

Factbook Education System: Paraguay

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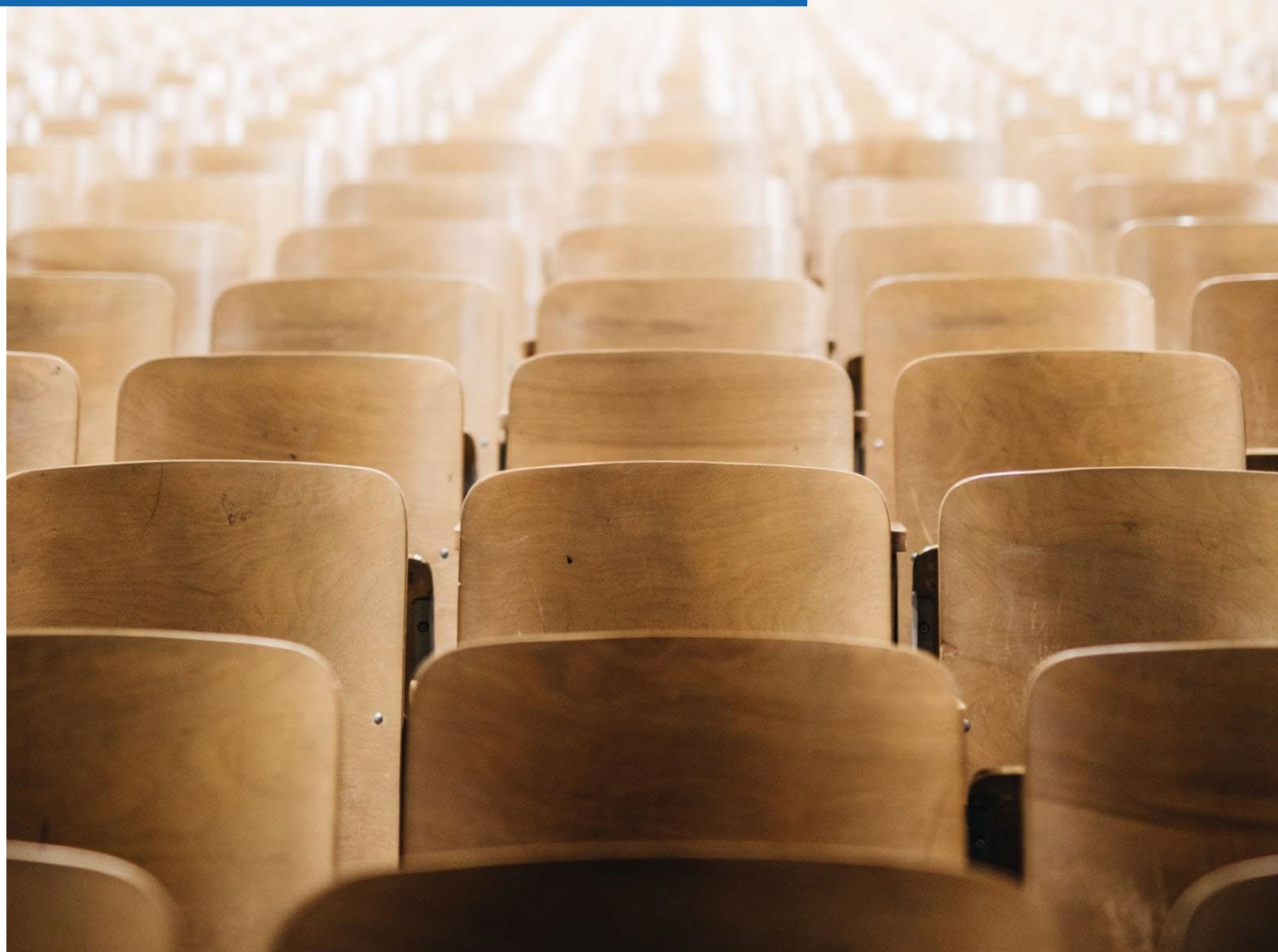
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Factbook Education System: Paraguay

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List of Abbreviations

ANR	Asociación Nacional Republicana
APC	Alianza Patriótica por el Cambio
BIBB	German Federal Institute for Vocational Education and Training
CEDLAS	Center for Distributive, Labour and Social Studies
CIA	Central Intelligence Agency
CNET	Nacional Council of Education and Labour
CONCACYT	National Council of Science and Technology
CONES	National Council of Higher Education
DHS	Demographic and Health Survey
EEB	Basic School
EU	European Union
GCI	Global Competitiveness Index
GER	Gross Enrolment Rate
GII	Global Innovation Index
GDP	Gross Domestic Product
IDEA	International Institute for Democracy and Electoral Assistance
ILO	International Labour Organization
ISCED	International Standard Classification of Education
ITS	Higher Technical Institute
KOF	Swiss Economic Institute
KSP	Korean Knowledge Sharing Program
LAC	Latin America and the Caribbean
LFPR	Labour Force Participation Rate
MEC	Ministry of Education and Sciences
MICS	Multiple Indicator Cluster Survey

MOPADUAL	Modelo Paraguayo de Formación Dual
MPI	Multidimensional Poverty Index
MTESS	Ministry of Labour, Employment and Social Security
NEET	Neither in Employment, nor in Education
NER	Net Enrolment Rate
OECD	Organisation for Economic Co-operation and Development
OEI	Organization of Ibero-American States
PET	Professional Education and Training
PLRA	Partido Liberal Radical Auténtico
SEDLAC	Socio-Economic Database for Latin America and the Caribbean
SINAFOCAL	National Service for Education and Training
SNPP	National Service for Professional Promotion
UNESCO	United Nations Educational, Scientific and Cultural Organization
UTI	Interministerial Technical Unit
VET	Vocational Education and Training
VPET	Vocational Professional Education and Training
VPETA	Vocational and Professional Education and Training Act
WEF	World Economic Forum
YLMI	Youth Labour Market Index
WIPO	World Intellectual Property Organization
WGI	Worldwide Governance Indicators

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1. Foreword

The increasing competitiveness of the world economy as well as the high youth unemployment rates after the worldwide economic crises in 2008/9 have put pressure on countries to upgrade the skills of their workforces. Consequently, vocational education and training (VET) has received growing attention in recent years, especially amongst policy-makers. For example, the European Commission defined common objectives and an action plan for the development of VET systems in European countries in the Bruges Communiqué on Enhanced European Cooperation in Vocational Education and Training for 2011-2020 (European Commission, 2010). In addition, a growing number of US states and other industrialized, transition, and developing countries (for example Hong Kong, Singapore, Chile, Costa Rica, Benin and Nepal) are interested in either implementing VET systems or making their VET system more labour-market oriented.

The appealing outcome of the VET system is that it improves the transition of young people into the labour market by simultaneously providing work experience, remuneration and formal education degrees at the secondary education level. If the VET system is optimally designed, VET providers are in constant dialogue with the demand-side of the labour market, i.e. the companies. This close relationship guarantees that the learned skills are in demand on the labour market. Besides practical skills, VET systems also foster soft-skills such as emotional intelligence, reliability, accuracy, precision, and responsibility, which are important attributes for success in the labour market. Depending on the design and permeability of the education system, VET may also provide access to tertiary level education (according to the ISCED classification): either general education at the tertiary A level or professional education and training (PET) at the tertiary B level. PET provides occupation-specific qualifications that prepare students for highly technical and managerial positions. VET and PET systems are often referred to together as “vocational and professional education training (VPET)” systems.

Few countries have elaborate and efficient VPET systems. Among these is the Swiss VPET system, which is an example of an education system that successfully matches market supply and demand. The Swiss VPET system efficiently introduces adolescents to the labour market, as shown by Switzerland's 2007-2017 average youth unemployment rate of 8.1 percent compared to 14.8 percent for the OECD average (OECD, 2017).

Though not many countries have VPET systems that are comparable to Switzerland's in terms of quality, efficiency and permeability, many have education pathways that involve some kind of practical or school-based vocational education. The purpose of the CES Education System Factbook Series¹ is to provide information about the education systems of countries across the world, with a special focus on vocational and professional education and training.

In the CES Factbook Education Systems: Paraguay, we describe Paraguay's vocational system and discuss the characteristics that are crucial to the functioning of the system. Essential components comprise the regulatory framework and the governance of the VPET system, the involved actors, and their competencies and duties. The Factbook also provides information regarding the financing of the system and describes the process of curriculum development and the involved actors.

The Factbook is structured as follows: First, we provide an overview of Paraguay's economy, labour market, and political system. The second part is dedicated to the description of the formal education system. The third section explains Paraguay's vocational education system. The last section offers a perspective on Paraguay's recent education reforms and challenges to be faced in the future.

¹ From 2013 to 2019, the Factbooks were produced within the framework of the Education Systems research division at the KOF Swiss Economic Institute. From 2020 they will be produced by the Chair of Education Systems (CES) group.

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The Education System Factbooks have to be regarded as work in progress. The authors do not claim completeness of the information which has been collected carefully and in all conscience. Any suggestions for improvement are highly welcome!

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1 Paraguay's Economy and Political System

Table 1. Key Statistics and Information on Paraguay

Category	Outcome
Population	7,132,530 (2020)
Area	406,752 km ²
Location	South America
Capital City	Asunción
Government	Presidential Republic
Official Language	Guaraní, Spanish
National Currency	Guaraní (PYG)

Source: own table based on Encyclopædia Britannica (2021) and World Bank (2021a).

