollment by Age Group

Country	Tertiary Education			Change (%) 1998/1990
	Gross Enrollment Ratios			
	1990	1996	1998	
Canada	94.7	87.3	87.3	-7.8
United States	75.2	80.9	80.9	7.6
Australia	35.5	79.8	79.8	124.8
Finland	48.9	74.1	74.1	51.5
Republic of Korea	38.6	67.7	67.7	75.4
New Zealand	39.7	62.6	62.6	57.7
United Kingdom	30.2	52.3	58	92.1
Spain	36.7	51.4	56	52.6
France	39.6	51.0	51	28.8
Greece	36.1	46.8	50	38.5
Italy	32.1	46.9	47	46.4
Germany	35.2	47.2	46	30.7
Japan	29.6	40.5	44	48.6
Russia Federation	52.1	42.8	42.8	-17.9
Singapore	18.6	38.5	38.5	107.0
Argentina	38.1	36.2	36.2	-5.0
Chile	21.3	31.5	34	59.6
Peru	30.4	25.8	29	-4.6
Colombia	13.4	16.7	21	56.7
Cuba	20.9	12.4	19	-9.1
Mexico	14.5	16.0	18	24.1
Brazil	11.2	14.5	14.5	29.5
Malaysia	7.3	11.7	11.7	60.3
Indonesia	9.2	11.3	11.3	22.8
India	6.1	6.9	10	63.9
China	3.0	5.6	6	100.0

Source: UNESCO (2002) and World Bank (2002).

contrast, CONACYT's grantees from private universities represent around 0.02% of the total number of private universities, that is, only half of the public share.

This information that still favors a bias has to be analyzed in further detail. Seventy-five percent of all CONACYT (2000) grantees come from areas of study such as engineering and basic and natural sciences (CONACYT, 2000, p. 17). These areas of study are precisely the strong areas of study in public universities compared to the private universities' supply.

As for the profile of FGR grantees, the story is very similar. However, the proportion of grantees coming from private home universities is larger. Except for UNAM and to a lesser degree from Universidad Autónoma Metropolitana

Table 9 CONACYT's Scholarships by Type of University

	Undergraduate Total Enrollment		CONACYT's Scholarships by Origin		% of CONACYT's Scholarships by Origin	
			Universities			
	Public	Private	Public	Private	Public	Private
1970-1979 ^a	5,491,190	733,441				
1980-2000	18,485,684	4,626,522				
Total	23,976,874	5,359,963	90,019	10,002	0.004	0.002

Source: From 1970-1979 own estimations with a constant yearly average rate of growth of 5.1% for public universities and 8.99% for private universities. These rates represent the enrollment yearly average rate of growth between 1980 and 1985, based on data from ANUIES (2000) and SEP-CONACYT (2000).
a. Estimated.

(UAM), most of the FGR students come from private universities. UNAM and UAM exceptions are explained by two factors: first, the very large number of the student cohort in both institutions, and second, a special significant program for science and engineering areas only, developed and managed by FGR but financed by CONACYT. With the former exceptions, the FGR grantees have originated in the past, ranked from larger to fewer, from the following universities: ITESM (private), ITAM (private), UAM, UIA (private), Colegio de México, UDLA (private), UANL, U. de Monterrey (private) (Comisión México-Estados Unidos para el Intercambio Educativo y Cultural, 1997, p. 7). If we do not include the joint CONACYT-FGR program, the number of the FGR per se students came, for the last 10 years, from UNAM, ITAM, UIA, ITESM, Colegio de México, UAM, U. de Monterrey, UDLA, and U. de Guadalajara (Comisión México-Estados Unidos para el Intercambio Educativo y Cultural, 2000, p. 11). This means that the private origin share of grantees is larger for the FGR program than for the CONACYT one, especially if we adjust, somehow, the number to the enrollment size in each university.

Furthermore, these grantees not only come from the best public and private universities, they are also the best trained and therefore best equipped to pursue international higher education, otherwise, they would not be admitted into the host programs they go to.

Moreover, the discounted present value of all future earnings increased significantly for being accepted by highly competitive programs in highly known universities. Most of the FGR grantees have been hosted by the following universities: Harvard, UCLA, Columbia, University of Texas at Austin, Stanford, State University of New York, and MIT (Comisión México-Estados Unidos para el Intercambio Educativo y Cultural, 1997, p. 7).

