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# Investing in Human Capital for Inclusive Growth: Focus on Higher Education

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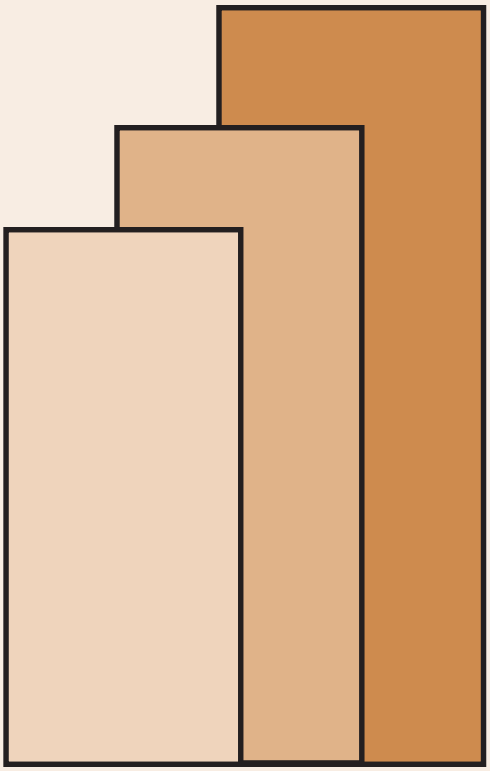

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*By Dante B. Canlas*

## Abstract

What does the Philippines need to do to transform its economy into a high middle-income economy and ensure that the benefits from such a transformation are within reach of every Filipino? Investment in human capital, especially higher education, is one instrument that serves the twin goals of boosting economic growth with broad-based rewards, that is, inclusive growth. Currently, the Philippines is confronted by a low proportion of enrollees and graduates in higher and scientific education and needs to raise its stock of labor with higher and scientific education amid rising demand for skilled workers and widening gaps in lifetime earnings between college and high school graduates. Several policies are indicated, but priority must be accorded to instituting loan programs for higher education, accelerating rationalization of the state university and college sector based on instituting regional university systems and centers of excellence, and devising grant programs for content standards for subjects and courses and formulating standardized tests for measuring and monitoring compliance with those standards applied to both public and private institutions of higher learning.

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# Investing in Human Capital for Inclusive Growth: Focus on Higher Education

*By Dante B. Canlas*[1]

## 1. Introduction

This paper has two objectives: (1) analyze the role that investing in human capital--especially in higher education--plays in the observed phenomenon of economic growth with income inequality in the Philippines; and (2) present policy recommendations that stand a good chance of addressing concerns about growth with inequality. In other words, how can investing in higher education contribute to inclusive growth? The basic notion of the latter involves boosting growth and creating benefits that are within reach of every Filipino.

Aiming for inclusive growth requires as a first step an understanding of the forces that support positive growth rate of real per capita gross domestic product (GDP) in the long run. Today, a large body of knowledge, both theoretical and empirical, exists showing that capital accumulation is the main driver of economic growth. Capital, however, is broadly defined to include human, physical, technological, and social overhead capital. Empirical studies of growth based on sources-of-growth accounting tend to show that a large part of growth stems from technological progress, which in turn emanates from investments in education, especially, higher education. Physical capital, meanwhile, embodies technical advances, such as, microcomputers. Investments in higher education can thus be counted on to generate long-run growth. The upshot: technological progress is a matter of choice, an idea that endogenous models of growth emphasize.

The benefits from higher education, however, are not automatically inclusive. One major factor behind this is that households for the most part internally finance higher education. There are no credit markets that families with insufficient funds can turn to in order to finance college education for their children. A family must first accumulate wealth to be able to finance, say, college education. And so entering college depends on ability to pay not on ability to learn, a situation that needs to be corrected to make growth driven by higher education inclusive. If public policy can adequately address the phenomenon of missing financial markets for college education, then the likelihood of achieving inclusive growth from investing in higher education rises profoundly.