One of the main purposes of an education system is to provide the future workforce with the skills needed in the labour market. The particularities of a country's economy and labour market are important factors determining the current and future demand for skills. Therefore, these are briefly described in the first chapter of this Factbook. In addition, this chapter provides an overview of Paraguay's political system with an emphasis on the description of the education politics. Table 1 reports key statistics and information about Paraguay, which are further discussed in this chapter.

1.1 Paraguay's Economy

Paraguay is a landlocked country in South America, bordering Bolivia, Brazil and Argentina. The country is part of Mercosur. Paraguay's gross domestic product (GDP) per capita² of US\$12336 is higher than of Bolivia (US\$7932) but lower than of Brazil (US\$14064) and Argentina (US\$ 19687). Since 1990, Paraguay's GDP grew at an annual rate of 3.04%, well above the growth rates of the OECD (1.96%) and the Latin American and Caribbean (LAC) economies (2.23%). Paraguay's growth rates, however, has been very volatile, ranging from a sharp decline of -2.3% in 2000 to an astonishing growth rate of 11.1% in 2010. It is important to note that population growth since 1990 has also been relatively high at an annual rate of 1.76%. Therefore, GDP growth was only partially translated into higher GDP per capita (World Bank, 2021a).

Around a quarter of Paraguay's population lives below the national poverty line (World Bank, 2021a). The Multidimensional Poverty Index (MPI) helps to understand the sources of poverty in Paraguay more profoundly. The MPI reflects the intensity of deprivation and the proportion of the people who live under deprivation (head count ratio) with respect to the three dimensions: education, health and living standards. Table 2 shows the different indicators of the MPI and the resulting MPI for Paraguay and neighbouring countries.

² Measured in constant 2017 US\$ at purchasing power parity (PPP)

Table 2: Head count ratio of MPI in Paraguay and neighbouring countries

Dimension	Indicators	Paraguay	Bolivia	Brazil
Health (deprivation in percent)	Nutrient	1.3	3.7	NA
	Child mortality	0.3	0.5	2.4
Education (deprivation in percent)	Years of schooling	2.9	5.7	1.9
	School attendance	1.5	1.4	0.3
Living Standards (deprivation in percent)	Cooking fuel	4.2	7.1	1.3
	Sanitation	3.8	8.7	3.5
	Water	1.9	3.0	2.2
	Electricity	1.1	3.8	0.2
	Flooring and roofing	3.7	7.5	0.6
	Assets	1.3	3.8	0.3
MPI		0.019 MICS(2016)	0.038 DHS(2016)	0.016 DHS(2015)

Source: own table base on University of Oxford (2021).

Paraguay has an MPI of 0.019 which is slightly higher than the MPI of Brazil and considerably lower than that of Bolivia. The dimension of poverty which affects the most people in Paraguay is *living standards*, especially *cooking fuel*, *sanitation*, and *flooring and roofing*.

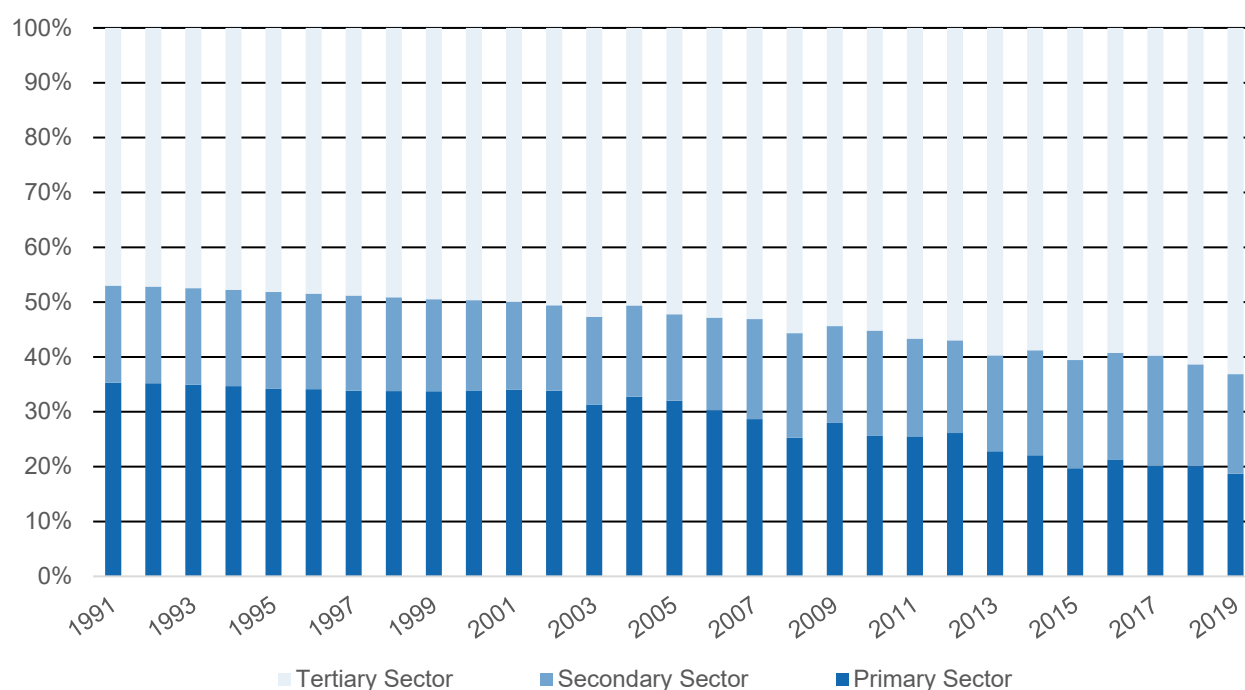
Table 3 provides an overview of the value added and share of overall employment by sector for Paraguay and, as a reference, the member states of the European Union (EU-28) in 2019. The tertiary sector is the biggest sector in Paraguay, both in terms of value added and employment: around 63% of the workforce is employed in the tertiary sector and the sector is responsible for 50% of GDP. The primary and secondary sector both employ around 18% of the workforce. The secondary sector has the highest output per worker and accounts for 33% of the value added, while the primary sector accounts for only 10% of the value added. The main difference compared to the EU-28 is that the primary sector is still substantially larger in Paraguay, while the tertiary sector is substantially larger in the EU-28. The data used in Table 3 is incomplete insofar that around 7% of the value added in Paraguay cannot be attributed to any sector.

The share of the workforce that is employed in the respective sectors is a key factor of the economic structure. Figure 1 depicts the developments of the distribution of the workforce between the three sectors. While the tertiary sector already employed 47% of the workforce in 1990, the sector continued to grow and employed 63% of the workforce in 2019. During the same period, the employment in the primary sector shrank considerably from 35% to 19% and the employment in the secondary sector stayed more or less constant at around 18%.

Table 3: Value added and employment by sector, 2019

Sector	Paraguay: Value added ³ (%)	EU-28: Value added (%)	Paraguay: Employment (%)	EU-28: Employment (%)
Primary sector	10.0	1.6	18.7	4.1
Agriculture, hunting and forestry, fishing	10.0	1.6	18.7	4.1
Secondary sector	33.2	24.5	18.1	21.6
Manufacturing, mining and quarrying and other industrial activities	NA	18.9	11.0	15.2
of which: Manufacturing	18.8	15.6	10.4	13.6
Construction	NA	5.6	7.1	6.5
Tertiary sector	49.6	73.9	63.2	74.3
Wholesale and retail trade, repairs; hotels and restaurants; transport; information and communication	NA	24.4	32.1	28.0
Financial intermediation; real estate, renting & business activities	NA	26.5	5.8	16.7
Public administration, defence, education, health, and other service activities	NA	22.0	25.3	29.6

Source: own table based on Eurostat (2021a), Eurostat (2021b) and World Bank (2021a)

Figure 1: Employment by sector (as % of total employment), 1991-2019

Source: own figure based on World Bank (2021a)

³ Due to incomplete statistics, the sum of all sector falls below 100 percent.

The Global Competitiveness Index (GCI) measures the competitiveness of an economy based on the set of institutions, policies and factors that determine the level of productivity within the economy. In the 2019 Global Competitiveness Report issued by the World Economic Forum (WEF), Paraguay ranked 97th out of 141 countries. Paraguay was rated relatively well in the dimensions *health* (63rd) and *product market* (72nd), while it lags behind in the dimensions *innovation capability* (137th), *business dynamism* (115th), and *institutions* (115th) (WEF, 2019).

The Global Innovation Index (GII) determines the innovative capability of an economy based on both the input for innovation, such as infrastructure or human capital, as well as the innovative output an economy produces. In 2021, Paraguay was ranked 88th out of 132 countries. Paraguay performed similarly in the input (90th) and the output (87th) dimensions. While *institutions* (110th) and *knowledge and technology output* (117th) of the country are rated poorly, its *creative output* is ranked relatively well in international comparison (62th) (WIPO, 2021).

1.2 The Labour Market

In the first part of this section, we describe the general situation of Paraguay's labour market. In the second part, we focus on the youth labour market in particular.

1.2.1 Overview of the Paraguay Labour Market

In 2019, the informal economy accounted for an estimated 69% of total employment in Paraguay (ILO, 2021e). The extent of informal employment is greater in Paraguay than in most of the other LAC countries (Vargas & Cardarelli, 2015). Due to the prevalence of the informal economy in Paraguay, it is unclear how reliable is the official statistics on the Paraguayan labour market.