Updating the same information 3 years later, the host universities for FGR grantees were, from larger number of grantees to fewer: Harvard, Columbia, NYU, Stanford, Chicago, UCLA, MIT, Georgetown (Comisión México–Estados Unidos para el Intercambio Educativo y Cultural, 2000, p. 10).

The same line of analysis may be extended to CONACYT grantees. CONACYT has endeavored for years to send its grantees to the best programs of the best universities. Students have to face CONACYT's own admission requirements—high GPA, recommendation letters, high academic profile, peer review committees, and interviews. Under these circumstances, CONACYT grantees had to be chosen from among the best applying students. They were, in fact, the best on average of the Mexican higher education system. Fifty-eight percent of all CONACYT grantees of the last 30 years showed an undergraduate grade point average (GPA) between 8.0 and 8.99 (scale 10, or 3.2 to 3.59 scale 4), and 33% of them showed a GPA between 9 to 10 (or 3.6 to 4).

The same argument is made by other experts when analyzing the same sort of information for other developing countries.

The 1994 World Bank's report on higher education states that

Government-subsidized financial assistance programs for academically qualified yet financially needy students are an essential complement to cost-sharing in higher education. . . . However, given that in every developing country students attending higher education represent an elite group with income-earning potential significantly higher than that of their peers, it is appropriate that the major form of student financial assistance offered be in government-guaranteed loans rather than grants. (p. 50)

Furthermore, if these students, recipients of scholarships to attend the best programs around the world, have a larger net present value of all expected future earnings than their peers, how come governments support these students with subsidies or nonreimbursable grants?

For programs such as the FP or FGR, as other similar bilateral programs around the world, the purpose is to promote the understanding between the peoples of the countries involved.

The FP has allegedly supported the B&B. But if the B&B, as we have seen, are also the wealthiest or wealthiest to be, then in real terms programs such as the FP have subsidized with scarce taxpayers' revenues to those who do not need it to begin with. If this is so obvious, under what rationale do governments still sustain these subsidy programs?

One possible explanation is that those programs have existed for so many years that the nurturing and administering bureaucracies of those programs will resist dramatic changes. These bureaucracies will be very resilient to dramatic changes. This resistance to change was brilliantly documented by Warwick

(1975) in analyzing some management cases at the U.S. DOS: "The U.S. experience with both large and small reorganizations thus reveals an entrenched resistance to bureaucratic change, and a tendency for amputated limbs to grow back" (Warwick, 1975, p. 156). He adds, "Both in their origins and in their continuation, executive agencies show the influence of organized interests, personal whims, political brokerage, and sheer bureaucratic inertia" (p. 156). He concludes, "Moreover, if there are changes involving drastic departures from the traditional model, they are likely to be suspect from the outset. The more they depart from accepted principles of management, the more likely are they to meet with skepticism" (pp. 176-177).

An additional rationale to explain the almost unchanged permanence of those programs such as the FP, even though they are not, apparently, backed up by administrative or economic efficiency, is because of the fact that we are dealing with an error of public policy making and implementing, that is, the wrong instrument to an adequate end.

The scholarships of these bilateral programs that distinguish them from those with a domestic rationale program (CONACYT) do not aim at providing a public good. The aim, instead, is at improving the relationship of the two countries by investing in individuals who, based on their profile, will become leaders. Eventually, these individuals through their leadership will benefit the relationship in their own field of activity. Assuming, but not accepting, that this is the case, this could be given as an externality argument by those who speak in favor of these bilateral programs.

If we could show that there is no externality, the only possible additional explanation for the existence of those programs is the PR argument. That is, it is to the benefit of the U.S. foreign affairs bureaucracy to sustain these types of programs because if they have chosen adequately the B&B, these talented future leaders will eventually become leaders in their home countries. This, they may think, will facilitate the communication with the U.S. foreign affairs community.

The last two arguments are easier to reject than the hypothesis of previous sections of this article with arguments in favor of these programs under a public good rationale: Investment in human capital would eventually accrue into knowledge that would eventually translate into productivity and growth for all, highly educated and not so highly educated. Under this same point, the work of Creedy (1994) is very explanatory.

