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A Literature Review of Human Capital and Educational Policies in Bolivia's Educational System

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Abstract: The article covers the primary contribution to the existing literature on education in Bolivia as it delves into its education policies. The study compares relevant economic indicators with Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Honduras, Mexico, Nicaragua, Panama, Peru, El Salvador, Uruguay, and Venezuela. The study is among a few studies that have examined Bolivia's educational policies and compared them to the stated countries, making the paper unique and of great value to economists, educationalists, and the economic development department in Bolivia.

Keywords: Education, Human capital, Economic Growth, Economic Development
JFL Code: E10, I21, I24, I25, I28, O11, O12, O15

I. Introduction:

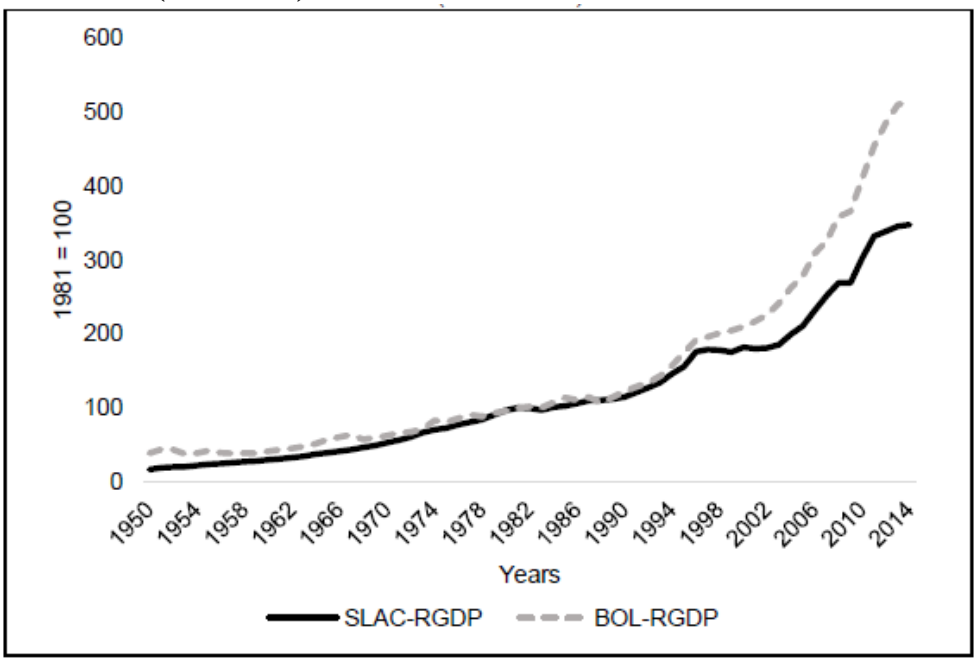
Bolivia is a landlocked country in west-central South America. It is the 28th largest country globally by landmass and the 5th largest South American nation (Google Earth (G.E.), 2019). With a 2018 population of 11.3 million people, the country ranks 81st globally by population (World Development Index (WDI), 2019). In the 2018 Environmental Performance Index (EPI), Bolivia is ranked 92nd in the world and 13th in the Latin Americas (Yale Center for Environmental Law & Policy (YCELP), 2018).

Figure 1 Bolivia on the continental map of Latin America

Author's creation (G.E., 2019)
*Gray specific country of interest

Bolivia is among the few countries in the world with two capitals, Sucre and La Paz. The constitutional capital is Sucre, where the Supreme Court is located (World Atlas (W.A.), 2019), while the administrative capital is La Paz, where the nation's executive and legislative branches are located (WA, 2019). In the 20th century, less than one-tenth of Bolivians lived in urban areas, and by 1950, the number had more than doubled (Library of Congress – Federal Research Division (LoC—FRD), 2006). Today, the country's rate of urbanization has more than doubled, with 50% of the country's population living in cities; this growth has a positive relationship with the nation's population growth (LoC—FRD, 2006). Bolivia is a rich country with a lot of natural resources, which include but are not limited to mineral deposits, hydrocarbons, petroleum, and natural gas (LoC—FRD, 2006). The nation has shown a steady growth pattern in some economic indicators (see Figures 2, 3, and 4) that helped with economic prosperity and opportunities (Schwab, 2018; Penn World Table (PWT), 2019; Abdullah et al., 2015; WDI, 2019). In the study, the Selected Latin America and the Caribbean (SLAC) countries that will be studied as a comparison benchmark are Argentina, Bolivia (excluded), Brazil, Chile, Colombia, Costa Rica, Honduras, Mexico, Nicaragua, Panama, Peru, El Salvador, Uruguay, and Venezuela.

