Ecuador International Briefing

Abstract

This article examines educational policies in Ecuador. It outlines the main features of the education and training systems, and analyses the impact on productivity and national development.

The efforts made by various national authorities to strengthen and encourage education at all levels is evident, as well as efforts to boost productivity by changing the productive mix.

In conclusion, much effort has been made to move from an economy of finite resources based on the exploitation of natural resources, to an economy of infinite resources focused on generating knowledge.

Basic data

Geography

Ecuador is on the north-western coast of South America in the tropical zone of the Americas (INOCAR, 2012). It is bordered to the south and east with Peru, and Colombia to the north. The Galapagos Islands are located some 1,000 km from the coast. Ecuador is the third smallest country in South America with an area of 256,370 square kilometres, although it is one of the world’s most geographically diverse nations – with four regions: the East, the Sierra in the centre, the West Coast, and the Galapagos Islands (Sevilla-Pérez, 2013).
Population

According to statistics from the most recent census (National Institute of Statistics and Census in 2010) (INEC), Ecuador is the tenth most populous country in the Americas, with a population of 14,483,499 inhabitants, of which 50.44% are women and 49.56% men (Pérez, Ferreira-Salazar, INEC and UN Women, 2010). Average annual population growth rate is 1.95% with average life expectancy of 76.2 years. The population distribution is concentrated in the under-25s.

Political system

Ecuador is a democratic republic with five independent powers under the constitution described in Table 1 (Asamblea Constituyente, 2008).

The Ecuadorian economy

Economic growth

The economy is near to average for Latin America in terms of per capita income and recent economic growth. It has several unique characteristics that differentiate it from the rest of the region – including: volatility; relatively high levels of investment; and low productivity. As a volatile economy, it expands and contracts in relatively short periods of time (Albornoz, 2011). This may be related to the high correlation between economic growth and export growth, given that Ecuador’s traditional exports are primary products with volatile prices on international markets. Political difficulties have also influenced stability. However, the dollarization of the economy in 2000 seems to have increased stability and reduced poverty.
Ecuador had a gross domestic product (GDP) in 2015 of $70 billion at constant prices (see Figure 1), up 0.3% on the previous year (this being the highest rate of variation in the last nine years). The increases in variables that affected GDP in 2014 also led to growth in GDP for 2015. These included an increase in government spending (up 1.1%), an increase in household spending and exports (up 0.2%) (BCE, 2016).

< Insert Figure 1 >

According to the World Bank, growth in Ecuador over the past 12 years has been intense. GDP grew by 4.6% between 2006 and 2014 – fuelled by high oil prices and external funding (WBG, 2016).

**Industry, employment, and poverty**

Between March 2010 and March 2015 employment increased by 3.2% for men and 5.5% for women, as seen in Figure 2 (INEC, 2015).

< Insert Figure 2 >

In contrast, between December 2014 and December 2015, employment fell by 1 percentage point (excluding the parallel economy) to 95.2%, while unemployment rose to 4.8% in December 2015 (INEC, 2016).

Other indicators on employment make calculations in terms of the official and parallel sectors. The parallel sector is made up by firms that: i) employ less than ten employees; ii) do not carry any accounting records or only carry a book of accounts, or iii) do not have a Contributor Unique Register (RUC), belonging all the rest to the official sector, which shows a percentage of workers of 47.6%, a value lower than the one observed in 2014 (50.9%). On the other side, the percentage of workers in the parallel sector was increased, reaching 43.7% of the population in 2016 (an increase of
4 percentage points on the figure for 2014), being observed a change of tendency from year 2015 with respect the period 2007 to 2014 (INEC, 2017).

Poverty is divided into poverty and extreme poverty. Until December 2015, poverty corresponded to $83.79 per person per month, while extreme poverty corresponded to $47.22 per month (INEC, 2016). Table 2 presents the percentage rates of poverty and extreme poverty at national, urban, and rural levels for the period December 2014 to December 2015.

< Insert Table 2 >

Public training and development policies and strategies

Training and development policies

The Ecuadorian constitution establishes that to meet the goals set by the state, social inclusion must be recognised and strengthened – and has therefore developed and implemented numerous public policies to achieve these objectives (Lanas, 2014).

The Public Sector National Training Plan 2015-2017 developed by the Ministry of Labour (MinTrab) includes short, medium, and long-term strategies and goals to meet the objectives of each public institution (MinTrab, 2015).