In developing countries, such as Mexico, the grantees of this type of program (domestic or bilateral rationale) are the wealthiest or wealthiest to be, as I have shown. If this is true, then there is a very high probability that these students would have continued with their international graduate education anyway,

regardless of the governmental support. They would have been able to harness support from other nongovernmental sources such as self, family, companies, foundations, host universities, international organizations, and so forth. We are talking about the best students, who have been accepted by the best programs around the world; if they do not find alternative, nonpublic (subsidized) sources of financing, they have the option to go into the labor market for 1 or 2 years, save some money, and finance their graduate education later.

Then, if we accept the argument that these students are the best, the least poor, and that if rejected for governmental support, they would pursue their international higher education anyway, I would have to prove, in contrast, that if they finally study abroad without governmental support means, they will not work in favor of the relationship of the two countries involved. In other words, receiving a governmental support is a *sine qua non* for “working in favor of the relationship of the countries involved.” And not receiving the support would lead us to think that the privately financed students will not work in favor of the relationship.

This latter hypothesis can be easily rejected. There are, indeed, very prominent names in the list of the former Fulbright grantees in Mexico and the world at large. We have to accept as well, that there are many more very prominent people, in Mexico and the world, who have reached leadership positions in all areas of knowledge or activity and have not been Fulbright grantees. Furthermore, as will be shown, there are many Mexican leaders who have worked in favor of the U.S.-Mexican relationship who have not, in turn, received Fulbright support.

For each former Fulbright grantee who has earned a Nobel prize (Institute of International Education paid advertisement, *New York Times*, December 10, 2002), there are 27 people who have earned the Nobel without the Fulbright background.

Information by the National Humanities Center shows that the Fulbright program in its first 50 years of operation has granted scholarships to 250,000 people (National Humanities Center Steering Committee on the Future of the Fulbright Educational Exchange Program, 1997, p. 2). In this same document, a list of leaders for the same program is shown. The authors do not mention that they are showing an exhaustive list (granted, producing such a list after so many years under so many different administrations would be impossible). However, they probably made a very good effort in putting up such a list as close to reality as possible for the following reason: Given the high-profile level of the people they do mention, leaving prominent individuals out of the list, besides being politically incorrect, is a lost opportunity to show to the world, and most importantly the Congress, the positive impact of the program to harness support for more funds. Even though they did forget or failed to mention many important people

as former grantees, doubling or tripling the size of those former grantees would not make a difference at all. First, it is difficult to believe that they missed mentioning people of the high-profile level of within the people they do in fact mention. Second, 200 or even 300 people worldwide over a total of 250,000 former grantees seems negligible. As for the published list, there are 100 people named as former grantees who became leaders. However, there are thousands of people who, in these 50 years, have reached leadership positions in the United States and the world who have worked to the benefit of the sciences, the arts, the political realm, the international relations, the human rights, even in favor of the U.S. foreign affairs interests, and so on, and in contrast, they have not received a Fulbright scholarship at all. What all this is telling us is that most probably, those same 100 leaders would have become leaders without the Fulbright support. And they would have benefited the world with their wisdom or leadership the same way they have done it so far. One hundred over 250,000 is a very tiny number to justify a very large expenditure, administrative and programmatic, over 50 years. If what U.S. policy makers really wanted was to help 250,000 students, professors, or researchers from the United States or around the world, they could have designed other instruments much less costly to the taxpayers and probably more effective.

As for the Mexican case, the data published by the FGR program show more or less the same pattern as the data shown by the FP worldwide. There have been since the creation of the Fulbright program in Mexico in 1948 until the year 2000, 2,730 grantees (Comisión México–Estados Unidos para el Intercambio Educativo y Cultural, 2001). There is not, however, published information about the leadership positions reached by all former grantees. Notwithstanding, some conclusions may be drawn. In a 1997 publication by U.S.-Mexico Commission for Educational and Cultural Exchange (Comisión México–Estados Unidos para el Intercambio Educativo y Cultural, 1997), to this date there were 1,972 former FGR grantees. The same publication highlights some biographical data of distinguished grantees. The number of the highlighted grantees is 11, and even though it takes some years after graduation to become a leader, 11 against 1,972 or 700 for that matter (former Fulbright former grantees before the creation of the U.S.-Mexico Commission in 1990) seems too small to make it significant. By the same token, the arguments laid out before for the worldwide FP can be used here. As a matter of fact, the same publication states that 3 former grantees have reached cabinet positions in Mexico. The Manual for the Public Administration in Mexico (Manual de Organización de la Administración Pública en México) published in 1999 by INAP (Instituto Nacional de Administración Pública) states that there were 17 ministerial positions in the Mexican Federal Government in 1999. Assuming a similar number of ministers (departments) for

36 years, 1961 to 1997, of operation of the Fulbright program in Mexico, we conclude that only 0.04% of all ministerial cabinet positions were held by former Mexican Fulbright grantees. This means that more than 99% of all secretaries in that period became cabinet members without the Fulbright grant. It would be very far reaching to sustain that only those three cabinet members worked in favor of the U.S.-Mexico relationship, and if they did, they did it because they were former Fulbright grantees.

