



LUND UNIVERSITY
School of Economics and Management

Master's Programme in Economic Growth, Population and Development

The contested implementation of the dual formation in Costa Rica – A model with potential to tackle labour market imperfections?

by

Juliane Koch

Ju1206ko-s@student.lu.se

Abstract:

Costa Rica is one of Latin America's pioneers in terms of steady economic growth, environmental protection, and educational spending. Yet behind this general perception, the country faces structural problems, like high inequality levels and sky-rocketing youth unemployment, indicating rather exclusive development pattern. In order to tackle these challenges, the government places high hopes in the implementation of the German-based 'dual formation system'. This study aims at understanding the potential of this educational model, which combines school and work-based learning, for the specific case of Costa Rica. A focus is hereby placed on the two most pressing imperfections of the country's labour market: high youth unemployment and existing skill mismatches. The qualitative data results indicate a two-fold impact of the dual model in Costa Rica: On the one hand, it is perceived to be flexible enough to produce the technicians which are lacking on the labour market, giving evidence for narrowing the existing skill gaps. On the other hand, the interviewed experts doubt it to have the strength to significantly tackle the structural problem of high youth unemployment if the scope of the offered training spots was not significantly increased in the long-term.

Keywords: Dual Formation, Youth Unemployment, Skill Mismatch, Labour Market Imperfection, Costa Rica

EKHS22

Master's Thesis (15 credits ECTS)

June 2020

Supervisor: Andrés Palacio

Examiner: Faustine Perrin

Word Count: 17.213

Table of Contents

1. Introduction.....	1
1.1. Research Problem.....	1
1.2. Research Aim and Research Question.....	2
1.3. Research Purpose and Outline of the Thesis.....	3
2. Background Section.....	4
2.1. Costa Rica’s Educational System.....	4
3. Theoretical Framework.....	7
3.1. Youth Unemployment.....	7
3.2. Skill mismatches and Job Satisfaction Consequences.....	9
3.3. The Dual Formation as a response to labour market imperfections?.....	13
i. The dual formation and its international application.....	13
ii. The German case – A success story for further inspiration?.....	14
iii. A way to export the model?.....	15
iv. The context of LAC and the model’s transmission to the region.....	18
3.4. The Cost-Benefit Analysis of VET participation.....	21
3.5. Operationalization: SWOT Analysis as a potential analysis tool for VET.....	23
4. Data & Methodology.....	25
4.1. Research Philosophy.....	25
i. Research Approach.....	26
4.2. Data Collection.....	26
4.3. Interview Strategy.....	29
4.4. Case Selection.....	30
4.5. Data Analysis.....	32
4.6. Limitations and Ethical Considerations of the Research Method.....	32
5. Analysis and Discussion.....	35
5.1. Imperfections of Costa Rica’s Labour Market.....	35
i. Youth Unemployment and Skill Mismatches.....	35
5.2. The contested implementation of the dual formation system.....	38
i. The Law of Dual Educational Formation.....	38
ii. The pilot apprenticeship for mechatronics during 2016-2019.....	40
iii. The success case of the hotel ‘Reserva Conchal’.....	42
5.3. The model’s potential to tackle skill gaps and youth unemployment.....	43
i. Strengths.....	44
ii. Weaknesses.....	46
iii. Opportunities.....	49
iv. Threats.....	51
6. Conclusion.....	53

List of Abbreviations

CAF	Development Bank of Latin America (Original: Corporacion Andina de Fomento)
ILO	International Labour Organization
INA	National Learning Institute (Original: Instituto Nacional de Aprendizaje)
LAC	Latin America and the Caribbean
MDG	Millenium Development Goal
MEP	Ministry of Public Education (Original: Ministerio de Educacion Publica)
MNF	National Qualification Framework (Original: Marco Nacional de Calificaciones)
OECD	Organisation for Economic Co-operation and Development
SDG	Sustainable Development Goal
SWOT	Strenght, Weaknesses, Opportunities and Threats
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational Educational Training

List of Graphs

Graph 1: Costa Rica's total spending in education in comparison to OECD average.....	4
Graph 2: Youth unemployment rates, by gender and region, 2019-2021	8
Graph 3: Employment and educational status by age, LAC in 2018 (in thousands)	9
Graph 4 Youth share (in percent) which is enrolled in VET, by region in 2018	14
Graph 5: Apprenticeship cost-benefit-analysis	22

List of Tables

Table 2: Pro and Contra Arguments for firms to invest in VET programmes	21
Table 3: Interviewee group 1 – Politicians and Professors: Institutional levels	28
Table 4: Interviewee group 2 – Companies & Vocational schools: Learning venue level	28
Table 5: Interviewee group 3 – VET Graduates: Individual student level.....	29
Table 6: Interviewee distribution and length.....	30
Table 7: National Qualification Framework	39

List of Figures

Figure 1: SWOT Analysis Conceptual Framework	24
Figure 2: Interview Stakeholder Groups	27
Figure 3: SWOT Analysis of Costa Rica's VET model implementation	44

1. Introduction

1.1. Research Problem

“When you don't have equality of opportunity because you don't have equal access to education, it just seems so outrageous. It weakens our economy and leads to more inequality.” – Joseph Stiglitz

Economic inequality, commonly measured in terms of income, consumption or expenditure, is perceived differently on the social, economic, and political sphere. The income gaps arising due to different effort levels, in contrast to differences arising from discrimination based on race, gender, or other circumstances beyond one's control, are perceived as more justifiable. This idea shifts the attention from inequality of income towards inequality measured in terms of opportunities, for instance, through access to education. With fair and equally accessible education being declared a Universal Human Right, the topic has grabbed increasing attention of the international development community. Consequently, the Agenda 2030 directs its fourth Sustainable Development Goal (SDG) to the topic of education: *“Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”* (SDG, 2018). Unlike the previous Millennium Development Goals (MDG) on education, the current goal places the focus on the equity aspect in “learning opportunities” (UNESCO, 2017). It is argued that levelling the playing field of educational opportunity bears the simultaneous potential of more equality in society and increased economic efficiency (Coady & Dizioli., 2017, p.3). Besides, the accumulation of human capital is not only crucial for a country's long-term development, but in an era of post-industrialisation, it is even considered to have replaced the accumulation of physical capital as the ‘new’ engine of growth (Galor, 2011).

One of the most affected regions of high inequality levels in terms of income and opportunities is Latin America and the Caribbean (LAC). Despite the sharp decline since its peak in 2000, it is considered one of the regions with the severest and most persisting inequality pattern (Coady & Dizioli, 2017, p.9). Scholars claim that one of the strongest obstructions for the region's pick-up in sustained growth and development is its failure to accumulate human capital in an inclusive and far-reaching manner (Londoño de la Cuesta, 1996). The World Bank argues that apart from a push for economic growth, a quick increase in human capital development would be the key contributor for pulling the region out of poverty (Londoño de la Cuesta, 1996).

Although the need for a stronger focus on general human capital accumulation and the education's inclusiveness, is imperative for all countries of the LAC region, a further glance in terms of SDG's 4 "promoting the lifelong opportunities for all" is being given to vocational training. For many western economies, this has proven to be a useful tool in providing the youth with necessary skills relevant to labour market (SDG, 2018). In countries such as Switzerland or Germany, it has furthermore tackled those labour market imperfections that many LAC countries suffer from, such as high degrees of informal labour, enormous youth unemployment, and a lack of technicians. For many LAC countries, the latter has led to severe skills mismatches, which stimulate skill premiums and further fuel inequality (Fernández & Messina, 2018). Consequently, more and more discussions about educational levels and labour market imperfections centre around boosting technical and vocational education (Corvalán, 1988; Wilson, 1996; Llisterri et al., 2014; Sevilla & Paola, 2017)

1.2. Research Aim and Research Question

Costa Rica is a specifically interesting case for further research in the LAC region: Although enjoying constant economic growth and depicting the highest investments in education within the LAC region, the Central American country suffers from serious labour market imperfections. Firstly, the country has one of the highest youth unemployment rates among the region (ILO, 2017). Secondly, Costa Rica suffers from a high degree of skill gaps that constitute in companies being unable to fill their open positions. At the same time, many skilled people are incapable of finding employment (Blanco, 2019). As a result of the high mismatch between skills demand and supply, the country is characterised by one of the largest skill premiums among LAC countries, resulting in high-skilled workers earning around three times more than low-skilled workers (Tsounta & Osueke, 2014). While in other LAC countries, the skill premium has been decreasing, it is the opposite in Costa Rica's case, indicating a largely structural mismatch that policymakers fail to countervail (Pandiella, 2016).

These circumstances motivated the current government to implement the dual formation model – or vocational and educational training (VET) – as this model has proven its efficiency in many countries, including the LAC region. Despite the countless examples of successful VET performances worldwide, signing a law to initiate the push towards more VET resulted in nationwide objection on behalf of students and teachers. Thus, Costa Rica's final months of 2019, were marked by serious protests against the new dual formation law, claiming that the allowance of cheap labour strategies needs to be contained (Zúniga, 2019). On the other hand,

proponents of the VET model's implementation advocate its potential to tackle the country's labour market imperfections efficiently and to assist in the youth's school to work transition process. Considering this controversy, this study aims to qualitatively investigate the potential of VET in Costa Rica, leading to the following research question:

How can the implementation of the VET system tackle the imperfections of Costa Rica's labour market in terms of youth unemployment and skills mismatches?

1.3. Research Purpose and Outline of the Thesis

The purpose of this research is to contribute to the understanding of how Costa Rica conducts VET until now and what potential its new directive has for the country's future. It hereby contributes to the existing research on the country's labour market imperfections, especially regarding youth unemployment and skills mismatches. Concretely, this analysis shall finally provide an insight into how apt the VET model can be to correct certain imperfections on Costa Rica's labour market and which developments are relevant for its future success.

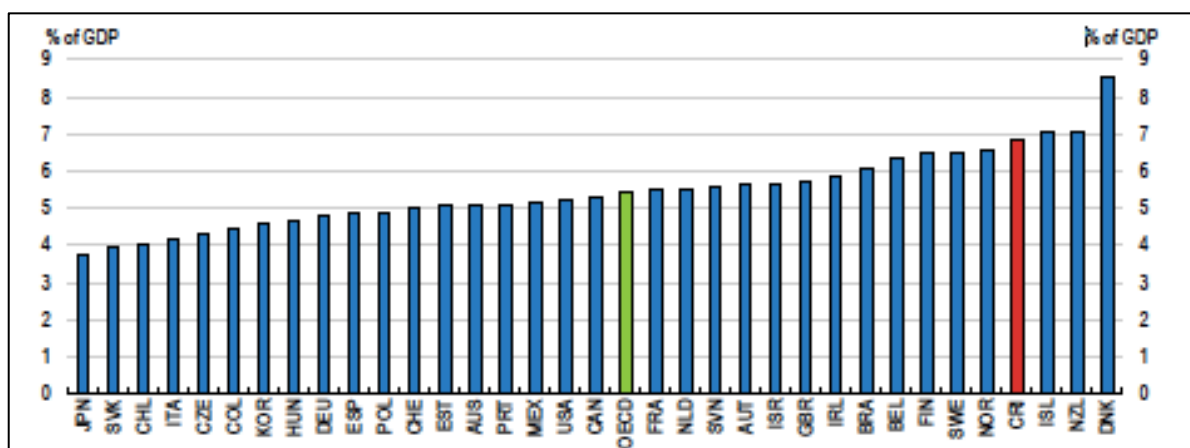
In the first step (Chapter 2), a short background section on Costa Rica's educational system is given. This leads to the theoretical framework (Chapter 3) where different theoretical concepts that are linked to vocational educational aspects and labour market imperfections, such as unemployment structures, skill mismatches, and an apprenticeship cost-benefit analysis will be presented. The presentation of the German VET system and success principles follow, including their potential to be transferred to other country contexts. Thereafter, the concept of cost-benefit analyses for estimating the opportunities of apprenticeship programs will be presented. The Chapter ends with the operationalization, presenting an approach to evaluating educational systems that is used in this analysis. Chapter 4 deals with the data and methodology used in this thesis. In the following Chapter 5, the results of the interviews are presented and serve as basis for this thesis' analysis and discussion. By following the line of argument of the theoretical framework, the youth unemployment situation, and the persistence of skills mismatches are discussed for the research setting, Costa Rica. Lastly, Chapter 6 concludes by answering the research question and pointing to the study's overall contribution, finally ending in a call for future research needs.

2. Background Section

2.1. Costa Rica's Educational System

On first sight, Costa Rica is often considered as a pioneer amongst the LAC countries when it comes to educational standards (ILO, 2017). This is due to its universal access to education, as well as its strong commitment to educational investment (Pandiella, 2016). Many scholars argue that Costa Rica's educational systems is more inclusive than those of other LAC countries where a strong performance differentiation between public and private education is often prevalent (Oviedo et al., 2015). Graph 1 shows the total spending on education as a percentage of the countries' gross domestic product for the year 2013:

Graph 1: Costa Rica's total spending in education in comparison to OECD average



Source: Pandiella, 2016

According to these numbers, Costa Rica has spent 6.9% of its annual GDP in education, resulting in a higher educational investment level than the OECD average (below 6%). There is no doubt that the focus that Costa Rica places on education pays off: While 21% of the population faced illiteracy problems back in 1953, it was only 2% as of the latest (2016) OECD census (Pandiella, 2016). With 94%, the country has nearly achieved full primary education enrollment.

However, the high spending in Costa Rica is said to be skewed towards primary and tertiary education, leading to lower per capita spending for secondary education compared to international standards (Pandiella, 2016). Pandiella (2016) indicates that only 40% of Costa Rica's workforce has completed secondary school, which is significantly lower compared to many other LAC countries. Considering the high per capita educational spending, the paradox

about the country's educational system becomes evident: Despite comparably higher investments in education, the results in terms of secondary school attainment and PISA test scores are worse than in other LAC countries. This is clearly to be drawn back to the high secondary school dropout leading to low average educational attainments. Given this mismatch between educational spending and educational outcome, Pandiella (2016) advises the country to “move away from an exclusive emphasis on increasing spending as a policy target and, instead, establish the improvement in educational outcomes as the main target” (p. 29). Hence not only the quantity but *how* money is spent is evaluated as critical.

Besides educational outcomes and school attainment that need to be improved, a further challenge is the educational system's equality: The gap of access to education depending on a family's income has widened during the last two decades (Alonso Guzmán & de la Nación, 2014). These results show that the enrolment rates for children with a low socio-economic background are much lower and that there are considerable disparities in learning outcomes and test results, depending on the socio-economic status. Hence, the family background is in Costa Rica and, similarly in other LAC countries, still a more critical determiner for the child's learning process and future possibilities, such as the entrance of tertiary education, than in many OECD countries (OECD, 2013).

