

Brain Drain in the Philippines*

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I. RECENT WORLD-WIDE DEVELOPMENTS: A CRITICAL REVIEW

The last five years have seen the "brain-drain" problem elevated from a relatively minor irritant in Anglo-American relations to an issue of universal concern. Within the elite circle of economically advanced societies, considerable friction has been generated by what Britain, West Germany, and Canada have regarded as America's "pirating" of their talented and skilled citizens. Yet the dispute among the elite seems almost like in-group bickering when viewed in the light of the international tension created by the emigration of highly skilled persons from the underdeveloped world to the advanced societies of Europe and North America.

Like the charge of neo-colonialism, the brain-drain issue has become a ubiquitous thorn in the relations between the privileged nations and the underprivileged, and the high degree of ill feeling it has provoked is perhaps best reflected in the following statement, made by a noted British scientist while speaking to Parliament on the problem: "It is beginning to be a fact that fields in India will remain uncultivated in order that America may put a man on the moon" (Lord Bowden, quoted in Howland 1967: 1).

Fact and Figures on the Drain

Each rise in the international temperature has corresponded to the release of a fresh batch of statistics or of the results of the most recent study. Predictably, the latest figures and latest reports are grounds for both deepening pessimism and heightened exasperation. According to the U.S. Immigration and Naturalization Service, immigrants from the underdeveloped countries formed about 38 per cent of the total number of skilled persons heading for

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American shores in 1967 (Immigration and Naturalization Service [INS] 1968: chart 5); this was a rise of about seven per cent from the 1966 figure given by the same agency (Council on International Educational and Cultural Affairs 1967: 71).¹ Another American government body, reflecting the lack of uniform statistical measurements of the drain in the different set of figures it presents, paints a more alarming situation. Of the 15,272 scientists, engineers, and physicians immigrating to the United States in 1967, more than one half, or 7,913, came from developing countries (Committee on Government Operations 1968: 3); a decade earlier, according to the same committee, they had made up less than one-fourth of the total (Dickenson 1967). Translating its figures into economic terms, the committee estimates that the 7,913 immigrating individuals constituted an investment loss of \$150 million to the developing countries (Committee on Government Operations 1968: 3). The United Nations, which in 1960 labeled the unfolding decade, with its usual optimism, as the "development decade," is ending the sixties with a bleak prediction and an unusual note of disillusion: a special study it conducted in 1968 arrived at the conclusion that the brain drain would most probably continue to increase, and that, consequently, the developing nations would continue to lose their intellectual elite (Philippines Herald 1968c).

When one descends from a global view of the phenomenon and examines its form and effects in different developing regions or countries, statistics, far from dwindling into insignificance, attain what appear to be crisis proportions. The case of Iran does not bode well for the future of the Middle East: There are presently more Iranian doctors in New York than in the whole of Iran (Thomas 1966: 21). In 1962, the Dominican Republic lost about a third of its medical graduates to the United States, while another Latin American nation, Chile, lost a fifth of its graduating engineers to the same country (Committee on Government Operations 1968: 5).

Also experiencing a medical drain is an Asian country, the Philippines: In 1966, the 2,474 Filipino resident doctors in the United States constituted about 25 per cent of the foreign residents in American hospitals (Council on Medical Education 1966: 918): meanwhile, back home, the physician-patient ratio stood at 1: 671 in Manila and 1: 4,979 in the rural areas (Bowers 1965: 122). With the possible exception of Japan, which, nonetheless, is getting increasingly jittery over the recruitment of its top electronics experts by American industry (Manila Daily Bulletin 1967c: 9), the picture for the rest of Asia is much the same. The Minister of Cultural Affairs of Taiwan estimated that of every 100 Chinese students who go to the United States, only five return (The Asian Student 1967: 5-5)—a figure supplementing the estimate that 90 per cent of all Asian students now in the United States will not return to their homelands (Perkins 1966: 617).

¹ The Council was using figures prepared by the INS.

Almost unanimously, experts view Africa as the region most sorely lacking in skilled personnel, where investment priority must be attached to the education of scientists, technologists, and managers. Yet highly skilled African immigrants to the United States in 1967 numbered 2,577 (INS 1968: chart 3)—a trickle when compared to the Asian and European immigration figures, but a savage loss when considered in the light of the unimaginable socio-economic obstacles confronting a continent attempting to make the leap from the tribe to the modern industrial state.

Reasons for the Present-day Concern

To fully understand the public outcry that today accompanies the departure of every young immigrant doctor or engineer for the United States, one must consider the social and economic realities in developing countries, as well as the hopes and aspirations of those whom sociologists have labelled as 'transitional men.' The last half century has seen the universal triumph of the Western ideal of scientific progress. Industrialization and the creation of a market economy in place of the traditional agricultural socio-economic structure, have become practically unquestioned values in Asian and African states mesmerized by the material achievements of the West. Encouraged by the example of Japan, the only advanced society in the East, the Western-educated leaders of the "Third World" see the industrial economy not only as the means to higher standards of living for three-fourths of the world's population, but also as the weapon with which to shatter the traditional dominance of the industrialized West over the "colonial" economies of Africa, Latin America, and Asia.

With the eager assimilation of scientific progress as a fundamental value has come the recognition and acceptance of the need for efficiency, planning, and skilled personnel—the three qualities which spell the difference between mere commitment and concrete implementation. Thus, at a time when most of the developing countries have yet to reach what Rostow has called the "take-off" stage of economic growth, it is not surprising for them to protest their loss of skilled personnel to advanced societies. A United Nations report locates the causes of the public clamor over the drain in the "increased emphasis on planning for growth" and the "assumption of the crucial role of high-level manpower, especially in countries at the early stages of development" (United Nations Dept. of Economic and Social Affairs 1966: 62). Indeed, in the eyes of many Asians and Africans, the engineer, the technician, and a new type of intellectual, the "development manager,"² have assumed the mantle formerly worn by the folk hero or the priest.

² The term is used by Indian intellectual Chanchal Sarkar. See: Chanchal Sarkar. Theirs isn't the voice of passionate protest. *Asia Magazine* 9 (10, March 9, 1969): 3.

The United States and the Brain Drain

To many concerned agencies and individuals, the brain drain is not an issue dividing the advanced societies from the underdeveloped world, but one pitting the United States against the rest of the world. When criticized for "bleeding" the Commonwealth of scientists and physicians, Britain often gives the convenient excuse that it has to recruit skilled persons to fill the shoes of Englishmen pirated by American corporations, research institutions, and universities. It is estimated that from 1949 to 1964, the United States drew almost 85,000 scientists, engineers, and physicians from Europe and the developing countries; in terms of "human investment," these immigrants altogether amounted to four billion dollars (Rosales 1968: 1).

The United States Immigration Act of 1965 has been criticized by many as the single most influential factor aggravating the brain-flow. An examination of the more significant provisions of this document, which has been acclaimed by others as a major step in the progress of man toward justice and equality, will perhaps give us a better understanding of the controversy surrounding it. Among other things, the Act: *a*) abolished the old national-origins system of selection which limited the number of immigrants from a large number of Asian and African countries to 100 per country; *b*) established a ceiling of 170,000 immigrants annually from the Eastern hemisphere, and 120,000 from the Western hemisphere; and *c*) created an immigrant category of 17,000 positions to be filled by "professional, technical, and kindred workers"—the so-called "third-preference" category (Kennedy 1966: 148-49; Committee on Government Operations 1968: 16). Summing up what he considered to be the intent of these provisions, President Johnson stated:

The bill says simply that from this day forth those wishing to emigrate to America shall be admitted on the basis of skills and their close relationship to those already here (quoted by Thomas 1966: 66).

While the intention of Johnson's statement was obviously to announce the disappearance of racism from American immigration laws, it also obviously explains why most developing countries have seen it, instead, as the latest move of the United States to gain intellectual wealth at their expense. As an eminent British critic, Brinley Thomas, sees it, the Immigration Act has merely substituted "discrimination by skill" for discrimination by race (Thomas 1966: 66). The opinion that behind the noble pronouncements lie less than honorable intentions is also voiced by an American, James Perkins, president of Cornell University (Perkins 1966: 617).

... we have gradually changed our immigration laws to reduce the inflow of unskilled help, so badly needed in the last century, in favor of the skilled help we now require. It is no longer the the call to 'Give me your tired, your poor, your unskilled masses, now we ask for your alert, your privileged, your brainy, your talented.

Indeed, the immediate effects of the 1965 Immigration Act have been more drastic than anticipated by international-relations conscious American officials.

Due to some unforeseen technical problems in the application of the law, the quota of 170,000 immigrants for advanced Europe and developing Asia has been heavily weighted in favor of the latter. Most of the 50,000 third-preference immigrants to be admitted to the United States during the period 1968-1971 are from underdeveloped countries (Committee on Govt. Operations 1968: 17). One of the most dramatic early effects of the law was to increase the number of Filipino professionals immigrating to the United States from 90 in 1965 to 1,066 in 1967 (Committee on Govt. Operations 1968: 16). More spectacular, however, and most disturbing, is the fact that of the 50,000 applicants in the third-preference category waiting list, 19,369, or over a third, are Filipinos (see both Bureau of Security and Consular Affairs 1968: 1, and Comm. on Govt. Operations 1968: 17). Indeed, the Bureau of Security and Consular Affairs (1968: 1-2) expects the Philippines to contribute the greatest number of immigrants in 1969.

Foreign aid and immigration policy

Several writers have brought to the surface what they consider to be the concealed contradiction between the immigration policy of the United States and its foreign-aid policy. The implicit encouragement to migrate offered by the Immigration Act of 1965, it is asserted, is undermining America's efforts to make developing economies viable through material aid and technical assistance. A Congress report reveals that eleven major recipients of U.S. aid, which include India, Pakistan, and the Philippines, have been among the hardest hit by the brain drain: Having received about one billion dollars in aid since the post-war era, altogether they contributed two-thirds, or 5,189, of the 7,913 highly skilled immigrants from developing countries in 1967 (Committee on Govt. Operations 1968: 14). A situation growing increasingly absurd is described by a leading American academician:

Here is a cruel fact of life. We are in competition with the results of our own assistance policies. While we support the idea of foreign development, our domestic needs may be quietly making hash of our best efforts abroad. In that case, foreign aid might simply be a misnomer for domestic assistance with overseas implications (Perkins 1966: 618).

The irony of the situation is heightened if one considers that a good many of the highly skilled persons immigrating to the United States are technologists and scientists trained in personnel-development programs set up through foreign aid. According to one writer, the United States has spent about \$40 million training technicians and professionals in developing countries, only to receive \$88 million in the form of human capital by admitting several thousand highly trained immigrants from these same countries (Dickenson 1967). It would be interesting to know just how much of the \$88 million is human capital contributed by persons whose training was made possible through American foreign aid.

The U.S. government: its views on the problem

Conscious of America's image as a wanton talent scout, the United States government has not been indifferent to the problem. Positive measures on its part have largely been limited, however, to studies and, based on these, partial recommendations.

In March 1967, the Interagency Council for Educational and Cultural Affairs revealed the findings and recommendations of a two-year study commissioned, presumably, by the Johnson administration. The results were, however, inconclusive at best, being limited to two principal findings: *a*) that existing data on the outflow of talent from developing countries and its inflow to the United States were inadequate for a definitive assessment of the gravity of the brain drain; and *b*) that visitors on government-supported exchange programs did not contribute significantly to the drain (Council on International Educational and Cultural Affairs 1967: 3-5).

The Council was far less reserved when it came to recommending measures to deal with the problem. It stated categorically that no legal restrictions should be enacted to limit the entry of professionals into the United States, advocating, instead, that the United States assist foreign governments in solving domestic problems which encourage the emigration of their professionals (1967: 5-6). Many foreign critics have taken the view that the Council's recommendations were meant to safeguard the position of the United States as a "gainer" nation. However, in a defense of the Council's stand before a Congress committee, Charles Frankel, the chairman, attempted to project the impression that the stand was, in reality, a delicate compromise, dictated by humanistic sentiments, between the time-honored principles of social responsibility and individual freedom.

There are two points of view to be taken toward the problem posed by the migration of skilled and talented people. One point of view is the economist's. From this point of view, the question is one of "manpower" and the problem is that of properly distributing manpower resources that are in short supply. But from a second point, which must also be recognized, the problem is not one of "manpower" but of individual men and women with individual lives to lead, with individual troubles and individual aspirations. . . . These real human beings—and not units in a statistical chart—are the ones who ask to come to our country, and it has been a tradition of the United States to receive such people. . . . I do not say that the "manpower" problem can be overlooked. I say merely that it is not the whole problem. In trying to deal with it, we must recall that there is a controlling principle—the free movement of people—which must also be taken into account. The place that this principle has occupied in our own history is too important for it to be disregarded (Frankel 1967: 14-15).

The dilemma, it might be noted here, is not only the United States'. It is also the dilemma of many developing countries which profess adherence to democratic principles, but to whom the idea of imposing travel restrictions is becoming more and more attractive.