Figure 2
A comparison of our SLAC $RGDP_{ppp}$ at chained (in Mil. 2011 USD (average)) with that of Bolivia (1950 – 2014) 1981 = 100



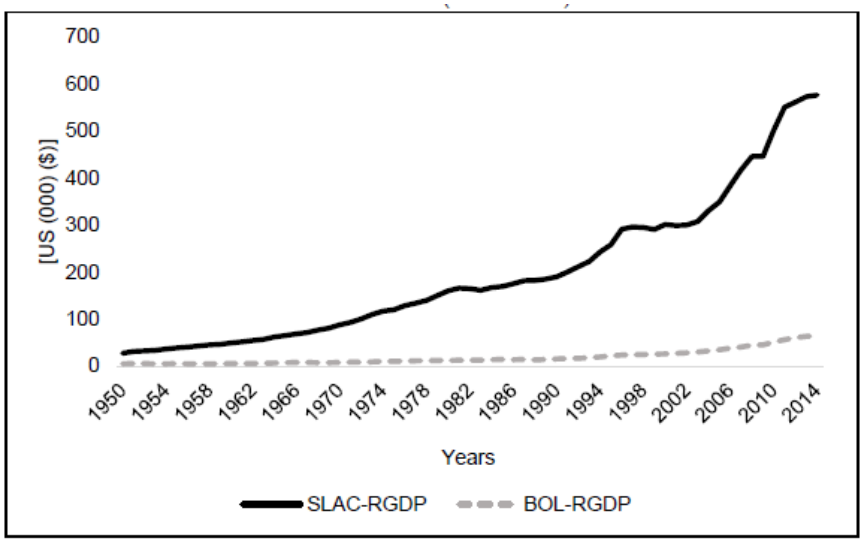
Source: (PWT, 2019). Author's Creation

Figure 2 shows Bolivia's (Real Gross Domestic Product purchasing power parity ($RGDP_{ppp}$) 1981 = 100 index from 1950–2014 compared to that of the SLAC's moving average. Figure 2 depicts Bolivia marginally outperforming the SLAC's moving average between 1950–1993, and from 1994–2014, Bolivia exceeded the moving average. When the value in Figure 3 is converted to an index of 1981 = 100 to measure the changes in the value of their $RGDP_{ppp}$ to see the direction of production in the economy, Bolivia outperformed the SLACs by a significant margin.

In the international market, the country is known for its renewable natural resources, such as but not limited to agricultural and forest products, soybeans, and Brazil nuts (LoC—FRD, 2006). Despite its rich renewable and non-renewable natural resources, the nation's growth has been minimal (WDI, 2019). Issues such as production costs and lack of Foreign Direct Investment (FDI) have contributed to the nation's slow growth. The nation's Gross Domestic Product per capita ($GDP_{per\ capita}$) is 3,500 current USD, and it has a Gross Domestic Product (GDP)

of 40.3 Bil current USD (WDI, 2019).
The country's economy grew by 4.7% in 2018 (WDI, 2019), and as an emerging market, its economy benefits from its literate population Human Development Index (HDI), which is 69% (PWT, 2019). Today, the nation ranks as the 105th most competitive nation in the world out of 140 countries listed in the 2018 Global Competitiveness Index Report (GCIR) (Schwab, 2018).