The lower secondary school in Costa Rica is furthermore characterized by the most grade repetitions, which are considered to be negatively correlated to equity (Vandenberghe, 2006). More than 33% of the students aging 15-years and older have reported having repeated a grade at least once, which is significantly higher than the OECD average of 13%, partly relating to the previously mentioned, comparably lower financial provision for secondary schools (OECD, 2013). Therefore, the OECD (2013) census recommends to targeted further support to disadvantaged students, as well as affected secondary schools. Also, the ILO (2017) report about the future of VET in LAC confirms that the critical problem in Costa Rica lies within secondary schools: While the illiteracy rate is only 2.4%, speaking in favour for a properly functioning primary school system, the population attending secondary education drops to 50.6% while the share of people with completed secondary school shrinks to 13.65% (ILO, 2017, p.117).

In response to the challenges of retention and secondary school drop-out, Costa Rican authorities have already developed some initiatives, such as *Yo me apunto* or *Proeduca*, which are joint projects with the European Union (Pandiella, 2016). However, these projects have not yet been evaluated. What has been proven to be an efficient tool across OECD countries when trying to curb drop-out rates at secondary schools, is the reinforcement of VET tracks. This is especially the case when VET programmes are designed to provide an educational alternative and respond to labour market needs (OECD, 2014). As of now, most of Costa Rica's technical schools do not include vocational workplace training. "Hence, as part of its strategy to improve technical education, Costa Rica should develop an apprenticeship system engaging all social partners in its design and delivery." (Pandiella, 2016, p.32)

3. Theoretical Framework

The theoretical framework starts with the theoretical explanations of two labour market imperfections: youth unemployment and skills mismatches. This is followed by presenting the concept of dual formation as a potential solution in combatting the beforehand described challenges of labour markets. The first three aspects of the theoretical framework will be presented generally and in the following with reference to the LAC region. Thereafter, the cost-benefit analysis follows, which is often used by companies to decide whether or not to engage in VET programmes. Lastly, the SWOT analysis will be presented in its function as potential analysis tool in education.

3.1. Youth Unemployment

High shares of youth unemployment are universally seen as one of the most severe macroeconomic problems of a country (Artner, 2013). As of Artner (2013), the problem seems fierce, as the jobless youth is not only costly for the government and society but also because it casts a cloud over the individuals' and society's future. High youth unemployment levels can even lead to alienation and social unrest (O'Higgins, 1997). While literature is abundant about the short and long-term consequences of youth unemployment, there is an ongoing discussion on whether or not youth unemployment is a reflection of the absence of the right skills or a country's poor macroeconomic performance (Artner, 2013; O'Higgins, 1997). However, the debate is more single-sided when it comes to the first cause and best remedy for joblessness, which has predominantly focused on education and training.

Although youth unemployment is a universal challenge, some regions suffer significantly more from it than others: Graph 2 indicates the global and regional youth unemployment rates among males and females from 2019 until 2021. As shown, the regions of Northern Africa and the Arab States have the highest youth unemployment rates (around 2.2 and 1.7 times the global average rate), which reflect structural barriers hampering the entry of the youth into the labour market (ILO,2020). The best performers in terms of low youth unemployment rates are Northern America, Eastern Asia, and surprisingly Sub-Saharan Africa. Although LAC lies with an average of 18% of youth unemployment somewhere in between the other regions for the year 2020, it still strongly surpasses the global average.

Graph 2: Youth unemployment rates, by gender and region, 2019-2021

Region	Subregion	Youth total (%)			Youth male (%)			Youth female (%)		
		2019	2020	2021	2019	2020	2021	2019	2020	2021
World		13.6	13.7	13.8	14.0	14.0	14.1	13.0	13.1	13.2
Africa	Northern Africa	30.2	29.8	29.6	26.4	25.7	25.3	39.6	39.8	40.3
	Sub-Saharan Africa	8.7	8.7	8.7	8.2	8.3	8.3	9.2	9.2	9.1
Americas	Latin America and the Caribbean	17.9	18.0	18.1	15.2	15.2	15.4	22.0	22.1	22.2
	Northern America	8.8	9.1	9.4	9.9	10.1	10.4	7.6	8.1	8.4
Arab States	Arab States	22.9	23.0	22.9	19.7	19.8	19.6	42.2	42.1	42.5
Asia and the Pacific	Eastern Asia	9.8	10.0	10.2	10.8	11.0	11.1	8.7	8.9	9.0
	South-Eastern Asia and the Pacific	10.5	10.9	11.0	10.3	10.6	10.7	10.8	11.2	11.5
	Southern Asia	18.7	18.8	18.9	18.7	18.9	19.0	18.4	18.5	18.6
Europe and Central Asia	Northern, Southern and Western Europe	14.8	14.8	15.1	15.8	15.6	15.9	13.8	13.9	14.2
	Eastern Europe	14.9	14.4	14.2	14.6	14.1	13.9	15.3	14.8	14.5
	Central and Western Asia	17.8	17.5	17.7	16.6	16.6	17.0	19.7	19.0	18.9

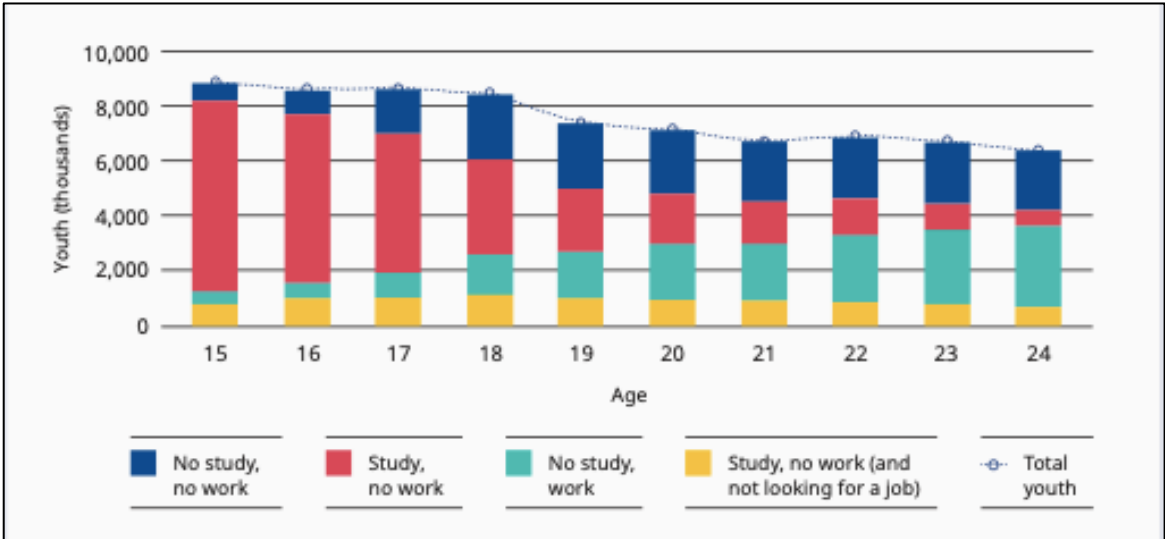
Source: ILO estimates (2020)

Moreover, LAC's youth unemployment rates are slightly increasing. When looking into sub-groups, the high shares of female youth unemployment (average of 22.1% in 2020) become visible, with only higher numbers in the regions of Northern Africa and the Arab States. Thus, to trigger global youth unemployment, the aspect of gender inequality within education cannot be seen separately, as the high disparities of employment levels between young men and women show for most regions (Graph 2). ILO (2020) has identified that the initial trigger of increasing gender-equal education opportunities, is the equal enrolment between boys and girls in education from the very beginning. Although more young women than ever are enrolled in school, gender gaps are still persistently high, mostly caused by cultural and social norms, such as early age marriages, unpaid-household responsibilities, etc. (ILO, 2020).

ILO undertakes thorough research on the specific school-to-work transition process of different regions to picture the detailed pathway of the youth and to identify the constraints they face in the process of labour market allocation. For the case of LAC, Graph 3 shows that the majority

of all 15-year-olds are still studying without having to work, which gradually changes with every additional year as the working share increases continuously. ILO (2020) identified that the different paths, the youth takes in the school-to-work transition process, mostly depend on the type of household in which they grow up. For young students growing up in households where the head has not completed secondary education, the likeliness of working by the age of 18 is greater. In contrast, students with higher educated parents are less likely to replace working for studying at a young age (ILO, 2017).

Graph 3: Employment and educational status by age, LAC in 2018 (in thousands)



Source: ILO (2020)

However, more worrying for policymakers, is the youth share that is neither encountered in employment, education nor training (NEET). As indicated in blue (Graph 3), this share grows significantly with the youth’s age. By reaching the age of 18, a strong increase of the NEET share can be observed, which by the age of 22 even surpasses the share of the studying youth. Further ILO statistics indicate that in the LAC region, the NEET status is shared by one out of four people aged 15-24 years, with a rising ratio to one out of three for the 18-24-year age group, being significantly skewed towards young women. This mirrors two of the most pressing challenges of the young population entering the labour market: youth disaffection and gender inequalities.

3.2. Skill mismatches and Job Satisfaction Consequences

High youth unemployment rates are often connected to skill mismatches, or also referred to as problem of pairing (Blanco, 2019). This refers to a simultaneous process of young people not finding employment while employers face difficulties to fill their open positions (Barnow,

1998). Hence, the possessed skills of the youth are not in balance with the skills needed on the labour market. Consequently, this leads to people being placed in jobs which require levels of education they have not reached (underqualification) or jobs that would typically require personnel with less qualification (overqualification). The former results in forcing people to absolve trainings on the job or in exhibiting lower labour productivity than those who do have the required qualification level. Whereas the latter often relates to people who do not find an employment and thus accept positions with lower requirements than those that would correspond to their education level (Blanco, 2019).

The following six human capital theories have been identified to contribute to the further explanation of existing skill mismatches:

- 1) In the ***theory of human capital*** (Becker, 1962, 2009; Mincer, 1974; Schultz, 1974), a person's store of knowledge, skills and, productive abilities is taken into focus (Becker, 1962). This is the starting point for the successive process of human capital accumulation, which implies a dynamic cost-benefit analysis of every individual in which long-term gains due to investment in human capital are valued against its costs. Following this theory, inefficient labour pairings are only of temporary nature as the skills and productivity levels would adjust endogenously (Blanco, 2019). Although some studies do validate the theory's robustness in showing examples of experiences that negatively affect the probability of overqualification, they, however, do not explain its persistence (Boll et al., 2016).
- 2) According to the ***theory of labour or occupational mobility***, part of the mobility between jobs follows the aim of increasing the chances of promotion (Sicherman & Galor, 1990). Regarding this logic, individuals happen to take up jobs, especially when first entering the labour market, for which they are overqualified as they hope to be promoted once they have gained the necessary work experience. This certainly explains the high share of young professionals amongst the overqualified working population (Sicherman, 1991). While some studies' empirical evidence does not support this theory (Boll et al., 2016), others (Alba, 1993) find evidence. Similar to the theory of human capital, this explanation suggests that overqualification is a temporary problem of labour supply (Quintini, 2010), resulting to be corrected through future mobility (Ortiz & Kucel, 2008).
- 3) In contrast to the previous two theories, the ***job competition theory*** suggests that the labour market is no place of people competing with their skills for the best positions but rather an offering place of training positions. This means, since most skills are anyways developed in the workplace, vacant positions are allocated according to a cost-benefit efficiency logic

of the chosen candidate's future training needs. Consequently, people are incentivized to be overqualified as it decreases the employer's training costs, leading to better chances of being prioritized for the position (Thurow, 1975). Thus, people compete for jobs based on their qualifications and its implication of training costs for their future employers (Boll et al., 2016; Quintini, 2010), making over-qualification a structural feature of the labour market (Ortiz & Kucel, 2008), which proves the worker's training ability (Alpin, Shackleton & Walsh, 1998).

- 4) Likewise, the ***signaling theory*** (Spence, 1978) suggests an imperfect labour market. Regarding this theory, it is necessary for every future employee to signal the skills during the work seeking process. Less skilled people are considered to have higher learning costs, which turns a tertiary qualification into a signal of high productivity. In times of decreasing costs of University degree completion, less skilled people are equally able to obtain the degree which hinders employers from identifying the most able person. Consequently, this increases the pressure on employers, which is directly transmitted to the applicants to achieve ever-higher degrees, pushing up the inflation of overqualification (Dolton & Silles, 2001; Quintini, 2010; Sloane, Battu & Seaman, 1999). This leads to a perpetuation of polarization of the labour market, hence an oversupply of highly skilled people, which forces some to take up minor positions (McMillen, Seaman & Singell Jr, 2007).
- 5) The ***labour-matching theory*** suggests that people's wages reflect the equivalent of their marginal productivity. Although knowing the level of marginal productivity highly depends on the information available, people are incentivized to keep jobs of high productivity (Jovanovic, 1979). With improving information, this logic implies that employers always stay attentive to 'buying jobs', which enable their movement to better matches (Alba, 1993). This shows why people rather move jobs in the beginning of their working career. Due to more experience and on-the-job training, productivity mismatches are being detected relatively soon after hiring a person. Evidence in support of this theory was found (Alba, 1993), proving a higher frequency of job changes and thus shorter job durations for overqualified people as they are continually looking to improve their match.
- 6) Lastly, the ***theory of allocation*** emphasizes wages, forming the basis of worker allocation across sectors. Thus, individuals prioritize those sectors where they expect their future incomes to be maximized (Sattinger, 1993). However, individuals face job search costs within the allocation process, which hinders them from searching for the most suitable match, resulting in some people's job choice for which they are overqualified. Inevitably, this leads to inefficiencies in the job allocation process as the person's productivity is being

limited due to the lower complexity of the work tasks (Quintini, 2010), resulting in lower income (Ortiz & Kucel, 2008). One explicit example that is often being referred to in this theory is the generally higher overqualification of women. Precisely, married women are more likely to prioritize their husbands' location which increases their search costs as they limit their work possibilities to their partner's geographical constraints (Boll et al., 2016). Compared to the other theories, this is the theory showing the highest consistency of skill mismatches with empirical evidence (Allen & Van der Velden, 2001; Boll et al., 2016; Quintini, 2010).