The Asamblea Constituyente (2008) considered in 2008 the right of civil servants to receive continuous training. In Art. 71 of the Public Service Act (2010) the state guarantees and finances the continuous training of civil servants with the aim of fulfilling the institutional mission and contributing to personal and professional development.

According to statistics published by the United Nations Development Programme (PNUD, 2015), Ecuador is 88th out of 188 countries in the Human
Development Index (HDI) with a value of 0.732. PNUD considers several criteria for this ranking and when considering investments made by the current government, two criteria seem to have greatly influenced the recent rise in Ecuador’s HDI. These criteria are:

a) Adult literacy

b) Index of students enrolled in basic, secondary, and higher education.

The Ecuadorian Professional Training Service (SECAP) encourages the continuous training of civil servants and other workers through the promotion of courses in various areas with teaching professionals ensuring the quality of knowledge creation.

SECAP encourages continuous improvement in services, training, and job skill certification. The organisation employs highly trained staff to ensure compliance with regulation, processes, and services; improvement in working environments; and the inclusion of human talent in employment (SECAP, 2016). SECAP activities are aimed at individual training and development of skills and abilities for the efficient performance of specific jobs in a variety of sectors. The functions of SECAP include:

1. Offer rapid training of middle managers and skilled workers for industry.
2. Offer professional training for workers in various areas.
3. Train instructors for the training centres operating nationally.
4. Collaborate with relevant companies in planning and execution of vocational training.
5. Retrain qualified staff to update their knowledge, according to labour needs.
6. Cooperate with the specialised government departments and public bodies in matters relating to employment policy and human resources, statistical work, research, and professional training.
7. Coordinate with the private sector in statistical work and research on vocational training.

Ecuador belongs to the Inter-University Centre for Andean Development (CINDA), which was founded by the University of Los Andes (Colombia), the Pontificia Universidad Católica del Perú, and the Pontifical Catholic University (Chile). It was apparent that universities in the rest of Latin America wished to join the centre from 1977, and so, in 1980 it changed its name to the form that continues today. In the mid-90s, the first European university joined CINDA: the Universidad Politécnica de Cataluña, and since then other Spanish and Italian universities have also joined (CINDA, 2016).

CINDA now has 40 members from Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, Ecuador, Spain, Italy, Mexico, Panama, Paraguay, Peru, Dominican Republic, Uruguay, and Venezuela. A brief description of the programmes offered by CINDA includes:

- **Academic programme**: focusing on key issues of higher education such as curricular innovations, student mobility, quality assurance, strategic management, and public policy. Intended to meet the challenges raised in managing and developing universities.

- **Student mobility programme**: generates spaces for academic mobility and encourages institutions in the network to internationalise and cooperate with foreign organisations.

- **Services programme**: offers advice and support on various issues related to management and institutional development. CINDA serves its own members and
other public or private organisations needing guidance in the field of higher education.

- **Quality assurance programme**: conducted through the International Institute for Quality Assurance.

### Primary and secondary education in Ecuador

The government and ministry of education (MinEduc) began a process in 2012 of reorganising the educational offer. This process was designed to overcome quality problems in the education service, which were caused by a lack of planning for centres. During the process, schools were closed unless they met quality standards established by the National Secretary of Higher Education, Science, and Technology (SENESCYT) and met the needs of each territory (MinEduc, 2015).

MinEduc, together with the Ministry of Economic and Social Inclusion (MIES) is attempting to meet the demand for education. In the period 2015-2016, 854,380 children under the age of five received schooling (MinEduc, 2016). Table 3 shows the remarkable growth in the number of children under five who have begun schooling in the last seven years.

< Insert Table 3 >

The drop-out rate before high school fell by 21.6 percent between 2015 and 2016. This decrease is in addition to the 12.87 percent gap in high school attendance between urban and rural areas (shown in Figure 3).

< Insert Figure 3 >

The high school exam (‘Ser Bachiller’) conducted in 2015 resulted in an average student score of 773 points (INEVAL, 2016). Figure 4 shows the scores obtained
according to the categories of insufficient, elementary, satisfactory, and excellent for each subject.

This exam is intended for third-year high school students from various modalities who have passed the subjects in the curriculum and the exam will replace an older system. The new exam focuses on evaluating four areas: a) mathematics, b) language and literature, c) natural sciences d) social studies (MinEduc, 2016).

< Insert Figure 4 >

**Higher education**

The higher education system in Ecuador includes public and private universities and polytechnics, as well as technical institutes, technological institutes, educational institutes, arts institutes, and conservatories. Each centre is assessed and accredited (Asamblea Constituyente, 2008).