Paraguay's law does not provide a national minimum wage for all sectors, but standard minimum wages applicable to most sectors. These minimum wages are above the national poverty line. The standard workweek is 48 hours. Excessive overtime, which may be compulsory, is, however, not legally prohibited. The government sets appropriate occupational safety and health standards. Workers, except the police and armed forces, have the right to form and join independent trade unions, bargain collectively and conduct strikes. However, the government often does not prevent retaliation by employers against union leaders and penalties for discrimination against unions have been ineffective. All forms of forced and compulsory labour are legally prohibited. The law is not enforced effectively, as the authorities are unable to conduct inspections effectively, especially in rural areas. The minimum age for full time employment is 18, adolescents between 14 and 17 may work part-time with parental authorization if they still attend school. Laws protecting children from exploitation are, again, not enforced effectively by the authorities. According to the U.S Department of State, slavery-like practice called *criadazgo* remains a big problem in Paraguay: Middle and upper-income families formally employ children, often from impoverished families, for domestic work and provide them, in theory, with shelter, food and some education. An estimated 2.5% of all children were engaged in *criadazgo* (U.S Department of State, 2020).

As illustrated in Table 4, Mozambique exhibits a labour force participation rate (LFPR) above the OECD average for all considered age cohorts. While adults between 25 and 54 have a similar LFPR in Paraguay and the OECD economies, people between 15 and 24, between 55-65 respectively, participate considerably more often in the labour force in Paraguay. The total unemployment rate is slightly above the OECD average, albeit only the age cohort between 15 and 24 years has an unemployment rate above the OECD average.

Table 5 shows the LFPR and the unemployment rate of Paraguay and the OECD average grouped by educational attainment in 2017. The LFPR in Paraguay is similar to the OECD average for people with upper secondary or tertiary education and higher for people with a low level of education. The unemployment rate is considerably below the OECD average for all groups. It is important to note, that

the high youth unemployment does not influence these statistics since only people above the age of 25 are included.

Table 4: Labour force participation rate and unemployment rate by age in 2020

Age group	Labour force participation rate (%)		Unemployment rate (%)	
	Paraguay	OECD average	Paraguay	OECD average
Total (15–64 years)	73.8	71.5	7.8	7.3
Youth (15–24 years)	56.1	45.9	17.1	15.0
Adults (25–54 years)	82.9	81.6	5.7	6.5
Adults (55–64 years)	69.3	63.7	2.7	5.2

Source: Own table based on ILO (2021a), ILO (2021b) and OECD (2021a).

Table 5: Labour force participation rate and unemployment rate by educational attainment in 2017 (people aged 25+)

Education level	Labour force participation rate (%)		Unemployment rate (%)	
	Paraguay	OECD average	Paraguay	OECD average
Less than primary education	65.0	64.6	2.4	10.5
Less than upper secondary education	75.7		2.9	
Upper secondary education	80.8	80.3	3.5	6.3
Tertiary education	88.2	88.5	2.2	4.3

Source: Own table based on ILO (2021c), ILO (2021d) and OECD (2021b)

Paraguay has a very young population. People below the age of 15 represent around 29% of the total population which is a much larger share than in the OECD economies where people below the age of 15 represent around 18% of the population (World Bank, 2021a). This indicates that a lot of young people will enter the labour market in the years to come and that will result in the labour force to grow substantially.

According to the GCI issued by the WEF, the skills of the labour force is a big obstacle to the competitiveness of Paraguay. In the dimension *skills of current workforce* Paraguay is ranked 136th out of 141 evaluated economies (WEF, 2019).

1.2.2 The KOF Youth Labour Market Index

The KOF Swiss Economic Institute developed the KOF Youth Labour Market Index (KOF YLMI) to compare the youth labour market situation across countries (Renold et al., 2014). The foundation for this index is the critique that a single indicator, such as the widely used youth unemployment rate, does not suffice to describe the youth labour market situation adequately nor provide enough information for a comprehensive cross-country analysis. To increase the amount of information considered and to foster a multi-dimensional view, the KOF YLMI consider twelve indicators that are grouped into four dimensions (see the information box to the right).

The first dimension is the **Activity State**. It contains three indicators, and captures to what extent the youth are active. Youth refers to all individuals aged 15-24. The indicators are the Unemployment Rate, the Relaxed Unemployment Rate and the NEET Rate. The **Working Conditions** dimension consists of five indicators that capture the quality of employment. Those are the Temporary Worker

Dimensions and corresponding indicators of the KOF YLMI
Activity State <ul style="list-style-type: none">- Unemployment Rate- Relaxed Unemployment Rate⁴- Neither in Employment, nor in Education or Training (NEET) Rate
Working Conditions <ul style="list-style-type: none">- Temporary Worker Rate- Involuntary Part-time Worker Rate- Atypical Working Hours Rate- In-work At-Risk-of-Poverty Rate⁵- Vulnerable Employment Rate⁶
Education <ul style="list-style-type: none">- Formal Education and Training Rate- Skills Mismatch Rate
Transition Smoothness <ul style="list-style-type: none">- Relative Unemployment Ratio⁷- Long-term Unemployment Rate⁸
Source: Renold et al. (2014).

Rate, the Involuntary Part-time Worker Rate, the Atypical Working Hours Rate, the In-work At-risk-of-Poverty Rate and the Vulnerable Employment Rate. **Education**, the third dimension, aims to capture the quantity and quality of education and training via two indicators: the Formal Education and Training Rate and the Skills Mismatch Rate. Finally, the **Transition Smoothness** dimension describes the dynamics of the transition process between school and work. The indicators Relative Unemployment Ratio and Long-Term Unemployment Rate compose this dimension.

Before aggregating the indicators into a single index, each indicator value is rescaled into an indicator score that takes values between 1 and 7, where higher scores suggest more desirable outcomes. The data for the indicators are collected from different international institutions and cover up to 178 countries from 1991 onward. Unfortunately, data are not available for all countries every year, so one of the major

⁴ Is calculated as the number of unemployed and discouraged workers as a share of the entire labour force. Discouraged workers have given up the search for work (not actively seeking), although they have no job and are currently available for work (also: "involuntary inactive").

⁵ Those who cannot make a decent living out of their earnings. It is calculated as the number of youth at work but earning less than 60% of the median national income as a percentage of the total working population.

⁶ Share of the employed population working on their own account or those working in their family business and thus contributing to the entire family income. Both are less likely to have formal work arrangements and are therefore less protected by labour laws and more exposed to economic risk.

⁷ Is defined as the youth unemployment rate (15-24 years) divided by the adult unemployment rate (25+). If the youth cohort is affected in the same way than the adult group with respect to unemployment, then the relative unemployment ratio will be equal to one. If the youth are relatively more affected, then the ratio will be larger than one.

⁸ Those unemployed for more than one year (52 weeks) as a share of the total number of unemployed (according to the ILO definition).

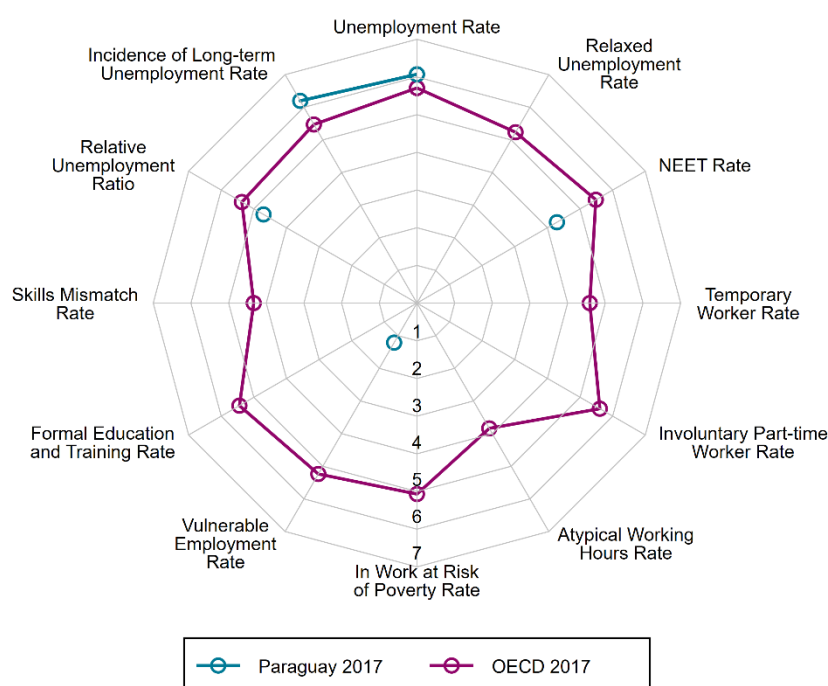
limitations of the KOF YLMI is data availability. When data is lacking, a dimension can occasionally be based on a single indicator or must be omitted entirely when no indicator for that category has data available. A lack of indicators can make comparisons across countries or groups of countries problematic and sometimes even impossible.

1.2.3 The KOF YLMI for Paraguay

For Paraguay, only the following indicators of the KOF YLMI are observed: *Unemployment rate*, *NEET rate*, *vulnerable employment rate*, *relative unemployment ratio*, and *incidence of long-term unemployment rate*. The expressiveness of the KOF YLMI for Paraguay is thus limited. Figure 2 illustrates the observed indicators of Paraguay compared to those of the OECD economies in 2017. While the *unemployment rate* and the *incidence of long-term unemployment rate* in Paraguay are slightly better than in the OECD economies, the *relative unemployment ratio* and the *NEET rate* are slightly worse, and the *vulnerable employment rate* in Paraguay significantly lags behind the OECD rate.