Nevertheless, scholars argue that it is quite common to find on every country's labour market a certain percentage of the working-age population in jobs which are not commensurate with their level of human capital (matching vertical) or with the person's training area (horizontal pairing) (Boll et al., 2016). Freeman (1976) is often cited as the first scholar to have analysed the problem of University over-education, leading to high levels of overqualification, which is however only considered as a labour market's temporary state of imperfection (Chevalier & Lindley, 2009; Kucel, 2011; Ortiz & Kucel, 2008). It is seen as temporary because the excess supply of University graduates generates a decreasing return to education, which would finally reduce the number of people graduating from University until reaching the market balance again. However, other scholars' research does not confirm this decrease in returns to University degrees, which they see connected to the increased demand for qualified labour needed for the technological development (Quintini, 2010).

This mismatch can have various consequences on an aggregate level for the whole labour market and for those forced to work in positions that do not match their skills. In terms of job dissatisfaction, it is primarily people conducting jobs for which they are overqualified who suffer (Boll et al., 2016). For instance, this might be due to fewer supervision tasks or less training on the job, which is likely to result in job absence, job rotation, cognitive impairment or skills obsolescence (Allen & Van der Velden, 2001; Alpin, Shackleton & Walsh, 1998; Dolton & Silles, 2001, 2001).

3.3. The Dual Formation as a response to labour market imperfections?

i. The dual formation and its international application

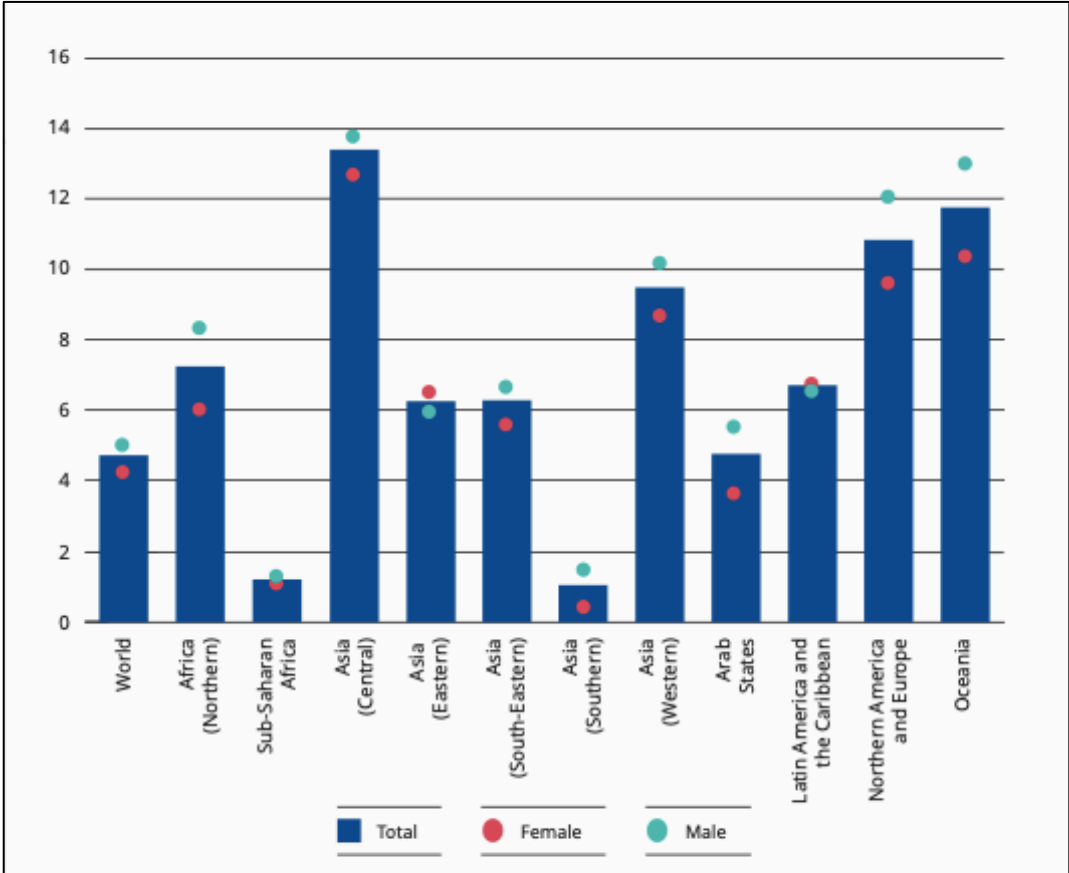
Vocational Education and Training (VET) or also referred to as *dual formation* or *dual model*, can be considered as a modernised version of the traditional apprenticeship model in which master craftsmen formed mostly young boys within their training premises, revealing a long historical tradition (Maurer & Gonon, 2014). Its main characteristic, which has not changed until today and which is the essential pillar in every VET model, indifferent to the country context, is the combination of school-based and work-based learning (Pätzold & Wahle, 2010). The ‘duality’ aspect refers to this specific integration of work- and school-based learning. It is for many supporters the evidence of an “assumption of superiority” (p. 199) over other kinds of educational models that pursue a solely practical or academic path (Schaack, 1997).

Still today, it is argued that well-reputed VET systems can have high relevance for young people’s labour market preparation as they are precisely addressing the skill requirements of the workplace (OECD, 2011). This has become common knowledge, not least because of the many multiple-country employer surveys, showing that some skilled trades¹, typically trained through VET, are among the hardest to find (ILO, 2020). Despite its potential to provide scarce skills and thus improved employment possibilities, the VET participation rate is still relatively low, especially when it comes to developing and emerging economies (ILO, 2020). This reflects a dilemma identified by the international development community who thus calls through SDG target 4.4.2 for a stronger focus in the worldwide implementation and development of VET systems. As shown in Graph 4, the VET participation differs strongly among regions.

¹ ILO (2020) mentions the examples of electricians, mechanics and welders

² SDG 4.4.: “By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship” (SDG, 2018)

Graph 4 Youth share (in percent) which is enrolled in VET, by region in 2018



Source: UNESCO Institute for Statistics by ILO (2020)³

While VET programs enjoy higher participation rates among Central and Western Asia, Oceania and Northern America and Europe, the lowest rates can be found in Sub-Saharan Africa and Southern Asia. In LAC, the participation rate does not reach 8%, while slightly more young women are engaged in this type of training, a specific characteristic that LAC only shares with Eastern Asia (ILO, 2020).

ii. The German case – A success story for further inspiration?

Many countries take the successful German VET model as inspiration and point of departure when implementing dual formation. Worldwide, it became known as success story, and even in Germany itself, it has long been considered as the ‘crown jewel’ of the country’s political economy (Euler, 2013). Scholars agree that with its deep-rooted tradition, the model’s success is based on its strong contribution to Germany’s successful and diversified high-quality industry development (Streeck, 1991, Thelen, 2007), to the country’s comparably low youth unemployment rate (Euler, 2013) and to the successful school to work transition process

³ Note: The UN’s existing regional groupings for the SDGs have been used in this figure

(Thelen, 2007). Further scholars even claim the VET model to be the heart of the country's skill formation, which, due to its high participation pattern and positive image, is often considered more successful than in other countries (Ertl, 2004, p. 117).

Germany's in-company training roots go far back in time: Those of the original vocational schools can be found in the 16th and 17th Centuries, regulated under the 'Crafts and Trade Code' in 1953 (Apprenticeship System in Germany). The long and successful persistence of the model is explained by constant adaptation mechanisms to the current needs of the economy and significant political shifts (Thelen, 2007). The strong political and economic will to further develop and sustain the apprenticeship model is still present today, which shows the latest Reform 'The 2005 Vocational Training Act' (BMBF, 2005) aiming for a more flexible system that adapts easier to the fast-changing contexts of today.

Compared to other countries' VET programmes, Tremblay & Le Bot (2000) assess the German model to be better connected to the labour market as there is a direct linkage between the educational and the employment sector (p. 38). What they consider as further advantage of the German VET model is that it is not competing against itself. This is often the case in other countries where new branches are being created in the educational system that undermine the former and hence creates an 'upward competition' by offering higher-level training programs (Tremblay & Le Bot, 2000). Another success factor which Tremblay & Le Bot (2000) see in the German VET model when comparing it to other countries, is its proper balance between acquiring vocational and academic knowledge.

iii. A way to export the model?

For the achievement of a successful VET implementation which tackles skill mismatches and youth unemployment, Gonon (2014) identified the seven criteria that need to be met:

1. Company criterion: the readiness of companies to train

The readiness of companies is often being referred to as the centre piece of making the dual system work efficiently. Firstly, this refers to the local companies' demand and intrinsic motivation to train young students the attain of productive workers in the future and secondly, to their compliance and competencies of training young students within the national training framework. The previously mentioned "assumption of superiority" (Schaack, 1997, p.199) is

also used as an argument of VET supporters against purely academic educational tracks which they consider to be disconnected from the work at a company.

2. School criterion: Dual apprenticeship model and schooling

Besides the work-based learning in companies, students are required to absolve the second and complementary part of their formation in vocational schools. Depending on the specific apprenticeship track and the country, this often accounts for 50% of the 3 to 4-year formation process. However, there is much variation in terms of the programme duration or the required time within vocational schools or companies, for instance, due to longer production processes that need to be accompanied in order to comply with occupational and work-based learning requirements.

3. Formal law criterion: Dual apprenticeship model as a formalized model

As initially mentioned, the idea of apprenticeships dates back to the formation on behalf of master craftsmen who taught 'everyday skills', leading to the publicly recognised graduation that confirmed the acquisition of relevant professional skills to enter the labour market. Regarding formal regulations, the working contract was and still is the first essential criterion to begin the formalised apprenticeship process. Nowadays, there are much more formalised regulations that, for instance, determine the examination process and the international recognition of the final exams.

4. Formalized knowledge criterion: Dual apprenticeship model refers to codified, scientific knowledge

The codified and scientific knowledge integration has changed significantly between today and the start of the apprenticeship era. While in former times, most trainings were based on handcraft professions that required a strong component of practical learning (experimental learning), the labour market needs of today dictate a more scientific profile that balance out the focus between practical and scientific knowledge. However, before and still nowadays, the skills acquired during the apprenticeship period should be subject to a required life-long learning commitment to continuously keep them up to date (Singleton, Brown & Pea, 1998, p.17). Besides, the dual system should be seen as a complete training that is integrated into an overall knowledge framework. This allows the expert knowledge and the vocation-relevant knowledge to be directly related to the current scientific knowledge context.

5. Governance criterion: Dual apprenticeship model as a cooperative model

The dual system is based on a specific governance type, which makes the interaction between the private and public sector the central pillar of the model itself. This cooperation is considered necessary for the processes of the apprenticeship contract, examinations, the regulation of graduation and the general supervision of the quality of training. The interaction regarding these processes requires social partners, backing the training regime. This makes the dual model a public affair with different actors and hence various interest groups involved.

6. Vocational practice criterion: Dual apprenticeship model as a model related to vocational practice

To control and direct the specific learning activity, one prominent feature of the dual apprenticeship is its orientation towards one profession. This needs to be reflected in regulative, curricular, and didactic components and makes the combination of expertise in different learning places not only a desideratum but an essential prerequisite.

7. Meritocratic principle: Dual apprenticeship model as a career-relevant model

In the countries of successful VET implementation, the dual system is built on reputation and the idea of having the possibility to further develop one's own skills and capabilities, according to the emergent interests. Nowadays, the vocational training is expected to open up ways towards further education, representing an opted path by more and more young students. Although it is still considered as providing an important alternative educational path to the purely academic education orientation, primary training has lost significance compared to further education throughout the transition from industrial to post-industrial societies (Goguelin, 1995, p.113). Still, Maurer and Gonon (2014) argue that instead of conceiving the dual model as an independent and competing institution, it needs to be integrated into the existing educational system.

For the specific implementation, many German Foreign Chambers for Industry and Commerce⁴ have taken the lead in integrating the German VET system's idea in the industries of several foreign countries. The Chambers can hereby be seen as one of the key actors of the model's implementation on-site and are, in most cases, responsible for the coordination of involved actors, the examination's quality assurance, and its recognition in Germany (Sievers, 2014).

⁴ In the German language commonly known as 'AHK' (Original: Außenhandelskammer)

Nevertheless, the critique of implementing the German model in more and more educational systems abroad – a process strongly supported by Germany since its very beginning – has become louder (Euler, 2013). The claim of a certain self-interest of the German government, supporting other countries to implement the VET model after its own example, can be analysed as two-fold: On the one hand, Germany’s development strategy foresees the adequate training of employees as this contributes to the sustainable development of partner countries (as to the SDGs) and on the other hand, highly-educated personnel is seen as a prerequisite for the success of German firms abroad (BMBF, 2017). Apart from a possible conflict of interest, the discussion on the ‘problem of cultural fit’ of borrowed models has widened (Robertson & Waltman, 1992; Phillips, 2000a, 2000b; Ochs & Phillips, 2002; Phillips & Ochs, 2003, CAF). For instance, Lewis (2007) stresses the unique and sometimes long tradition of specific mechanisms in donor countries and argues that those cannot be easily transferred to other country settings. The German Bertelsmann Foundation (2013), which has conducted thorough research on the German and international VET systems, stresses the importance of an individual implementation strategy. Thereafter the system needs to adopt a unique development path that highly depends on the specific country context and can therefore never be seen as a 1:1 exporting process (Bertelsmann Stiftung, 2009; AHK Mexico, 2019). The study further recommends to only focus on some individual elements when wishing to transfer the German model. Linked to the already existing educational system, a unique dual formation model can thus be formed for and by the ‘taker-country’, which, depending on the economic, social, and political preconditions, might then naturally deviate from the German model.

iv. The context of LAC and the model’s transmission to the region

The transfer of the VET system has also long reached countries in LAC, where this educational model has gained increasing popularity over the last years. This positive stance is rooted in the growing demand for skilled workers on the one hand and an insufficient supply of national VET programmes of high reputation, on the other hand (BIBB Govet, 2012). The LAC region is characterised by significant economic growth after the turn of the millennium, following decades of economic fluctuation (BMBF, 2012). Nevertheless, this growth is to a large share traced back to natural resource exploitation and to the export of agrarian products, making the region dependent on volatile world prices. Instead of relying on such exploitive growth patterns, BIBB Govet (2012), suggests to focus instead on sustainable and globally competitive sectors of the economy. However, to achieve this increase in companies’ innovation capability and generally entire economies, skilled labour is a clear precondition (BIBB Govet, 2012). So,

despite some remarkable achievements during the flourishing decade (2003-2013), the situation keeps being tense, particularly after the start of the slowdown cycle starting in 2013. Regarding ILO (2017) the slowdown of the economy coincides with the awareness about many long-lasting structural problems, such as substantial human capital gaps⁵, low productivity and productive diversification levels, high concentration of micro-companies, low innovation levels, and generally high levels of inequality and exclusion.