To focus on the findings of the Council, however, it would appear that its conclusion that exchange visitors do not contribute significantly to the drain

is practically without value. The Council should certainly have realized that the number of exchange visitors in the United States is small when compared to the multitude who have student or immigrant visas. Also, the "J"-visa condition, that the exchange visitor leave the United States for two years before he be allowed to enter it as an immigrant, virtually prevents him from being an immediate loss to his home country. While it is true that the Council's objective was to find out to what extent waivers to this rule were contributing to talent migration, this was a futile exercise, it seems, since exceptions to the rule are generally far fewer than the rule.

A more realistic focus of the exchange-visitor aspect of the study could perhaps have been the question: Of those who come as immigrants, how many were exchange visitors earlier? This would have cleared the way for an investigation of the indirect contribution of the exchange visitors' program to the brain drain—a matter closely related to a psychological phenomenon, the "revolution of expectations." Another question to which the study could have addressed itself is this: How many exchange visitors do in fact return to their home country once their period of study is over? Such a preoccupation would have been relevant in the light of reports that many exchange visitors do not really return home, but hie away to "parking-spaces" like Canada and Western Europe for two years, awaiting with leisure their return to America.

While a certain cautious concern may be said to be characteristic of this document produced by the Johnson administration, the views expressed in the United States Congress have shown markedly less restraint. The statistical reports of the House Committee on Government Operations tend to project a more alarming situation, as noted earlier. Whereas for 1967, the Immigration and Naturalization Service placed the number of immigrants from developing areas at 38 per cent of the total in the skilled-personnel category (INS 1968: chart 5), the House Committee estimated it at more than 50 per cent (Committee on Govt. Operations 1968: 3). A statistical discrepancy is also evident in the 1966 figures: While the Interagency Council, using figures obtained from the Immigration and Naturalization Service, estimated the number of professionals from the underdeveloped world at 30 per cent of the total (Council on International Educational and Cultural Affairs 1967: 71), the House Committee pegged it at 46 per cent (Dickenson 1967). The difference in statistics may be due to a more fundamental difference in definition between the Immigration Service's "professional, technical, and kindred workers" and the House Committee's "scientists, engineers, and physicians."³ One wonders,

³ "Professional, technical, and kindred workers," according to the Immigration and Naturalization Service (1968: chart 2), include natural scientists, social scientists, physicians, surgeons, dentists, nurses, other medical personnel, engineers, other technologists, editors and reporters, professors and instructors, religious workers, and clergymen, social and welfare workers, teachers, other professionals, and students.
(Note 3 continued on following page)

however, why two government bodies, the Immigration Service and Congress, have not sought to reconcile their variant findings, especially since coordination appears to be no real difficulty in the American bureaucratic machinery. A suspicion that can easily be harbored by many, particularly by concerned critics from developing countries, is that one or the other is tailoring the figures to fit its preconceived notion of the magnitude of the problem, or, worse, to appease that unshakeable bogeyman—national interest.

In the case of measures proposed to curb the brain flow, the halls of Congress ring with recommendations more radical than those advanced by the agencies of the executive branch. Noteworthy among these is a bill sponsored by Representative Ronald Fraser and Senator Walter Mondale that would place restrictions on the talented foreigner's mobility and choice of residence. It calls for bilateral agreements between developing nations and the United States which would require the foreign scholar to return home for two years before being considered eligible for migration to the United States (Manila Times 1967b). This negative measure, which was obviously directed at the large number of scholars flocking to the United States on the "F" or student visa, was, expectedly, received critically by the Johnson administration. Interagency Council Chairman Charles Frankel, characteristically viewing the matter from the standpoint of individual choice, noted that many scholars go to the United States on personal savings, free of any implicit or explicit agreement with their home governments to return home. Cultural dialogue, Frankel adds, would also be a victim since foreign scholars, finding their choices foreclosed, will simply decide to study elsewhere (Frankel 1967: 22).

Generally speaking, however, the brain drain has not been given the serious consideration it deserves by the United States government, dwarfed as it is by more pressing international and domestic issues like the Vietnam War, the Israeli-Arab feud, and the growth of Black Power. The controversial legacy of the Johnson era, the Immigration Act of 1965, stands unamended, and the newly inaugurated Nixon administration has still to venture an opinion on the matter.

The American educational establishment and the brain drain

The United States government, however, is but one of several institutions with a decisive role in resolving the problem of talent emigration. More

(Note 3 continued)

To the House Committee on Government Operations (1968: 3n), on the other hand, "scientists, engineers, and physicians" include natural scientists, engineers, physicians, dentists, and college- or university-level instructors in the fields of these professionals.

The greater number of INS categories could mean a larger number of skilled immigrants included, and these, possibly, from developed countries. If such is the case, then, understandably, the INS percentage for skilled immigrants from underdeveloped countries is smaller than the House Committee's.

directly involved—and less able to move with resolution—is the American educational establishment. The Commission on International Education of the prestigious American Council on Education, in a position paper adopted in November 1966, examined the implications of the brain drain for the American academic community. Addressing itself mainly to the question of how American academic institutions can help mitigate the drain, the paper sees as fundamental principles the universal, or “non-national,” character of knowledge and the political nature of migration. Guided by these, the Commission then declares that the American academic institution should not subject the foreign scholar to academic discrimination because he is an alien (Commission on International Education 1966: 4). Because the decision to migrate, though motivated perhaps by professional considerations, is essentially political in nature, restrictions upon the foreign scholar’s mobility or his choice of permanent residence are to be imposed and administered by the government, not the university (1966: 4–5). The Commission adds, however, that the United States government might be running counter to its basic principles if it arbitrarily places restrictions on the mobility of foreign scholars (1966: 2)—an afterthought echoing the sentiments of Interagency Council Chairman Charles Frankel.

While rich in suggestions as to what norms should govern the American academic community’s participation in efforts to mitigate the brain drain, it fails to propose workable, concrete measures. It does advocate that American “academic institutions assume leadership in bringing the corpus of man’s knowledge to bear upon mankind’s problems in the large,” but the little “what’s” and little “why’s” of such a grand vision are left unmentioned. A more serious criticism is that, by confining the academic institution’s duties to respecting explicit understandings that the talented foreigner will return home, it precludes many compromise but workable measures, such as James Perkins’ suggestion (1966: 619) that American universities raise admission standards for foreign students. The stand that the American university should be free to hire or keep a foreign scholar after weighing the “international equities and comities” seems also a trifle disconcerting, for it opens the way to the very real danger of facile rationalization on the part of the university. However, in spite of its limitations in the way of realistic recommendations, the paper merits attention as one of the first—and the few—documents issued by a group with a relatively large stake in the affair, which attempts to view the problem through objective, emotionally unclouded lenses. The ACE paper appears to be the closest the American educational establishment has drawn to a consensus on the brain drain. More often, clashing opinions, an occasional protest, and uncoordinated administrative action have constituted the half-hearted response of academia Americana to charges of intellectual piracy.

Theories on Talent Migration

Like all matters problematic at the existential level, the brain drain has, paradoxically, constituted a boon to thought and scholarship. It has spawned, within the academic field, scholars who specialize in documenting its causes, processes, and consequences. A particularly fertile concept derived from pioneering studies in the field is the equation of talent and skill to "human capital." The development of this concept was spurred by the need to quantify human skill and thus relate it empirically to the traditional, physically measurable economic factors. Of the theories on the contemporary brain drain which employ the concept of human capital as a springboard, two deserve special mention here since they represent what appear to be the clearest and best developed expositions of two major, but opposed, viewpoints.

Brinley Thomas, a British economist and critic of the U.S. government's noncommittal attitude toward the brain drain, voices the usual fears tugging at the underdeveloped countries over the loss of their talent. He manages to incorporate them, however, into a broad theoretical framework anchored on economic history (Thomas 1966: 64-71). Thomas bases his theory on a comparison between the conditions of the international economy in the nineteenth century and those prevailing today. During the last century, there was a highly beneficial flow of capital and labor, both skilled and unskilled, from the densely populated and advanced areas of the globe, notably Western Europe, to developing regions. Thomas cites the case of Britain, whose investment in public utilities and railroads was in great part responsible for equipping the underdeveloped world with much of its infrastructure. Today, however, economic conditions have changed: Private investment takes place largely within the industrially developed societies, and technical and entrepreneurial skills have a reverse flow, from the developing to the developed countries, attracted by better opportunities awaiting them there. There then results, according to Thomas, a widening of the gap between the advanced nations and the underdeveloped societies, a process which, using the economist's language, he describes as follows (1966: 70).

[Developing] countries can reap large marginal economies if their sparse supply of skilled manpower can be sufficiently augmented; if they lose some of this existing supply, the marginal loss is correspondingly large. On the other hand, in the advanced industrialized country which receives the skilled immigrants the disparity between marginal social net product and income is small and the possibility of marginal external economies is negligible.

To prevent what he considers to be the only possible outcome of contemporary conditions, Thomas recommends that the public power interfere with market forces, and, as a stop-gap measure, he suggests, quite seriously, what would appear as unusual, or even absurd, to most: that the United States pay for the talent it imports, much like it would for physical capital.

If Thomas advocates public control of market forces, Herbert Grubel, like Thomas, an economist, but unlike him, an American, defends the present-day free market (Grubel 1966: 1420-1423). Grubel's position stems from a radical departure from the traditional concept of "nation." Instead of conceiving the nation as an "aggregate of individuals living in a given geographical area," he would define it as a "collection of individuals born in a certain geographic area." Expressing a sentiment also voiced by the Commission on International Education position paper (1966: 3), Grubel finds nationalistic considerations which are implicit in the former definition, seriously anachronistic in the light of the contemporary problems that confront all of mankind. He points out that if the nation is defined as an aggregate of individuals, the index that would have to be maximized is the nation's standing in the world community, in terms of population, military power, and culture, whereas if it is defined as a collection of individuals, it is the individual's welfare that must be maximized. Having brought to light these conceptual differences, Grubel proposes that the main issue in the brain drain is whether or not the emigration of talented people is detrimental to those left in the country of origin.

He answers in the negative, pointing out that, while emigrants bring with them their potential contributions to the economy, they also cancel their claims on production and rights to services. Indeed, their departure would even benefit the economy:

... the departure of a person normally raises the long-run average income of the people remaining, because it results in an increase of the nation's capital-labor ratio (Grubel and A. Scott, quoted in Thomas 1966: 69).

Another source of economic benefit would be the remittances which immigrants send home and the advice and assistance which, as future experts in matters economic or political, they will be able to give their home country. Another consideration Grubel brings up in defense of the free market is that, by studying and working in the United States, the talented foreigner adds to the stock of human knowledge; this knowledge, he concludes optimistically, then becomes available at "zero cost" to his native country.

If the concerned observer were to be allowed to venture a judgment on these two contrasting positions, he would perhaps characterize Grubel's theory as too "Cartesian," as logical on the conceptual level but improbable on the existential. In the light of reports and statistics, and, not to be discounted, first-hand experience of events in an underdeveloped country, he would perhaps find himself more in sympathy with Thomas' conclusions: that capital investment is taking place largely within the elite circle of developed economies, and that talented and skilled personnel are flowing to these economies from the underdeveloped world. It would seem, though, that Thomas exaggerates too much his contention that a flow in the opposite direction was characteristic of the nineteenth century. The guiding principle of colonial rule was, after

all, to keep the colonies—the developing societies of today—both suppliers of raw materials and outlets for European-manufactured goods. It would indeed seem preposterous to assert that capital and skills were flowing to the developing countries from Western Europe when one is confronted by the realization that in the early part of the nineteenth century, as much as ten per cent of India's national income was being sent to England to subsidize British industry (McCord 1965: 51), or by the fact that, especially in the case of the Dutch and the French, virtually the only skills exported to the colonies were the skills of oppression—those of the colonial administrator, the plantation overseer, or the soldier.

A more objective picture of the nineteenth century would perhaps emerge if Thomas were to admit that whatever investment in industrialization took place in developing countries, and whatever high-level skills were exported to these countries by Europe, were largely incidental, and, particularly in the case of infrastructural projects and administrative skills, were meant to facilitate colonial administration, not to benefit the mass of the population. Thomas does say that it was primarily the developing "descendant countries" of Western Europe—the United States, Australia, South America, and New Zealand—which were at the receiving end of capital and labor, both unskilled and skilled, from Europe. Nevertheless, while it is true that it was during the nineteenth century that the United States transformed its economic base from agriculture to industry, it cannot be taken as an appropriate model for the nineteenth-century underdeveloped world. The model, to be faithful to historical realities, must be an India, a Philippines, or a Brazil.

Notwithstanding this criticism of Thomas' picture of the nineteenth-century international economy, the essential content of his theory—that a perverse flow of capital and skilled labor from underdeveloped to developed areas is occurring today—rings true.