One of the articles passed of the Asamblea Constituyente (2008) states that higher education is aimed at academic and vocational training with a scientific and humanistic approach and includes: scientific and technological research; the innovation, development, and promotion of the dissemination of knowledge and cultures; and the provision of solutions for the problems facing the nation. Table 4 shows the different types of tertiary education institutions, and Table 5 shows the various levels of training in higher education (CES, 2013).

< Insert Table 4 >

< Insert Table 5 >

There are 59 approved universities and polytechnics in the higher education system, 18 of which are private (30%), 8 are co-financed (individuals who receive state grants
and allowances) (14%), and 33 are public (56%). In addition, the system includes a total of 276 colleges, 143 of which are public, 11 co-funded, and 122 private (Ponce-Jarrin, 2016). Polytechnic schools and institutes train professionals with a practical and technical approach – while universities are largely devoted to scientific research.

In recent years, higher education has been assessed using various techniques and methods for measuring quality. Figure 5 shows the expansion in the number of places offered by universities between 2012-2015 (SENESCYT, 2016a).

< Insert Figure 5 >

Figure 6 shows the most popular university courses in September 2015, and reveals an increase in popularity for certain courses offered by higher education institutions (IES) (SENESCYT, 2016b).

< Insert Figure 6 >

According to SENESCYT (2016b), during registration in technical and technological institutes under the National System of Equalization and Admission (SNNA), the most popular course was systems analysis with 7.29%, while in September of the same year this figure grew to 7.83%. Nine of the 20 most popular courses are aimed at changing the productive mix – and this will further help achieve sustainable development by encouraging activities associated with human talent, technology, and the exchange of knowledge.

< Insert Figure 7 >

**Educational expenditure**

The state guarantees the financing of all public and private educational institutions from annual general funds (Asamblea Constituyente, 2008). More than $11.4 billion has been spent since 2007 on higher education. Spending in 2015 was slightly greater than
2014, although the percentage of spending on education fell slightly because of higher GDP growth (MinEduc, 2016).

Growth of investment in higher education is greater than it was decades ago – as seen in Figure 8 (showing investment in education relative to GDP).

< Insert Figure 8 >

Spending on higher education in Ecuador relative to GDP was estimated at 2% in 2015, and is greater than Argentina (1.0%), Brazil (1.0%), Mexico (0.9%), Colombia (0.9%), Uruguay (1.2%), and the average of the countries in the Organisation for Economic Co-operation and Development (OECD) (1.4%) (SENESCYT, 2016a).

Until 2013 a system for distributing funds was used that favoured lower quality universities over the largest and best universities. Currently, resource allocation favours and encourages quality, excellence in research, academic and administrative efficiency, and relevance (SENESCYT, 2016a). Figure 9 shows the average amount distributed to universities per student and institutional quality.

< Insert Figure 9 >

**Public policy in education: strategic objectives**

As part of its medium and long-term educational policies over the past decade the state has reached national and international agreements that have enabled the country's education sector to tackle various problems. The Ministry of Education and Culture implemented a ten-year education plan for 2006-2015 that included various inclusive, multi-cultural, and multi-ethnic priorities (MinEduc, 2006). The plan was created as a strategic management tool for implementing educational, technical, administrative, and financial actions to ensure advances in educational quality.
Corporate training and development

Corporate training

The role of the company as an educational agent in Ecuador is marginal. Just a few of the largest companies offer employee training (e.g. Otecel, Ecuador Repsol, etc.). This role has been covered by business schools, which are university-level institutions that teach subjects such as accounting, economics, marketing, finance, strategy, quantitative methods, and organisational behaviour.

The first business school was the ‘Aula do Comércio de Lisboa’ founded in 1759 by the Marquis de Pombal (Acevedo, 1961). The oldest active business school is the ESCP (Paris) founded in 1819 by the famous economist Jean-Baptiste Say (ESCP, 2017). There are currently thousands of business school or schools of business administration around the world, and the most important in Ecuador are:

1. ESPAE (Graduate School of Management de la Espol)
2. Universidad San Francisco de Quito
3. IDE Business School (Instituto de Desarrollo Empresarial)
4. Universidad del Pacifico Escuela de Negocios
5. HUMANE Escuela de Negocios
6. ECAE Business School

Development

A meeting of World Education Forum in Dakar in 2000 brought together 164 nations including Ecuador. The nations attending the forum committed to achieving six ‘Education for All’ (EFA) objectives to improve learning opportunities for children,
youth and adults by 2015 (WEF, 2000). Ecuador has since made significant efforts to meet the objectives. The ten-year education plan 2006-2015 included eight quantitative and qualitative policies (WEB and UNESCO, 2015).