Therefore, they argue, the attention needs now more than ever to be drawn to revitalizing policies of productive development and qualitative human capital formation (ILO, 2017). Their argumentation goes even further: human resources are the key to achieving sustained and inclusive economic growth that enhances full and productive employment and decent work for all. Hence, they see the goal of transitioning to a high-productive economy to be impossibly achievable without up-to-date skilled labour. This is one of the main reasons for their strong focus on the development of VET systems (ILO, 2017). This perception is shared by UNESCO's Regional Office in Santiago de Chile which describes the dual formation system as "vehicle of social mobility"⁶ (UNESCO, 2020, p.28) and as a central pillar of the region's sustainable development. Although they see a vast potential of VET in LAC, there are significant discrepancies between the reality of the current VET systems and how they need to be composed to contribute to sustainable development, for instance the still prevailing negative reputation of VET in many LAC countries. So, concerning UNESCO's 'Education Agenda 2030', they mention the many remaining and necessary changes to achieve the VET system's contribution to social inclusion, the protection of the environment, and economic growth (UNESCO, 2014).

Similar to UNESCO and ILO, the Development Bank of Latin America (CAF⁷) sees a huge potential in the VET system due to the different categories of people it serves: On the one hand it attends the graduating youth that wishes to take up rather practical job trainings and on the other hand it can be beneficial for those who do not yet possess the necessary skills but who wish to reintegrate into the labour market (Fiszbein et al., 2018). Furthermore, CAF stresses the VET model's direct and indirect beneficiaries on three levels: Those who take part in the VET programmes, benefit from better employment possibilities as well as improved returns to

⁵ Here: Predominantly in regard to the quality and relevance of vocational education and training

⁶ Original.: 'vehículo de movilidad social' (UNESCO, 2020, p.28)

⁷ Original: Corporação Andina de Fomento

investment in education and, lastly higher self-esteem (Fiszbein et al., 2018). The benefits for the companies on a market level refer to the productivity gains and the overall reduction of training costs in the long run (Fiszbein et al., 2018). Lastly, the overall social benefits lie in the improved social integration, less crime, and more tax profits for the government due to higher employment rates (Fiszbein et al., 2018).

Regarding the high potentials for VET in the LAC region, the German Foreign Chambers for Industry and Commerce have also implemented the German VET system in the industries of countries, such as Argentina, Brazil, Bolivia, Chile, Colombia, Mexico and Peru (Sievers, 2014). However, many LAC countries had implemented their own dual models decades ago, and still, there are hardly any evaluations on dropout rates, employability chances, and further statistics that go beyond the number of annually started apprenticeships. Nevertheless, in order to evaluate whether or not VET systems are successful and promising for the future, these numbers are a crucial prerequisite for further analysis.

When taking a closer look at the already existing types of dual formation in the region, identifying and assessing the several challenges and weaknesses is particularly important: Apart from a rather negative reputation of the existing VET programmes, which is considered imperative to be improved in order to make the model successful, there is also a further need to increase training capacities within companies. Only if a certain scope is being reached, the high pattern of youth unemployment can be dropped in LAC (BIBB Govet, 2012). CAF agrees on the existence of various defiances and identified the following five main challenges to be overcome for the VET model to work efficiently, which add to the basis of this thesis' analysis:

Table 1: Challenges of VET in LAC and CAF's Counter Recommendation

Challenge	CAF Recommendation to tackle challenge
1. Educational Quality	1. Incorporate more evaluations to measure educational quality
2. Fragmentation of the System and lack of understanding of qualifications	2. Strengthen relationships between companies and educators, and facilitate the dissemination of information
3. Lacking focus on the development of teaching staff	3. Increase focus on teacher training
4. Difficulties developing efficient and sustainable financing plans	4. Develop efficient, transparent and sustainable financing plans
5. High dropout rates	5. Integrate basic skills and socio-emotional skills into the curriculum.

Source: Own elaboration, based on Fiszbein et al. (2018)

3.4. The Cost-Benefit Analysis of VET participation

There is an ongoing debate on whether or not it pays off for firms to invest in youth training by providing VET spots (Gambin, Hasluck & Hogarth, 2010; Lerman, 2014). This often depends on the occupational skills that are being developed and their degree of firm specification (Lerman, 2014). Economists have long argued that companies will deny their investment if the occupational skills are too general and, therefore, easily transmittable to other competing firms. Research, however, indicates that firms engaging in the VET model generally reap good returns, although evidence recognizes that the financial return to firms' investments vary widely. The 'IZA World of Labor' research on companies' benefits to invest in apprenticeship, has identified the following pro and contra arguments for companies to engage in VET programmes:

Table 1: Pro and Contra Arguments for firms to invest in VET programmes

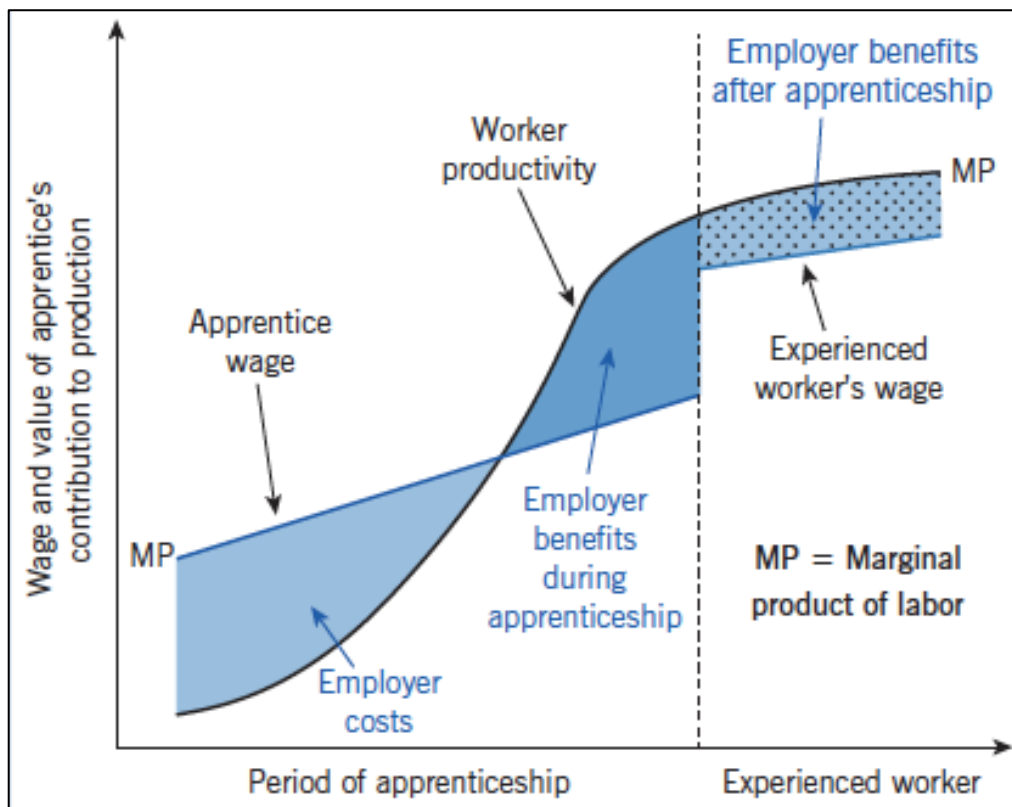
Pro Arguments	Contra Arguments
The apprentice's contribution to production is large enough to offset most costs to firms.	Most firms in advanced economies do not offer apprenticeships.
By retaining most apprentices, firms benefit substantially from low recruitment and training costs.	Some firms perceive weak returns because they fear trained apprentices will be hired away by other firms and because they often pay for required education.
Knowing that all trained apprentices have mastered a common set of skills is valuable to firms.	Some estimates show firms recover only modest parts of their investment during the training period.
Apprenticeship training enhances subsequent innovation within the training firm.	Quantitative estimates of gains for employers are uncertain, based on only a few studies.
Treating apprenticeship expenses as capital investments would improve measured gains.	Firms have trouble assessing the long-term benefits of apprenticeship investments.

Source: Lerman, 2014

Considering these arguments, Lerman (2014) identified that some companies recoup their investments long before the apprenticeship period ends. For others, it pays off only after having accounted for recruitment, initial training costs and reduced turnover. He claims that this latter scenario is the reason for many companies not engaging in VET programmes. Thus, most of the companies' contra arguments can be traced back to their fear of having low investment returns as there is high uncertainty of the possible benefits derived from the student's formation.

However, research has shown that the benefits outperform companies' costs in most cases (Gambin, Hasluck & Hogarth, 2010; Lerman, 2014). Thus, Lerman (2014) proposes that policymakers provide firms with the necessary information on economic returns and help set up apprenticeship models through the funding of off-site training. He further argues that this information should be as precise as possible to convince companies to engage in apprenticeship training, suggesting the following cost-benefit analysis:

Graph 5: Apprenticeship cost-benefit-analysis



Source: Modified figure based on (Gambin, Hasluck & Hogarth, 2010)

The model shows that the employer has higher costs in relation to the student's productivity at the beginning of the apprenticeship period. This changes with the student's attainment of experience and firm-based knowledge, resulting in the opposite scenario of higher productivity that outperforms employers' costs before the apprenticeship period ends (Gambin, Hasluck & Hogarth, 2010; Lerman, 2014). This is where many employers compare their costs with their benefits to see which one exceeds, however, it is crucial to consider that the employer enjoys a further and probably even more significant benefit in case the apprentice is staying in the company as a long-term employee. In this scenario, the employers' benefits clearly outperform their costs due to the dual-graduate's marginal product being higher than the wage of an experienced employee. Additionally, companies minimize labour search costs of extensive

recruitment processes when employing their dual graduates (Lerman, Eyster & Chambers, 2009; Tu et al., 2013).

For the apprentice side, Graph 5 indicates a relatively higher wage for dual students regarding their corresponding productivity level. Throughout the apprenticeship period, this is being turned around by increasing productivity levels, leaving the student with a lower wage than its corresponding productivity level. This moment of change, when employer's costs turn into employer's benefits, is indicated by the intersection of the two curves. Regarding Lerman (2014), this is the crucial moment which companies, considering to engage in VET programmes, need to identify for their participation decision.

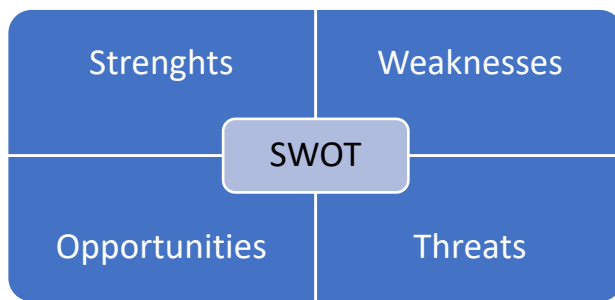
Concluding, VET literature identifies the employers' recognition and understanding of VET benefits for their own firm as one of the model's main success factors. Proponents of the model argue that once firms forecast their future labour demand, they have an intrinsic motivation to participate in VET programmes and engage in the model in a way to make it most beneficent (Gambin, Hasluck & Hogarth, 2010; Lerman, 2014).

3.5. Operationalization: SWOT Analysis as a potential analysis tool for VET

Worldwide, educational institutions are largely impacted by the external environment (Balamuralikrishna & Dugger, 1995). Particularly since the last decades of the twentieth century, the economic, societal, and political environments and its institutions were forced to face significant changes. These included shifts from a manufacturing to a service-oriented economy and from industrial to information-based societies which further impacted the demands for vocational programmes offerings (Martin, 1989)

The so-called Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, originally intended for the use of business application, provides a suitable framework for educational institutions to identify and further improve their focus on serving the needs of their communities (Balamuralikrishna & Dugger, 1995)

Figure 1: SWOT Analysis Conceptual Framework



Due to fundamental similarities with management tools intended for administrative duties within the industry, the educational sector has soon tailored analyses such as SWOT for their individual application. For instance, Gorski (1991) has suggested this tool with the goal of increasing minority enrolment for community colleges. The SWOT analysis serves as an easily understandable tool that can be understood as an examination of an organization's internal strengths and weaknesses, and its external opportunities, and threats. Considering this design, the preliminary stages of decision-making are those of highest interest as they serve as precursor to strategic planning. Considering the context of vocational schools, this can hence provide an overall picture of the current situation in relation to its community, other schools as well as the industry its youth will enter. By reaching wider understanding of the external factors, threats and opportunities, that are merged with the internal analysis of weaknesses and strengths, a future vision can be created that serves as basis for appropriate decision making. Balamuralikrishna and Dugger (1995) argue that this foresight would translate to initiating competent programmes from scratch or for countries with existing VET systems, replacing redundant programmes with innovative and relevant ones.

4. Data & Methodology

This chapter presents the data and methodology for the analysis of the thesis. Firstly, it explains the research philosophy that constitutes the basis of the research approach. This is being followed by presenting the data collection and case selection. To make the reader understand how the interviews have been conducted, the interview strategy is being clarified before moving on to the analytical model and its limitations.

4.1. Research Philosophy

This thesis's method is qualitative with a constructivist worldview which enriches the method in a way that the research aims to grasp the problem through individual experiences (Creswell, 2014, p.251). Due to the complexity of understanding the socio-economic impacts of a country's changing educational system, a linear cause-and-effect relationship cannot grasp the whole picture (Nunn, 2007). Instead, Nunn (2007) recommends increasing the understanding of the socio-economic impact through participants' eyes and the system's history.

Qualitative research is apt to investigate individual experiences, local knowledge, and customs, and further tries to explain social processes, including cultural trends and movements, as well as consolidated norms (Creswell, 2014, p.236). Yin (2009) argues similarly, stating that studies of perception and survey questions that seek categorical rather than numerical responses rely on qualitative and not on quantitative evidence. Consequently, the context-dependent research questions of this thesis aiming at untangling opinions and perceptions of local experts led to the qualitative study choice.