In the case of Grubel, however, it is a different matter; the perceptive observer would find it difficult not to question the fundamentals of his theory. His view that the loss of a talented or skilled individual would not harm, but instead benefit, the economy of an underdeveloped country would be valid if one's model of the economy were static, if one were to preclude economic growth as a national objective, and posit, instead, satisfaction with the status quo. However, a definitely more realistic picture of the economy of an underdeveloped country would emerge if one were to see it as seeking to maximize its growth over a given period (Thomas 1966: 69). With this change in perspective, the economy would certainly have a claim on the potential contributions of skilled personnel; the loss of skilled labor would mean a slower growth rate, or worse, no growth at all. When we inject into the picture the population explosion, which is a fact in most developing countries, then the focus of economic endeavor becomes not only growth but *fast* growth. In such a case,

the loss of highly skilled people would not only result in the stunting of the economy, it could mean disaster. Grubel's conception of a static economy implies an acceptance of the inevitability of disparate standards of living for citizens of the West and members of the underdeveloped world. Indeed, it seems to be a reassertion, this time in academic gown, of the old colonial prejudice that "what is tolerable for me is heaven for Gunga Din."

What is more acutely disturbing, though, in Grubel's theory is the facile dismissal of nationalistic considerations in the computation of human-capital gains and losses. At a time when the United Nations has failed to provide a world-wide basis for international political and economic cooperation, Grubel's view that migration to the United States will ultimately redound to the benefit of the developing country cannot but strike one as a misguided visionary outlook. It presumes the possibility of harmony among nations, whereas the present points to a future of international rivalry. Political objectives, it would be superfluous to state, govern economic exchange, and in a world where national interest is the hidden yardstick behind the gracious manners of international diplomacy, the United States is no exception to the rule. To ask the underdeveloped countries to admit and live with the fact that what is good for the United States is good for them is, in truth, to ask them to reduce themselves into second-rate economies begging for scraps at the American dinner table.

A Few Comments on the Local Brain Drain

Ever since the British, early this decade, consciously articulated their fears over their loss of talent and skills to the United States, the brain drain has been very much in the awareness of Filipinos. Public interest hit a peak, however, in January 1967, when, following a trip to the United States, Rodolfo Ganzon, an outspoken Filipino senator, called a press conference and, in his typical bombastic manner, expressed his shock at the great number of Filipino medical personnel in the United States; he recalled, especially, one occasion when he was feted in New Jersey by Filipino doctors and nurses numbering in the hundreds (Manila Chronicle 1967). Ganzon followed up his statement by releasing several statistics on Filipino medical personnel in the U.S. and Canada,⁴ and in the weeks that followed, there appeared in the Philippine press a spate of articles explaining, denouncing, and, at times, defending the brain drain.

The upshot of Ganzon's "exposé" was a fact-finding trip to the United States made by Dr. Pacifico Marcos, younger brother of the Philippine president and head at that time of the Philippine Medical Association, and

⁴ Ganzon's statistics, which were often quoted later, but whose source was never revealed, were the following: 3,037 Filipino doctors in the United States, 800 in Canada, and 6,000 Filipino nurses in the United States (Manila Times 1967a).

the creation, by the president, of the Manpower Development Commission, an agency which was given the task of studying means of improving and increasing the supply of skilled labor for the developing economy of the Philippines. Since 1967 the concern over the brain drain has been reiterated and re-examined in a continuous outpouring of speeches, editorials, and policy statements—the most recent of which is the proposal of the Foreign Affairs department that U.S.-Philippine exchange programs be placed on a “freeze,” and Filipino scholars be channeled instead to European and Asian universities (Manila Daily Bulletin 1969).

Local opinion

Informed local opinion on the brain drain has tended to crystallize around the two opposing theoretical positions advanced by Brinley Thomas and Herbert Grubel. Like Thomas, Dr. Juan Salcado of the National Science Development Board views the brain drain in human-capital terms, calculating that the Philippines has lost about ₱100 million invested in an estimated 2,000 highly skilled Filipino professionals who have migrated to other countries (Manila Daily Bulletin 1968). Announcing the official Philippine stand on the brain drain during the 1967 ILO conference in Geneva, Raoul Inocentes Undersecretary of Labor, stated that the emigration of professionals posed a grave problem to the economic development of underdeveloped societies and denounced the advanced nations for taking advantage of the “economic helplessness” of the developing nations. Inocentes assailed particularly the view, common in “receiving” countries, that the “losing” country is responsible for the migration of its talented citizens because of its failure to provide them with the proper incentives to stay (Rebamontan 1965).

While Thomas' view of the brain drain as an unmitigated evil appears to be shared by the majority of intellectuals and public officials—not an unusual phenomenon since the Philippines is a “losing” country—there are, nevertheless, some important dissenting voices. Alfonso Calalang, Governor of the Central Bank of the Philippines, welcomed the outflow of professionals, reasoning that this would help ease the pressure on the 400,000 annual technical graduates who lack employment opportunities—a position similar to Grubel's contention that the emigration of talent increases the labor-capital ratio in an underdeveloped country (Manila Daily Bulletin 1967a). Supporting Calalang in an editorial, the *Manila Daily Bulletin* (1967b), an influential but conservative newspaper, took the view that professionals should not be begrudged the right to emigrate since the country could not absorb them. Another important Filipino official, Rafael Salas, executive secretary of the president, has introduced a fresh viewpoint to the debate: Instead of condemning the drain or making too much of its consequences, he has issued the plea to

Filipino professionals abroad, especially doctors, to reinvest part of their dollar earnings in the economic development of the country (Philippines Herald 1968). Salas' proposal echoes Grubel's observation that foreign professionals can contribute positively to the economy of the country of origin by sending remittances home.

The medical brain drain

The focus of concern on the part of officials and intellectuals is the departure of doctors and nurses. It is also on this problem that most statistics have been compiled and most recommendations have been drawn up. A realistic appraisal of the problem demands a presentation of some of the more reliable statistics on the medical drain and a few of the more significant proposals to deal with it.

As of December 1966, there were 2,474 Filipino resident doctors in the United States, a number which represented 25 per cent of all foreign medical doctors in the United States (Council on Medical Education 1966: 918). The office of Senator Ganzon revealed that, as of 1967, there were 800 Filipino doctors in Canada and 6,000 Filipino nurses in the United States (Manila Times 1967a). According to the U.S. Immigration and Naturalization Service, in one year alone, 1967, 550 doctors and 445 nurses were among the Filipino professionals who immigrated to the United States (INS 1968: chart 3).

These figures would hardly sound alarming, however, if background figures on the Philippine medical situation were not available. In 1965, the ratio of physicians to the population stood at 1:671 in Manila and, in the rural areas, at 1: 4,979 (Bowers 1965: 122). In 1957, the Department of Health revealed that only 545 of the proposed 1,392 rural health units had physicians (Tutay 1967: 18), and it appears that no improvement has been registered since then. An isolated bit of news would perhaps convey the bleak medical outlook for the rural Philippines more keenly than nationwide statistics: In a town in Cagayan, a province in the northern Philippines, a newly completed 35-bed tuberculosis pavilion could not admit patients because it lacked doctors, nurses, and medical technicians. "Applicants apply," wrote the pavilion's director, "but before their papers are processed, I am surprised that they either are already abroad, in the city, or in other hospitals" (Philippines Herald 1968a). If a TB pavilion with beds and relatively modern equipment finds itself devoid of doctors and nurses, one can just imagine the fate of those barrios and towns which have no medical facilities at all. Such a situation could very well explain why, in this era of heart transplants, the popularity of the quack doctor and the faith healer remains undiminished in the rural Philippines.

In spite of the great amount of public attention received by the medical drain, however, practically no measure has been implemented to cope with it. There was talk in the Philippine Congress sometime ago of establishing travel restrictions for nurses, but this died out with the opposition of the press, which invoked the principle of "freedom of movement." Spurred perhaps by the Indian government's success in this move, there has also been some discussion recently of the possibility of preventing the ECFMG examinations, the qualifying tests of medical practice in the United States, from being given in the Philippines. This idea has not gained currency, however, perhaps on account of its essentially repressive character. As for positive measures to plug the drain, these have been few in number, and those that have been proposed have suffered the fate of measures advanced to solve problems in other areas—legislative inaction. A case in point is the bill filed by Rep. Sergio Loyola in the Philippine Congress which sought to upgrade the working conditions and living standards of physicians and nurses (Manila Chronicle 1968). The bill, first presented in April 1968, is practically forgotten now, killed not so much by opposition, it seems, but by lack of interest on the part of officials.

On the one hand, the present impasse reflects the traditional Filipino manner of enveloping a problem with much concern and too much talk, but hardly getting down to brass tacks and solving it. It could mean, on the other hand, that in seeking a solution to the brain drain, Philippine officials, like officials in most other underdeveloped countries, have left much of the initiative to the United States—a posture, it must be noted, analogous to saying, "You can shoot me, I know, but please restrain yourself." To assume this stance in dealing with a political and economic power like the United States is, one can easily see, a hazardous policy, for in international relations, mercy has been among the least of virtues.

The need for a definitive picture of the drain

The emigration of professionals other than doctors and nurses is the subject of the IPC Brain Drain Survey. Before proceeding to the report, however, and by way of introduction to it, we would like to issue some final comments. In spite of all the statistics given so far on the extent of the Philippine brain drain, most observers agree that there still exists the need for a clear and definitive picture. There is a need, in other words, for well-coordinated scientific studies which will not only measure the scope of the brain drain, but also point out its implications for the future of the Philippines. A journalist, describing her frustrating search for meaningful facts and figures, writes (Mercado 1967: 11):

Certainly a partial solution to the brain drain is to discover the very dimensions of the problem itself. How many have gone abroad? How many have returned home? What are they doing now? How many have stayed or gone back to the

United States? The search for brain drain figures is full of blind alleys. The visa section of the American embassy has lumped together records of every Filipino who has gone to the United States (the number is 10 a day) without a separate list for those who have gone as students. Visa counsellors, however, estimate that two-thirds is a safe estimate. Our own department of foreign affairs has kept no helpful records. The National Science Development Board has a limited record of Ph.D.'s, some of them obtained as early as the '20s by the first pensionados.

The writer has pinpointed some of the more important problems confronting the researcher and the more crucial questions which must be answered by studies of the brain drain. Statistics given to support the claim of a "critical loss of personnel" are often outward migration statistics—the number of visas granted to Filipino nationals by the different advanced countries. While these figures may cover the leaving patterns of highly skilled Filipinos, they do not provide us with their "return" rates—figures which are certainly crucial in determining the profit and loss account of the nation. This leads to a more fundamental problem, the definition of "brain drain."

An appropriate definition of the brain drain would have to be based on a distinction between those who leave for studies abroad but eventually return, and those who leave, whether for studies or work, and never return. Study or training abroad does not automatically constitute a brain drain; in fact, it may be termed a "brain gain." When one realizes that medical schools and hospitals in the Philippines have postgraduate facilities which can accommodate only 15 per cent of the country's annual medical graduates (The Evening News 1967), then one would have second thoughts about regarding many of the emigrants as constituting a loss of talent and skills, even if their departure should be an immediate loss to the rural areas. The decisive question, it seems, is whether or not they return.

In studying the nature and proportions of the emigration of skilled personnel from the Philippines, one can perhaps learn from those who have studied the problem on an international scale. A particularly valuable tool which might be borrowed from economists like Brinley Thomas and Herbert Grubel is the concept of human capital. Although, as mentioned earlier, Dr. Juan Salcedo of the National Science Development Board has utilized this concept to estimate the investment loss of Filipino immigrant professionals to the Philippines, precise, scientific evaluation is needed, not educated guesswork. Quantifying human skills would more clearly and more concretely relate them to other factors in the economy, and thus facilitate the computation of economic gains and losses caused by migration, as well as predict future trends. While it is to be admitted that the human capital idea has still a long way to go before it will be a sophisticated conceptual tool, this should not constitute a hindrance to its being applied to the study of Filipino talent migration. An operational concept will only be sharpened by the acid test of concrete situations, and, it might be mentioned, the human capital concept has already been used in one

regional study with positive results—Robert Myers' study of the Peruvian brain drain (Myers 1967).

The question of methodology is, however, secondary. The fact of greater importance is that a scientific assessment of the nature and magnitude of talent emigration from the Philippines is in order. This is especially true at the present moment, since there has arisen a clamor for a definite public policy toward the problem. Policy must, after all, be based on hard empirical realities, lest it be the source of costly political and economic miscalculations.

II. THE PHILIPPINE BRAIN DRAIN SURVEY

Before undertaking this study of the brain drain's scope in the Philippines, we had heard and read a variety of statements on the subject, some of which have been presented above. Especially when they concerned the migration of talent other than physicians and nurses, these opinions were characterized by two qualities: first, on examination they turned out to be hunches supported at best by incomplete information, often strictly anecdotal or derived from limited personal experience; second, those who bemoaned or belittled the brain drain's scope could not with any certitude answer this simple question, namely: Is the Philippine brain drain closer to two per cent or 20 per cent? It seemed high time to get some facts on the question.

Our first hope was that the necessary data might be found in existing lists or directories and pulled together with relative ease. However, as we were about to enter this area of preliminary investigation, we met two predecessors who had spent some time in it, taking every turn, following every lead, but never deriving a complete picture of the subject.⁵ It was their experience, and ours, that even the sum of all available lists would not answer the questions we were asking. This was so because large numbers of Filipinos who study abroad do so on their own funds, their names therefore appearing on no records of fellowships or other grants; and even where lists exist, as for participants in the Fulbright-Hays and similar programs, the last address given cannot be taken as the current address of the grantee. To be accurate documents, even for the limited population they concern, these directories would have to be carefully updated every two or three years. As matters stand, we know that many returned grantees, still listed as Philippine residents, actually left these shores long ago to marry or work permanently abroad.