Figure 3 shows the development of the KOF YLMI in Paraguay and the OECD since 2002. It is important to note, that only the indicators that are observed for both Paraguay and the OECD are considered. The KOF YLMI of the OECD was consistently above the level of Paraguay, indicating a better situation in the youth labour market. The development since 2002 has been slightly positive for both Paraguay and the OECD.

Figure 2: KOF YLMI Spiderweb for Paraguay and OECD in 2017



Source: KOF (2018)

Figure 3: Development of Limited KOF YLMI since 2002



Source: KOF (2018)

1.3 Paraguay's Political System

Understanding the basics of a country's political system and getting to know the political goals with respect to its education system are crucial points for the understanding of the education system in a broader sense. Therefore, in Section 1.3.1 we start by presenting Paraguay's political system in general. Then, in Section 1.3.2, we focus on the politics and goals of the education system.

1.3.1 Overview of the Paraguay Political System

Paraguay gained its independence from Spanish colonial rule in 1811. After independence, the country was involved in several wars, including the devastating War of the Triple Alliance (1865-1870) against Argentina, Brazil and Uruguay, in which Paraguay lost more than two thirds of its adult male population and large parts of its territory. In 1954, the right-wing General Alfredo Stroessner took power. His repressive dictatorship lasted until 1989, when he was overthrown in a military coup. Stroessner was a member of the *Asociación Nacional Republicana* (ANR), commonly called Colorado Party. In 1992, a new constitution went into effect, ensuring freedom of press, the legalization of all political parties and other basic rights. Since the return to democracy, there was only one president from a party other than Colorado: In 2008, the former bishop Fernando Lugo of the *Alianza Patriótica por el Cambio* (APC) was elected as president in 2008. He was, however, removed from power in 2012 in an act whose legality was questioned by the international community. (Encyclopædia Britannica, 2021).

Paraguay is a presidential republic. The president serves as the head of state and is elected by a popular majority vote for a five-year term. The 1992 constitution limited the tenure of presidents to one term. In 2018, the current president Mario Abdo Benítez was elected with 46% of the vote. The legislative branch consists of a chamber of deputies and a senate which together form congress. All representatives are elected by a popular vote for five-year terms. In the 2018 vote, Colorado won most mandates with 17 out of 35 seats in the senate and 42 out of 80 seats in the chamber of deputies, followed by the *Partido Liberal Radical Auténtico* (PLRA) with 13 seats in the senate and 30 seats in the chamber of deputies. The judicial branch is headed by the supreme court which consists of nine judges elected by the senate and the president. In the past, the ruling of the supreme court has been inconsistent and been denounced as politically motivated (Encyclopædia Britannica, 2021).

The elections since 1989 were relatively free and regular (CIA, 2021). As in large parts of Latin America, voting is, de jure, compulsory and non-voters may face a fine sanction. The law is, however, not enforced effectively (IDEA, 2021). In the Economist Democracy Index, Paraguay is ranked 67th out of 167 included countries and is classified as a flawed democracy. The ratings were relatively stable throughout the last decade (Economist, 2020).

Table 6: Worldwide Governance Indicators (WGI) for Paraguay, 2010 and 2020

	2010		2020	
Worldwide Governance Indicators (WGI)	Estimate	Percentile Rank	Estimate	Percentile Rank
Voice and Accountability	-0.08	46.0	0.07	50.7
Political Stability and Absence of Violence/Terrorism	-0.80	21.3	0.00	47.6
Government Effectiveness	-0.93	18.7	-0.47	35.1
Regulatory Quality	-0.36	40.2	-0.20	43.3
Rule of Law	-0.86	22.7	-0.42	37.0
Control of Corruption	-0.73	25.7	-0.87	20.2

Source: Own table based on World Bank (2021b)

Table 6 depicts the Worldwide Governance Indicators (WGI) issued by the World Bank that measure six dimensions of governance and assign a value between -2.5 (bad governance) and 2.5 (good governance) to each of these dimensions. Paraguay receives its worst rating in the dimension *control of corruption* (-0.87) where it is ranked in the 21st percentile of all evaluated countries. The best rating is received in the dimension *voice and accountability* (0.07) where the country is ranked in the 51st percentile. The country has witnessed a remarkable improvement of its ratings since 2010 in all dimensions but *control of corruption*. Especially in the dimension *political stability and absence of violence/terrorism* the World Bank identifies a large improvement. The poor rating for *control of corruption* is consistent with Paraguay's performance in the Corruption Perception Index where Paraguay is ranked 137th out of 180 examined countries (Transparency International, 2021).

1.3.2 Politics and Goals of the Education System

During Alfredo Stroessner's regime, the persecution of people engaged in activities related to education and knowledge production forced many intellectuals into exile and the legacy of the regime included an education system with enrolment ratios among the lowest in the world. Since the democratization of the country, education enjoys a higher priority. The 1992 constitution emphasizes that everyone has the right to permanent, integral and bilingual education. Efforts to reform the education system in the 1990s were institutionalized through the 1998 General Law of Education which remains the legal basis for the education system until today (Zarza Paredes & Suárez Enciso, 2020).

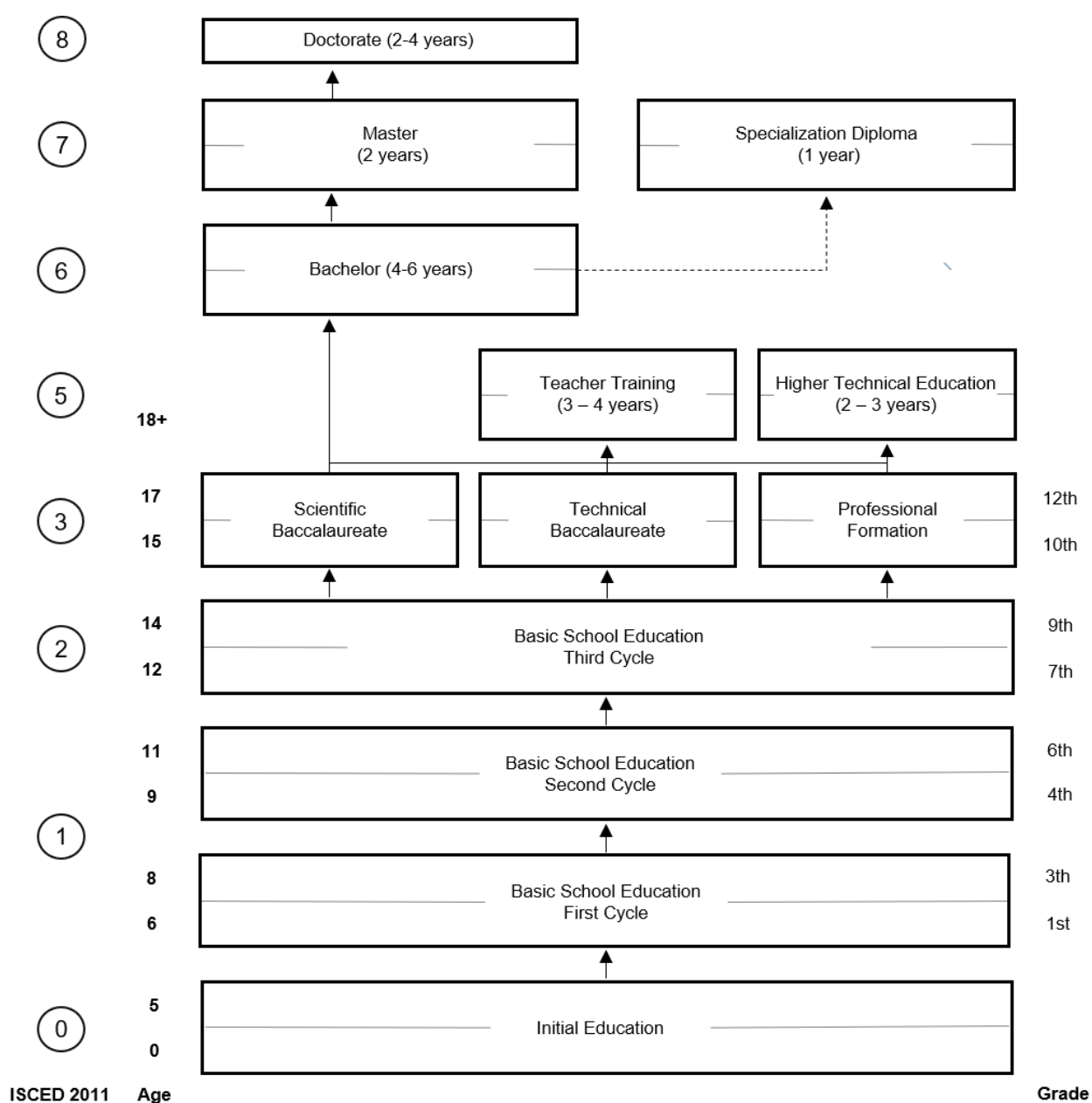
Paraguay's education system still faces several challenges. Enrolment ratios are low compared to other countries in the region and decreasing on the primary and lower secondary level (UNESCO, 2022a). According to studies, the performance of students is not satisfactory and lags behind their peers in almost all other countries in the region. Moreover, funding for the education system is insufficient. The government identifies and addresses these issues in their Educational Action Plan 2018-2023 (MEC, 2018).