Moreover, through abductive reasoning, the researcher is generating - by the use of theory - a broad understanding of the context while enabling the theory to be an evolving process (Becker et al, 2012). This allows the worldview of the participants to be the basis for the theoretical background. This is being recognized as valuable for the analysis as it does "not lose the touch with the world as it is seen by those whose voices provided the data" (Becker et al., 2012, p.401).

i. Research Approach

The discourse analysis has been chosen as research design as it appropriately represents different opinions on a specific topic. Regarding (Flick, 2014, p.83), the discourse analysis approach has been developed from different backgrounds, and hence, there are different versions of discourse analysis (p.350). Often, conversation analysis is the starting point in discourse analysis, however, the empirical focus lies on the “content of talk, its subject matter and with its social rather than linguistic organisation” (Edwards & Potter, 1992, p.28). Regarding Ritchie et al., (2013), the discourse analysis examines “the way knowledge is produced within different discourses” (p. 25). This is particularly relevant for this thesis as the apprenticeship concept and what it implies for the economy as a whole, the youth unemployment and the young students themselves is no common knowledge.

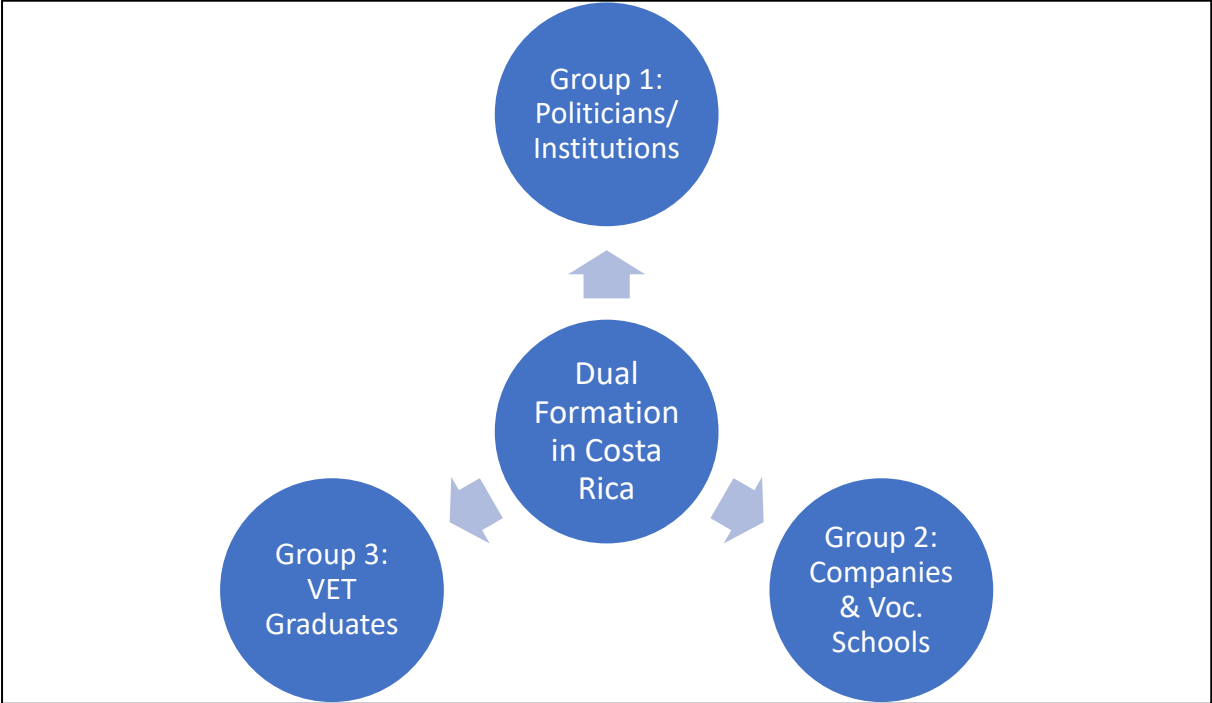
4.2. Data Collection

Flick (2009, p.470) and Heide and Simonsson (2014) recommend avoiding the limitations of one single method by triangulating different data sources, allowing a more holistic view of the phenomenon. At the same time, a discourse analysis approach is characterised by involving a variety of sources, such as written documents, speeches, media reports, conversations and interviews (Ritchie & Lewis, 2013, p. 48).

Hence, this study combines primary data, in the form of interviews of different stakeholder groups and general observations of the research setting with secondary data, including written sources, such as descriptive employment statistics, newspaper articles, or books. However, the focus of the investigation lies on the primary data, collected during a two-months field research in Costa Rica at the beginning of 2020.

To achieve a high degree of objectivity, the following three stakeholder groups with different expertise levels build the basis of the analysis:

Figure 2: Interview Stakeholder Groups



Source: Own elaboration

While some interviewees of the first group are high-level politicians who have built up their expertise by decades of working in the dual formation field, interviewees from group two rely on their experience as a learning venue, within vocational schools or companies. The VET graduates of group three, add value to the analysis in providing their individual, practical experiences they made while taking part in the programmes. This set-up allows a valuable analysis of Costa Rica’s VET model’s current status in which practical experiences and approaches that are carried out in companies and vocational schools can be directly compared.

Throughout the analysis, pseudonyms will be used for all interviewees which firstly, simplifies the understanding of which group is referred to, and secondly enables a better reading flow.

Table 2: Interviewee group 1 – Politicians and Professors: Institutional levels

Interviewee Name	Institution, Place	Professional Position	Date	Setting	Pseudonym
Laura Cristina Rojas Blanco	School of Economics, University of Costa Rica (UCR), San José	(Labour) Economics Professor	Friday, 06.03.2020	Face-to-face	UCR Labour Economist Professor
Sergio Bermudez Vives	National Apprenticeship Institute (INA), Headquarter, San José	Director of INA's Dual Formation Unit	Friday, 06.03.2020	Face-to-face	INA Central
Leonardo Garnier	School of Economics, University of Costa Rica (UCR), San José	Ex-Minister of Education, Economics Professor	Wednesday, 11.03.2020	Face-to-face	Ex-Education-Minister
Albert Calvo Leiva	Ministry of Public Education, San José	Senior Apprenticeship Advisor	Thursday, 12.03.2020	Skype Interview	Educational Ministry
Mario Chacon Chacon	National Apprenticeship Institute (INA), Regional Office, Liberia	Director of INA's Regional Office in Liberia	Friday, 13.03.2020	Face-to-face	INA Liberia
Jackeline Garcia and	Institute of Educational Investigation at the University of Costa Rica, San José	Institute's director	Tuesday, 31.03.2020	Skype Interview	VET Researcher 1
Silvia Camacho Calvo	Institute of Educational Investigation at the University of Costa Rica, San José	Institute's director	Tuesday, 31.03.2020	Skype Interview	VET Researcher 2

Table 3: Interviewee group 2 – Companies & Vocational schools: Learning venue level

Name Interviewee	Institution, Place	Professional Position	Date	Setting	Pseudonym
German Castro Valverde	Technical Vocational School Monsenor Sanabria, San José	Technical Coordinator	Friday, 06.03.2020	Face-to-face	School 1 Representative
Ernesto Artavia	Technical Vocational School COVAO, Cartago	Entrepreneurial Coordinator	Tuesday, 10.03.2020	Face-to-face	School 2 Representative
Victor Alvarado Meza	Technical Vocational School COVAO, Cartago	Teacher of Technical Automotive	Tuesday, 10.03.2020	Face-to-face	School 2 Teacher 1

Marvin Acuna Acuna	Technical Vocational School COVAO, Cartago	Teacher of Technical Automotive	Tuesday, 10.03.2020	Face-to-face	School 2 Teacher 2
Alejandro Rodriguez	Hotel Reserva Conchal, FIFCO Company, Santa Cruz	Professional Chef and apprentice mentor	Monday, 16.03.2020	Telephone Interview	Company Mentor
Adriana Potrero	Hotel Reserva Conchal, FIFCO Company, Santa Cruz	Director of the Communitarian Relations	Monday, 16.03.2020	Telephone Interview	Company Representative

Table 4: Interviewee group 3 – VET Graduates: Individual student level

Name Interviewee	Institution, Place	Professional Position	Date	Setting	Pseudonym
Carlos Reyes	Hotel Reserva Conchal, FIFCO Company, Santa Cruz	Apprenticeship graduate in Tourism	Monday, 16.03.2020	Telephone Interview	Company VET Graduate
Daniela Cordero	Technical Vocational School COVAO, Cartago	Apprenticeship graduate in Automotive	Saturday, 28.03.2020	Skype Interview	School 2 VET Graduate

As seen in the previous tables out of the 13 interviews in total, nearly all were conducted face-to-face. A few, however, had to be conducted via Skype or phone call as the COVID-19 outbreak hampered the last weeks of the field research, which required to change the initially planned in-person interviews to skype interviews. In a few occasions, complementary data was collected through e-mail communication. The consent of recording and using the information for the conduction of this study, as well as the naming of institutions and individuals has either been given through a signed consent form (Appendix 1) or recorded orally at the beginning of each interview. This conduction served as a basis to meet ethical consideration requirements by assuring that all participants are fully aware of the interview process and its implications for the resulting study. All participants who have wished to see the results before the hand-in of the thesis have been given a chance to withdraw their initially given consent, however no case of discontent occurred.

4.3. Interview Strategy

The interviews were conducted in a semi-structured way in order to leave space for the interviewee to freely report on experiences and consider what might be most important, without feeling to be led into a specific direction (Creswell, 2014, p.204). Although the questionnaires generally covered the same information blocks, they were adapted individually to the three

stakeholder groups to best cover a micro and macro perspective, depending on the interviewee's expertise level.

Table 5: Interviewee distribution and length

Group	Description	Number of interviewees	Average interview length
1	Politicians or institutional representatives	7	1:50 hours
2	Companies and Vocational Schools	6	1:05 hours
3	VET Graduates	2	45 minutes

This resulted, as shown in Table 6, in different interview lengths. The interview's length of group 1 was the longest, which can be traced back to their longer questionnaire as the questions were broader, trying to capture a macro-view. Additionally, the longer duration is a result of the main focus that has been placed on the group of politicians and institutional representatives in evaluating the VET model's potential to tackle youth-unemployment and skill gaps. The students' interviews were the shortest as the questionnaire was limited to their specific apprenticeship experience and their perception of their future employment possibilities. However, employers and students further reported about their knowledge of other apprenticeship programmes as well as the perceptions of people outside the system, such as their families, which provided further valuable insights for the results. The questions directed to the learning venues, the vocational schools and companies, can be considered to be placed in the middle of these previous micro and macro perspectives, as they were asked about the participation interest on behalf of incoming students and companies. Additionally, they were asked about the importance of the cooperation level between the three spheres: the organizing governmental institutions, the students, and the two learning venues (vocational schools and corresponding companies).

Apart from the interviewees' opinions about the model's strengths and weaknesses, the study further focuses on the opportunities and challenges they identify to provide final policy advice. As suggested by Flick (2009, p. 165) it is not the experts themselves who are the focus of the interview but rather their knowledge and opinion about the topic at hand.

4.4. Case Selection

For the investigation of poorly understood or new phenomena, Eisenhardt (1989) suggests a case-based exploratory method to be most suitable. This is the case for this research project as Costa Rica's implementation of the apprenticeship model is multi-faceted, in a way that it is

highly contested in terms of its potential to decrease youth unemployment (Stockmann & Silvestrini, 2013; Maurer et al. 2012). Even though a case study focuses only on one specific case, it still provides valuable insights into the drivers and components of this educational model and might further indicate possible limitations and challenges for other cases.

The *Reserva Conchal* Hotel chain, which is one of the daughter-companies of the Florida Ice & Farm company, one of Costa Rica's biggest companies, is located in Costa Rica's northwestern state Guanacaste and has been chosen as case study. Due to its immense economic influence for the country, and its pioneer position of being the first company to implement the VET model in Costa Rica successfully, it has been evaluated as VET success case for this research.

Besides, Guanacaste is an interesting region for further analysis as it suffers from high youth unemployment (Pacheco Jiménez, 2013). Due to the geographic distance to the country's capital, San José, and thus fewer labour opportunities, a large share of the youth sees itself forced to leave the state (Pacheco Jiménez, 2013). Although having fewer industrial labour opportunities, the region is characterised by a flourishing eco-tourism sector, which allowed a relatively new job sector to emerge (Hernández & Picón, 2013). For the formation of young adults who wish to stay in the region, working in the tourism sector, a tourism-related apprenticeship programme could be an ideal pathway (Murillo & Hernández, 2006). Certainly, this case brings up remarkable insights into how the VET system might work for a specific tertiary sector in the region of Guanacaste. To achieve a more objective evaluation, the *Reserva Conchal* case is being presented by various perspectives: the experience of the company's representative, a recent graduate and an apprentice mentor are being considered.

Nevertheless, this case study only shows one example, and thus, its outcomes and learnings cannot be generalized, neither for the whole tourism sector nor for the VET model in this specific region. In order to establish a more holistic view, the case study of the tertiary tourism sector will be combined with equally relevant experiences made outside the tourism sector and the region of Guanacaste.

For this purpose, a 3-year national pilot project for mechatronics apprentices at five vocational schools in Costa Rica from 2016 until 2019 will be added to the analysis. This approach further enables the discussion about which sector or professions might be most suitable for Costa

Rica's VET start. Putting this into a broader context, it allows a discussion on whether or not the apprenticeship model might tackle the country's labour market imperfections, or if it rather is an international approach that is being forced upon the Costa Rican country context.

4.5. Data Analysis

As proposed by Becker et al. (2012), the narrative approach, which is being followed in this research, aims at understanding how the participants perceive their reality. Therefore, the objective of conducting narrative interviews is to focus on the interviewees' experience and to connect their stories to the events of the specific context (Becker et al., 2012).

All interviews were recorded once the interviewees gave their consent. The recording process allowed the researcher to entirely focus on the interview content and procedure, limiting the necessity of taking notes to further relevant questions within the interview process. Furthermore, it has enabled the researcher to revisit the data for a structured analysis at a later stage (Becker et al., 2012), which has helped to reveal critical key words. With the recorded interviews, the researcher was able to firstly transcribe and secondly translate them from Spanish to English. The continuous process of transcribing the interviews shortly after their conduction helped to notice emerging topics and, hence, to constantly adapt the questionnaires.

In a following step, the transcribed interviews were being coded with the help of the qualitative data analysis software NVIVO. Regarding Roberts et al. (2013), the use of a qualitative data analysis tool supports improving the transparency of the gathered information being properly arranged in the programme surface. In this research, it allowed an easier identification of common themes related to the dual formation debate, leading to a more thorough analysis and categorization of the given answers. Finally, it has also resulted in a more convenient writing process. More specifically, the interviews were coded to the SWOT analysis's components of strengths, weaknesses, opportunities, and strengths while the significance of further codes, such as inclusion, scholarships or long-term effects became apparent.