⁵ We wish to thank Dr. Josef Mestenhauser, visiting Fulbright professor at the University of the Philippines 1966-1967, and Dr. Neri Pascual, his associate in an educational study supported by the Asia Foundation. They generously shared with us the results of their work.

Under these circumstances, we concluded it would be impossible to gauge the scope of the brain drain from a study of the existing documents. Hence we decided to do a fresh survey of the graduates of Philippine colleges to find out what had happened to them.

Plan of the Survey

Meaning of the "brain drain." There are many ways, equally valid, of defining the so-called "brain drain." All definitions have in common the element of an international migration of talent, with differences arising mainly from how *talent* is conceived. For this first estimate of the scope of the brain drain, we decided to use a rather generous, easily applicable norm for talent, namely, possession of the *bachelors degree*. This may strike some readers as a rather naive definition of talent, especially when the law of averages alone should suggest that not every emigrating college graduate is a loss to the Philippines. However, if we consider who the people are whose emigration from the Philippines is spoken of as a loss, we find that they are, in fact, generally college graduates. Hence, if we use the college degree as a short-hand indicator of talent and find out the extent to which graduates of this description are leaving the Philippines, we shall have at least a *maximum* estimate of the scope of the brain drain, for presumably included in the figure will be not a few untalented college graduates.

Since our present principal aim is to estimate the quantitative scope of the brain drain, and not its qualitative seriousness, this maximum estimate will be an adequate answer to our question. At some future date someone will hopefully examine the qualitative aspects to which we shall pay only passing attention.

Defining talent as we do, then, our principal finding on the brain drain's scope should be, in effect, an answer to this question: What percentage of Philippine college graduates eventually emigrate? In preparing our answer we should give separate consideration to those who did no further studies, those who did post-college studies locally, and those who studied abroad.

Population studied. We first limited our population to the graduates of just five courses: liberal arts, education, law, engineering, and commerce. This was done to reduce the magnitude of the task, of course, but also because we wished to stay away from the special fields of medicine and nursing, for which relatively satisfactory data were already available. It would be worthwhile to note that according to the census, in the school year 1965-1966, those in the five courses chosen for study constituted about 89 per cent of the college enrolment (Bureau of the Census and Statistics 1968:23).

Next, we decided to report only on graduates of the years 1948 to 1963. The year 1948 was a good year to begin with, since that was when the Philippine Fulbright program, a major channel to postgraduate education in the United States, was started. Further, we decided to stop with 1963 since we wanted all our graduates to have had the opportunity to study abroad, return home for two years (as required of the holders of U.S. exchange-visitor visas), and leave again, perhaps permanently. Our research began in 1967, which allowed members of the last group (graduates of 1963) four years in which to study, return, and leave again.

Our population can be defined, then, as those *graduates of Philippine colleges, from 1948 to 1963, whose course had been either liberal arts, education, law, engineering, or commerce.*

Sampling design. The sample was selected by stages. First we sought, for *each* of the five courses, the names of all Philippine colleges that had produced graduates in this field in 1963.

We found considerable variation in the number of years these colleges had been in existence and producing graduates in the five courses. Some had held their first graduation in 1963, others went back for years, still others for decades, and a few for one or more centuries. But our respondent population was the 1948-1963 graduates, in five courses, of those schools which graduated students in these fields *at least* by 1963.

Of all the colleges fitting this definition for a particular course, we next chose a 20 per cent random sample. However, in recognition of their importance on the local scene, we first purposively included the University of the Philippines and the Philippine Normal College.

We did not take all the graduates in the years 1948-1963; more sampling was done. First, starting with 1963, and going backwards in time, we took every fifth year for which the colleges had graduates in a particular course. For some newly established colleges or courses, only one graduating year (1963) was included; the oldest colleges had representatives from 1963, 1958, 1953, and 1948. Finally, from each of these graduating classes a ten per cent sample of graduates was randomly selected for interview.

In summary, our respondents include, *first*, a ten per cent random sample of systematically selected classes graduated from a random 20 per cent of Philippine colleges: these colleges were those that produced graduates in one or more of five fields at least by 1963; *second*, a ten per cent random sample of the 1948, 1953, 1958, and 1963 graduates of the University of the Philippines and the Philippine Normal College in one or more of the same five fields. To repeat, the population represented by this sample can be defined as graduates of Philippine colleges in the years 1948 to 1963, with degrees in liberal arts, education, law, engineering, or commerce. It is with these people, and only these people, that this report is concerned.

Doing the Survey

Project chronicle. Once the plan of the study had been determined, our first task became the construction of a list of all Philippine colleges which were, as of 1963, in existence and granting degrees in one or more of the five courses that interested us. We embarked on the project in February 1967, and completed the list in April of that year.⁶

When the list had been compiled, we discovered that there were, as of 1963, a total of 631 Philippine colleges and universities granting degrees in at least one of the five courses with which we were concerned. The distributions were as follows:

<i>Course</i>	<i>Total number of colleges granting degree in 1963*</i>	<i>Chosen for survey sample*</i>
Liberal arts	159	33
Education	269	53
Law	57	14
Engineering	28	8
Commerce	118	21
Total	631	129

* Many colleges were listed, and subsequently selected, under more than one course. With duplications removed, the total number of colleges and universities listed was 231. Those drawn in the sample were 96. For the names of these institutions see Appendix A.

Before the end of April 1967, a letter was sent to the head of every institution drawn in the sample. This letter explained the purpose of the survey and asked for the cooperation of the school and its officers. In particular, we asked for a list of the names and last-known addresses of all those alumni who had been graduated from the school in those courses and years for which the college had been selected.

Getting these lists was not easy. Often a second or third letter was required to raise a reply, or at least a complete reply, from a college. We concluded, in fact, that for most registrars and alumni secretaries (where they existed), the keeping of up-to-date records was not exactly a matter of compulsion.

Where the list of graduates had been received from a college, we drew a random 10 per cent sample, with substitutes, and sent the new list back to the institution from which the first had come. With it went a form asking for certain information about each of the selected graduates (see *Questionnaires*, below). This form was very rarely completed and returned by the schools,

⁶ Had we not enjoyed the enthusiastic support of the Undersecretary, now Secretary, of Education, Dr. Onofre D. Corpuz, we could not possibly have succeeded in this initial task. Those who have tried to construct similar lists from government records will know the problems involved; those who have not made such an attempt would find it difficult to believe our account of the problems involved.

but a follow-up visit by one of our staff, involving detective work with school administrators and faculty, gave relatively successful results.

During the period July 1967 to December 1968 one of our principal activities was in fact this kind of personal following up and searching out of the graduates in our sample. The data we finally compiled about our 1,038 respondents came from the following sources: the respondent himself (35 per cent of cases); respondent's relative or friend (42 per cent); school staff (22 per cent); other sources (one per cent). About half the respondents replied by mail, half in personal interview. Almost all information from relatives, friends, and school staff was collected in a personal interview.

By September 1968 we had data on about 450 of 1,500 or so graduates drawn for our sample. Thanks to the National Science Development Board we were at that time able to send staff members to those parts of Luzon, the Visayas, and Mindanao from which we had received very few replies from respondents. These field trips brought our total to about 1,000 by December 1968, the final 38 being mailed responses received in the months of December 1968 and January 1969. As of January 31, 1969, the data-gathering phase was officially closed, just 24 months after the beginning of the project. We felt it would not be worth the delay and expense to try to get data on the missing third of the desired sample.

Questionnaires. In various forms, some for the project staff, others for the use of individual respondents or of school authorities, the questionnaires we used were designed to gather the following information:

For all respondents

- Whether they did any post-college studies
- Present position and employing organization
- Present home address (and telephone)
- Present business address (and telephone)
- Present full name
- Sex of respondent
- Source of above information (respondent, school, relative, friend, other)

For those who did further studies

For each of up to three periods of study, this information was sought:

- Place of study (country)
- Institution
- Calendar year(s) of study
- Major field

For those who studied abroad

For each of those periods of study spent abroad, this information was sought:

- Degree obtained, if any
- Source of support
- Date of return to the Philippines
- Plans to go abroad again

From the data contained in the replies to these questionnaires, several additional facts were derived, among them the duration of each period of study and the intervals between them.

Limitations of the Study

There are two important sources of possible limitations in this survey. The first is the incompleteness of the sample, while the second is its unrepresentativeness. However, the fact that we were able to interview or otherwise get information on only two thirds of the sample we had drawn would not of itself seriously limit the study, or cast doubt on its validity. It is the pattern of the incompleteness—the way it leads to unrepresentativeness—that is a more important consideration. Hence our real problem is this: the degree to which unrepresentativeness of the sample leads to a false picture of the population for which it is supposed to stand.

From the figures presented in Table 1, it seems that the sample we actually reported on is quite different from the one we had hoped to study. As many as eight sources of error appear to reside in the sample we studied—four cases of over-representation and four of under-representation.

<i>Over-represented are the graduates of</i>	<i>Percentage of sample</i>		<i>Statistical significance*</i>
	<i>should be</i>	<i>actual</i>	
1. Private Catholic schools	20.0	24.9	0.01
2. Classes under 100	42.6	56.2	0.05
3. Non-Manila schools	37.8	48.0	0.001
4. Classes of 1958 and 1963	75.1	82.2	0.001
<i>Under-represented are the graduates of</i>			
5. Private nonreligious schools	50.1	43.7	0.01
6. Classes of 200-plus	33.6	18.3	0.05
7. Manila schools	62.2	52.0	0.001
8. Classes of 1948 and 1953	24.9	17.9	0.001

* Test of significance was the Chi-square goodness-of-fit.

On closer inspection, we see that all these discrepancies between the drawn and studied sample are traceable to the workings of a simple rule: The likelihood of contacting a college alumnus is in inverse proportion to the size of his class and number of the years which have elapsed since he was graduated. In other words, the bigger his class, and the greater the number of years since he left the school, the less likelihood there is that he will be found. If this is not immediately apparent from the kinds of schools under- and over-represented, it should be recalled that colleges with graduating classes of 200 or more tend

to be private nonreligious institutions located in Manila. Independent of these interconnected characteristics is the year of graduation, which forms the second independent variable in the rule enunciated above.

To what degree is the underrepresentation of private, nonreligious Manila schools likely to affect our findings? As we shall see, graduates of these colleges rarely study abroad. Hence their being underrepresented in our sample will have the effect of raising the emigration, or brain drain, percentage. Whatever this percentage turns out to be for the sample we studied, we shall be quite sure we are dealing with a high estimate, and that the true figure for the population is considerably lower.

The effect of under-representing the earlier graduating classes is probably similar, but for a different reason. There is a great likelihood that, of graduates who left school many years before, informants will remember those who went abroad more easily than those who did not. Hence if we rely (as we must) on what informants tell us about numbers of absent and long-since graduated respondents, we can expect an inflated picture of the study-abroad rate. If we had gotten information on *all* the earlier graduates, the percentage would probably not come out so high for those years (see Table 2a).

One final consideration reinforces the conclusion that study-abroad and emigration rates will not really be so high as they appear from our findings. Graduates of the University of the Philippines have been purposively included for every year and course with which we are concerned. This leads to an accountable over-representation of a school which has, as we shall see, one of the highest emigration rates in the nation. In turn, this will tend to inflate the overall brain drain picture beyond reality.

Findings

Characteristics of post-college studies

Who take further studies. Of those Filipinos who were graduated from college in the years 1948 to 1963, about two out of five (38.3 per cent) went on for some kind of post-college studies. The percentage is not unchanging over time; rather, there was a steady decline from about 64 per cent in 1948 to 34 per cent in 1963 (Table 2a).

Several facts may throw some light on this pattern. The first is that college enrolments increased at least threefold in the period under study. Carson reports (1961: 112) that the total enrolment in private colleges went from 77,366 in 1947-1948 to 172,131 in 1952-1953, and on to 216,771 in 1957-1958. Unless graduate schools boomed in the same manner—and there is no evidence they did—a percentage decrease in students taking post-college studies would be a natural accompaniment of the college-population explosion.

The second fact to be considered in attempting to interpret this decline in the percentage of graduate students is the selective remembering likely to characterize informants speaking of classmates, students, relatives, or friends who left college many years ago. Those who did post-college studies, especially if they traveled abroad, will be recalled (and therefore recorded) more easily than those who did no such studies. This can lead in our study to an inflation of the graduate-studies rate, especially for the years 1948 and 1953.

In our sample the percentage of men college graduates who went on for further studies was about the same as that of women (Table 2d), but those who did post-college studies differed from those who did not in a number of ways, among them, where their college was located, who ran it, and what course they had taken. Thus students from a Manila college were much more likely than others to enrol for post-college studies, as these data indicate (see also Table 2b):

<i>Location of college</i>	<i>Percentage of graduates who undertook post-college studies</i>
Manila	46
Luzon outside Manila	30
Visayas	35
Mindanao	20
Average	38

Again, among those who were graduated from the state-owned colleges in our sample, about five out of ten went on for further studies. For graduates of private colleges, whether religious or not, the figure was about three out of ten (see also Table 2c).