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Public policy has long been focused on basic education, and rightfully so.[2] But in view of the acknowledged importance of higher education for research and development (R&D) and technological progress, twin forces for raising productivity and growth, this paper aims to address the attention deficit that policy for higher education finds itself in relative to basic education.[3]

The paper opens up an investigation of policies that could help build the stock of labor with higher education, especially scientific education. Building a critical mass of scientific and technical manpower, many of them based in higher learning institutions (HEI), is vital in producing a body of knowledge that drives technological progress.

The remarkable macroeconomic performance of the economy, an average annual growth rate in real gross domestic product (GDP) of about 6.7 percent over the period 2012-2014, has been associated with an increase in the demand for skilled labor. This year, 2015, even amid the slowdown in China and in many parts of the world, the Philippines is still growing at an average of 5.3 percent as of the first semester. The growth performance is marred, however, by a high degree of income inequality as seen from the Gini coefficient. Returns to higher education have been rising and if access to higher education level is not equitable, income inequality is liable to worsen and persist across generations.

In the course of economic development, the demand for skilled labor is bound to increase further, thereby necessitating public policies that enhance the supply of educated and productive labor, but do not exacerbate income inequality. One policy instrument that stands a chance of raising productivity and at the same time improving the distribution of family income rests on expanding and equalizing access to higher education.

As noted above, one hindrance to equitable access to education relates to missing credit markets for higher education. In addition, limited information tends to prolong the job search process among graduates. Improving labor market information about job vacancies may expedite the search, particularly, among graduates who have limited social ties. To overcome the latter's disadvantage, public policy should facilitate job-worker matching after graduation, resulting in efficiency and equity gains for job seekers who are inadequately informed, many of whom come from low-income groups.

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[2] For example, an important piece of legislation that Congress enacted in 2014 is the K-12 program, which adds kindergarten and two years of grade school in basic education, thereby putting the Philippines on par with world standards.

[3] The Commission on Higher Education (CHED), the government institution responsible for higher education policies, has released the "Roadmap for Public Higher Education Reform" (RPHER) for 2011-2016, which is intended to rectify the education-policy imbalance. The RPHER coincides with the PDP or *Philippine Development Plan, 2011-2016*, the theme of which is inclusive growth.

Student loans raise at least one concern: avoiding situations wherein graduates who end up heavily indebted with student loans are driven to defaulting, and the student loan agency finds itself declaring bankruptcy. The government faces a policy-design problem in this regard: coming up with a national loan program that is incentive compatible. In drawing up, for example, a student loan program, university administrators and government regulators must be cost conscious to prevent runaway tuition fees. University administrators must actively look for ways to reduce cost per student by tapping, for instance, into the assistance emanating from private foundations and individual philanthropy. Moreover, loan thresholds per student each year must be determined.

But as university administrators try to reduce costs per student, the Commission for Higher Education (CHED), in regulating institutions of higher learning (HEIs) must ensure that the content standards it has set for courses and subjects are not compromised, that the overall quality of higher education is not sacrificed. CHED can assist HEI with grants to comply with set standards, but it must be ready to withdraw such grants from HEIs that repeatedly fail to comply with them. In this regard, CHED must institute a reliable a monitoring and evaluation scheme to track compliance.

Section 2 reviews briefly the links between human capital and economic growth. Section 3 discusses returns to higher education and how it contributes to income inequality. Section 4 presents some enrollment and graduation figures for higher education, indicating the need to expand the stock of labor with higher and scientific education. Section 5 discusses analytical financial issues impeding efforts to expand and render equitable access to higher education. Section 6 offers some policy recommendations. Section 7 concludes the paper.

## 2. Human Capital and Growth

The study of economic growth witnessed a resurgence in the 1980s. The new interest in growth has yielded a large body of knowledge referred to by academic economists as endogenous growth theory. Models belonging to the latter, and there are many of them, extend the standard neoclassical growth models of Robert Solow (1956) and Trevor Swan (1956) by treating technological progress as endogenous (that is, a deliberate choice made by households and firms), rather than exogenous, say, like manna from heaven.