The implementation of the ten-year education plan has largely overcome the critical areas, while public educational policies have achieved increased coverage for primary education, basic education; and at the same time, improved educational quality by raising levels of governance and institutional effectiveness.

**Training and development research**

Research is a key element that must not be omitted in post-graduate education. Ecuadorian university master programmes have included this cluster in recent years – and this has helped provide the professional tools for researchers to develop professionally within their specialisations.

Among the causes that explain why research has not been developed at universities in Ecuador, is the fact that the curriculums did not have a research-based approach. However, the Ecuadorian university system is evolving and investments in scholarships for masters and PhD students in the world’s best universities is beginning to show results. The masters and doctoral research programmes now running should significantly improve research in the country.

**Conclusions**

The following conclusions can be made about the educational situation in Ecuador:

1. Although educational spending relative to GDP is one of the highest in the region, it must be maintained and possibly increased.
2. The educational system has made significant improvements, but more quality is needed in some sectors. For example, infrastructure in the main cities differs greatly from rural areas.

3. The evaluation system managed by Superior Council of Evaluation, Accreditation, and Quality Assurance in Higher Education (CEAACES) is effective in improving the system.

4. The teaching training entrance exams at universities are set at a high level to attract the best students.

5. University lecturing is a recognised profession in Ecuador and salaries are higher than average.

6. The requirements for promotion by university lecturers match the level of developed countries and include a doctoral degree, scientific publications, and research projects (among other merits). These requirements ensure constant improvements in the higher education system.

7. Continued improvements in education may be affected by dependence on oil prices. To counter this, the government and various ministries are considering how the productive matrix can be changed to move from the exploitation of natural resources towards an economy based on knowledge generation.

8. Ecuador aims to strengthen education at all levels and so each year thousands of scholarships for masters and doctorates are offered at the world’s best universities. These strategies include the creation of new universities, such as Yachay Ciudad del Conocimiento (Knowledge City), which is intended to become a national benchmark for teaching and research.
Sources of information on T&D in Ecuador

**Instituto Nacional de Estadística y Censos (INEC).**
Address: Juan Larrea y José Riofrío Quito – Ecuador
Phone: (593-2) 2232303
Website: [http://www.ecuadorencifras.gob.ec/](http://www.ecuadorencifras.gob.ec/)

**Secretaría de Educación Superior, Ciencia, Tecnología e Innovación (SENESCYT).**
Address: Whymper E7-37 y Alpallana Código Postal: 170516 / Quito - Ecuador
Phone: 593-2 250-5660
Website: [http://www.educacionsuperior.gob.ec/](http://www.educacionsuperior.gob.ec/)

**Consejo de Educación Superior (CES).**
Address: Alpallana E6-113 y Francisco Flor Quito – Ecuador
Phone: (593-2) 3947820 / 3947821 / 3947822 / 3947823 / 3947824
Website: [http://www.ces.gob.ec/](http://www.ces.gob.ec/)

**Ministerio de Educación (MinEduc)**
Address: Av. Amazonas N34-451 y Av. Atahualpa Quito - Ecuador
Phone: 593-2-396-1300 / 1400 / 1500
Website: [http://educacion.gob.ec/](http://educacion.gob.ec/)

**Secretaría Nacional de Planificación y Desarrollo**
Address: Juan León Mera Nro. 19-36 y Av. Patria Código Postal: 170517 / Quito - Ecuador
Phone: 593-2 3 97-8900
Website: [http://www.planificacion.gob.ec/](http://www.planificacion.gob.ec/)

**Sistema Nacional de Nivelación y Admisión (SNNA)**
Address: Whymper y Alpallana Quito - Ecuador
Phone: 593-2 382 9150
Website: [http://www.snna.gob.ec/](http://www.snna.gob.ec/)

**Instituto Oceanográfico de la Armada (INOCAR)**
Address: Av. 25 de Julio Via Puerto Marítimo, Base Naval Sur Guayaquil - Ecuador
Phone: (593-4) 2481300 | Fax: (593-4) 2485166