<i>Ownership of college</i>	<i>Percentage of graduates who undertook post-college studies</i>
Private, religious	34
Private, nonreligious	31
Public (state)	53
Average	38

This difference between private- and public-college graduates is in large part an artifact of our having purposively included the University of the Philippines (U.P.) sample under every one of the five courses considered. Almost all of the public-college graduates in our sample who went on for post-college studies were from this university. Significantly, it is located in Metropolitan Manila. In a later section, we shall compare U.P. with a number of other Philippine colleges from the viewpoint of post-college studies taken by their alumni.

The likelihood of an individual's taking some post-college studies is also related to what undergraduate course he pursued. If he was a liberal arts major, he probably went on for higher studies; if he took commerce, he probably did not. Since the law course presupposes a two- or four-year college preparation, it is no wonder so few lawyers study beyond the Bachelor of Laws degree.

The figures are the following (see also Table 2e):

<i>College course</i>	<i>Percentage of graduates who undertook post-college studies</i>
Liberal arts	63
Education	38
Law	16
Engineering	37
Commerce	18
Average	38

In summary, in the period 1948-1963 about two out of five of the college graduates in our sample went on for further studies, the figure varying significantly by year of graduation, location and ownership of school attended, and by college course taken, but not by sex (Table 2a-e).

What studies they take. Graduates of the college liberal arts course tend more than others to continue their studies. They also show greater variety in the choice of post-college specialities, at least eight per cent of them enrolling in each of the following graduate courses: law, education, commerce, humanities, natural science, and medicine (Table 3). For a clear majority of the students who enrol in it, the undergraduate liberal arts course constitutes general, non-terminal and pre-professional training.

In this the liberal arts course contrasts with the education and engineering courses on two scores: first, graduates of the latter courses go on for further studies in fewer, if considerable, numbers (about 38 per cent in each case); second, engineering and education graduates show a decided preference for a smaller number of graduate concentrations. Engineers favor natural sciences and commerce, in that order; teachers overwhelmingly continue in education (Table 3).

Graduates of the law and commerce courses contrast with those of liberal arts, engineering, and education in the small percentage (less than 20 per cent) that goes on for further studies. Where they do return to school, it is especially for one of the social sciences, a common pattern being for lawyers to study commerce and for business graduates to study law or education (Table 3).

Although the data in Table 3 concern the first period of post-college study reported by respondents, there is no significant difference between this

pattern and that of the second and third periods reported. Education, natural science, and commerce are always the favorite post-college subjects, in that order.

When and how long they study. A comparison of the first and second periods of study from a temporal viewpoint reveals two patterns: only a minority (about 23 per cent) goes into graduate studies right after college, or into a second period of study after the first; further, for a full third of these post-college students, the period of study lasts less than one year; for almost two thirds, less than two years (Table 4). It is not surprising, then, that *two thirds* of those who take post-college studies *never*, repeat *never*, get a higher degree. Only one out of five gets even a masters degree (Table 4c). If this makes most graduate studies seem like a waste of time (and they may be, of course) it should be remembered that many, perhaps most, students take further studies not for the sake of a degree, but because a record of further studies entitles them to an increase in salary. From the viewpoint of such students, the only worthless graduate studies are those that bring in return for expended energy and money no exchange of academic credit.

Where they study. Only relatively few students who take post-college studies ever leave the Philippines, of course. For the first period of study the figure is about 17 per cent; for the second, about 31 per cent (Tables 5a and 6a). However, place of post-college study varies greatly according to year of graduation from college, location of college attended, major subject studied, and sex of the student.

In the period 1948 to 1963 the tendency was a decline in the percentage of those studying abroad. This decline matched the general decrease over time in the percentage of those who went on for further studies. Nonetheless, regardless of the year of graduation, more college graduates went abroad for the second period of studies than for the first. Among those who study abroad, the tendency to study in countries other than the United States appears to have developed especially since 1958. Studying in Asia rather than the West is clearly an even more recent development (Tables 5a and 6a).

Studying abroad is associated above all with graduation from a college located in Metropolitan Manila. Of those who graduated from such an institution and went on for further studies, 26 per cent traveled abroad for the first period of study and 40 per cent for the second. The highest comparable figures are for graduates of colleges in the Visayas: five and 20 per cent, respectively (Tables 5b and 6b).

Country of graduate study varies according to the major subject studied. On the average, as we said, about 17 per cent of graduate students go abroad for their first period of study. *Higher* than average in this tendency are students of the natural sciences (49 per cent), business (32 per cent), and the humanities (25 per cent); *lower* than average are students of agriculture (none in our

sample went abroad), education (two per cent), and law (six per cent). Students of medicine and the behavioral sciences were about average, around 15 per cent (Table 5c). For the second period of study, the pattern was similar (Table 6c).

In terms of respondent's sex, a clear pattern emerges. Although approximately the same percentage of males and females go on to post-college studies, males have a significantly greater tendency to study abroad. For the first period the percentage is 27; for the second, 44. The corresponding figures for female respondents are eight and 18, respectively (Tables 5d and 6d).

What institutions they attend. Carson estimated (1961:66) that about 88 per cent of Philippine college students were enrolled in private institutions. What about the graduate level—of those who go on for further studies, what percentage attend private schools? The answer varies greatly according to the country in which graduate studies are undertaken. Thus, for those who study in the Philippines the tendency is to attend a private graduate school. This was the case for about 75 per cent of our sample (Table 7). For those who study abroad (the United States in particular), private schools are still favored (about 60 per cent), but fully 50 per cent attend private nonreligious schools, only 10 per cent attending private religious schools (Table 7).

Who supports their studies abroad. According to the Institute of International Education (1967: 16–17), about two out of five of the 2,679 Filipinos enrolled in American universities in 1967 were supported by personal funds. This figure agrees fairly well with our findings, by which the percentages are about 35 per cent for the first period of studies and 32 for the second (Table 8). The five per cent difference may reflect the over-representation in our sample of graduates of the University of the Philippines, who have access to foundation (institutional) funds far more than do the graduates of other Philippine colleges.

American money of one kind or another (government, university, foundation) supported 42 per cent of those who studied abroad, with Philippine funds supporting about half as many (16–22 per cent; Table 8).

What the graduates of 1948–1963 are doing now

Employment patterns. It is often said that Filipino college graduates, as a group, have a higher rate of unemployment than others with lower educational attainment. This is not exactly the case, however. Employment data gathered by the Bureau of the Census and Statistics (1965:38) indicate that graduates are unemployed in the following percentages: graduates of elementary schools, 8.3 per cent; graduates of high school, 11.3 per cent; college graduates, 5.7 per cent. Unemployed to a far greater degree than others, however, are those

who *attended* college for one to three years but did not complete the four-year course successfully. The unemployment percentages are 16.4, 11.6, and 16.9 for those who completed one, two, and three years of college, respectively. It is possible that those who get the degree have relatively little trouble finding a suitable job; those who have difficulty are the students who have raised their job expectations by attending college but have no degree to back up their applications when they seek the position they have learned to consider suitable for themselves.

In the strict sense of the term, as used in the survey of households cited above, a person is "unemployed" only when he is actively seeking work and cannot find it. Hence the 5.7 per cent of college graduates reported as unemployed are respondents who said they desired employment but were unsuccessful in getting it. In the Philippine Brain Drain Survey, we did not ask if the respondent was seeking employment; we merely asked if he was employed or not. Hence our figures are maximum unemployment figures, undoubtedly including some respondents (housewives, for instance) who are not, strictly speaking, among the unemployed.

The overall percentage of "unemployed" among our respondents is 7.6, about two per cent greater than the figure reported for college graduates in 1965 (above). Those who took no post-college studies and those who studied only in the Philippines have closely similar percentages, 7.3 and 7.1, respectively. Those who studied abroad are unemployed to a slightly greater degree (11.3 per cent, Table 9a). This higher figure is probably explained by the relatively higher percentage of females who study abroad and ultimately migrate to and become housewives in the United States and other foreign countries.

As might be expected, about seven out of ten college graduates become professionals of one kind or another. However, the percentage is *lowest* (62 per cent) among those who studied abroad and highest (76 per cent) among those who did further studies only locally. On the other hand, whereas only eight per cent of college graduates become businessmen, the figure for those who studied abroad is *twice* that (Table 9a). These figures on employment in business reflect the place and major subject of previous studies quite well: Of those who studied abroad for the first period of studies, about 22 per cent majored in business; of those who studied abroad in the second period, about 17 per cent had a business major. The corresponding figures for those who studied in the Philippines were about nine and five per cent, respectively (Tables 5c and 6c).

In analyzing data on respondent's present employer, we used a twofold distinction: educational institution vs. other institution; and government vs. private. The overall findings can be summarized in a two-by-two table of percentages (see Table 9b).

Sector of employer	Kind of occupation		Total
	Education	Other	
Government	45%	12%	57%
Private	11	32	43
Total	56	44	100

Hence, about three out of five college graduates in our sample work for the Philippine government, most of them as teachers. The other two-fifths work for private organizations, three out of four of them in non-educational occupations.

The institution and sector of the respondent's employer vary significantly with the post-college studies of the respondent. Those who took no such studies, or did so only locally, tend to follow the overall average (three out of five employed by the government; about one half in education). But those who studied abroad show a different pattern: two out of three are employed in the *private* sector, and only one out of four in education (Table 9b). As a group, those who study abroad apparently contribute more to the private world of business than to the government or education. Nonetheless, we are assured that with relatively few exceptions (four per cent), those who took graduate studies are probably or certainly employed in a position related to the advance training they received (Table 10).

Where they live. The current permanent addresses of those Filipinos who graduated from college in the years 1948 to 1963 give us the basic data for a description of the brain drain's scope. These data, presented in Table 11, reveal that about seven per cent of all Filipino college graduates ultimately emigrate from the Philippines. In this regard, there is little difference between those who did post-college studies in the Philippines (emigration rate, about five per cent) and those who did no further studies at all (about four per cent). However, *of those who studied abroad, about 40 per cent—two out of five—eventually leave the Philippines for good* (Table 11).⁷

Who tend to leave. Differences in this tendency to emigrate are associated with the respondent's sex, college course taken, college attended, and source of support during studies abroad. Thus of those who did post-college studies only in the Philippines, males emigrate slightly more than females (5.2 vs. 3.4 per cent; Table 12). However, of those who studied abroad, the average is one emigrant out of two for females, one out of three for males (Table 12). Women are much more likely than men to leave the Philippines permanently after having studied in some foreign country.

⁷ Without the University of the Philippines, the alumni of which are over-represented in our sample, the figure would be 30 per cent. Hence the lowest figure is somewhere between 30 and 40 per cent.

Considering the evidence we have for those 17 colleges which had at least one alumnus-respondent who studied abroad (they are listed in Table 14), several additional facts are worth noting. First, the overall emigration rate for these colleges is about 14 per cent—a figure *double* that of our total college sample (compare Tables 13 and 11).⁸ This ratio also holds for those alumni who did no further studies in the Philippines: about eight per cent for the 17 colleges listed in Table 14, four per cent for the total sample (Table 11).

Second, among the alumni of these 17 colleges, those who studied education and law emigrated much less frequently (3–7 per cent) than did those who took liberal arts, engineering, or commerce (15–22 per cent; Table 13).

Third, while it is true that a limited number of colleges in our sample had alumni who emigrated, these colleges differ greatly among themselves in this regard. An inspection of Table 14 reveals, for instance, that the colleges and universities listed there may be grouped in three categories: those for which the emigration percentage is above the median for all alumni (“Total” column) as well as for those who studied abroad (“Abroad” column); those above the median by just one such measure; those above the median by neither of these indicators. The groupings which result may be called high, medium, and low in terms of an alumni emigration ratio.

Sample colleges and universities arranged according to alumni emigration ratio (total sample size in parentheses)

High emigration ratio

- Adamson University (10)
- Ateneo de Naga (4)
- University of Santo Tomas (11)
- University of the Philippines (162)
- De La Salle College (12)

Medium emigration ratio

- Mapua Institute of Technology (82)
- Ateneo de Manila (37)
- College of the Holy Spirit (4)
- San Beda College (6)
- St. Theresa's College (7)

Low emigration ratio

- Far Eastern University (41)
- Francisco College (5)
- Maryknoll College (3)
- Osmeña College (12)
- Philippine Women's University (3)
- Colegio del Sagrado Corazon (7)
- Silliman University (15)

Pending more careful analysis of the data, one can remark that among the schools in the high and middle categories are found those which are considered

⁸ Without the University of the Philippines, the figure would be about 11 per cent.

by many to be the very best in the nation, namely, the University of the Philippines, De La Salle College, and the Ateneo de Manila. Also present among schools in the high and middle categories are two well-known sources of chemists and engineers, Adamson University and Mapua Institute of Technology.