The basic element of the Solow-Swan (SS) model is a production function with labor and capital as the factors of production, along with competitive output and factor markets. Both factors are assumed to be subject to diminishing marginal productivity. The saving rate out of income is assumed exogenous. Population and labor grow at a constant rate, and physical capital depreciates from wear and tear at a constant rate. The basic equation for capital accumulation shows the rate of change of capital per person with respect to time equal to the saving out of real per

capita income minus capital per person adjusted for population growth and depreciation rate.[4]

The Solow-Swan model posits a steady state whereby income, capital, and consumption levels grow at the same constant rate. The growth rates of the per capita values of these variables are thus zero.[5] For example, growth rate of per capita income is zero in steady state. However, this is not borne out by evidence. Many countries, particularly the developed ones, which may be regarded as having reached steady state, show positive growth rates in real per capita income over a long period of time. Endogenous growth theory sought to overcome the inconsistency of the Solow-Swan model with observed growth facts.

Moreover, the emergence of large data sets on real national income in a cross section of several countries has generated interest in economic convergence.[6] The latter refers to whether or not developing countries can catch up with developed ones in terms of per capita income levels. The answer is mixed. In similarly situated economies, convergence is discernible; this is the case, for instance, in the different states of the United States of America. But convergence is not observed in a large sample of heterogeneous countries. For instance, there is no sign that sub-Saharan countries are catching up with developed economies all over the world.

Theoretically, the SS model predicts convergence. Countries that are still remotely situated from their steady states can grow at a rapid rate if they are able to raise their savings and invest it accordingly in productive opportunities. And as they approach steady state, growth rates of capital and income per person decline and approach zero. This, however, is not supported in the large sample of income data on heterogeneous economies. The task, therefore, is to account for the absent or slow convergence. Endogenous growth theory represents an attempt to explain this phenomenon.

One way to view endogenous growth theory is as a theory of technological progress. Several factors underpin technological progress but a compelling one is human capital (see, e.g., Paul Romer, 1986; and Robert Lucas, 1988). When human capital interacts with physical capital, the result is increasing returns, overcoming the usual assumption in the standard growth models of diminishing marginal productivity. This has been illustrated in models where education, a form of human capital from which knowledge and R&D emanate, yields new products that lead to sustained growth over a long period of time. The growth of Apple, for example, is not from selling more units of first generation Macs and IPhones, but from new versions of these products with higher qualities and capabilities than the early

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[4] The basic capital accumulation equation is given by $dk/dt = s \cdot f(k) - (n + h) \cdot k$, where $k = K/L$, K is capital stock, L is labor employed, s is the saving rate, n is population and employment growth, and h is the depreciation rate. The letter d is a partial derivative with respect to time, t.

[5] In steady state, $dk/dt = 0$ in above equation; hence, $s \cdot f(k) = (n + h) \cdot k$.

[6] See, for example, Robert Summers and Alan Heston (1984, 1987).

models (see, e.g., Nancy Stokey 1987, 1991). This is also observed in agricultural economies. Growth in countries that started as predominantly agricultural did not come from producing, for example, larger quantities of traditional rice varieties, but from high-yielding varieties.

New products emanate from advanced knowledge and R&D. The company that invested in knowledge finds that its investment also benefits other companies in the industry. These are positive externalities for which the company that invested is not remunerated, bar patents and intellectual property rights, which are time bound. In the pharmaceutical industry, for example, patents are common but they are time bound if present. After the patent expires, other companies may be able to manufacture generics. The knowledge spills over to other manufacturers that did not spend for the R&D.

In any event, investments in R&D yield knowledge that is not diminished from use by one firm. As knowledge spreads to all other firms in the industry, increasing returns result. This is growth that is not subject to diminishing marginal productivity of the factors of production.

Many empirical studies based on endogenous growth support the significant and positive role of education for growth. For example, Robert Barro's (1991) regressions based on a cross-section of countries finds education to have a positive and significant effect on growth. This has motivated Barro and Jong-Wha Lee (1991) to construct a large database on educational attainment, which establishes a positive correlation between educational attainment, and levels and growth rates of real per capita income.

Without denying the importance of quality basic education for inclusive growth, investment in higher education, particularly in scientific and technical education, is critical to technological progress. In particular, one possible answer to the question of what the Philippines needs to do to transform itself from a middle-income economy to a newly industrializing one is to build and increase the stock of highly educated labor.