Therefore, if the data and the analysis made in the previous paragraphs and sections of this study are true, it would be very difficult for the governments to justify a subsidy to pay very expensive IHE in lieu of programs to improve the quality of basic and secondary education or the nutrition and health of children.

Summarizing

1. What is true for trade and investment liberalization cannot analogously be applied to the exchange and education of people in the international higher education market.
2. The largest education interaction must be an outcome of individual decisions to invest in human capital.
3. It is not appropriate to promote the exchange of people through educational exchanges as governments have propelled the exchange of goods and services, because there are not regulatory barriers of entry (as there were in the trade and investment markets before the 1990s world liberalization trend) for education exchanges. Therefore, for countries without such barriers, there is no need to enter into "international or bilateral exchange education agreements."
4. Using public funds to reward merit is not the answer either. I have shown that, at least for less developed countries such as Mexico, the merit scholarships are also given also to the wealthiest or wealthiest to be. Therefore, they do not need the taxpayers' support. However, their capacity for loans is potentially very high, higher than the rest of their peers.
5. Therefore, we can hardly justify the use of public funds to finance IHE in lieu of other uses, public goods, such as nutrition, quality basic education, poverty eradication, streets' safety, and so on.

Policy Recommendations

1. Governments that finance international higher education and exchanges should revise their programs to reorient the use of taxpayer funds to provide goods and services that no one else would do.
2. Instead, governments may use those funds as seed capital to promote the establishment and growth of foundations, nongovernmental organizations (NGOs), or universalities' projects or to consolidate loan programs.

3. Governments must segment the market for IHE with a professional end only, from those geared to the development of STK. For the latter, however, policy design and implementation must be carried out by governmental agencies whose mission is to provide STK and not by agencies whose mission is to carry out foreign policy goals and programs.
4. Unilateral or bilateral programs financed with public, nonreimbursable funds by governmental agencies to subsidized IHE and exchanges as a means to promote the relationship between the involved countries have inadequately spent scarce resources for many years.
5. Merit or PR rationale programs must give way to programs to promote education and exchanges at the more basic level of education (elementary and secondary). Exchange programs at this level, by sheer numbers only, have a greater trigger effect among the rest of the population group.
6. CONACYT should focus its grant programs into new loan programs or even auction its funds so that other organizations such as universities, foundations, or NGOs multiply through matching funds, efficiency, and innovation the number of people benefited by grants.
7. Programs based on an international cooperation rationale should should change substantially to respond to taxpayers' need for public goods. They must reach its goal, that is, improve the relationship between the countries involved, by other more efficient means. Grants as subsidies, like the ones analyzed in this study, should be replaced by programs to finance people that otherwise would not be able to study abroad. More often than not, these people will have a greater multiplying effect among its cohort and students than the B&B. Programs addressed to basic education teachers in developing countries are a good example of such new programs.

NOTES

1. An excellent work by Baum and Schwartz (1988) explaining why it is not such a good idea to reward "merit" with scholarships. See also Heller and Marin (2002) for a more recent work.

2. Consejo Nacional de Ciencia y Tecnología (CONACYT) (the Mexican governmental agency for science and technology support). CONACYT runs a program of scholarships for postgraduate education only.

3. UNAM (2000) "Estadísticas: Programa de Apoyos para la Superación del Personal Académico de la UNAM, 1998-2000" Dirección General de Asuntos de Personal Académico, 2000. There is, however, a dramatic change in UNAM's scholarship program. From 1964 to 1998, the average number of grants per year for graduate work abroad was around 61: UNAM (1999) "Programa de Becas y Apoyos para la Superación de Personal Académico de la UNAM: Historia de su Desarrollo 1964-1998" Dirección General de Asuntos del Personal Académico (1999, p. 55).

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