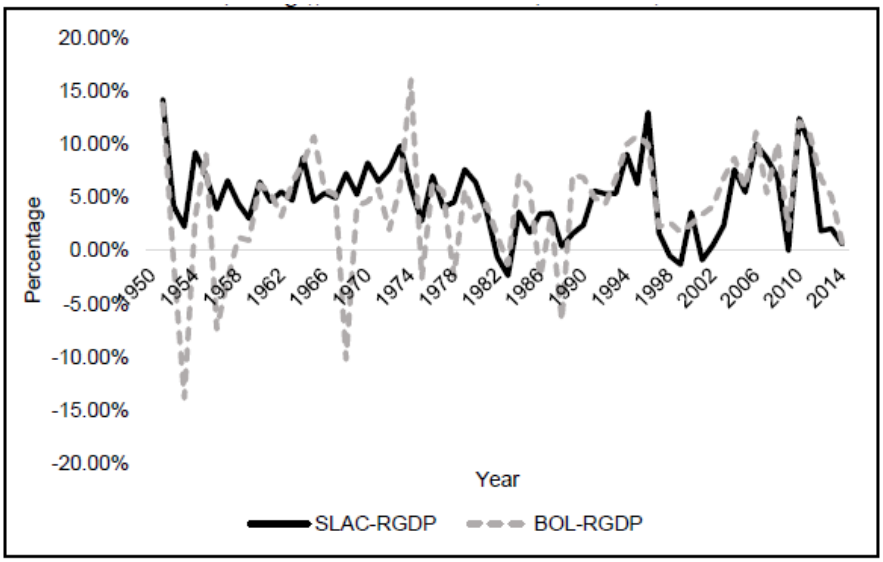
Figure 3
A Comparison of our LAC $RGDP_{ppp}$ at chained (in Mil. 2011 USD (average)) with that of Bolivia (1950 – 2014)



Source: (PWT, 2019). Author's Creation

Figure 3 shows Bolivia's $RGDP_{ppp}$ actual numbers, as it compares to that of the SLAC's moving average from 1950–2014. Figure 3 depicts Bolivia underperforming the benchmarked moving average from 1950–2014. This implies that the Bolivian economic wellbeing and total market value (adjusted for inflation) of domestic goods and services produced in each year from 1950–2014 underperformed that of the moving average of the SLAC.
Bolivia is an impoverished country in Latin America. The economy depends mainly on tin exportation (LoC—FRD, 2006). The fluctuations of its currency in the international market have affected its national earnings (WDI, 2019). In the early 1980s, Bolivia's businesses stagnated due to the international market's falling prices for tin production (LoC—FRD, 2006). Also, due to falling prices in the global market, and with bad harvests, debt default rates went up, and the country's inflation status was rated to a hyperinflation status. In 1985, the administration of President Víctor Paz Estenssoro passed some of the continent's strictest austerity measures that reduced the nation's inflation rate from 24,000% to less than 10% (LoC—FRD, 2006).

Figure 4
A comparison of our LAC % change of $RGDP_{ppp}$ at chained (in Mil. 2011 USD (average)) with that of Bolivia (1951 – 2014)



Source: (PWT, 2019). Author's Creation

Figure 4 shows Bolivia having similar positive changes with that of the SLAC, while the negative changes showed the nation to be more volatile to adverse shocks than the SLAC moving average. Due to the adverse shocks, a 1985 bill was passed to foster growth in the country, and the economy rapidly grew in the '90s, which attracted billions of FDIs into the nation (LoC—FRD, 2006).