This could be one major factor why convergence is not or is slow in occurring. Mature industrial economies like the US and Japan tend to exhibit episodes of growth in real per capita income that hold over a long-run period of time. In so far as the developed economies are able to invest in technological progress through, say, deliberate investments in advanced education and R&D, diminishing marginal productivity does not set in. In contrast, if less developed economies do not invest in advancing their technological capacities, but rely only on increases in labor and capital, growth cannot be sustained over a long period of time. Once diminishing marginal productivity sets in, growth slows down.

The theory and corresponding evidence from endogenous growth theory supports the importance of investing in higher education to bring about long-run

growth.[7] The next section reports on some findings about the returns to higher education, and why the latter is an investment worth making. At the same time, it is shown that income inequality will persist under incomplete financial markets.

## 3. Returns to Education

There is evidence showing that economic payoffs to higher education and skill acquisition are positive and increasing. The rates of returns, for example, to high school and college graduates are rising, accompanied by a widening of the gap between them. Similarly, wage ratios between the top and the lowest occupation groups in selected industry sectors and subsectors where higher education is vital have widened. These are supported by traditional studies on rate-of-return to various levels of education, and by findings of the Philippine Statistical Authority (PSA) from its special surveys on monthly wages by industry and occupation group.

Studies on return to college education support the common view that investment in education is remunerative, and that individuals can privately capture the benefits from such investment. For example, Hope Gerochi (2001) estimated private rates of returns to various education levels; her study showed that based on 1995 data, investment in college relative to high school yielded a 14 percent rate of return. More recently, Hyun H. Son (2009) reported that the rate of return to tertiary education was 16.57 percent, using 2003 data, while to that of secondary education, the rate of return was 5.16 percent in the same time period.

The PSA (2012. 2014), meanwhile, reports the results of its surveys on monthly wage rates in selected industry sectors of time-rate workers on full-time basis by occupation group. The sectors are agriculture, industry (especially, manufacturing), and services. In subsectors therein, the occupations range from the professionals and executives at the top to the unskilled at the bottom rung of the ladder.

In food manufacturing, for example, the monthly wage of food technologists is about twice that of unskilled workers. In wholesale and retail trade, the wage ratio for professionals to unskilled workers is more than twice. In computer programming, the wage ratio for electronics engineers to unskilled is about four to seven times. In several occupation groups, the wage of the top group is at least twice that of the unskilled workers' wage.

Over time, the demand for educated and skilled workers has been increasing. As a result the wage gap between the skilled and unskilled has been widening. From a policy standpoint, this suggests that investments in higher education and skill

[7] Regressing growth of real per capita income on a measure of education does not always yield statistically significant results in view of the collinearity of education with other exogenous explanatory variables, including physical capital, whichn may embody technological progress (see, e.g., Canlas, 2003).

training offer policy tools that help address growing income inequality amid growth. New jobs in new industries, such as those in information and communication technology (ICT), have emerged. And as other industries innovate and grow by adopting ICT in their processes, the demand for highly productive jobs increases. It is thus important for public policy to ensure that access to higher education and skill training required by these new jobs is expanded and equalized. Otherwise, income inequality gets perpetuated as the economy continues to grow.

Tables 2 and 3 highlight the ICT subsector. In the PSA's 2012 Yearbook, the occupation group is tagged "computer and related activities." In 2014, the same group is described as "Computer programming, consultancy and related activities; information services activities." Old occupations are extinguished as new high-quality jobs emerge. These new activities are commonly seen, for instance, in call centers and BPO or business process outsourcing, which are newfound growth areas in the so-called digital age. The ICT subsector is commonly described as a sunrise industry in the Philippines. The demand for ICT skills has been growing, but to qualify for a job in ICT, investment in post-secondary education is essential.

It is insightful to note that the monthly wage rates of the top three occupation groups in ICT in relation to unskilled workers range from 3.8 and 6.8 in the years 2010 and 2012. The wage ratios widened between the two years considered. Evidently, the demand for skilled ICT personnel is increasing over time while supply is not increasing commensurately given the financing constraints that households face. Even if parents may want to enroll their children with aptitude for ICT in a post-secondary school, they may not be able to do so if they do not have the financial capacity. And so the income inequality in this sector may widen and persist over time.