As we noted above, the rate of emigration is highest among college alumni who studied abroad. Further, the rate differs significantly according to who paid for their studies. To put the finding briefly, those who pay their own way are much more likely to emigrate than are those supported by government, foundation, or other institutional funds. Combining the data for both the first and second periods of study (Tables 15 and 16), and counting as residents abroad only those who have *permanently* left the Philippines, and as residents in the Philippines only those who are *definitely* in the Philippines to stay, the following picture emerges.

Source of funds for studies abroad	Permanent address					
	Philippines		Abroad		Total	
	N	%	N	%	N	%
Personal	10	50.0	10	50.0	20	100.0
Other	28	82.3	6	17.7	34	100.0
Total	38	70.4	16	29.6	54	100.0

It should be noted that only 54 cases are reported here, there being another 31 for which the permanent address of the respondent is not yet complete. (compare Table 11 with Tables 15 and 16). This accounts for the difference between the emigration ratio here (29.6 per cent) and in Table 11 (39.5 per cent). The point at the moment is *not* the exact total percentage which emigrates, but the difference between the emigration ratio of the self-funded (50 per cent) and those funded by others (about 20 per cent). For Tables 15 and 16, where *probable* emigration is included, the figures are slightly different: 47 per cent vs. 30 per cent for the first period of study, 67 per cent vs. 40 per cent for the second. Every set of percentages says the same thing, loud and clear: *students whose studies are supported by grants are much more likely than others to return permanently to the Philippines.*

Summary of basic findings

The main purpose of the Philippine Brain Drain Survey was to find a reasonably accurate answer to this question: What has happened to those Filipinos who majored in liberal arts, education, law, engineering, or commerce and were graduated from a Philippine college in the period 1948 to 1963? In particular, where do they now reside? The answer to the latter question will define for us, in practical terms, the scope of the brain drain in the

Philippines. As we add qualifiers to our answer, distinguishing those respondents who later studied abroad from those who did not, we shall be moving into factors associated with this emigration. We report in turn on each of these questions—the brain drain's scope and conditions producing out-migration of talent.

A. Scope of the brain drain

1. Of all Filipinos who are graduated from Philippine colleges, about seven per cent eventually take up permanent residence abroad.
2. For those college graduates who do further studies locally or not at all the emigration ratio is about four to five per cent.
3. Of those who study abroad after college, a maximum of about 40 per cent eventually emigrate.

B. Factors associated with emigration

1. Country of post-college studies
Those who study abroad are about eight times more likely to emigrate than those who study locally or not at all (see A above).
2. Sex of the student
 - a. Of men and women college graduates who do not study abroad, men tend to emigrate slightly more than women.
 - b. Of those who study abroad, women are $1\frac{1}{2}$ times more likely to emigrate than men.
3. College course taken
Graduates in liberal arts, engineering, and commerce are much more likely to emigrate than those who studied education or law.
4. College attended
 - a. Alumni of relatively high quality colleges and universities in the Manila area are much more likely to emigrate than the alumni of institutions outside Metropolitan Manila, or of schools of less high quality anywhere.
 - b. Graduates of all-female colleges and universities are less likely to emigrate than those from all-male or coeducational schools.
5. Source of support
Students who enjoyed fellowship support during their studies are about $2\frac{1}{2}$ times more likely to return and stay in the Philippines than those who paid their own way.

Conclusions

Findings are facts, but conclusions are interpretations of those facts in the light of certain assumptions, premises, principles, or goals. Thus while it is a fact that about two out of five of the Filipinos who study abroad eventually emigrate, it is *not* a fact that this is desirable or undesirable. That proposition

will depend upon the policy framework within which the fact—that 40 per cent of those who study abroad later emigrate—is viewed. If national policy determines that *all* out-migration is to be discouraged, then the finding of a 40 per cent emigration ratio obviously indicates an undesirable state of affairs.

But let us suppose that Philippine national policy is opposed, not to *any* emigration, but to the outmigration: (1) in large numbers; (2) of those who are notably talented; and (3) whose services are needed at home at present or in the near future. How should our findings be interpreted in this light?

We estimate from the data available to us that in the years 1948–1963 approximately 250,000 received bachelors degrees in one of the five courses that concern us here. Even if we contemplate only the overall average of seven emigrants per 100 graduates, the total figure would be a respectable 17,500 for the years we are studying. But in a study of the brain drain such as this, our major interest is in those who study abroad. For while there are, in absolute terms, many highly talented Filipinos who, by choice or circumstance, do not leave the country for academic training, there is good reason to believe that a relatively large number of these gifted Filipinos do in fact study abroad. If we are looking for a definable group likely to contain a higher-than-average concentration of talent, we could do worse than start with those who take graduate studies abroad.

Another consideration, further narrowing the area of our concern, is the strong likelihood that, among those who study abroad, the most talented will be found in the subgroup that received grants or fellowships from some government or private institution. Unless we assume that most grants are not given on grounds of academic competence or promise or that the most talented Filipinos do not compete for these awards, this seems a reasonable expectation. Hence the question: In what numbers do funded Filipinos emigrate permanently? Answering this question will give us a measure of the loss to the Philippines of the “notably talented.” The answer, as we saw earlier, is about one out of five of those who study abroad, a ratio significantly smaller than that for those who pay their own way.

We are heartened by the fact that among those who are presumably the academically most gifted Filipinos, the tendency to return permanently to the Philippines is most pronounced. And this indeed is our conclusion, that in light of the hypothetical national policy stated earlier, the scope of the academic brain drain in the Philippines is only moderately serious, involving about one out of five of the nation’s most talented college graduates.

Suggestions

If, however, the framers of national policy would like to see a decline in this tendency of the talented to emigrate, we have some advice to offer. Common to these practical suggestions is the basic assumption that no gifted

person is interested in returning to a country where he is apparently neither desired nor needed, especially when this person knows of other countries where he is certain he is most welcome. To encourage valuable young Filipinos to return to their homeland and to stay here, we must let them know we want them here and need them. By encouraging them to stay, we do not mean preventing them, through the enactment of legal restrictions, from emigrating. For not only is the choice of one's residence a basic human right, but from a purely utilitarian viewpoint, the loss of two out of five highly skilled individuals is more than offset by the advantages we reap from the three who have been exposed to experience and training which benefit us immeasurably. The strategy we suggest is one of attraction, not force.

In the concrete, this strategy implies a short-range and long-range tactic. Immediately, we suggest the setting up of a communications and placement center which will link students abroad to activities and job opportunities related to their specialties in the Philippines. The Philippine Social Science Council has already made plans in this direction, and their center should not only encourage talent to return to these shores in greater numbers, but should also save government and private institutions considerable money by helping them locate the people they need for job openings. This plan is not exactly original. The establishment of a similar center in India, the "scientists' pool," has had some initial, though qualified, success in attracting Indian scientists to return home by seeking positions for them in both the private and public sectors.

Over time, however, a second tactic is called for. This is the bettering of working conditions, especially for those we hope to encourage to stay with us permanently. In the business world, at least at the middle-management level and higher, this appears to have been achieved. At least, one hears few complaints these days about the job opportunities in such positions. Further, the fact that so many returned graduate-degree holders opt for the world of business may be another indication of the relatively satisfactory conditions in this sector.

But much remains to be done in government, we are told, and certainly in the colleges and universities of the nation. There are problems of teaching loads, wage scales, modes of payment, and morale that appall the observer and drive sensible participants to thoughts of greener pastures in Canada or the United States. The answer here is not so clear, but one possible approach would involve rewards, such as subsidized faculty training, for those colleges and universities that agree to improve the conditions under which their faculties perform. Again, the Philippine Social Science Council, with the help of the National Science Development Board, is seeking answers to the problem. Hopefully, creative, positive solutions will soon be found.

Table 1

PBDS respondent sample as studied, classified by selected characteristics, compared with respondent sample drawn.

Selected characteristic	Sample drawn		Sample studied		Signif. of diff.
	N	%	N	%	
a. Ownership of school attended					
Private, Catholic	301	20.0	258	24.9	0.01
Private, Protestant	19	1.3	17	1.6	
Private, other	753	50.1	454	43.7	
Public	430	28.6	309	29.8	
Total	1,503	100.0	1,038	100.0	
b. Size of graduating class					
Under 100	641	42.6	583	56.2	0.05
100-199	356	23.7	264	25.5	
200-299	262	17.4	107	10.3	
300 and over	244	16.2	83	8.0	
Total	1,503	99.9	1,037	100.0	
Not included (no information)			1		
c. Location of school attended					
Manila	935	62.2	540	52.0	0.001
Luzon	261	17.4	225	21.7	
Visayas	218	14.5	189	18.2	
Mindanao	89	5.9	84	8.1	
Total	1,503	100.0	1,038	100.0	
d. Year of graduation					
1948	86	5.7	36	3.5	0.001
1953	289	19.2	149	14.4	
1958	374	24.9	270	26.0	
1963	754	50.2	583	56.2	
Total	1,503	100.0	1,038	100.1	
e. Sex					
Male	No data		456	43.9	No test
Female	No data		582	56.1	
Total			1,038	100.0	
f. College course taken					
Liberal arts	243	16.2	178	17.1	n.s.
Education	777	51.7	527	50.8	
Law	95	6.4	76	7.3	
Engineering	208	13.8	152	14.6	
Commerce	180	12.0	105	10.1	
Total	1,503	100.1	1,038	99.9	

Table 2

PBDS respondents classified by selected characteristics, crossclassified by general site of post-college studies.

Selected characteristic	Site of post-college studies								Not incl.
	No studies		Philippines		Abroad		Total		
	N	%	N	%	N	%	N	%	
a. Year of college graduation									
1948	13	36.1	12	33.3	11	30.6	36	100.0	0
1953	87	57.6	45	29.8	19	12.6	151	100.0	5
1958	151	59.2	86	33.7	18	7.1	255	100.0	12
1963	362	65.6	157	28.4	33	6.0	552	100.0	27
Total	613	61.7	300	30.2	81	8.1	994	100.0	44*

* For 42 respondents, no information on site of post-college studies; for two (one in 1953, one in 1958), only post-college studies were in-service seminars.

b. Location of college attended

Manila	285	54.1	166	31.5	76	14.4	527	100.0	11
Luzon	149	70.3	62	29.2	1	0.5	212	100.0	15
Visayas	113	65.7	55	32.0	4	2.3	172	100.0	17
Mindanao	66	79.5	17	20.5	0	0.0	83	100.0	1
Total	613	61.7	300	30.2	81	8.1	994	100.0	44*

* For 42 respondents, no information on site of post-college studies; for two (both in Luzon), only post-college studies were in-service seminars.

c. Ownership of college attended

Private, religious	171	65.5	66	25.3	24	9.2	261	100.0	14
Private, non-religious	306	69.1	121	27.3	16	3.6	443	100.0	11
Public	136	46.9	113	39.0	41	14.1	290	100.0	19
Total	613	61.7	300	30.2	81	8.1	994	100.0	44*

* For 42 respondents, no information on site of post-college studies; for two (both from private, religious college), only post-college studies were in-service seminars.

d. Sex of respondent

Male	282	62.7	115	25.5	53	11.8	450	100.0	6
Female	331	60.8	185	34.0	28	5.2	544	100.0	38
Total	613	61.7	300	30.2	81	8.1	994	100.0	44*

* For 42 respondents, no information on site of post-college studies; for two (both male), only studies were in-service seminars.

Table 2 (contd.)

e. College course taken

Liberal arts	64	37.0	79	45.7	30	17.3	173	100.0	5
Education	304	61.9	174	35.4	13	2.7	491	100.0	26
Law	64	84.2	8	10.5	4	5.3	76	100.0	0
Engineering	92	63.0	25	17.1	29	19.9	146	100.0	2
Commerce	89	82.4	14	13.0	5	4.6	108	100.0	1
Total	613	61.7	300	30.2	81	8.1	994	100.0	44*

* For 42 respondents, no information on site of post-college studies; for two (one liberal arts and one engineering graduate), only post-college studies were in-service seminars.

Table 3

PBDS respondents classified by major subject of first period of post-college studies, crossclassified by college course taken.

Post-college major	College course					
	Liberal arts	Education	Law	Engineering	Commerce	Total
No studies	64	304	64	92	89	613
Natural sciences	10	8	0	36	2	56
Medical sciences	9	4	0	0	0	13
Agriculture	1	1	0	0	0	2
Humanities	11	17	2	0	0	30
Behavioral sciences	3	4	0	1	0	8
Education	16	138	0	2	6	162
Law	27	2	2	0	2	33
Commerce	16	2	6	12	5	41
Other social sciences	14	2	2	2	2	22
Total	171	482	76	145	106	980
Not included (no inf.)	7	45	0	3	3	58

Table 4

PBDS respondents who did post-college studies, classified by selected characteristics of those studies, crossclassified by period of post-college studies.

Selected characteristic	Period of post-college studies					
	First period		Second period		Third period	
	N	%	N	%	N	%
a. Time studies were begun						
Immediately after college or preceding study period	82	22.7	32	30.8	23	79.3
After one year	63	17.4	25	24.0	1	3.4
After two years	59	16.3	13	12.5	2	6.9
After three years	42	11.6	7	6.7	1	3.4
After four or more years	116	32.0	27	26.0	2	6.9
Total	362	100.0	104	100.0	29	99.9

Table 4 (contd.)