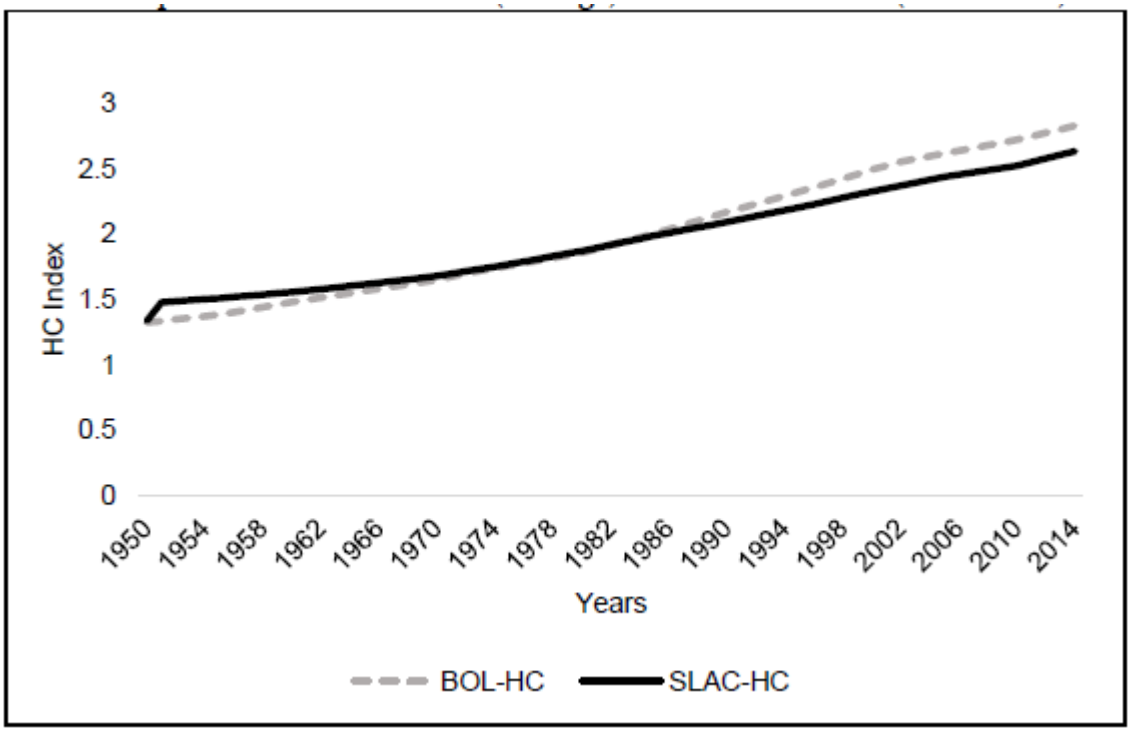
The administration of president Gonzalo Sánchez de Lozada Bustamente (1993 – 1997) led the privatization of nearly the entire state-run sectors, but by 2006 president Juan Evo Morales Ayma introduced his socialist ideology that shifted the nation back toward the nationalization of the private industries (World Education News + Review (WEN+R), 2019; LoC—FRD, 2006). Today, the country of Bolivia continues to receive Foreign Technical Assistance (FTA) and long-term loans from the World Bank (WB), International Monetary Fund (IMF), the International American Development Bank (IADB), and other sovereign nations (Schwab, 2018).

Like other Latin American nations' educational systems, the Bolivian National Education System (NES) comprises of both formal and non-formal sectors. The formal education sector is organized in four cycles: initial or pre-primary (mandatory), primary (compulsory), secondary (optional), and higher education (optional) (WEN+R, 2019).

Another policy that has affected the Bolivian education system is the 1990 Mercosur Free Trade Agreement (MFTA). The economic implications of the MFTA to the economy extend to the school systems; since the agreement impacts; political relations, technology, and globalization. The Ministry of Education and Culture (MEC) is responsible for all levels of the nation's educational system (Relations Council on Foreign (RCF), 2019).

Figure 5

A comparison of our LAC *HDI* (average) with that of Bolivia (1950 – 2014)



Source: (PWT, 2019). Author's Creation

Figure 5 shows Bolivia's *HDI* as it compares to that of the SLAC's moving average from 1950–2014. Figure 5 depicts Bolivia marginally underperforming the benchmark moving average from 1950–1974, being at equilibrium with the benchmark moving average between 1975–1982 and slightly outperforming the moving average from 1983–2014. Bolivia's *HDI* showed a steady upward trend on the actual *HDI*, and the growth rate trend was similar to that of the actual *HDI*, with some steady state growth between 1950–1955, 1981–1990, …, 2011–2014. This implies that Bolivia's *HDI* growth pattern shows that the national literacy rate in the country underperformed that of the SLAC moving average from 1950–1974, was at equilibrium from 1975–1982, and marginally outperformed the benchmarked moving average from 198 –2014 based on residence's years of schooling and returns to education (PWT, 2019).