In 2014, the monthly wage rate of electronics and telecom engineers shot up to the top occupation ladder, overtaking system analysts and designers, and computer programmers. Over time, the manpower supply in each of the top three occupation groups changes. Occupational choice is a private decision of households, while firms determine demand. As shifts in demand for and supply of the top three skills occur, monthly wage rates change.

**Table 1: Monthly Wage Rate and Wage Ratio for Top and Bottom Occupation Groups in the Information and Technology Subsector (August 2010)**

| Occupation Group | Monthly Wage (in pesos) | Wage Ratio to Unskilled |
|---|---|---|
| Systems analysts & designers | 42,112 | 3.8 |
| Computer programmers | 43,573 | 3.9 |
| Electronics and telecom engineers | 33,804 | - |

*Source*: PSA (2012)
*Note*: The monthly wage for unskilled workers used as denominator in computing the wage ratios is P10, 905.

**Table 2: Monthly Wage Rate and Wage Ratio for Top and Bottom Occupation Groups in the ICT Subsector (July 2012)**

| Occupation Group | Monthly Wage Rate (in pesos) | Wage Ratio to Unskilled |
|---|---|---|
| System analysts and designers | 50,027 | 6.1 |
| Computer programmers | 36,163 | 4.4 |
| Electronics and telecom engineers | 55,264 | 6.8 |

*Sourc***e**: PSA (2014)
*Note:* The wage rate for unskilled workers used as denominator in computing the wage ratio is P8, 085.

It is useful to note that the wage of the unskilled declined from P10, 095 in 2010 to P8, 085 in 2012, based on the two PSA surveys. As the ICT subsector grows, the number of unskilled workers seeking employment therein increases; the effect is a decline in their wage rate. Meanwhile, electronics and telecom engineers shot up to the top of the occupation ladder, an indication of relative scarcity.

The behavior of wages and earnings in the ICT sector may be happening likewise in other industry subsectors. If the skill scarcity persists, then the income inequality is not likely to narrow down over time. This turns on the issue of building the stock of skilled labor with higher education

## 4. Building a Highly Educated and Scientific Labor

A look at some figures on enrollment and graduation in higher education provides some information on the nature and extent of the challenge in building a stock of highly educated labor. Table 3 shows total enrollment and graduation figures in higher education. All the data, unless otherwise indicated, are taken from the *2014 Philippine Statistical Yearbook* that the PSA publishes.

Table 3 shows that in the school years (SY) from 2011 to 2014, the ratio of higher education graduates to the contemporaneous number of enrollees has averaged only 16.2 percent. Between SY 2011-2012 and SY 2012-2013, the number of graduates slightly declined, recovering to a growth rate of about 8 percent between SY 2013-2014 and SY 2012-2013. These figures pale in comparison to those in high middle-income and newly industrializing economies, and suggest a policy challenge: raising the stock of highly educated labor.

**Table 3: Total Number of Enrollees and Graduates in Higher Education**

| SY | Enrollees | Graduates | Growth rate of graduates (%) | Percentage of graduates to enrollees (%) |
|---|---|---|---|---|
| 2011-12 | 3,033,967 | 522,617 | - | 17.2 |
| 2012-13 | 3,317, 265 | 522,570 | (0.0) | 15.7 |
| 2013-14 | 3,653, 396 | 564,769 | 8.0 | 15.8 |

Table 4 looks at scientifically trained graduates. It includes graduates of engineering and technology-related courses, ICT, medicine and allied professions, mathematics, and natural science. As a proportion of total number of graduates, the graduates with scientific degrees averaged about 34.8 percent each year. The share has grown in recent years because of the numbers enrolling in ICT. In view of the role that scientific graduates play in technological progress, a related challenge is building a stock of scientifically trained graduates.

**Table 4: Percentage of Scientific Graduates to Total Graduates**

| SY | Graduates of Scientific Courses | Percentage | Growth rate (%) |
|---|---|---|---|
| 2011-12 | 211,283 | 40.4 | |
| 2012-13 | 150,530 | 28.8 | (0.28) |
| 2013-24 | 199,35 | 35.3 | 32.4 |

Investing in college education is an economic decision of households that takes into consideration costs and stream of future earnings from having a college degree. Costs are both direct and indirect. Direct costs come mainly from tuition fees and other charges, while the indirect costs are the earnings foregone from choosing college, instead of entering the work force immediately after high school.