The education system in Paraguay is highly centralized (OECD, 2015). The Ministry of Education and Science (MEC) serves as the central governing, managing and controlling body for the largest part of the education system, except for the universities which are autonomous. The minister of education is appointed by the president (UNESCO, 2010).

2. Formal System of Education

The Paraguay constitution states that everyone has the right to permanent and integral education (Constitution of the Republic of Paraguay, 1992). Although 12 years of schooling are compulsory in Paraguay and free in public schools (OECD, 2015), universalization of schooling has not been reached yet on any level and enrolment remains considerably lower than in the neighbouring countries (UNESCO, 2022a). Education in Paraguay is mainly a national competence. The Ministry of Education and Sciences (MEC) is responsible for every part of the formal education system, except the universities which are autonomous (UNESCO, 2010). Figure 4 depicts Paraguay's formal education system.

Figure 4: ISCED 2011 Mapping for Paraguay



Source: Own figure based on MEC (2022c), OECD (2015) and UNESCO (2007)

Table 7 shows the gross enrolment rate (GER) and net enrolment rate (NER) by education level for 2020. The NER quantifies the total number of students in the theoretical age group for a given education level enrolled at that level expressed as a percentage of the total population of that age group. The GER quantifies the number of students enrolled at a given education level—irrespective of their age—as a percentage of the official school-age population corresponding to the same level of education. For example, for the primary education level, the NER indicates how many students of the typical primary school age are actually enrolled in primary school, while the GER sets the actual number of students in primary education—irrespective of their age—in relation to those who are in the official age to attend primary education.⁹

Table 7: Net enrolment rate (NER) and gross enrolment rate (GER) in 2020

Education level	ISCED 2011	Net Enrolment Rate	Gross Enrolment Rate
Early childhood education development programmes	010	NA	0.7
Pre-primary education	020	44.3	51.1
Primary education	1	80.3	84.6
Secondary education	2–3	NA	76.8
<i>Lower secondary education</i>	2	75.7	78.7
<i>Upper secondary education</i>	3	70.0	74.9
<i>Percentage enrolled in vocational secondary education</i>	2–3	14.7	
Compulsory education age group	1–3	NA	80.8
Post-secondary non-tertiary education	4	NA	NA
Tertiary education	5–8	29.7 (2019)	34.6 (2010)
<i>Short-cycle tertiary education</i>	5	NA	NA
<i>Bachelor or equivalent level</i>	6	NA	NA
<i>Master or equivalent level</i>	7	NA	NA
<i>Doctoral or equivalent level</i>	8	NA	NA

Source: Own table based on UNESCO (2022a) and SEDLAC (2021)

The relevance of early childhood and development programmes in Paraguay is limited, as they have a GER of only 0.7%. Pre-primary education has a NER of 44.3% and a GER of 51.1%. Enrolment in primary education is relatively low with a NER of 80.3% and a GER of 84.6%. Lower secondary education has a NER of 75.7% and a GER of 78.7%. Enrolment in upper secondary education is only slightly lower at a NER of 70.0% and a GER of 74.9%. Tertiary education has a NER of 29.7%. The enrolment in the different levels is discussed in more detail and compared to the rest of Latin America in the corresponding subsections. It is important to note that the enrolment rates reported in this factbook are at odds with data from household surveys which report significantly higher enrolment rates, especially on the primary education level (SEDLAC (CEDLAS and The World Bank), 2021). In consequence, conclusions related to enrolment rates must be drawn with caution.

Besides the relatively low enrolment, Paraguay's education system faces other major challenges. The number of schools is insufficient to accommodate all children and the teaching quality is oftentimes inadequate (Encyclopædia Britannica, 2021). Related to this, studies show that the academic performance of children is relatively bad, especially in mathematics and communication, and lags behind the performance of their peers in most countries of the region. Absenteeism is prevalent both among teachers and students (MEC, 2018). Another problem is the unequal society which manifests itself in education: while out of the richest quintile around 80% of adolescents finish upper secondary school only around 40% out of the poorest quintile finish upper secondary education (UNESCO, 2020). Paraguay's constitution states that at least 20% of the state budget must be spent on education

⁹ A gross enrollment rate of 100 corresponds to a situation where each child in a given country is enrolled in the corresponding education level. A value above 100 could occur due to students who are older than the typical enrolment age for primary education (e.g. have to repeat grade, adult learners). A value below 100 implies that not everyone who is in the typical age for primary education is actually enrolled.

(Constitution of the Republic of Paraguay, 1992). This constitutional requirement is not met by far, as education accounted for only 9.6% of total government expenditure in 2020 (UNESCO, 2022b). Moreover, despite compulsory education being free of charge in public schools, households have to make significant financial contributions to their children's education, as they have to pay for transport costs, school uniforms, and school supplies. This can be particularly burdensome for economically disadvantaged families (Zarza Paredes & Suárez Enciso, 2020). Another issue is the transition from school to work which often does not go smoothly and forces many young people to enter bad quality jobs after they leave school (OECD, 2018).

2.1 Pre-Primary Education

On the pre-primary level, Paraguay's education system differentiates between nursery school for children aged 0 to 2, kindergarten for children aged 3 to 4 and preschool for children aged 5 (MEC, 2022a). Nursery school is voluntary, while kindergarten and preschool are de jure mandatory (Zarza Paredes & Suarez Enciso, 2020). In practice, however, kindergarten and preschool are optional as well since they are not free due to budget restrictions (OECD, 2015). Pre-primary education is also offered in a non-formal modality in which children are served that do not have access to formal pre-primary education. The non-formal modality is carried out community, home or church-based (UNESCO, 2010). The GER of 51.1% in pre-primary education is considerably below the LAC level of 77.5% and also considerably below the ratios of the neighbouring countries Bolivia (77.34%), Brazil (95.49%) and Argentina (77.78%) (UNESCO, 2022a). Since there is only a small number of institutions that offer specialized teacher training for pre-primary education, most of the teachers involved in pre-primary education do not have a specialized education for teaching children in the pre-primary age range (UNESCO, 2010).

2.2 Primary and Lower Secondary Education

At the age of six, children in Paraguay enter Basic School (EEB) which is compulsory and free of charge in public schools. EEB consists of three cycles which last 3 years each. The first two cycles correspond to primary education and the third cycle corresponds to lower secondary education. Each cycle consists of an academic component and a component aimed at the development of the student as a person. Due to the bilingualism of Paraguay, three different language modalities are offered in EEB: Guaraní mother tongue, Spanish mother tongue and both languages as mother tongue. In all modalities, both languages are part of the curriculum. The academic component of the first cycle focuses on communication, basic mathematics and the natural and social environment of the pupils. The curriculum is broadened to the second language and other areas in the second and third cycle. Performance of the students is continuously assessed and graded throughout their time in school. Students can enter the next grade if they do not fail more than two areas of study. Failed areas must be repeated. At the end of each cycle, the grades of the three years are averaged to obtain the final grade in an area (UNESCO, 2010). No evidence for any form of standardized final exams at the end of EEB could be found.

In 2020, primary education in Paraguay had a GER of 84.6% and a NER of 80.3%. These ratios are considerably lower than in the neighbouring countries Bolivia (98.5%/94.7%), Argentina (127.5%/99.1%), and Brazil (112.0%/99.4%) and also considerably lower than the LAC level (108.3%/97.1%). The differences on the lower secondary level are similarly large: While the LAC economies have a GER of 108.3% and a NER of 93.2%, Paraguay clearly lags behind with a GER of 78.7% and a NER of 75.7%. In 2000, primary education was nearly universal in Paraguay with a NER of 99.1% but this ratio has fallen sharply since then. Similarly, the NER in lower secondary education has declined sharply since its peak in 2012, when it was 90.0% (UNESCO, 2022a). There could no evidence for the cause of this decline be found. One explanation given by the MEC is that the declining rates are due to overestimates of the population projection for the respective age group (OECD, 2018). In primary school, around 21% are enrolled in private institutions and on the lower secondary level, private institutions account for grossly 19% of enrolment. On the lower secondary level, around 9% are enrolled in vocational programmes. Gender disparities are relatively moderate. While on the primary

level boys have a slightly higher GER (85.6%) than girls (83.3%), it is the other way around in lower secondary education where the GER of girls (79.7%) is slightly higher than the GER of boys (77.7%) (UNESCO, 2022a). Repetition and dropout rates have decreased but remain relatively high. Repetition rates are highest in the first cycle of EEB and dropout rates are highest in the third cycle. Yearly, 6.4% repeat the first cycle and 2.9% drop out, compared to 2.3% repetition and 2.4% dropout in the second cycle, and 1.1% repetition and 4.1% dropout in the third cycle (Zarza Paredes & Suarez Enciso, 2020).

2.3 Upper Secondary Education

Upper secondary education in Paraguay is compulsory and free of charge in public institutions (Law No. 5749, 2017). On the upper secondary level, the education system offers general as well as vocational education. Students can enrol in scientific baccalaureate programmes and in technical baccalaureate programmes. Students can enter these programmes if they hold a degree of EEB (UNESCO, 2010). Both programmes last three years and qualify for access to higher education (OECD, 2015). The scientific baccalaureate is offered in the specializations literature and arts, social sciences, and natural sciences and technology. The curriculum consists of a common component which is the same for all three specializations and a component which is specialization-specific (MEC, 2022b). The technical baccalaureate is offered in 26 different specializations, ranging from hospitality and tourism to automotive mechanics (MEC, 2022c). Besides the two types of baccalaureates, students can also enrol in professional formation programmes which are more oriented towards direct labour market insertion. (OECD, 2018). Graduates of professional formation programmes have the possibility to take an aptitude test if they wish to enter higher education (Law No. 1264, 1998). Both the technical baccalaureates and the professional formation programmes fall into the realm of VET and are mainly school-based (Juntos por la Educación, 2021). There could no evidence for any form of final exams at the end of the programmes be found.