**Ministerio de Trabajo (MinTrab)**
República del Salvador Nro. 34-183 y Suiza Quito - Ecuador
Phone: 1800-266822
Website: [www.trabajo.gob.ec](http://www.trabajo.gob.ec)
Instituto Nacional de Evaluación Educativa
Address: General Francisco de Miranda N47-10 y Av. Brasil, esq. Quito – Ecuador
Phone: 593 2 3931 400
Website: http://www.evaluacion.gob.ec

Servicio Ecuatoriano de Capacitación Profesional
Address: José Arizaga E3-24 y Londres Quito - Ecuador
Phone: 593-2 394-4000
Website: http://www.secap.gob.ec

Centro Interuniversitario de Desarrollo Andino
Address: Santa Magdalena 75, Piso 11, Providencia, Santiago, Chile
Phone: 56 2 22341128 - 56 2 22339869
Website: http://www.cinda.cl/
References


ESCP. (2017). ESCP Europe Business School offering MBA, Specialized Masters, Master in Management, Master in European Business and Executive Education


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Retrieved from https://educacion.gob.ec/wp-

content/uploads/2016/10/Plan-Nacional-de-Capacitacio%CC%81n%CC%81n-6.pdf

Pérez, A., Ferreira-Salazar, C., INEC, & UN Women. (2010). Mujeres y hombres del
Ecuador en cifras III. Quito: Instituto Nacional de Estadística y Censos.

derrollo humano (No. 9687462272) (p. 48). New York - USA: Programa de las
view - es.pdf


## Tables

### Table 1. Independent powers in Ecuador

<table>
<thead>
<tr>
<th>Powers</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislative power</td>
<td>National Assembly contains 137 members elected by the people for a period of four years.</td>
</tr>
<tr>
<td>Executive power</td>
<td>President of the Republic, composed of the President and Vice President, the Ministries of State, and other agencies and institutions.</td>
</tr>
<tr>
<td>Judiciary</td>
<td>Judiciary Council is the governing body for administration, as well as supervising and disciplining the judiciary.</td>
</tr>
<tr>
<td>Power transparency and social control</td>
<td>Council of Citizen Participation and Social Control, the Ombudsman, the Comptroller General and Superintendents. The leading positions are selected through public competition and merit.</td>
</tr>
<tr>
<td>Electoral power</td>
<td>National Electoral Council and the Electoral Tribunal guarantees the exercise of political rights expressed through the vote.</td>
</tr>
</tbody>
</table>

Source: (Asamblea Constituyente, 2008).
Table 2. Poverty: December 2014-2015

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Area</th>
<th>Dec-2014</th>
<th>Dec-2015</th>
<th>Dif</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty</td>
<td>National</td>
<td>22.49%</td>
<td>23.28%</td>
<td>0.79</td>
<td>0.287</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>16.43%</td>
<td>15.68%</td>
<td>-0.75</td>
<td>0.385</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>35.29%</td>
<td>39.33%</td>
<td>4.04</td>
<td>0.003*</td>
</tr>
<tr>
<td>Extreme poverty</td>
<td>National</td>
<td>7.65%</td>
<td>8.45%</td>
<td>0.80</td>
<td>0.078</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
<td>4.49%</td>
<td>4.39%</td>
<td>-0.09</td>
<td>0.830</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>14.33%</td>
<td>17.03%</td>
<td>2.69</td>
<td>0.008*</td>
</tr>
</tbody>
</table>

*Significative differences at level of 0.01
Source: (INEC, 2016)
Table 3. Under 5-year-old children at Ministry of Education and MIES schools

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MIES</td>
<td></td>
<td>318,167</td>
<td>293,303</td>
<td>316,027</td>
</tr>
<tr>
<td>MINEDU</td>
<td></td>
<td>187,313</td>
<td>535,367</td>
<td>538,353</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>505,480</td>
<td>828,670</td>
<td>854,380</td>
</tr>
</tbody>
</table>

Source: (MinEduc, 2016)
Table 4. Types of higher education centres

<table>
<thead>
<tr>
<th>Higher education</th>
<th>Types of centres</th>
<th>Legislation</th>
</tr>
</thead>
<tbody>
<tr>
<td>University</td>
<td>Universities and polytechnics (public and private)</td>
<td>Higher Education Act Regulations of the Higher Education Act</td>
</tr>
<tr>
<td>Non-university</td>
<td>Senior technical, technological, educational, and arts institutes and conservatories. Public and private.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors
**Table 5. Higher education training levels**