4.6. Limitations and Ethical Considerations of the Research Method

In any research, be quantitative or qualitative, the researcher needs to be aware of its limitations. For qualitative research, Becker et al. (2012) point to the need to consider the concepts of trustworthiness and authenticity within qualitative research that include aspects such as *Confirmability*, *Credibility*, and *Transferability*.

Firstly, despite presenting a more objective opinion due to the inclusion of various perspectives of the three interview groups, the multi-stakeholder approach leads to several limitations. By contrasting the opinions that students have to those of teachers or politicians, the broad-perspective-approach cannot go in depth into each stakeholder group. Certain similarities in their perception are likely to be expected, however, every case and every stakeholder-group is unique (Westley et al., 2014). Nevertheless, it was considered more important to include various perspectives, aiming for a more holistic and objective view about the potential of the dual formation in Costa Rica than focusing in-depth on one specific stakeholder group. This approach has thus increased the *Confirmability*, which aims at rising the researcher's objectiveness and reducing its bias by including various opinions on different levels and relating the findings to current research. However, and as suggested by Becker et al. (2012), the researcher is aware that social research can never be completely objective.

Secondly, *Credibility* assesses how plausible the research findings are, considering that the findings can reflect the interviewees' perception (Becker et al., 2012). While school directors might see a high potential in the VET model, students and teachers who are more directly involved in the programmes are likely to have a different opinion. This equally applies to the case company as learning venue whose success in terms of the VET implementation is more credible when it is not only confirmed by the company's dual representative but furthermore by graduates and apprentice mentors. Due to the constraints in terms of time and scope, interviewees outside the VET model were not included in the study which is likely to result in a too positive image of how the VET model is perceived.

Despite all, a bias derived from personal reasons is likely to have influenced the results. In this regard, it needs to be taken into account that the interviewees might not have felt the sufficient trust for being entirely honest. Although it has been made sure that all interviewees allocate an interview date and place where they feel comfortable and can talk in private, they might still have felt the pressure to answer in accordance to their employer. Furthermore, Costa Rica's VET model is an adaptation of the German model. The aspect of the researcher being German might have led to a bias in the interviewees' answers about the model's potential. On the one hand, this might have led to picturing an over-optimistic and positive view for those interviewees who are generally convinced by the German model. On the other hand,

interviewees who are rather sceptical might have subconsciously perceived the background of the researcher as something negative and as top-down implied research.

Thirdly, the multi-stakeholder approach induced the problem of an uneven distribution of interview partners in each stakeholder group. As explained in 3.1 Interview Strategy, an over-representation of interviews of the first group arose, while the third group is under-represented in terms of interview numbers. This can be considered as a limitation of the analysis since it might bias the results towards the opinions of politicians, professors, and institutional representatives. The low number of interviews in the third group can be mainly traced back to the Covid-19 crisis, which forced the schools to close in Costa Rica and thus hindered a higher number of interviews of the third stakeholder group. However, the two interviews conducted with graduates from different schools appear to provide not only an individual perspective but also a more holistic view of the individual's fellow pupils.

Fourthly, *Transferability* refers to the generalizability of the specific findings for other contexts (Becker et al., 2012). The demarcation of conducting the study of VET in the tourism sector solely in Guanacaste, a region characterized by its high relevance for the eco-hotel business, will provide limited understanding on how to generally incorporate the dual formation system in Costa Rica. Nevertheless, the findings contribute to the further comprehension of how VET approaches work within the tourism sector of other Costa Rican tourism regions.

Lastly, linguistic limitations are worth mentioning. Although the researcher speaks Spanish fluently, being a non-native makes limitations due to language constraints unavoidable. All interviews have been understood and interpreted, and still, sometimes, it is about correctly analysing the small nuances people give and hint to between the lines. This was especially the case when talking to politicians or institutional representatives who often did not seem to be allowed or willing to reveal their real opinion on something the politics dictate. Similarly, the role of the researcher as a German woman might have additionally affected the results and not least, the way the researcher and interviewee were acting during the interviews. The researcher has been raised in a developed country and has never been to Costa Rica before which leads to possible limitations in terms of cultural differences. However, the previous experience in other Latin American countries and the fact to have lived with locals throughout the six-week stay has helped to gain a better understanding of the culture in Costa Rica.

5. Analysis and Discussion

The presentation of the results starts with a comprehensive insight into the educational system of Costa Rica, whose educational indicators are being put into comparison to other regions, for instance, the OECD countries or the LAC region. An analysis of the country's labour market structures, including youth unemployment features and existing skill mismatches follows, before heading over to the key aspect of this thesis, Costa Rica's VET system, and its implementation. This part is being presented twofold: Firstly, the dual law which takes effect in 2021 gives a first overview and secondly, two VET cases will be presented. Firstly, the dual mechatronics pilot project that took place from 2016 until 2019, and secondly, the success case of the hotel 'Reserva Conchal' provide a more detailed insight into what has happened so far in terms of VET in Costa Rica. Both parts are based on literature and interview result of the three stakeholder groups, as presented in Chapter 3.2. The following SWOT analysis solely bases on the perceptions of the interviewed experts which are connected to the VET literature and theory. The discussion that arises from these results, is hereby directed towards the research question, hence the model's potential and limitation to reduce youth unemployment and to tackle the existing skill gap. Chapter 4 concludes, by re-answering the research questions and giving final policy advice for the model's success in the future.

5.1. Imperfections of Costa Rica's Labour Market

i. Youth Unemployment and Skill Mismatches

Costa Rica's pioneer status in educational matters is far from being reflected in the country's youth⁸ unemployment rates (ILO, 2017). ILO's (2017) Labour Overview shows that Costa Rica has an average unemployment rate of 9.5% while youth unemployment surpasses 20%, which is one of the worst performances among LAC countries. In 2015, 43.2% of Costa Rica's labour force was employed in informal jobs with a slightly higher pattern for women (47.8%) than for men (40%). Amongst the youth, labour informality was marginally lower (35.8%) (ILO, 2017, p. 115).

When taking a closer look at the educational degrees of the unemployed, it becomes evident that it is not only the youth dropping out of secondary school that faces difficulties finding a suitable employment but also those who have completed secondary or even tertiary education

⁸ ILO defines youth as of 15-24 years.

(Blanco, 2019). Young people report to struggle in finding employment immediately after their formation process ends as many employers require work experience, which the majority does not have (Gindling & Terrell, 2007). At the same time, companies report having difficulties filling their open vacancies for certain posts (ManPower, 2015). This combination of high unemployment patterns and vacant positions indicates Costa Rica's structural problem of skill gaps strongly affecting the labour market (Pandiella, 2016).

Skill gaps can be understood as the labour market's need for certain skills not being sufficiently delivered by the educational system while having a simultaneous over-saturation of other professions that the labour market cannot fully absorb (Jackson, 2010; Miller et al., 2004). In Costa Rica, there is an under-supply, hence a lack of technicians and scientists (Monge-González, Hewitt & Torres-Carballo, 2015). This results in companies being unable to fill their vacancies, mostly for STEM-oriented positions, as most students opt for study programmes in social science and humanities (Blanco, 2019). While engineering only accounted for 6% of all graduates in the last decade, 33% graduated in the field of education, 23% in Economics, 15% in Social Science, and 12% in Health (Blanco, 2019).

Tsounta & Osueke (2014) argue that the mismatch between the supply and demand for skills in Costa Rica has led to one of the largest skill premiums among all LAC countries. However, more importantly, and in contrast to other countries in LAC, this skill premium has been increasing in Costa Rica, "reflecting that the mismatch is largely structural." (Tsounta & Osueke, 2014, p.32). As of the OECD (2014) report, Costa Rica's structural problem of skill gaps has further been identified as bottleneck for attracting foreign investment, which makes it likely to result in further far-reaching consequences for the economy. Further examples of these hampering structural problems are the high concentration of formal employment in a few companies and the public sector, vast wage differences between the productive activities, and growing informal and low-quality employment (Pandiella, 2016).

Laura Blanco, Labour Economist at Costa Rica's University (UCR⁹), who has served as interview partner, agrees, and even sees the severe structural problems of Costa Rica's labour market to be responsible for the country's growing inequality pattern. In her recent (2019) working paper, she stresses on the high degree of under- and overqualification of the country's labour force. This has led to a duality in the labour market where the majority encounters low-

⁹ Original: Universidad de Costa Rica

quality jobs. At the same time, a small group of people accesses highly qualified jobs – a mismatch that is being based on considerable educational disparities and constituting an additional inefficiency in the labour market (Blanco, 2019). UCR Labour Economics Professor argues that due to the few highly qualified jobs available in contrast to the many highly skilled graduates available on the labour market, the pressure on Costa Rica’s graduates has risen continuously, finally leading to a degree inflation. Furthermore, the difficulty of young graduates to offer relevant work experience, which is often required by recruiters, explains the relatively high share of young graduates among the overqualified workers (Robbins & Gindling, 1999). This is directly linked to the occupational mobility theory, in which graduates accept jobs only with the hope to receive a promotion (Sicherman & Galor, 1990).

In detail, Blanco (2019) analysed the amount of over- or underqualification of the working population¹⁰ in relation to their jobs for the period of 2011-2017. She found high levels of overqualified labour (13.3%) and even higher levels for people working in underqualified positions (28.9%), with the former resulting in a wage penalty of about 35% and the latter leading to a wage prize of around 30% (Blanco, 2019). The high pattern of underqualification proves the labour market to be characterised by a high supply of low-skilled labour, enforcing the critique of a deficiency of the educational system in Costa Rica (Schleicher, 2017). Looking closer at the sectors and specific professions that particularly struggle from skill mismatches in Costa Rica, Blanco (2019) mentions the technical jobs and intermediate level professionals. These positions are taken by 65.9% of underqualified staff, while 28.6% of the people working in these fields are overqualified, leaving only 5.5% of all people working in these positions, who have acquired the corresponding qualifications (Blanco, 2019). The high share of underqualification applies to highly skilled technical positions but regarding Blanco’s (2019) results, the lower qualified technical positions are equally affected. This shows the massive gap in specific labour supply, as technicians clearly lack in Costa Rica’s labour market. In retrospect, this might be drawn back to the lack of specific educational programmes, “proving the necessity to offer more higher technical education.” (Blanco, 2019, p. 20).

¹⁰ Defined as over 18 years old (Blanco, 2019)

5.2. The contested implementation of the dual formation system

i. The Law of Dual Educational Formation

Due to the previously mentioned high numbers of informality and unemployment for certain groups, Costa Rica has implemented a national strategy to prioritize training for young people and women. This is directed to reducing the country's youth unemployment rate since it proved to be successful in many OECD countries (Pandiella, 2016). Also, concerning the lack of technicians, leading to high levels of over- and underqualification, the call for a stronger technical focus through the implementation of dual formation became louder.

Carlos Alvarado, Costa Rica's President and former Minister of Education, states that "one of the biggest bottlenecks [the country's] youth has for accessing work, is their lack of experience." (Ticotimes, 2019). Intending to provide the youth with more work experience possibilities, tackling the problem of lacking technicians and to lower the high levels of youth unemployment, he has signed the *Law of Dual Educational Formation*¹¹ on November 15th in 2019 (Ticotimes, 2019, p.1). His enthusiasm was backed up by the positive experience of various countries that have implemented the dual formation many years ago.

Despite the examples that show well-functioning VET models, signing the law has caused strong protests against this new educational model among students and teachers in Costa Rica (El Mundo CR, 2019). While Costa Rica's President and Education Minister both stressed on the model's efficiency, serving the national labour market and youth unemployment, the protesting students assumed to be treated as "cheap workforce" (Ticotimes, 2019, p.1). In contrast, teachers feared to be replaced by the newly enforced mentors which the law foresees as educators within the learning companies (Ticotimes, 2019). This makes the law, which has been supported by German political and educational institutions, highly controversial (El Mundo CR, 2019).

The support from Germany is likely to be connected to the idea of partially replicating the German VET model for Costa Rica which adds to further controversy (Munoz, 2008). Nevertheless, while other LAC countries implemented VET already, CR is pioneering in being the first country of the region to have a law for dual formation (El Mundo CR, 2015).

¹¹ Original: Ley de Educación y Formación Dual

Until now, the technical education in Costa Rica is anchored within technical high schools and the National Learning Institute (INA¹²). While the MEP administers the 135 nation-wide technical schools that provide 56 technical non-dual programmes, the state-institution INA has 54 training centres across the country where mainly short-term, practical courses of different technical, social and management types are offered (ILO, 2017). These are either further training courses or labour market reintegration initiatives of which some feature work-based training (ILO, 2017). Before the new law, the main responsibility of practical training, so VET-similar programmes in Costa Rica, was placed on the INA. With the new law, coming into force in 2021, the Ministry of Public Education (MEP¹³) is taking the lead to implement a VET model with more similarities to the German VET model. The mostly three-year VET dual tracks will be implemented within the existing technical high schools, hence broadening the school's portfolio towards a more vocational orientation. Simultaneously, the INA should keep its short-term practical courses, and Universities are encouraged to establish additional directives in technical education on higher academic levels. These different levels of technical and academic proficiency of which dual formation is composed in Costa Rica are represented in the National Qualification Framework (MNC¹⁴):

Table 6: National Qualification Framework

Technician Level	Hours of technical practice fulfilled	Responsible Institution	Entry Level
Technician 1	400-700 hours	INA & Private Companies	Primary Education
Technician 2	1,200-1,600 hours	INA & Private Companies	Primary Education
Technician 3	2,300-2,800 hours	INA & Private Companies	Secondary Education
Technician 4	From 2,840 hours onwards	MEP & Vocational technical schools	Secondary Education
Technician 5	60-100 Credit Points	Universities	Baccalaureate

Source: Interview with INA Headquarter

As described during the interviews with INA Central and the Educational Ministry, this framework differentiates Costa Rica's VET model from their role model in Germany, which only offers the corresponding apprenticeship of technician level 4. Ex-Education Minister stresses on the importance of the Technician levels 1 to 3, as it enforces people without

¹² Original: Instituto Nacional de Aprendizaje

¹³ Original: Ministerio de Educacion Publica

¹⁴ Original: Marco Nacional de Calificaciones

secondary degree to re-enter the educational system and thus enabling their labour market integration. However, others criticise the various technician levels to be too numerous and complex and that the focus should be placed on technician level 4 (Interview Educational Ministry, School 1 Representative). This means, however, withdrawing the power of the INA which the Ex-Education-Minister evaluates as the indicated institution for taking the main responsibility for VET education in Costa Rica, not the MEP. In contrast, the Education Ministry sees the success of dual formation in the future of Costa Rica, mainly within the level of technician 4, which has also brought success to the German model.