Household decisions, however, may be influenced by public policy. If financing college education comes largely from the pockets of households, the government may intervene by setting up financial assistance programs to compensate for missing credit markets to finance college education. It can also introduce tax-and-subsidy schemes that support decisions of households to send their children to college. Job search after graduation is also costly; the government can step in to ease costs of job search. In short, public policy can design incentive structures geared to investing in college education.

## 5. Analytical Issues

We image from some theories what may be producing the small number of graduates in higher education, and in particular, scientific graduates. We start by

looking at some issues on financing higher or college education. For the most part, households internally finance college education. There are scholarships and informal lenders, but these sources of finance are limited. Households need to save and accumulate some wealth to be able to finance higher education. And so in the absence of credit markets for college education, liquidity-constrained families are not able to access higher education for their children of college age. Only rich households will be able to send their children to college. Since individuals with college education earn more than their less-educated counterparts, the incomplete financial markets, if not addressed, tends to replicate income inequality over time.

What are the reasons for missing loan markets for college education? Limited and unequally distributed information, hereinafter referred to as asymmetric information, can account mainly for missing credit markets for college education.[8] In environments where asymmetric information is pervasive, such as in credit markets, banks ration credit and withhold it from some people deemed to have high default risks.

Banks are the most prominent financial institutions in many countries; they accept deposits and create loans. That is they engage in financial intermediation. Borrowers, however, differ in their default risks. Some have lower probability of repaying their loans (the high risk) than others (the low risk). A bank can distinguish the low risk from the high risk only by gathering information, which is not costless. If it does not gather information and simply charges a common interest rate on loans for both low and high-risk borrowers, the low risk will end up subsidizing the high risk. Eventually, only the high-risk avail of loans—a case of adverse selection--which may raise the non-performing loan ratio of the bank. If the bank cannot determine at the application stage the risk profile of a borrower, it will withhold the loan.

A borrower's project for which a loan was obtained may fail, precluding repayment. In the aftermath of a business failure, the bank will not be able to distinguish whether the failure of the business was unavoidable or due to willful actions of the borrower. The bank, in other words, cannot distinguish a genuine risk from a deliberate action. This is a moral-hazard problem, an ex ante one, and may also prevent the writing of a loan contract.

Adverse selection and moral hazard are problems associated with asymmetric-information and may lead to incomplete or limited markets. This is prevalent in credit and insurance markets. The absence of credit markets for college education is traceable to asymmetric information. At the loan-application stage, students have no credit history with banks. And since repayments are contingent on the student finishing college and finding a good-paying job, both

[8] For formal treatments of the allocation processes and outcomes of competitive markets with asymmetric information, see, for example, Milton Harris and Robert Townsend, 1981, and Edward Prescott and Robert Townsend, 1984.

adverse selection and moral hazard problems are to be expected. Hence, banks are not likely to offer loans for college education.

Some collective actions are indicated, which the government may have a comparative advantage in providing. Of course, the government does not have a monopoly over such actions. The private sector may do just as well. At this stage, however, private banks are not writing loan contracts for college education.

## 6. Policy Recommendations

The national government, through the CHED, has played important functions in higher education, both at the upstream policymaking and downstream implementation of policies and programs. It also exercises regulatory functions over both public and private HEIs. Upstream, the CHED exercises oversight functions over budget allocations of state colleges and universities (SUCs) and is commonly an ex-oficio member or chairperson of the Board of Regents of SUCs.

In the pursuit of inclusive growth, the CHED can exert an influential role in at least four activities: (1) designing student-loan and other financial-aid programs; (2) determining the budget allocations of SUCs by region; (3) setting content standards in core courses and subjects in all colleges and universities; and (4) devising standardized tests for determining compliance with content standards of both public and private HEI.

*Loan Program for College Education*

The demand for college graduates is increasing over time and parents respond by choosing to enroll their college-age children. Furthermore, tuition fees are likely to increase from inflation and from the drive for quality improvements in all aspects of college education. In this environment, student loans and other forms of financial aid assume great and critical importance. Since the caps on student loans will have to be standardized, financial aid to needy students must thus include scholarships grants and work-study programs.