<table>
<thead>
<tr>
<th></th>
<th>Articles 6, 7, 8, 9: Academic regulations (CES, 2013)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Higher technical education and equivalents&lt;br&gt;This level of training promotes the acquisition of theoretical and technical skills related with the application of basic operations, the application of specialised techniques, and functions related to specific units of the production of goods and services. Definition of this level of training for artistic careers will be established in regulations for higher arts education.</td>
</tr>
<tr>
<td>2.</td>
<td>Higher technical education and equivalents&lt;br&gt;This level of training educates professionals capable of designing, implementing, and evaluating functions related to the production of goods and services, including project implementation, adaptation, and technological innovation processes. Definition of this level of training for artistic careers will be established in regulations for higher arts education.</td>
</tr>
<tr>
<td>3.</td>
<td>Higher education degree or third level&lt;br&gt;This level provides a general education oriented to a professional and academic career, in line with the broad and specific fields of the International Standard Classification of Education (ISCED) of the United Nations Organization for Educational, Scientific and Cultural Organization (UNESCO).</td>
</tr>
<tr>
<td>4.</td>
<td>Postgraduate or level fourth&lt;br&gt;Highly specialised skills for professional practice and research in the fields of science, knowledge, and technology. This level of training is organised in programmes.</td>
</tr>
</tbody>
</table>

Source: Authors based on (CES, 2013)
Figures

Figure 1. Gross Domestic Product (GDP)

Source: (BCE, 2016)
Figure 2. Employment Rate by Gender 2008-2015

Source: (INEC, 2015)
Figure 3. Net adjusted rate for high school attendance (2006 – 2015) by zone

Source: (MinEduc, 2016)
Figure 4. High school exam (*Ser Bachiller*) results by subject and level of performance

Source: (MinEduc, 2016)
Figure 5. Public university places 2012 - 2015

Source: (SENESCYT, 2016a)
Figure 6. Most popular courses in public universities (Sept. 2015)

Source: (SENESCYT, 2016b)
Figure 7. Most popular courses in public institutes (September 2015)

<table>
<thead>
<tr>
<th>Course</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration: accounting firms</td>
<td>1.66%</td>
</tr>
<tr>
<td>Computer assembly: equipment</td>
<td>1.62%</td>
</tr>
<tr>
<td>Electricity assembly</td>
<td>1.64%</td>
</tr>
<tr>
<td>Computer systems analysis</td>
<td>1.64%</td>
</tr>
<tr>
<td>Civil engineering</td>
<td>1.77%</td>
</tr>
<tr>
<td>Administration: accounting and auditing</td>
<td>1.81%</td>
</tr>
<tr>
<td>Computers: networks</td>
<td>1.85%</td>
</tr>
<tr>
<td>Industrial electrics</td>
<td>2.06%</td>
</tr>
<tr>
<td>Graphic design</td>
<td>2.12%</td>
</tr>
<tr>
<td>Agroindustry</td>
<td>2.53%</td>
</tr>
<tr>
<td>Electrical systems</td>
<td>2.57%</td>
</tr>
<tr>
<td>Electronics</td>
<td>2.67%</td>
</tr>
<tr>
<td>Fish-farming</td>
<td>3.00%</td>
</tr>
<tr>
<td>Industrial mechanics</td>
<td>3.08%</td>
</tr>
<tr>
<td>Computer systems analysis</td>
<td>3.15%</td>
</tr>
<tr>
<td>Electromechanics</td>
<td>3.17%</td>
</tr>
<tr>
<td>Fashion design</td>
<td>3.70%</td>
</tr>
<tr>
<td>Vehicle mechanics</td>
<td>3.72%</td>
</tr>
<tr>
<td>Hotels and tourism</td>
<td>4.86%</td>
</tr>
<tr>
<td>Systems analysis</td>
<td>7.83%</td>
</tr>
</tbody>
</table>

Source: (SEnesCYT, 2016b)
Figure 8. Growth in Public Expenditure as % of GDP

Source: (SENECYT, 2016a)
Figure 8. Average spend per student and institutional quality

<table>
<thead>
<tr>
<th>University Category (Institutional Quality)</th>
<th>2012</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2,531</td>
<td>6,515</td>
</tr>
<tr>
<td>B</td>
<td>2,884</td>
<td>4,963</td>
</tr>
<tr>
<td>C</td>
<td>2,351</td>
<td>3,486</td>
</tr>
<tr>
<td>D</td>
<td>3,013</td>
<td>7,646</td>
</tr>
</tbody>
</table>

Source: (SENESCYT, 2016a)