On the upper secondary level, Paraguay has a GER of 74.9% and a NER 70.0%. While these ratios are below the LAC level of 85.2% and 78.6% respectively, the differences are smaller than on the primary and lower secondary level. Enrolment is similarly high as in Bolivia (85.2%/78.2%) but lower than in Argentina (89.3%/88.8%) and Brazil (95.3%/85.0%). In contrast to the downward trend the enrolment ratios on the primary and lower secondary level have faced, enrolment in upper secondary education increased in recent years. In 2020, around 19% of students on the upper secondary level were enrolled in private institutions and approximately 21% were enrolled in vocational programmes. Girls, who have a GER of 79.6%, attend upper secondary education considerably more often than boys, which have a GER of 70.4% (UNESCO, 2022a).

2.4 Postsecondary and Higher Education

Higher education in Paraguay is offered by universities, higher institutes and higher technical institutes and is open to people with a degree from the upper secondary level (OECD, 2015). Applicants must sit entry exams in order to enter the institutions (UNESCO, 2007). Universities and higher institutes offer bachelor programmes, master programmes, graduate level specialization courses and doctorates. Bachelor programmes have a duration of at least four years, but may also last five or six years depending on the subject of study. Specialization courses for people with a Bachelor's degree last around one year and Master programmes last 2 years. Higher technical institutes offer higher technical education and prepare for occupations of a technical nature. The programmes last two to three years and graduates are granted the title of superior technician. Teacher education institutions offer programmes for the training of teachers of the different education levels (UNESCO, 2010).

By 2016, there existed 54 universities and 37 higher institutes. Eight of the universities and seven of the higher institutes were public. The higher institutes offer only one specific field of study but are, other

than that, similar to universities. Fees must be paid both in public and private institutions. The fees at public institutions are, however, relatively low (Robledo & Morales, 2017). The universities and higher institutions are autonomous and led by their rectors. The council of universities, which consists of the Minister of Education and Sciences and several representatives of the institutions, jointly determines the higher education policy and coordinates the activity of the institutions. In contrast, the higher technical institutions and teacher education institutions fall under direct MEC supervision (UNESCO, 2010).

Current data on higher education in Paraguay is sparse. The latest available data from UNESCO dates back to 2010, when Paraguay had a GER of 34.6% which was below the LAC level of 41.3% (UNESCO, 2022b). Another source estimates that in 2019 Paraguay had a NER of 29.7% on the higher education level (SEDLAC (CEDLAS and The World Bank), 2021). In 2015, roughly 70% of all students were enrolled in private institutions. Undergraduate studies accounted for 94.0% of total enrolment. This indicates that postgraduate studies are not very common in Paraguay (CONACYT, 2021).

2.5 Continuing Education (Adult Education)

In Paraguay, 5.5% of the population above the age of 15 remains illiterate, which indicates that a considerable share of people did not receive any basic education (World Bank, 2021a). This highlights the need for adult education in the country. Adult education in Paraguay is targeted at people above the age of 15 who were not able to attend basic school education. Different types of programmes are offered, including literacy programmes, middle education programmes as well as professional training. The programmes are implemented in a face-to-face and distance modality, mostly in the evening shift (MEC, 2022a). No information on the enrolment numbers of these programmes was available.

2.6 Teacher Education

Teacher education in Paraguay is offered by teacher training institutes. In order to enter, students must have a degree from the upper secondary level, i.e. a scientific or a technical baccalaureate. The training programmes are differentiated by education level. There is a program for pre-primary education with a duration of three years, a programme for the first two cycles of EEB with a duration of three years and a programme for the third cycle of EEB, in which the teachers must specialize on some area of study, with a duration of four years (UNESCO, 2010). Besides the initial teacher training programmes, there also exists continuous teacher programmes targeted at teachers already in service. These programmes focus on specialization and pedagogical training (MEC, 2022d). In 2015, there were roughly 74,000 registered teachers in Paraguay, around 50,000 of them female (Observatorio Educativo Ciudadano, 2022).

Low teaching quality is a severe obstacle for the learning experience of pupils in Paraguay. One reason for this is the poor quality of teacher training institutes. Although the authorities have identified and acknowledged this challenge, progress is relatively modest. Moreover, there is a lack of efficient evaluation mechanisms and incentives for the teachers to improve their performance (OECD, 2018).

3. The System of Vocational and Professional Education and Training

This section of the Factbook describes the VET system at the upper secondary level and the PET at the tertiary level in more detail. Thereby, the term vocational and professional education and training (VPET) refers to both, the VET and the PET system. In Paraguay, the transition from school to work is difficult and many young people leave the education system unemployed or to enter bad quality jobs. This highlights that VPET in Paraguay could play a crucial role in young people preparing for the labour market and thus improve the transition from school to work (OECD, 2018). VPET in Paraguay was, however, not able to meet the needs of the labour market so far (World Bank, 2018). The Paraguayan education system offers a variety of different formal and non-formal VPET programmes but, to the present day, lacks an integrated national VPET system (OECD, 2018).

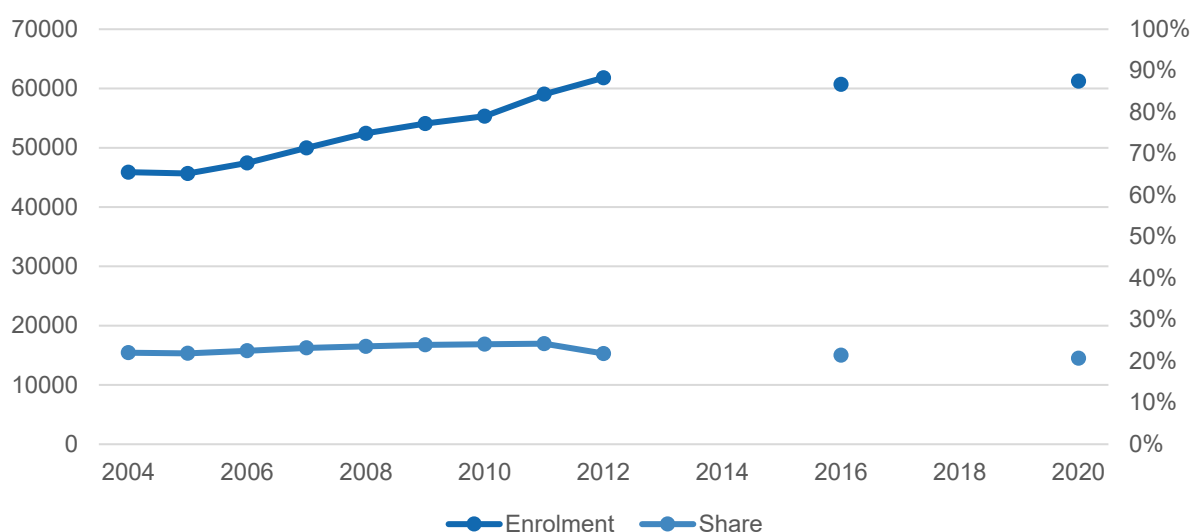
3.1 Vocational Education and Training (VET; Upper Secondary Education Level)

On the upper secondary level, students in Paraguay can enrol in technical baccalaureate programmes. In order to enter a technical baccalaureate program, students must have completed nine years of basic education. The programmes have a duration of three years (MEC, 2022a). As scientific baccalaureates, technical baccalaureates are free of charge in public institutions (Law No. 5749, 2017). Since the places are limited, students have to sit for entry examinations in case there are more applications than places. There currently are 26 different specializations between which students can choose. Two of these relate to an occupation in the primary sector, 13 to an occupation in the secondary sector, and eleven to an occupation in the tertiary sector (MEC, 2022e). The major part of the curriculum for each specialization is defined by MEC, leaving only a small part for autonomous design by the individual institutions. The curriculum design aims to equip the students with scientific, practical, and technological knowledge and promote their personal development. Technical baccalaureates are mainly school-based. There is a common component which is the same for every specialization and comprises around 50% of the study plan. The common component includes general education such as languages, natural sciences, maths, and social sciences. In the specialization specific component, the study program conveys skills relevant for the respective profession. The curriculum usually includes professional internships with a workload of around 360 hours (MEC, 2022c). These internships, however, take place in an unregulated way as there does not exist a curriculum for the internships (BIBB, 2019). Moreover, the internships are not always completed as there is oftentimes a lack of vacancies (OEI, 2021). Paraguay's VET system differs from dual VET systems as, for example, in Switzerland where students simultaneously receive school education and practical training in companies (KOF Swiss Economic Institute, 2015).

In 2020, 61,240 people were enrolled in technical baccalaureates which accounts for around 21% of all enrolments on the upper secondary level. Enrolments are approximately equally distributed between women (52%) and men (48%). There are 769 institutions that offer technical baccalaureates, 538 of which are public. 75% of students are enrolled in public institutions (MEC, 2022f). Figure 5 shows the development of the enrolments in technical baccalaureates and the corresponding share relative to all enrolments on the upper secondary level. Between 2004 and 2012, absolute enrolment grew from around 45,000 to around 61,000 and remains on a similar level ever since. The share of enrolment in technical baccalaureates relative to all enrolments on the upper secondary level remained roughly

constant, fluctuating between 20% and 25%. The most popular specializations are informatics and accounting, both responsible for around 22% of total enrolments, followed by business administration (15%) and agriculture (10%) (Juntos por la Educación, 2021).