One of the empirical regularities in the economics of education is that the rate of return from college education exceeds the weighted average cost of capital. Investment in college education is remunerative, which the graduate is able to capture through the increase in his or her stream of lifetime earnings after college (see George Psacharopoulos, 1991). Moreover, it is seen hat the income gap between college and high school graduates has been widening as a result largely of increasing labor-market demand for skills.

Investment in college education is thus a worthy undertaking. But since households finance college education out of their own pockets, in the absence of credit markets for higher education, only the ones with initial wealth endowments can afford college education.

The government has a warranted role to play amid absent markets for college-education loans. Some needs are not met, with foregone human welfare. A loan program is advisable in so far as the graduate is able to capture the returns from his or her investments through enhanced lifetime earnings. A loan program improves allocation of resources. If the household is paying for the investment, the student may be more studious in school, since loan repayment starts after getting the degree and a job is found. Moreover, it is important for the graduate with a loan to look for a quality job, that is, a job that yields earnings sufficient to support his or her living standards plus student-loan repayments.

University administrators can help reduce the size of a student loan for tuition by tapping resources from other financing entities, such as, the national and local governments, private foundations, and alumni imbued with philanthropy. Furthermore, work-study programs on campus should be instituted to supplement student loans. Student councils and organizations can be authorized to run some businesses on campus as part of work-study programs.

The national government can also institute a fiscal policy regime whereby the interest paid on student loans is admissible as tax credit or a deductible expense in paying personal income taxes. The government can also put up scholarship programs for college-eligible but financially needy students. Work-study programs in the university cam definitely help in this regard. Private foundations and philanthropic alumni could be sources of research grants, professorial chairs, and academic buildings with naming rights.

These financial contributions help defray other costs per student, such as, support to instruction in the form of laboratories, libraries, and Internet access, administration, maintenance and operation of academic buildings, and faculty research, but excluding income foregone while in college.

One major task of the national government is to design a student loan program that minimizes loan defaults. This entails instituting caps on what the student can borrow per year for tuition support, and requiring parents to be co-makers. Options for loan repayment must be incorporated in the design, taking into consideration the ability to pay of the individual over his or her life cycle.

A national loan program will need to be legislated and the CHED must lead in drafting the bill. A matching grant mechanism must be built into the design whereby regional SUCs, for instance, that are able to institute a loan program with minimal loan defaults can be rewarded with additional grants. At the same time, if some SUCs incur loan defaults that exceed some established thresholds, eligibility of those SUCs for the loan program will have to be withdrawn or suspended.

The national loan program may also include the option of accrediting private lending institutions, say, banks, to participate. Loan guarantees and subsidy

schemes will have to be extended to incentivize lending institutions to join the program.

*CHED's Roles Beyond Student Financial Aid*

Under the RPHER, a critical goal is to right size the quantity and raise the quality of SUCs. Having regional university systems and centers of excellence is part of the mission. To do this, consolidation is necessary, and may entail transforming some existing SUCs that do not meet standards of excellence into community colleges. The latter provide education and training that may accelerate entry of college students into the workplace. Some graduates of community colleges may be eligible for a college degree, necessitating an accreditation scheme for an associate degree acquired in the community college.

Beyond streamlining the overall size of the SUC sector, are the quality-enhancing goals of the CHED for SUCs. In this regard, the CHED can also implement some grant-matching programs that will help SUCs develop content standards in core courses and subjects, and coming up with standardized tools for measuring progress. This way, accountability for either good or poor performance of various SUCs can be tracked. Good institutions continue to receive grant support, while poor performers are terminated.

Furthermore, given increasing labor mobility in a revitalized Philippine economy, setting content standards in higher education reduces costs of job search. For example, employers in Manila will have less difficulty in evaluating the qualifications of a job applicant who is a graduate of a university in, say, Cebu or Davao if they know that these applicants are subjected to the same high standards that universities in Manila or any other place impose.

Setting uniform content standards turn on many other tasks that the CHED can coordinate and incentivize with grants. Teacher training and innovations in education technology, come to mind.