The two further changes that the new law induces and that have led to most controversies among the interviewees are the responsibilities that increase for participating companies, in terms of financial support and workplace mentor allocation. The financial support refers to big companies – small and medium enterprises are exempted from this duty – being obliged to pay a certain percentage to the INA, which is being used, jointly with governmental subsidies to ensure a scholarship to all apprentices. These scholarships cover alimentation, transport, and personal expenses costs of all students. Additional funding can be applied for if special reasons, such as accommodation necessities due to long travel distances or technical support for disabled people, are existent (Interview INA Central). Apart from the financial support, the new law obliges those companies wishing to take part in VET formation to have for every four apprentices at least one mentor allocated to their disposal within their company learning process. The previously mentioned controversy refers to the widely shared doubt (Interview INA Liberia) that these new obligations might refrain rather than incentivize companies to take part in the new formation programmes.

ii. The pilot apprenticeship for mechatronics during 2016-2019

In 2016, four technical schools implemented the modality of a dual automotive apprenticeship as a pilot project under Costa Rica's Ministry of Public Education (Pérez González, 2019). In total, 121 students enrolled, of which 117 graduated last year. For this three-year programme, the schools were encouraged to establish partnerships with companies that would serve as a learning venue for several days a week from the first year onwards.

The MEP considered this pilot project as a first try out and a way to acquire lessons learned through letting each technical school proceed as they considered as fruitful (Interview Educational Ministry). At the same time, the technical schools criticise the

authorities for not having taken a stronger lead with further indications and support in order to make the pilot project more successful (Interview School Representative 1, School Representative 2, School 2 Teacher 1).

Two of the five participating schools have been visited for interviews with the school's technical VET organisers, company cooperation organisers, teachers, and graduates, of which all stressed their persuasion for the VET model itself. For the future implementation, they urge, however, that the government needs to be more explicit about the regulation as this was not the case during the pilot project, which has caused to many uncertainties for schools, students, and companies (Interview School Representative 1, School Representative 2, School 2 Teacher 2). They further argue that the dual strategy needs to be clear and accompanied by a national campaign to inform companies and students. This would also help to contain the misinformation which, in the opinion of all interviewees, has led to the massive protests against the law at the end of last year. Another lesson learned is that both, school's representatives as well as teachers have identified the proactive engagement of the cooperating companies to be a key success factor for the upcoming implementation of VET. Both schools argue that during the pilot project phase, the companies' interest in engaging on a level that would meet the required standards, especially regarding the student's mentor allocation, was too low (Interview School Representative 1, School Representative 2).

That the company's intrinsic motivation to engage in the VET formation is a crucial condition for the model's success is not only the stance of the school representatives but was further confirmed in the interviews on a student and politician level (Interview INA Liberia, UCR Labour Economic Professor, Ex-Education Minister, Graduate 1) and not least by literature (Lerman, 2009). The MEP shares this opinion, stressing the importance of companies' demand:

"The heart of the dual formation are the companies. It works on a demand basis. And if there is no demand on behalf of the company, the system will not work."

Thus, it should be the companies' initiative to reach out and communicate their future labour demand (Interview Educational Ministry). However, this is where the School representatives see the flaw and miscommunication. They – being the middleman between the MEP and the companies – had the impression that the companies are actually waiting for the government's approach. Thus, VET Researcher 2 argues:

"The fundamental challenge of Costa Rica is to include the company in the elaboration of the curriculum in all its stages"

Drawing back to Gonon's (2014) first principle of successful VET implementation, which focuses on the readiness of companies, thus relating to their demand and intrinsic motivation to train VET students as well as their capacity to train adequately, this has been lacking during the pilot project phase.

Despite its further weak points in terms of the administrative organization on behalf of the MEP during the pilot apprenticeship programme, the school representatives, teachers, and graduates are generally convinced by the duality aspect, so the combined school and work-based learning. Due to their general conviction, both schools have maintained the bond with the companies after the finalization of the pilot project and are further preparing the technical schools for becoming technical vocational schools as soon as the VET implementation officially starts.

iii. The success case of the hotel 'Reserva Conchal'

The implementation of the national VET model is planned to be incorporated in 2021. However, out of own interest, various hotels in the state of Guanacaste are already engaged in educating the youth, following VET principles. Without any law in place, the hotels have themselves established a cooperation with the regional INA office in the state's capital, Liberia, which serves as the educational learning venue. In the following, Florida Ice & Farms and its hotel chain 'Reserva Conchal' will be presented as one exemplary success case for VET in the tertiary tourism sector.

In the year 2014, after the company's CEO has participated in a VET study tour to Germany, they have decided to implement the dual formation within their company premises (Company Representative). Ever since the managers are convinced about the success of the dual formation, especially within the tourism sector. This made them incorporate a hotel-based training for the professions, chef and bartender, for around 50 students every year (Interview Company Representative). Regarding the Company Representative, they have been content with the experience and see it furthermore as a great success that after their initial incorporation of the VET model, further hotels in the region have joined this initiative. This also shows the mutual social benefit the hotels are trying to contribute for the youth of the region. The Company

Representative further argues that the hotels do not compete against one another and generally do not fear the rotation of graduates. Rather, they see it as a joint effort to capacitate the future work force (Interview Company Representative). In contrast to the pilot project in mechatronics, the intrinsic motivation of ‘Reserva Conchal’ proves to go in line with Maurer’s (2014) company criterion. For the future, they see the model also applicable within the hotel sector of other regions of Costa Rica and hope that further companies can learn from their experience and be inspired by their success (Interview Company Representative).

This positive image is shared by the interviewed Company mentor and Company graduate, who both point to the relevance of the practical learning within the tourism sector. Especially in the moment, when young people graduate there is a significant distinction between those who have learned throughout their formation process of how to deal with real life circumstances and those who have not:

*“The students of the dual track have a greater development, greater capacity to understand their environment, they are not afraid of attending and serving a guest”
(Company Mentor)*

Not only the company itself but also INA Liberia, the hotel’s cooperation partner in terms of school-based education, points out to the success of ‘Reserva Conchal’ and their pioneer position in terms of motivating further hotels of the region to engage in the VET model. The Ex-Education Minister sees VET’s main reason for success in Guanacaste’s hotel sector in the company-driven initiative. Pointing to the cost-benefit analysis (Gambin et al., 2010) of engaging in apprenticeships, Ex-Education Minister argues that returns to investments are likely to unfold at an earlier stage within the hotel sector when compared to other sectors of the country’s economy. Compared to a company with complex production processes, he sees more engagement possibilities for the students within hotels where specific tasks can be carried out at an earlier stage of the formation process. With his statement *"If it's a business for companies, that's where it works"*, he refers to the company’s benefit that needs to be seen by the participating firm. That is the case for the tourism sector in Guanacaste, which clearly shows that the VET model has the potential to function in specific sectors in Costa Rica.

5.3. The model’s potential to tackle skill gaps and youth unemployment

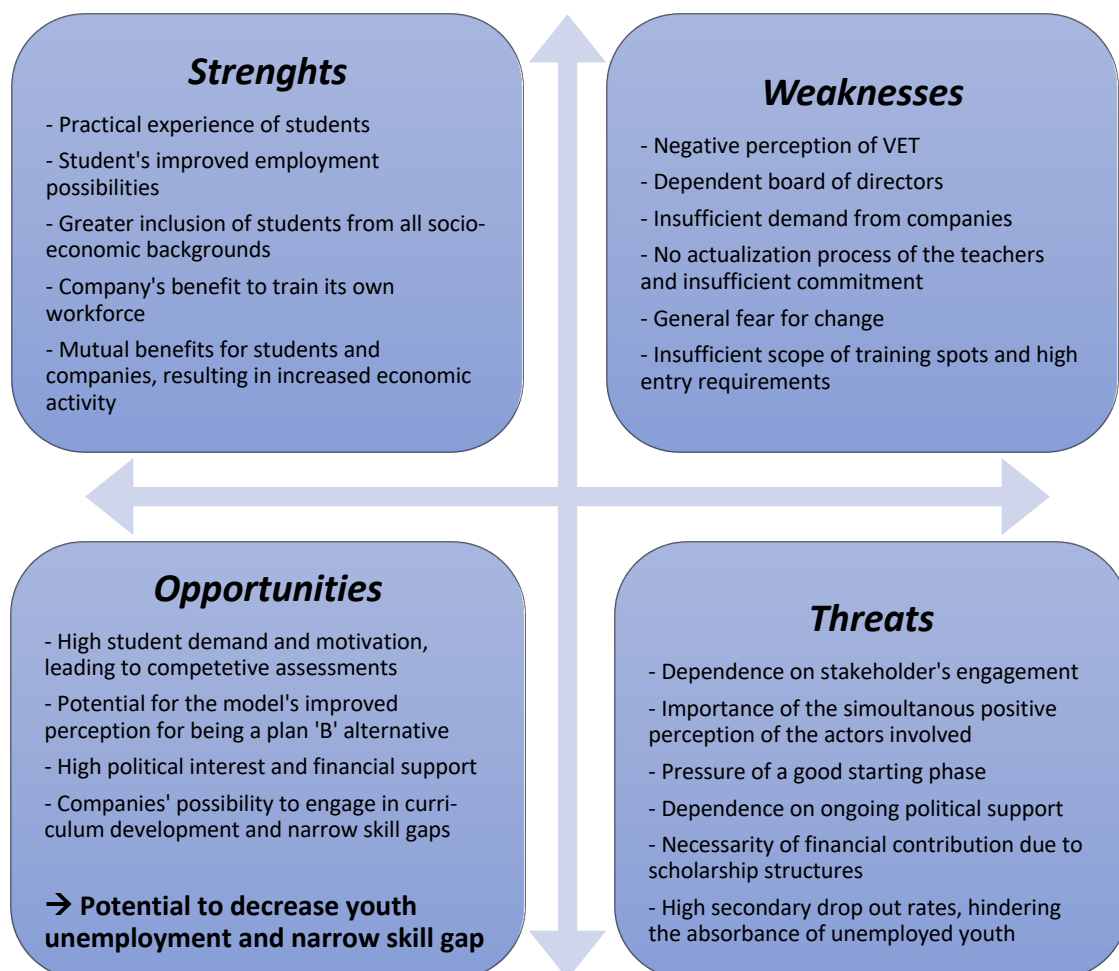
In the following, a SWOT analysis will be conducted that depicts the strengths, weaknesses, opportunities, and threats of the VET model’s current implementation state in Costa Rica, of which Figure 3 provides an overview. A particular focus is hereby placed on its potential to

tackle the two identified labour market imperfections, youth unemployment, and skill mismatches. The interviews of the previously presented two cases and the information received through the interviews on the political sphere will serve as basis for the following analysis.

i. Strengths

Literature suggests that as students build up a professional relationship with an employer where they have the possibility to acquire not only general but firm-based skills, they have furthermore the chance to convince them of their abilities, which is likely to facilitate an easier labour market entry (Euler, 2013). All interviewees have confirmed the strength of the practical experience which dual students gain through the combination of work-based and school-based training.

Figure 3: SWOT Analysis of Costa Rica's VET model implementation



Source: Own elaboration based on the Interview data

As indicated in Figure 3, the improved employment possibilities for students have also been confirmed by the interview data. Through their representatives, the two interviewed technical

schools confirm the higher percentage of employment offers and job entries among the dual-track graduates compared to their non-dual counterparts. While in Technical School 2 about 80% of all dual graduates received a job offer directly after graduating compared to a 60% rate of the traditional track graduates, the representative of Technical School 1 has experienced a similar development when comparing the two cohorts in his school. When picturing the scenario of having to choose between a non-dual and dual graduate, he presumes the latter to be always preferred by the company. School Representative 1 argues likewise:

"The experience that a student of the dual model has is unchangeable and gives him a comparative advantage that will help him distinctively, to be hired but even in case of not being hired, there is an advantage of being taken into account for a future hiring."

Given this increased possibility for employment and its more practical orientation, VET is considered a suitable alternative to a more academic University degree. Its strength hereby lies in its greater equality in absorbing students from all socio-economic backgrounds as the new law benefits all participating dual students with a scholarship (Interview INA Central, Educational Ministry).

Apart from the students, the companies are equally said to derive several benefits from long-term VET participation. INA Central argues in line with the concept of Gambin et al. (2010) Apprenticeship Cost-Benefit-Analysis that he uses in his conviction strategy to engage more companies. Consequently, INA Central is convinced about the mutual benefits for students and companies. The latter derives its benefits especially towards the end of the training period, once the student's productivity has exceeded the company's relative costs for the student. More important for the company, however, is the time once the dual programme ends. Regarding INA Central, this is when the employers' benefits exceed their costs as the dual-graduate's marginal product is higher than an experienced employee's wage. This confirms that the theory of cost-benefit comparisons is used by experts from the Costa Rican educational sector to understand the implications of VET and present its advantages. Additionally, scholars argue that the company can minimize labour search costs by contracting their recent dual graduates instead of recruiting an experienced worker from outside the model (Lerman, Eyster & Chambers, 2009). Furthermore, School Representative 2 argues that:

"the biggest profit that the company has is that it is preparing its own source of work".

Literature on international experience has shown that a key element for the model's success is a close cooperation between school and company and giving employers a central role in

workplace learning (OECD, 2015). This in turn, guarantees the incorporation of relevant labour market needs into the training, which increases the possibilities of its graduates to find employment (Interview VET Researcher 2). To make this work for Costa Rica's case,

"we must build a bridge between the educational centres and the business sector and this bridge must be fluid. In doing so, we need to avoid mixing up the mandate of each but there must be an intrinsic communication that sees as vital not only the agreement, but the will to work together". (Education Ministry)

ii. Weaknesses

Although the INA and the MEP, as main apprenticeship distribution institutions, are convinced that the benefits exceed the costs for students and companies, this conviction has not yet fully reached all parties. This is especially the case for the private sector which does not yet see enough benefits that would level out the high costs they have to bear through the INA stipend payment and the in-company mentor allocation (Interview VET Researcher 1, VET Researcher 2, UCR Labour Economics Professor). As of Lerman's (2014, p.78) pro and contra arguments for firms to invest in VET trainings, this indicates that Costa Rica's companies "have trouble assessing the long-term benefits of apprenticeship investments". This results in a lacking "readiness of companies" which Gonon (2014, p. 244) identified as first criterion for successful VET implementation. This is reflected, as all of the interviewees of the two technical schools (Interview School Representatives, Teachers and Graduate) confirmed, by a too little interest and engagement level on part of most companies that have participated in VET so far. CAF (2018) warns that if companies fear that the apprentices do not have the necessary dexterity and skills to learn the techniques applied at the workplace, they will not see the benefit of their investments in terms of time and resources and hence decide to not support such programmes. This matches with the impression of INA Central who argues that as of now, the companies in Costa Rica only see the cost part (Graph 5), not realising yet that they are winning much more in the long-term. Rising their persuasion is however, necessary to make VET work:

"The heart of the dual formation are the companies. It works on a demand basis. And if there is no demand on behalf of the company, the system will not work." (Education Ministry)

This goes in line with the suggestion of an OECD (2014) report that sees the model's success dependent on the VET's design and its responsiveness to the labour market needs. However, this is a challenge that nearly all interview partners mentioned as they stressed on the lack of interest on behalf of companies that are not yet persuaded by the sufficiency of the benefits (Interview School Representative 1 & 2). The lack of reliable information about the value of

practical times at companies for students and companies in Costa Rica has been identified years ago by the Inter-American Development Bank, indicating a lack of information (Fizbein, 2018).