Figure 5: Development of enrolment in VET on the upper secondary level since 2003



Source: Own figure based on UNESCO (2022b)

Besides the technical baccalaureate students can also enrol in professional formation (*formación profesional*) programmes. There is, however, only little information on these programmes available. Students can enter if they either have completed six years of basic education and pass an aptitude test or if they have completed nine years of basic education (Law No. 1264, 1998). There are inconsistencies between different sources as OECD (2015) or UNESCO (2007), which locate these programmes on the lower secondary level, and UNESCO (2013) or BIBB (2019), which locate the programmes on the upper secondary level. The main difference to the technical baccalaureates is that the professional training programmes have a stronger emphasis on practical skills and are more clearly oriented towards direct labour market insertion (OECD, 2018). The programmes are school-based and implemented in vocational training centres (Juntos por la Educación, 2021). Students that complete the programmes are awarded a certificate (MEC, 2022a). Graduates can access higher education in case they pass an aptitude test (Law No. 1264, 1998). The relevance of these programmes seems to be limited, as there were only 1127 enrolments in 15 different institutions in 2020 (MEC, 2022f).

There are several non-formal training programmes in the area of vocational education. While the formal programmes fall under the remit of MEC; the non-formal programmes are administered by the Ministry of Labour, Employment and Social Security (MTESS). MTESS provides non-formal VET through two different subsystems: The National Service for Professional Promotion (SNPP) and the National Service for Education and Training (SINAFOCAL). SNPP offers different programmes consisting of modular courses. The programmes cover all economic sectors. SINAFOCAL provides training opportunities for young people entering the labour market, small entrepreneurs, and small rural manufacturers. SINAFOCAL contracts private institutions to act as the provider of the courses (UNESCO, 2013). In 2018, SNPP operated around 9000, and SINAFOCAL around 400 courses (KSP, 2020). In addition, there are other forms of non-formal VET offered by other ministries in specific areas such as agriculture, health or construction. Coordination between the different actors has been insufficient in the past. Efforts to better coordinate the different formal and non-formal programmes were not yet able to establish an integrated national VET system. (OECD, 2018).

3.2 Professional Education and Training (PET; Post-Secondary Level)

PET on the post-secondary level in Paraguay is offered by higher technical institutes (ITSs) which operate on the non-university tertiary education level. Information on PET in Paraguay is scarce. One offered type of programme are superior technician programmes. The programmes consist of between 2000 and 3000 hours of classes in school and an additional 500 hours of professional internships, distributed over two to three years (Juntos por la Educación, 2021). The curricula have a modular structure (MEC, 2022a). In order to enter, students must either hold a degree from upper secondary education, i.e. a scientific or technical baccalaureate, or pass a competency assessment test (MEC, 2022a). Moreover, ITSs offer short-term undergraduate workshop courses, with a scope of between 40 and 300 hours. These courses focus on a specific topic according to the area of competence of the institution (Juntos por la Educación, 2021).

Unlike university education, PET falls under the remit of the MEC (Law No. 4995, 2013). MEC lists 190 approved ITSs. Most of these ITSs are private. The ITS offer a variety of different programmes which are specialized in a specific profession (MEC, 2022g). Approximately 10,000 people are currently enrolled in ITSs (OEI, 2021). Programs related to the health sector accounted for the largest share of enrollment (58%), followed by administration and management (15%), and electronics (9%) (KSP, 2020).

3.3 Regulatory and Institutional Framework of the VPET System

3.3.1 Central Elements of VPET Legislation

Paraguay's legislation regarding the country's VPET system sets the guidelines within which the institutions offering VPET must operate. This includes:

- Access and accessibility to and within the education system
- Duration of the offered qualifications
- Competencies of the involved actors
- General aims and objectives of the VPET system

Relevant legislation for VPET in Paraguay includes the following:

- The Constitution of the Republic of Paraguay, 1992
- The General Law of Education No. 1264/1998 regulates the National Education System which includes formal and non-formal VPET
- The Higher Education Law No. 4995/2013 regulates higher education which includes PET

3.3.2 Key Actors

Government

Different state actors are involved in the Paraguayan VPET system. Formal VPET, both on the upper secondary and post-secondary level, falls under the remit of MEC. The Vice Ministry of Basic Education is responsible for VET through the Directorate of the Technical Baccalaureate and Secondary Vocational Training and the Vice Ministry of Higher Education is responsible for PET through the Directorate of Higher Technical Institutes (KSP, 2020). MEC has wide-ranging competences including the formulation and execution of education policies, design of study plans and the accreditation of VPET institutions (Law No. 5749, 2017).

Non-formal VET programmes are mainly a competence of MTESS, more specifically of the Vice Ministry of Employment and Social Security. Programmes are offered through two different bodies within MTESS: SNPP and SINAFOCAL. Other ministries also offer sector specific non-formal VET programmes (OEI, 2021).

The fragmented governance resulting from the multitude of actors involved and their lack of coordination often leads to overlapping competencies, which is an obstacle to a VET system with common goals. To address this issue, Law No. 5749 created an interministerial technical unit (UTI) in which representatives from MEC and MTESS are assigned to jointly design and install a national system of professional qualifications (Law No. 5749, 2017).

Representation and advisory bodies

There is only one legally specified advisory body in the realm of VET in Paraguay. The National Council of Education and Labour (CNET) was established in 2017 and has several tasks related to VET, including the approval of regulations for the implementation of a national system of professional qualifications, ensuring the coordination between companies and the state authorities, and the elaboration of a national catalogue of professional profiles. CNET consists of eight people, two of each representing MEC, MTESS, the private sector, and the workers. All members are appointed via an executive decree. MEC and MTESS nominate their representatives (Law No. 5749, 2017). No information could be found on the selection process of the representatives of the private sector and the workers.

The National Council for Higher Education (CONES) is an advisory body for higher education in Paraguay, which includes PET. Its tasks include the proposal of policies for PET and to coordinate programs of articulation between upper-secondary and higher education (OEI, 2021). The council consists of the minister of education, rectors from several higher education institutions, as well as other representatives for faculty and students (Law No. 4995, 2013). Representatives of other stakeholders, such as employers or unions, are not included in CONES. No information could be found on the selection process for the representatives of the various parties involved.

There could no evidence for the existence of other representation or advisory bodies be found in which other relevant stakeholders can issue their advice or concerns.

Education and training providers

In 2020, there were 769 schools offering technical baccalaureates and 15 schools offering professional formation programmes. Around 40% of these schools exclusively offer VET programmes and around 60% also offer scientific baccalaureates. Approximately 70% of the institutions that offer some form of VET are public (MEC, 2022f). Although demand for places is greater than supply (OEI, 2021) and rural areas are often poorly connected to facilities (KSP, 2020), there has not been an expansion of the school network in the past decade: The number of institutions offering formal VET has remained constant (MEC, 2022f).

SNPP has 69 regional training centres offering non-formal VET programmes. Moreover, there are about 80 institutions registered through SINAFOCAL (KSP, 2020).

There currently are 190 approved ITSs which offer PET on the post-secondary level in Paraguay (MEC, 2022g). Compared to other institutions on the higher education level, the ITS are rather small as they have on average only around 50 enrolments (OEI, 2021).

3.4 Educational Finance of the VPET System

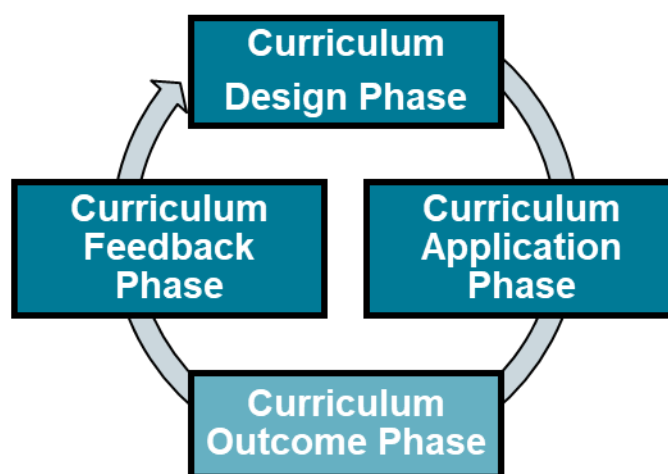
Funding for both formal and non-formal VPET is provided through the funds allocated to the respective ministries by the state budget (Law No. 1535, 1999). In 2019, the total government expenditures on education were equivalent to 3.5% of Paraguay's GDP (UNESCO , 2022b). In 2021, 7% of the state budget was allocated to MEC. Around 4% of MEC's budget was dedicated to education for people above the age of 15, which includes VPET on the upper secondary and post-secondary level. The budget, however, does not show the isolated expenditures on VPET (Rindiendo Cuentas , 2022).

While formal VPET provided by MEC is financed exclusively through the state budget, non-formal VPET enjoys funding both from the state budget through MTESS and direct financial contributions from the private sector. Employers must pay a levy of 1% of the total payroll in order to finance SINAFOCAL and SNPP. The total budget of SINAFOCAL and SNPP accounts for roughly 0.1% of GDP (OECD, 2019).