*College-to-the-Workplace Initiatives*

Graduates of HEIs do not necessarily possess the skills that the workplace immediately demands. On-the-job-training (OJT) is essential. Furthermore, since social ties matter, graduates without them go through a prolonged job search. The CHED can start a one-stop shop in partnership with other implementing agencies (IAs) like the Departments of Labor and Employment (DOLE), Trade and Industry (DTI), and Science and Technology (DOST) that will ease the transition from college to the workplace.

In college, internships and apprenticeships in an actual workplace are deemed effective. Skills are acquired that make graduates readily employable. The IAs can share information about OJT; wage and salary offers and other

compensation schemes, including jobless benefits, if any; and training and re-training programs with financial assistance.

*Private Response*

One of the interesting and welcome developments in recent years is the entry of private industrialists and corporations in the higher education sector. Seeing the growing demand for skilled labor that can be met only by improving the quality of higher education, they have ventured into HEIs specializing in, for instance, engineering and technology, ICT, as well as in medicine and in the allied medical professions.

This is a welcome development. It seems that HEIs are remunerative enough to warrant investing in them, thereby supplementing with private financial resources the government budgetary resources allocated to the sector. Tuition fees in these private HEIs tend to be reasonable since their university administrators are cost conscious. In addition, in view of the long experience of the owners in private industry, they embrace innovation mechanisms that ensure a smooth transition from college to the job market. The reinvention of higher education by these private investors is revitalizing the sector.

Any concern of the CHED that private corporations in higher education may be overly profit driven can be dealt with through the quality regulation the CHED is empowered with.

## 7. Concluding Remarks

The Philippines is reaping the benefits from the various economic and social policy reforms that have been ushered in since 1986. The high growth rate in real GDP in recent years is one proof of this transformation going on in the economy.

The labor market is demanding highly skilled workers, and the payoffs to these skills are increasing likewise. At this point, however, the country has a narrow base in relation to labor with higher and scientific education. Building a stock of highly educated and scientific manpower is critical for technological progress, the major source of long-run growth.

However, in an environment with liquidity-constrained households and absent credit markets for higher education, and amid rising returns to skills, income inequality is likely to persist. How to achieve sustained growth without exacerbating income inequality is a major challenge that policymakers in government face.

In this environment where demand for skilled labor, returns to higher education, wage gaps between college and high school graduates, and college tuition fees are all increasing, government policymakers are well advised to institute a well designed national education loan program for higher education. This is essential to

complement the government's student financial aid program based on scholarships and specific cash transfers, for instance, to SUCs. Loans are justified since graduates are able to capture much of the rising payoffs to college education.

Equally vital is support to scientific research done in the universities. Research yields knowledge that is not diminished from use by one firm. As other firms in the industry avail of the knowledge, the economy realizes increasing returns.

The emphasis that CHED places in establishing regional centers of excellence is laudable. In this regard, it is important to involve the LGUs in financially supporting these centers of excellence. After all, local jurisdictions and their constituents capture much of the benefits from these SUCs. The principle of devolution should be extended to the provision of education at all levels.

Meanwhile, university administrators of private HEIs should continue to tap financial support from foundations and philanthropic alumni for support to teaching, research, and extension to reduce the burden of student loans, once instituted, and servicing them once the graduates enter the work force.

Programs to ease the job-search process after graduation is essential in a labor market with limited and unequally distributed information. Lacking social ties, graduates from low-income groups may be disadvantaged and would be benefited from acquiring information about vacancies, training and re-training, wage offers and other forms of compensation that are publicly disclosed.

Investing in higher education and job search constitute human-capital accumulation that warrants government support, in partnership with private stakeholders. The economy is undergoing renewal, as indicated, for instance, by its newfound growth. As the demand for skills and returns to higher education continue to increase, the government must sustain its investments in improving colleges and universities and expanding access to higher education, as well as enhancing the quality of its labor-market information designed to facilitate job search, especially for those with weak social ties.

Lastly, families must take advantage of the opportunities that are opening up in human capital formation. They will find that the living standards of their children will improve and they will witness more opportunities for economic and social advancement far more abundant than what they are seeing today.

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