Not included:						
No information	63		44		42	
No further studies abroad	613		613		613	
No further studies after first period	—		277		277	
No further studies after second period	—		—		—	
b. Duration of study period						
Less than one year	122	33.9	36	34.6	15	51.7
One year to less than two	102	28.3	30	28.8	4	13.8
Two years to less than three	66	18.3	19	18.3	2	6.9
Three years or more	70	19.4	19	18.3	8	27.6
Total	360	100.0	104	100.0	29	100.0
Not included:						
No information	65		44		42	
No further studies abroad	613		613		613	
No further studies after first period	—		277		277	
No further studies after second period	—		—		77	
c. Degrees earned after one or more study periods						
No degree	226	65.6	66	67.3	12	41.4
B.S., A.B., Teaching certificate	35	10.0	9	9.2	2	7.0
Masters	63	18.1	18	18.4	3	10.3
Ll. B.	16	4.6	1	1.0	10	34.5
M.D.	2	0.6	0	0.0	1	3.4
Ph.D.	1	0.3	3	3.1	1	3.4
Other	3	0.9	1	1.0	0	0.0
Total	346	100.0	98	100.0	29	100.0
Not included:						
No information	79		44		42	
No further studies abroad	613		613		613	
No further studies after first period	—		277		277	
No further studies after second period	—		—		77	

Table 5

PBDS respondents who undertook at least one period of post-college studies, classified by selected characteristics, crossclassified by country where first period of post-college studies was spent.

Selected characteristic	Country of first period of studies										Not incl. (no.inf.)
	Philippines		Asia		U.S.		Other		Total		
	N	%	N	%	N	%	N	%	N	%	
a. Year of graduation											
1948	12	60.0	0	0.0	8	40.0	0	0.0	20	100.0	3
1953	45	76.3	0	0.0	13	22.0	1	1.7	59	100.0	4
1958	86	86.0	0	0.0	12	12.0	2	2.0	100	100.0	5
1963	157	86.3	2	1.1	22	12.1	1	0.5	182	100.0	8
Total	300	83.1	2	0.6	55	15.2	4	1.1	361	100.0	20
b. Location of college attended											
Manila	166	74.4	2	0.9	51	22.9	4	1.8	223	100.0	19
Luzon	62	98.4	0	0.0	1	1.6	0	0.0	63	100.0	0
Visayas	55	94.8	0	0.0	3	5.2	0	0.0	58	100.0	1
Mindanao	17	100.0	0	0.0	0	0.0	0	0.0	17	100.0	0
Total	300	83.1	2	0.6	55	15.2	4	1.1	361	100.0	20
c. Post-college major											
Natural sci.	26	51.0	2	3.9	20	39.2	3	5.9	51	100.0	2
Medical sci.	11	84.6	0	0.0	2	15.4	0	0.0	13	100.0	
Agriculture	1	100.0	0	0.0	0	0.0	0	0.0	1	100.0	1
Humanities	21	75.0	0	0.0	7	25.0	0	0.0	28	100.0	3
Behavioral sci.	7	87.5	0	0.0	1	12.5	0	0.0	8	100.0	9
Education	155	97.5	0	0.0	4	2.5	0	0.0	159	100.0	0
Law	29	93.5	0	0.0	2	6.5	0	0.0	31	100.0	0
Commerce	25	67.6	0	0.0	12	32.4	0	0.0	37	100.0	5
Other social sci.	10	58.8	0	0.0	7	41.2	0	0.0	17	100.0	0
Total	285	82.6	2	0.6	55	15.9	3	0.9	345	100.0	20
Not included (no information)15											
			0		0		1		16		
d. Sex											
Male	115	71.9	2	1.3	40	25.0	3	1.9	160	100.1	6
Female	185	92.0	0	0.0	15	7.4	1	0.5	201	99.9	14
Total	300	83.1	2	0.6	55	15.2	4	1.1	361	100.1	20

Table 6

PBDS respondents who undertook a second period of post-college studies classified by selected characteristics, crossclassified by country where second period of post-college studies was spent.

Selected characteristic	Country of second period of studies								
	Philippines		Asia		U.S.		Other		Total
	N	%	N	%	N	%	N	%	N
a. Year of graduation									
1948	7	50.0	0	0.0	7	50.0	0	0.0	14
1953	14	70.0	0	0.0	4	20.0	2	10.0	20
1958	25	78.1	1	3.1	5	15.6	1	3.1	32
1963	22	68.8	1	3.1	8	25.0	1	3.1	32
Total	68	69.4	2	2.0	24	24.5	4	4.1	98
b. Location of college attended									
Manila	41	60.3	2	2.9	21	30.9	4	7.4	68
Luzon	12	92.3	0	0.0	1	7.7	0	0.0	13
Visayas	8	80.0	0	0.0	2	20.0	0	0.0	10
Mindanao	7	100.0	0	0.0	0	0.0	0	0.0	7
Total	68	69.4	2	2.0	24	24.5	4	4.1	98
c. Post-college major									
Natural sci.	9	52.9	0	0.0	6	35.3	2	11.8	17
Medical sci.	0	0.0	0	0.0	1	100.0	0	0.0	1
Agriculture	0	0.0	1	100.0	0	0.0	0	0.0	1
Humanities	3	42.9	0	0.0	4	57.1	0	0.0	7
Behavioral sci.	2	66.7	0	0.0	1	33.3	0	0.0	3
Education	37	94.9	0	0.0	2	5.1	0	0.0	39
Law	5	100.0	0	0.0	0	0.0	0	0.0	5
Commerce	3	42.3	0	0.0	4	57.7	0	0.0	7
Other social sci.	6	46.2	1	7.7	5	38.4	1	7.7	13
Total	65	69.9	2	2.2	23	24.7	3	3.2	93
Not included (no information)	3		0		1		1		5
d. Sex of respondent									
Male	21	52.5	2	5.0	14	35.0	3	7.5	40
Female	47	81.0	0	0.0	10	17.2	1	1.7	58
Total	68	69.4	2	2.0	24	24.5	4	4.1	98

Table 7

PBDS respondents who undertook at least one period of post-college studies classified by country where studies were made and by period of studies, crossclassified by ownership of graduate school attended.

Country of post-college studies, and period	Ownership of graduate school								No info.
	Private religious		Private nonreligious		Public		Total		
	N	%	N	%	N	%	N	%	
a. Philippines									
First period	74	23.9	155	50.0	81	26.1	310	100.0	8
Second period	37	51.4	18	25.0	17	23.6	72	100.0	0
b. Asia									
First period	0	0.0	0	0.0	2	100.0	2	100.0	0
Second period	0	0.0	0	0.0	2	100.0	2	100.0	0
c. United States									
First period	5	9.4	27	51.0	21	39.6	53	100.0	2
Second period	2	8.7	12	52.2	9	39.1	23	100.0	1
d. Other									
First period	0	0.0	2	50.0	2	50.0	4	100.0	2
Second period	0	0.0	1	25.0	3	75.0	4	100.0	0
Total									
First period	79		184		106		369		12
Second period	39		31		31		101		1

Table 8

PBDS respondents who spent their first or second period of studies abroad, classified by source of support for those periods.

Source of support	First period		Second period	
	N	%	N	%
Own funds	21	35.0	10	32.3
Other funds: Philippines	13	21.7	5	16.1
Government	(4)		(1)	
College from which respondent was graduated	(1)		(0)	
Institution employing respondent	(8)		(3)	
Private foundation	(0)		(1)	
Other funds: United States	25	41.7	13	41.9
Government	(14)		(6)	
University where respondent studied in the U.S.	(4)		(2)	

Table 8 (contd.)

Private foundation	(7)		(5)	
Other funds: unspecified	1	1.6	3	9.7
Total	60	100.0	31	100.0
Not included:				
No information	21		2	
No further studies abroad	913		913	
No further studies for second period	—		48	

Table 9

PBDS respondents classified by selected characteristics of present employment, crossclassified by site of post-college studies.

Selected characteristic	Site of post-college studies								Not incl.
	No studies		Philippines		Abroad		Total		
	N	%	N	%	N	%	N	%	
a. Present position									
Unemployed	43	7.3	20	7.1	8	11.3	71	7.6	1
Professional	384	65.4	214	76.2	44	62.0	642	68.4	38
Proprietor	29	4.9	8	2.8	2	2.8	39	4.2	0
Businessman	44	7.5	17	6.0	12	16.9	73	7.8	3
Clerk	71	12.1	18	6.4	5	7.0	94	10.0	0
Other	16	2.7	4	1.4	0	0.0	20	2.1	0
Total	587	99.9	281	99.9	71	100.0	939	100.1	42*
Not included (no information) 26									
			19		10		2		57
* For 40 respondents, no information on site of post-college studies; for two (both businessmen), only post-college studies were in-service seminars.									
b. Present employer (institution and sector)									
Educational institution									
Government	252	45.8	132	50.0	15	23.1	399	45.3	35
Private	40	7.3	49	18.6	8	12.3	97	11.0	1
Total	292	53.1	181	68.6	23	35.4	496	56.3	36
Other institution									
Government	75	13.6	20	7.6	8	12.3	104	11.8	0
Private	183	33.3	63	23.9	34	52.3	280	31.8	3
Total	258	46.9	83	31.5	42	64.6	384	43.6	3
TOTAL	550	100.0	264	100.1	65	100.0	880	99.9	39
Not included:									
Not employed	43		20		8		69		1
No information	20		16		8		45		4

Table 10

PBDS respondents who undertook at least one period of post-college studies, classified by the relationship of those studies to their present employment.

<i>Relationship of post-college studies to present employment</i>	<i>N</i>	<i>Per cent</i>
Not related	12	3.9
Probably related	61	19.7
Related	237	76.4
Total	310	100.0
Not included:		
No information	93	
Not employed	22	
No further studies	613	

Table 11

PBDS respondents classified by general site of post-college studies, crossclassified by present permanent address.

Site of post-college studies	Present permanent address				Total	Address unknown
	Philippines		Abroad			
	N	%	N	%		
No studies	584	96.3	23	3.7	607	6
Studies in Phils.	282	95.2	14	4.8	296	4
Studies abroad	49	60.5	32	39.5	81	0
Total	915	93.0	69	7.0	984	10
Not included:						
No information	39		2		41	1
Attended only seminars	2		0		2	0

Table 12

PBDS respondents who undertook at least one period of post-college studies, classified by sex of respondent and general site of post-college studies, crossclassified by present permanent address.

<i>Sex and site of post-college studies</i>	<i>Present permanent address</i>						<i>No. info.</i>
	<i>Philippines</i>		<i>Abroad</i>		<i>Total</i>		
	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	<i>N</i>	<i>%</i>	
Male							
Philippines	109	94.8	6	5.2	115	100.0	0
Abroad	35	66.0	18	34.0	53	100.0	0
Total	144	85.7	24	14.3	168	100.0	0
Female							
Philippines	173	95.6	8	3.4	181	100.0	4
Abroad	14	50.0	14	50.0	28	100.0	0
Total	187	89.5	22	10.5	209	100.0	4
Total							
Philippines	282	95.2	14	4.8	296	100.0	4
Abroad	49	60.5	32	39.5	81	100.0	0
TOTAL	331	87.8	46	12.2	377	100.0	4

Table 13

*PBDS respondents who graduated from selected colleges, classified by college course taken, crossclassified by site of post-college studies and by emigrant status.**

College course	No studies			Philippines			Abroad			Total		
	Emigrants		Base	Emigrants		Base	Emigrants		Base	Emigrants		Base
	N	%		N	%		N	%		N	%	
Liberal arts	35	5	15.2	46	5	10.9	30	14	46.7	109	24	22.0
Education	61	4	6.6	34	0	0.0	13	3	23.1	108	7	6.5
Law	27	0	0.0	8	0	0.0	4	1	25.0	39	1	2.6
Engineering	86	8	9.3	23	5	21.7	29	11	37.9	138	24	17.4
Commerce	19	1	5.3	3	0	0.0	5	3	60.0	27	4	14.8
Total	226	18	8.0	114	10	8.8	81	32	39.5	421	60	14.2

* Included here are only those 17 colleges at least one of whose alumni (in our sample) studied abroad.