3.5 Curriculum Development

The curriculum is a central element for the functioning of a VPET system because it defines the framework and the (quality) standards for the education system. The development of a curriculum can be decomposed into a three-step process with a curriculum design, a curriculum application and a curriculum feedback phase. This theoretical concept is called the curriculum value chain and is depicted in Figure 6 (for more details, see Renold et al. 2015; Rageth & Renold, 2019).

Figure 6: Curriculum Value Chain



Source: Renold et al. (2015) and Rageth & Renold (2019).

In the curriculum design phase, the relevant actors decide upon VET curriculum content and qualification standards. Therefore, the discussion in Section 3.5.1 focuses on the degree and the amount of stakeholder participation concerning curriculum design in Paraguay. The curriculum application phase revolves around the implementation of the curriculum. Because learning environments differ substantially across countries, especially with respect to the prevalence of workplace learning, Section 3.5.2 focuses on those learning environments. Specifically, it addresses where learning takes place and whether the curriculum dictates both school and workplace learning or only one of the two. Finally, curriculum outcomes can be collected and analysed in the curriculum feedback phase. Section 3.5.3 focuses on the curriculum feedback phase. This evaluation process is important because it may render a more refined curriculum design than was possible in the first place.

3.5.1 Curriculum Design Phase

The design phase is crucial for the whole curriculum process. To ensure that the skills taught in the VPET programmes correspond to the needs of the labour market, experts from companies should be involved in defining the qualification standards and learning content of the curricula.

Curriculum design of the formal VPET programmes in Paraguay is highly centralized. MEC defines on one hand which study programmes are offered and, on the other hand, which courses these programmes consist of. Moreover, MEC defines which skills graduates can be expected to have. The local institutions must adhere to the national curriculum and there is only little space allocated to local design (MEC, 2022c). There could no evidence for the involvement of other relevant stakeholders, such as employers or workers, in the curriculum design be found.

While the responsibility for the curriculum design of formal VPET programmes is currently exclusively in the hands of MEC, curriculum design for non-formal VPET programmes is completely decoupled and administered by SNPP, respectively SINFOCAL (OEI, 2021). In order to better align formal and non-formal VPET and to improve the responsiveness of the curricula to the demands of the labour market, a national catalogue of professional profiles is currently being developed. By collecting and standardizing skills that workers must have for a profession, a basis for the curriculum should be provided. Moreover, the involvement of other important stakeholders should be improved through committees that validate the professional profiles (MEC, 2022h).

3.5.2 Curriculum Application Phase

The way in which a curriculum is implemented, especially with respect to learning environments, is important to achieve the intended learning outcome.

As described in Section 3.1 technical baccalaureates in Paraguay are to a large extent school based with only a little part of the programme conducted in professional internships. These internships do often take place in an unregulated way (BIBB, 2019) and are oftentimes not completed due to a lack of vacancies (OEI, 2021). Each course that is part of the curriculum must be examined in some form, either through a written or oral examination or a demonstration of skills. MEC provides guidelines for the examinations in their curricula (MEC, 2022c). There could, however, no evidence for examination standards be found. Professional formation programmes are implemented in vocational training centres and are school-based (Juntos por la Educación, 2021). There could no further information on the curriculum application in these programmes be found. Their relevance, however, seems to be limited anyway as only around 1000 people are currently enrolled in such programmes (MEC, 2022f). PET programmes are mainly school based and between 15% and 25% consist of professional internships (Juntos por la Educación, 2021). Non-formal VET programmes are school-based as well. Through the development of a dual VET system, the *Modelo Paraguayo de Formación Dual* (MoPaDual), SNPP aims to serve between 25% to 30% of its students with a dual education. This project, however, is not yet fully implemented (SNPP, 2022).

As described in Section 3.4, employers must contribute to the cost of training through their 1% levy on their total payroll which provides funding to SNPP and SINAFOCAL (OECD, 2019).

While standards for training infrastructure in the institution exist, they are often not applied or properly controlled. Moreover, there is a lack of infrastructure to provide training for occupation specific skills (KSP, 2020). No evidence was available of a direct flow of information from employers to VPET students through the provision of equipment and classroom teachers.

3.5.3 Curriculum Feedback Phase

The curriculum feedback phase deals with the questions of whether and how educational outcomes are analysed. Based on this, the curriculum could be reworked and improved.

In Paraguay, there is a lack of mechanisms which provide feedback on the curricula in a timely manner. This results in curricula that are outdated and do not fit the current needs of the labour market (OEI, 2021). Moreover, there does not exist a common system of quality assurance (UNESCO, 2013).

Within SINAFOCAL, the Occupational Observatory monitors the labour market and forecasts training demand. Until 2019, the observatory has provided analyses of skill demand for six different families of professions (KSP, 2020). It remains unclear, whether and to what extent the findings of the Occupational Observatory are incorporated into the curriculum design.

3.6 Supplying Personnel for the VPET System (Teacher Education)

There does not exist specialized VPET teacher training in Paraguay. Most teachers active in formal VPET are university graduates that are required to take 1300 hours of pedagogical training. While many teachers do have work experience at companies, most were not trained properly for VET teaching (KSP, 2020). The ministerial resolution No. 17716 defines for every area of study which requirements a teacher must fulfil (Resolution 17716, 2017). In non-formal VPET, teachers often are technicians that are working in companies. These teachers often have strong practical experience and basic pedagogical training (UNESCO, 2013). The absence of a common VPET teacher training system is a serious obstacle for the quality of VPET in Paraguay (UNESCO, 2013).

There currently are around 29,000 teachers on the upper secondary level in Paraguay which accounts for 24% of all teachers in the country (Observatorio Educativo Ciudadano, 2022). Since isolated statistics on the number of VET teachers could not be found, it remains unclear how many of these teachers are teaching in VET programmes.

4. Major Reforms in the Past and Challenges for the Future

4.1 Major Reforms

After the democratization of the country in 1989, efforts to reform the education system started. This reform process was institutionalized by the General Law of Education in 1998. The law provides up to the present day the legal basis for the formal education system, including VET. It regulates, among other things, the competence areas of the involved actors, the types of offered programmes and their duration, as well as the entry requirements (Law No. 1264, 1998).

A more recent education reform which affected VET was the extension of compulsory schooling to upper secondary education in 2010 as VET was now also part of compulsory education. Since the beginning of the 2010's there have been several efforts to better coordinate the different formal and non-formal VET programmes and to develop a national system of professional qualifications. Early efforts, such as the *Plan Nacional de Mejoramiento de la Educación Técnica y Profesional 2011-2013* which aimed to

expand the VET offer and improve its quality, failed to produce any new legislation (OECD, 2018). In 2017, UTI was established and assigned to design and establish a national system of professional qualifications (Law No. 5749, 2017). The Educational Action Plan 2018-2023 specifies the reengineering of the VET system as one of its goals (MEC, 2018). The efforts related to the development of the national qualifications framework, however, have, to the present day, not led to any legislation that formally restructures the VET system.

Higher education, which includes PET, was last reformed in 2013 through the new higher education law. The new law introduced a set of policies regarding the structure of the system and the involved actors, as well as instruments for the regulation of the system (Robledo & Morales, 2017).

4.2 Major Challenges

In WEF's GCI Paraguay is ranked 133rd out of 141 evaluated economies in the dimension, *quality of vocational training* (WEF, 2019). The VPET system is currently unable to meet the demand of the labour market or generate a satisfactory educational performance (World Bank, 2018).

Several underlying challenges must be faced in order to improve the performance of the VPET system. One issue are the curricula which are not well updated and do not fit the current needs of the labour market. This is related to the lack of mechanisms that provide proper feedback on the curricula (OEI, 2021). Moreover, there does not exist a quality assurance system which properly enforces quality standards. The fragmented governance of the VPET system and the missing cooperation between the involved actors leads to an overlap of competencies and redundancies which hampers the development of common solutions. In the past, efforts were often uncoordinated and therefore less effective (KSP, 2020).

The school network and the teaching quality pose further challenges: VPET institutions are geographically unevenly distributed, with most institutions located in cities, limiting access for students in rural areas. Moreover, the amount of study places is insufficient to meet the demand of prospective students. The lack of a specialized teacher programme for VPET is a serious obstacle to the quality of the programmes (KSP, 2020).

In order to overcome some of these challenges, it will be crucial that the reform efforts of the last decade are completed and institutionalized, especially the efforts related to the national system of professional qualifications. Progress, however, has been slow to the present day (OECD, 2019). The national system of professional qualifications comprises a national catalogue of professional profiles which collects and standardises the skills required for some occupation, and a five-level national qualifications framework that specifies for each level the skills that can be expected from graduates (MEC, 2022g). Some components of the national qualifications system have been developed but not yet been implemented, which puts them at risk of becoming obsolete (OECD, 2019).

Appendix I: Overview of the VPET system

VET pathway enrolment share out of all upper secondary (%)	20.72% (2020)
Number of curricula/qualifications	26
Ø Share of time spent in workplace (vs. classroom)	~7%
Work contract (Yes/No)	No
Ø Share of vocation-specific content (vs. general) in classroom education	50%
Classroom/workplace sequencing (Alternating, Sequentially)	Sequentially
Frequency of workplace learning (Annually, Semi-annually, quarterly, monthly, weekly)	Once during the whole program
Program duration (Years)	3
Involved Actors	MEC MTESS
Reform Years	1998, 2010, 2013, 2017
Reforms Summary	1998: Structuring of whole formal education system including VPET 2010: Extension of compulsory schooling to 12 years 2013: New regulations for higher education including PET 2017: Establishment of UTI

Own table based on UNESCO (2022a), MEC (2022c) and KSP (2020)

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