II. Summary:

Education Orientation Main Finding:

- About 23% of Bolivia's annual budget is spent on the educational system.
- Spanish is the predominant language used in Bolivia's education system.
- The Bolivian Ministry of Education (ME) implemented the plurinational curricula in 2013 for the primary and secondary education system.
- Childhood education for children aged 0–6 years, including family and community-basic non-formal education services, is mandatory for children under three years.

Policies that Moved the Country Forward:

- Non-formal education service is free for children under three.
- Education is compulsory for children between the ages of 0–6 years.
- The Bolivian ME has a subdivision called the MEC, whose job is to provide information on program guidelines and standards.
- The 1994 decentralization education reform helped with educational funding at the local level by improving teachers' training, meeting rural communities' needs, formalization and intercultural bilingual education, and changing the local schools' grading system.
- The nation passed a 2010 Education Law, *Avelino Sinani-Elizardo Perez*, aimed at making learning

more inclusive.

- Easy access to primary education. One notable reform that moved the nation forward is the easy access to primary school education in the country, leading to an all-time high enrollment rate of 82% with little difference between gender. As a result of this enrollment increase, children's literacy rate between the ages of 15 and above has reached 95% compared to 80% in 1992, according to the (WDI— Microdata Library, 2019).

Policies Implication and Recommendations:

From our descriptive analysis, one can identify the 2013 plurinational curricula law, the 2010 inclusivity law Avelino Sinani-Elizardo Perez, 1990 Mercosur Free Trade Agreement, the free childcare service for children three years and under, and the mandatory education are educational growth policies other nations can imitate. Regardless, these policies come with their challenges.

- The mandated 23% of the nation's annual budget to be spent on education was mainly spent on the operating budget and personnel costs. It is recommended that the money be spent on other activities like capital programs and expansions of the schools' infrastructures, and acquiring state-of-the-art equipment.
- The easy access to primary school education in the country led to an all-time high enrollment rate of 82%, with little difference between gender. As a result of this enrollment increase, the literacy rate of children between the ages of 15 and above has reached 95% compared to 80% in 1992, according to the WDI Microdata Library (WDI—Microdata Library, 2019). Yet, the disparities in the educational system by minority groups persisted. In most cases, whether a child received quality education depended on their residency, gender, ethnicity, and economic status United Nations International Children's Emergency Fund (UNICEF, 2019). It is recommended that the nation takes action to reduce these inequalities in the school system by ensuring inclusivity to promote economic growth and Development.
- Increased enrollment rate has hurt rural school districts in Bolivia. The quality of education became a significant concern to the Bolivian ME as many of the rural schools lacked adequate infrastructure and essential educational facilities, including but not limited to water and electricity. It is recommended that the Bolivian ME allocate a significant amount of 60% of the annual budget is assigned to the rural schools' education system.

Contribution to Bolivia's Literature on Human Capital and Economic Growth:

Although an aggregate model was used for all 14 countries in the study, this study contributes to the literature on the role of Human Capital (HC) in economic growth and development by highlighting the important educational policies passed by the Bolivian government and how these policies affected the HDI level of the Bolivian economy. Studies that have delved into Bolivia's economy include (World Institute for Development Economics Research of the United Nations University (WIDER/UNU), 2002; Barro, 1991; Mayer, 2001; Osiobe, 2019; 2020a). The theoretical formulation of the relationship between HC and economic growth in Bolivia has been studied (Mayer- Foulkes, 2008; Osiobe, 2020b; 2020c). The theoretical formulation of the relationship between HC and economic growth consistently predicts that knowledge embodied in humans is essential for innovation, productivity, and economic growth. The theoretical formulation of the relationship between HC and growth always indicates that knowledge embodied in humans is necessary for innovation, productivity, and economic development. However, this relationship does not hold in all cases; for example, (Quiggin, 1999 & 2002).

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