Table 14

*PBDS respondents who graduated from selected colleges, classified by college attended, crossclassified by site of post-college studies and by emigrant status.**

College attended	Site of post-college studies											
	No studies			Philippines			Abroad			Total		
	Emigrants			Emigrants			Emigrants			Emigrants		
	Base	N	%	Base	N	%	Base	N	%	Base	N	%
Adamson University	4	3	75.0	5	1	20.0	1	1	100.0	10	5	50.0
Ateneo de Manila	18	1	5.6	11	0	0.0	8	3	37.5	37	4	10.8
Ateneo de Naga	0	0	0.0	3	1	33.3	1	1	100.0	4	2	50.0
College of the Holy Spirit	0	0	0.0	3	1	33.3	1	0	0.0	4	1	25.0
De la Salle College	6	0	0.0	0	0	0.0	6	2	33.3	12	2	16.7
Far Eastern University	29	1	3.4	11	0	0.0	1	0	0.0	41	1	2.4
Francisco College	1	0	0.0	2	0	0.0	2	0	0.0	5	0	0.0
Mapua Institute of Technology	62	5	8.1	10	2	20.0	10	2	20.0	82	9	10.9
Maryknoll College	2	0	0.0	0	0	0.0	1	0	0.0	3	0	0.0
Osmeña College	10	0	0.0	1	0	0.0	1	0	0.0	12	0	0.0
Philippine Women's College	1	0	0.0	1	0	0.0	1	0	0.0	3	0	0.0
Colegio del Sagrado Corazon	2	0	0.0	4	0	0.0	1	0	0.0	7	0	0.0
Saint Theresa's College	5	1	20.0	1	0	0.0	1	0	0.0	7	1	14.3
San Beda College	5	0	0.0	0	0	0.0	1	1	0.0	6	1	16.7
Silliman University	9	0	0.0	5	0	0.0	1	0	0.0	15	0	0.0
University of the Philippines	67	7	10.4	54	5	9.2	41	20	48.8	162	32	19.8
University of Sto. Tomas	5	0	0.0	3	0	0.0	3	2	66.7	11	2	18.2
Total	226	18	8.0	114	10	8.8	81	32	39.5	421	60	14.2

* Included here are only those 17 colleges at least one of whose alumni (in our sample) studied abroad.

Table 15

PBDS respondents whose first period of studies was spent abroad, classified by their emigrant status, crossclassified by source of support for this period of studies abroad.

Emigrant status	Source of funds					
	Own funds		Other funds		Total	
	N	%	N	%	N	%
Returned to the Philippines						
Permanently	8	42.1	18	48.6	26	46.4
May emigrate	2	10.5	8	21.6	10	17.9
Total	10	52.6	26	70.2	36	64.3
Left the Philippines						
Permanently	7	36.8	5	13.5	12	21.4
May return	2	10.5	6	16.2	8	14.3
Total	9	47.3	11	29.8	20	35.7
TOTAL	19	99.9	37	100.0	56	100.0
Not included (no information)	21		4		25	

Table 16

PBDS respondents whose second period of studies was spent abroad, classified by their emigrant status, crossclassified by source of support for this period of studies abroad.

Emigrant status	Source of funds					
	Own funds		Other funds		Total	
	N	%	N	%	N	%
Returned to the Philippines						
Permanently	2	22.2	10	50.0	12	41.4
May emigrate	1	11.1	2	10.0	3	10.3
Total	3	33.4	12	60.0	15	51.7
Left the Philippines						
Permanently	3	33.3	1	5.0	4	13.8
May return	3	33.3	7	35.0	10	34.5
Total	6	66.6	8	40.0	14	48.3
TOTAL	9	100.0	20	100.0	29	100.0
Not included (no information)	1		1		2	

REFERENCES

The Asian Student

- 1967 Editorial excerpts from Asian English newspapers on brain drain. *The Asian Student* 15 (Essay number, spring): s-5.

Bowers, J. Z.

- 1965 Medical students in the Philippines. *Journal of the American Medical Association* 191 (2).

Bureau of the Census and Statistics (Phils.)

- 1965 Labor force: including educational-attainment data. *The BCS Survey of Households Bulletin. Series No. 19* (whole number). Manila, Bureau of the Census and Statistics.
- 1968 College enrolment by major field of study: schoolyear 1965-1966 (table 3.7). *Journal of Philippine Statistics* 19(4):23.

Bureau of Security and Consular Affairs (U.S.)

- 1965 Anticipated effect of the new immigration act on the 'brain drain' issue. Washington, D.C., U.S. Dept. of State. (Mimeo.)

Carson, A.

- 1961 Higher education in the Philippines. *Bulletin No. 29* (whole number). Washington, D.C., U.S. Dept. of Health, Education, and Welfare.

Commission on International Education

- 1966 International migration of intellectual talent: the American academic community and the brain drain. *Bulletin on International Education* 4 (whole no. 10).

Committee on Government Operations, U.S. House of Representatives

- 1968 Scientific brain drain from developing countries. Washington, D.C., Government Printing Office.

Council on International Educational and Cultural Affairs (U.S.)

- 1967 Some facts and figures on the migration of talent and skills. Washington, D.C., Council on International Educational and Cultural Affairs, U.S. Dept. of State.

Council on Medical Education

- 1966 Medical education in the United States. *Journal of the American Medical Association* 198 (8): 847-938.

Dickenson, Donna

- 1967 Brain drain. *Manila Times*, Sept. 14. P. 5.

The Evening News

- 1967 Law to plug 'brain drain'? *The Evening News*, January 20. P. 4.

Frankel, C.

- 1967 Statement before the Senate Subcommittee on Immigration and Nationalization on the migration of talent and skills, country needs, and the United States Immigration Act of 1965. Washington, D.C., U.S. Dept. of State. (Mimeo.)

Grubel, H.

- 1966 The brain drain: a U.S. dilemma. *Science* 154 (December 1966): 1420-1423.

Howland, H.

- 1967 Brain drain—as it affects the Philippines. Washington, D.C., Foreign Service Institute, U.S. Department of State.

Immigration and Naturalization Service (INS) (U.S.)

- 1968 Annual indicator of the in-migration into the United States of aliens in professional and related occupations: fiscal year 1967. Washington, D.C., INS, U.S. Dept. of Justice.

Institute of International Education (IIE)

- 1967 Open doors 1967: report on international exchange. New York, Institute of International Education.

Kennedy, Edward M.

- 1966 The Immigration Act of 1965. *Annals of the American Academy of Political and Social Science* 367: 137-149.

Manila Chronicle

- 1967 The 'brain drain' of doctors, nurses. *Manila Chronicle*, Jan. 7. P. 4.
1968 Bill seeks to stem outflow of medics. *Manila Chronicle*, Jan. 22.

Manila Daily Bulletin

- 1967a NEC moans brain drain. *Manila Daily Bulletin*, Jan. 26.
1967b Hullabaloo over brain drain (editorial). *Manila Daily Bulletin*, Jan. 29. P. 4.
1967c Brain drain: Japanese apprehension over Americans' entry. *Manila Daily Bulletin*, June 18. P. 9.
1968 'Brain drain': RP losing investments in science and technology. *Manila Daily Bulletin*, Nov. 11. P. 23.
1969 To check flow of R.P. scholars to U.S. *Manila Daily Bulletin*, Jan. 11. P. 20.

Manila Times

- 1967a Facts on brain drain. *Manila Times*, Jan. 9. P. 7-A.
1967b 'Brain drain': American senator proposes five areas of action to halt influx. *Manila Times*, March 20. P. 7-A.

McCord, W.

1965 The springtime of freedom. New York, Oxford University Press.

Mercado, Monina A.

1967 The 'brain drain'. Weekly Graphic 33 (34, Feb. 15): 9-11.

Myers, R.

1967 Study abroad and the migration of human resources. Abstract of a dissertation submitted to the University of Chicago, Chicago. (Mimeo.)

Perkins, J.

1965 Foreign aid and the brain drain. Foreign Affairs 44 (4): 608-619.

Philippines Herald

1968a Brain drain affects Cagayan TB pavilion. Philippines Herald, Sept. 24.

1968b Brain drain problem: a realistic view (editorial). Philippines Herald, Nov. 13. P. 10.

1968c Brain drain from poorer countries to continue. Philippines Herald, Nov. 26.

Rebamontan, L.

1965 Inocentes blames rich nations' enticements for 'brain drain'. Evening News, July 8. P. 2.

Rosales, J. A.

1968 The brain drain: some recommendations to stem the flow of the tide. Address to the Fourth Congress of Catholic Doctors, Tokyo. (Mimeo.)

Thomas, B.

1966 From the other side: a European view. Annals of the American Academy of Political and Social Science 367: 63-72.

Tutay, A. D.

1967 Wanted: doctors and nurses. Philippines Free Press 60 (6, Feb. 11): 18, 20, 22, 24.

United Nations Department of Economic and Social Affairs

1966 1965 report on the world social situation. New York, United Nations.

APPENDIX A:

UNIVERSITIES AND COLLEGES IN PBDS SAMPLE

I. Metropolitan Manila (N=25)

Private, religious ownership (N=12)

Adamson University, Ermita, Manila
Ateneo de Manila University, Loyola Heights, Quezon City
University of Santo Tomas, Sampaloc, Manila
College of the Holy Spirit, Mendiola, Manila
De la Salle College, Taft Avenue, Manila
Immaculate Heart of Mary College, Aurora Blvd., Quezon City
Maryknoll College, Loyola Heights, Quezon City
San Beda College, Mendiola, Manila
San Sebastian College, C. M. Recto Ave., Manila
Stella Maris College, Cubao, Quezon City
St. Scholastica's College, Leon Guinto St., Manila
St. Theresa's College, San Marcelino, Manila

Private, nonreligious ownership (N=11)

Arellano University, Sampaloc, Manila
Centro Escolar University, San Miguel, Manila
Far Eastern University, Sampaloc, Manila
Feati University, Santa Cruz, Manila
Lyceum University, Intramuros, Manila
National University, Sampaloc, Manila
Philippine Women's University, Taft Avenue, Manila
University of the East, C. M. Recto Avenue, Manila
Abad Santos Law School (formerly Abad Santos Educational Institution), Santa Cruz, Manila
Francisco College, Taft Avenue, Manila
Mapua Institute of Technology, Santa Cruz, Manila

Public ownership (N=2)

Philippine Normal College, Taft Avenue, Manila
University of the Philippines, Diliman, Quezon City

II. Luzon outside Manila (N=30)

Private, religious ownership (N=12)

St. Louis University, Baguio City
 Ateneo de Naga, Naga City
 Colegio de la Milagrosa, Sorsogon, Sorsogon
 Colegio de Sta. Isabel, Naga City
 Divine Word College, Vigan, Ilocos Sur
 Immaculate Conception College, Batangas, Batangas
 Northern Christian College, Laoag City
 Pasig Catholic College, Pasig, Rizal
 Rosary College, Vigan, Ilocos Sur
 St. Joseph's College, Cavite City
 St. Mary's College, Bayombong, Nueva Vizcaya
 St. William's College, Laoag City

Private, nonreligious ownership (N=17)

Abra Valley College, Bangued, Abra
 Adelphi College, Lingayen, Pangasinan
 Baguio Colleges, Baguio City
 Baguio Technological Institute, Baguio City
 Bicol College, Locsin, Albay
 Colleges of the Republic, San Jose, Nueva Ecija
 Dagupan College, Dagupan City
 Eastern Philippine College, Baguio City
 Epifanio de los Santos College, Malabon, Rizal
 Golden Gate College, Batangas, Batangas
 Luna College, Tayug, Pangasinan
 Luzon Colleges, Dagupan City
 Luzonian College, Lucena, Quezon
 Mabini Memorial College, Iriga, Camarines Sur
 Republic Central College, Angeles City
 Rizal College, Taal, Batangas
 St. Michael's College Guagua, Pampanga

Public ownership (N=1)

Bicol Teachers' College, Locsin, Albay

III. Visayas (N=23)

Private, religious ownership (N=12)

Divine Word University, Tacloban City
 Silliman University, Dumaguete City
 University of San Agustin, Iloilo City
 Aklan College, Kalibo, Aklan
 Assumption College of Samar, Guiuan, Samar

Assumption Convent, Iloilo City
Colegio del Sagrado Corazonsde Jesus, Iloilo City
Colegio de San Jose, Cebu City
De la Salle College, Bacolod City
De Paul College, Iloilo City
Divine Word College, Tagbilaran, Bohol
Sacred Heart College, Catbalogan, Samar

Private, nonreligious ownership (N=9)

Iloilo University, Iloilo City
Southwestern University, Cebu City
University of Negros Occidental, Bacolod City
University of Southern Philippines, Cebu City
Osmeña College, Masbate, Masbate
Philippine Women's College, Iloilo City
Romblon College, Odiongan, Romblon
Visayan Central College, Iloilo City
West Negros College, Bacolod City

Public ownership (N=2)

Cebu Normal School, Cebu City
Leyte Normal School, Tacloban City

IV. Mindanao (N=18)

Private, religious ownership (N=9)

Xavier University, Cagayan de Oro City
Ateneo de Davao, Davao City
Ateneo de Zamboanga, Zamboanga City
Immaculate Conception College, Davao City
Immaculate Conception College, Ozamis City
Lourdes College, Cagayan de Oro City
Notre Dame of Dadiangas, Dadiangas, Cotabato
Notre Dame of Jolo, Jolo, Sulu
Pilar College, Zamboanga City

Private, nonreligious ownership (N=8)

University of Mindanao, Davao City
Agusan College, Butuan City
Harvardian College, Oroquieta, Misamis Oriental
Liceo de Cagayan, Cagayan de Oro City
Misamis College, Ozamis City
Northeastern Mindanao College, Surigao, Surigao
Southern Mindanao College, Pagadian, Zamboanga
Zamboanga A. E. College, Zamboanga City

Public ownership (N=1)

Zamboanga Normal College

APPENDIX B:

PHILIPPINE BRAIN DRAIN SURVEY STAFF

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