This scepticism about possible benefits and the rather negative perception of the model itself has not changed yet, as shown by the protests in the national media (El Mundo CR, 2019). Manifestations of students and teachers have branded the newspapers, claiming that the new educational model would “allow to generate cheap labour” with students working in companies instead of studying, receiving too low wages (Ticotimes, 2019, p.1). This claim has been subject to discussion in every interview. However, this accusation has not been shared by any interview partner. Thus, it does neither reflect the reality that students have experienced during the pilot project phase nor is this what experts see happening after the VET implementation. The Ex-Education Minister advises to tackle this wrong image by informing the students about their monetary but also non-monetary remuneration they can gain through on-site learning.

In connection to this accusation, UNESCO (2020) explains that similar to other Latin American countries, VET education had a negative reputation throughout the history of Costa Rica. Therefore, it is mostly labelled as ‘Plan B’ option for those who have the financial and academic capacities to continue with a superior education (Fizbein, 2018). Some experts claim that this negative perception of the VET model is based on misinformation about this formation model itself, which has partly been spread by the labour unions (Interview UCR Labour Economist Professor, INA Central, Education Ministry). The scepticism on behalf of the teachers and their participation in the manifestations is, regarding INA Liberia, traced back to their fear of being replaced by the companies’ mentors. This is also a misapprehension as in the VET formation model, the work-based and school-based trainer of the student impart different knowledge and have distinct responsibilities (Interview School 2 Teacher 1, School 2 Teacher 2, Company Mentor). The teacher’s wrong idea of the VET responsibilities does not only withhold their proactive choice to get involved, it also refrains them to update their knowledge and teaching methods.

The representatives of both schools as well as INA Central and INA Liberia lament to find few teachers who are convinced enough by the VET model to engage in further learning to update their skills. CAF has identified this weakness for the whole LAC region, which they propose to counteract by an increasing focus on teacher training (Fiszbein et al., 2018). In both interviews with the VET graduates, a certain degree of backward knowledge of teachers has been

confirmed through their experiences during the VET pilot project phase. For the region of Guanacaste, the director of the regional INA office (Interview INA Central) even claimed that it is not students nor companies but the lack of qualified teachers, capable of accompanying the apprenticeship process, which refrains the VET model's further spread in the tourism sector.

The weaknesses of lacking interest and a generally negative perception make many interviewees doubt that the model has the necessary strength to decrease youth unemployment. UCR Labour Economics Professor and the Ex-Education Minister argue likewise that it is an illusion to think of the VET model as a successful tool to absorb the unemployed youth in the short run. As Table 7 shows, the minimum requirement of entering a technical school for the 3-year apprenticeship is a completed secondary school – a requirement that most of the unemployed youth do not fulfill. So, the Ex-Education Minister declares that if the reduction of youth unemployment was the ultimate goal of Costa Rica's government, then the weakness of wrongly measured entry requirements needs to be corrected. Concretely, this means that the technician levels 1 and 2 (Table 7) and with it the responsible institution, the INA, need to be strengthened as these levels do not require secondary school termination. Hence, they are more inclusive in its way to absorb those who have not graduated from secondary school and are likely to end up in the informal labour sector.

This goes in line with a further weakness, identified through the VET pilot project which is the lacking clarity of how responsibilities are being spread amongst the various actors of the model. In 2015, an OECD study has already examined Costa Rica's existing technical educational modalities to have an insufficient dialogue amongst the relevant stakeholders, as it keeps educational institutions as the dominant players of the system while employers play less important roles. Although the employer's stance becomes even more relevant when adding a dual modality to the technical formation, regarding VET Researcher 1 and 2, this claim made in 2015 has still not changed.

"We can't have an educational modality of this [dual] type if we still don't even manage to link the companies to the curriculum development" (VET Researcher 2)

Likewise, ILO's (2017) recommendation for dual formation in Costa Rica is to engage all social partners in its design and delivery equally. For VET Researcher 1 and 2, this clearly implies the joint curriculum development which would raise the company's interest in engaging in the formation process. In a next step, the communication of all governmental institutions, schools, and companies needs to be directed towards identifying companies' future training capacities

and labour needs. They argue that these companies' capacities are still not apparent to the government, which they see as necessary groundwork before the law's implementation in 2021.

The problem they and further interviewees (Interview INA Central, Education Ministry) see in this regard is the lacking initiative of the participating stakeholders and the inexistence of a responsible institution that triggers this cooperation and investigation about future labour needs and training capacities on a macro level. The lack of this key institution has also been criticised by the Ex-Education Minister who states that as of now, the board of directors which is assigned with the topic of dual formation is a group of people from different labour and educational ministries, the INA directorate, industry chambers as well as school representatives. The Ex-Education Minister evaluates the

“scheme of the law's institution as not working, which basically is because of the choice of the board of directors they have elected which has no time to fully dedicate to its tasks to decide, promote, stimulate, organizes, implement and evaluate dual education”

The problem that arises by this constellation of the board of directors is their lack of independency. He assesses this, on the one hand, likely to result in conflicts of interests and, on the other hand, in too few initiatives due to the directors' high responsibilities in their workplaces. This refers to Gonon's (2014) 'governance criterion' which states that VET is indeed a matter of public affair, but that its success can however, be hampered by different interest groups working against each other.

iii. Opportunities

Despite its evident flaws, literature, as well as the interviewees, see the future opportunities for the VET model in Costa Rica. Although students and teachers were protesting against signing the dual formation law, there is a clear tendency of high demand on part of the students to engage in this formation type as confirmed in all interviews. They hereby stress on the student's general understanding of valuing the possibilities of being trained through tasks and clients of the real working world, while simultaneously building up a work-based relationship with a possible future employer. VET Graduate 1 clearly sees the advantages for the students in the experiences they gain:

“[Through the VET programme] you learn a lot about how the world of work and how it really is to work”

The numbers of applicants prove this high interest and thus motivation: In both technical schools and in the case company, the number of received applications was at least quintupled for each offered training spot (School 1 Representative, School 2 Representative, Company Representative). This clearly shows the high demand on behalf of the students that cannot be covered by the few convinced companies, leading to a highly competitive selection process (Interview INA Liberia, School Representative 2). This is seen as a clear opportunity for the model's future to change the generally negative perception of dual technical formation and transform it from an alternative to a first-choice-option for students (Interview School Representative 1). This then has the potential to decrease skill mismatches in terms of over-qualification: More students opting for a University degree would start to seriously consider VET as an alternative educational path (Interview UCR Labour Economist Professor). Such an image change push is also requested in VET literature for the LAC region, where the bad image often impedes the model's long-term success (Fiszbein et al., 2018; ILO, 2017).

The opportunity deriving from the high motivation has not only been reported for the students who have an immense interest in participating in VET but also for some teachers who were sceptical in the beginning and convinced once they understood the concept (Interview School 1 Representative, School 2 Representative). School 2 Teacher 1 and Teacher 2 both see a clear difference in the capacities and performance when comparing a dual to a non-dual student. While School 2 Teacher 1 points to the win-win situation for student and company, which finally serves the whole economy:

“[The dual system] serves the country, it serves the apprentice who already has employment, it serves the company. So, everybody wins.”

School 2 Teacher 2 stresses the importance of teachers throughout the apprenticeship process:

“For the existence of a successful VET system, the teacher needs to be part of the system.”

Another opportunity that is being seen in the VET model implementation and its long-term success in Costa Rica is its strong support on behalf of the government. On the one hand, this high political support is being reflected in the financial provision that is being directed towards the implementing institutions as well as the student's scholarship fund (Interview INA Central, Ex-Education Minister). On the other hand, it is reflected in the discourse and policy making of the current government (Ticotimes, 2019). Despite the still prevalent negative perception of dual formation in Costa Rica, this strong political support might reverse this perception in the

long run. Also, the previously mentioned example of teachers who start changing their negative perception of the model once they engage in it and understand it shows its clear potential that needs time to unfold. This is supported by VET literature, stating that one shared characteristic between successful VET systems is its long history, allowing a gradual increase in companies' and students' engagement levels (Thelen, 2007; Streeck, 1991). Once the benefits are clear to all parties, even more students might see the vocational educational as a reasonable alternative to higher education tracks or also for those who would not have continued any formation at all (Interview School 1 Representative).

Lastly, apart from the skill mismatch tackling in terms of over-qualification, the future VET model is seen to be apt to narrow the skills mismatch regarding under-qualification. Literature has shown that around 46% of all companies in Costa Rica face difficulties to fill their positions (ILO, 2017). As through VET, companies are able to engage in the curriculum development, they can thus influence the training content in order to develop the skills and competences they lack nowadays (Interview Education Ministry). Thus, all political level interviewees are convinced that the VET model will be a suitable tool for companies themselves to engage in narrowing the skill gap. To make this happen successfully, VET Researcher 2, who was responsible for the pilot project evaluation, urges for stronger cooperation between the business and the educational sector that needs to be initiated and supported by the government.

iv. Threats

As experiences from many countries show, the success of the implementation of the dual model is however depended on its stakeholders' support and engagement. Apart from the participating students and teacher side, the companies' demand for young trainees which they educate as their future workforce, has been identified as key success factor for dual formation (Lermann, 2009). This dependence on VET's mutual approval of all parties has shown not to be attained with ease. While in Costa Rica, many students are in favour, most teachers are still sceptical, and companies do not yet see sufficient benefits (School 2 Representative). However, the success of the model will depend on the matches and not on the one-sided approval of the model, requiring to convince all parties simultaneously.

Apart from its dependence on the student's and company's acceptance, the VET model's long-term success is considered to be dependent on the political support and willingness to further establishing it (Interview School Representative 1, INA Liberia). VET Literature on the

German model has shown that its success is mainly based on strong political and entrepreneurial support over decades (BMBF, 2005). Thus, as the political cycles in Costa Rica have a duration of four years, some interviewees (Interview INA Liberia, School Representative 1) consider the scenario of receiving less pro-active support on behalf of the future governments as an external threat to the VET model.

Although there are certain opportunities that indicate a possible improvement of the VET model's long-term perception in Costa Rica, the dual formation law now obliges participating companies to contribute to the national scholarship funds. Despite being seen as incentivizing for the participating students, all interviewees of stakeholder group 2 and 3 (political and company-school level) consider this as strongly discouraging for companies. Especially, VET Researcher 1 and School Teacher 2 consider this as a threat to the fruitful start of the model in 2021, which they see as a crucial moment for VET to start off and continue successfully.

Lastly, the most significant external threat for successful VET in Costa Rica is the low share of secondary school absolvents. As shown in the literature (Pandiella, 2016), and confirmed in the interview with UCR Labour Economics Professor and the Ex-Education Minister, Costa Rica's severest structural problem is the high dropout rate from high school, directly affecting VET's possibly achievable participation numbers. This is noteworthy, considering that VET's scope has been identified to be one of the most essential factors in curbing youth unemployment in LAC (BIBB Govet, 2012). Regarding UCR Labour Economics Professor's calculations, only one-third of all secondary students finish high school – a prerequisite to enter a VET programme. However, of this one third, only 20% continue with a technical formation, leading to only 6% of all students ending up at one of Costa Rica's technical schools, of which not all engage in dual tracks. Considering this scenario, especially the UCR Labour Economist Professor and the Ex-Education Minister mentioned several times how important it is to consider the high secondary dropout rates as a priority when aiming to reduce youth unemployment. Both see this as the severest structural problem of the country's educational system, leading to further, severe consequences for the labour market, as for instance high labour informality. UCR Labour Economist Professor refers to "generations that are being completely lost. Once they leave the education system, they are lost. They have no way of getting back in. So, most of them fall into informal employment.". Thus, she argues that for the ultimate goal of tackling youth unemployment, the attention should not solely be drawn to increasing VET but also to the decrease of secondary school dropout.

6. Conclusion

This study's aim was the investigation of VET implementation in Costa Rica. Considering the country's high youth unemployment rate and the existing skill mismatches, Costa Rica's President and further politicians believe in the VET model's strengths to confront these pressing imperfections of the country's labour market (OECD, 2014; Ticotimes, 2019). This belief is supported by international experiences, especially across OECD countries where dual formation enjoys a long success history. Relying on this success, Costa Rica's government signed the *dual formation law* in late 2019, making it the first country in LAC to have legitimized dual formation within the constitution.

The qualitative analysis has shown that experts directly working with or participating in the VET pilot programmes are similarly convinced about the model's strengths in the long run. Regarding the strengths and opportunities of VET in Costa Rica, the research question of whether or not the model is perceived to provide the potential to tackle the country's labour market's imperfections has been affirmed. However, the weaknesses and threats clearly indicated the conditions that need to be met in order to allow the defying of the high youth unemployment and the existing skill mismatches. The employer's cost-benefit analysis, presented in the theoretical framework and applied in the analysis, has shown that the success of the VET model highly depends on the engagement level of the company side. However, their interest in engaging in the programme does not stem from a purely benevolent motivation but needs to stem from the companies' demand for trained labour in the future. Only those companies evaluating their benefits to outperform the training costs will participate in VET programmes in the long run. While the success case of 'Reserva Conchal' has shown that this works for the hotel sector in the region of Guanacaste, the case of the government pilot project in mechatronics from 2016-2019 indicated a lacking interest from the company side. Derived from their main lessons learned, a call for action thus points at increasing the information about firm's benefits when engaging in the dual model.

Under the condition of companies starting to see their benefit and increasing the scope of offered training spots, it is thus perceived that the VET model has the potential to tackle the two identified labour market imperfections, youth unemployment and skills mismatches:

Firstly, in terms of skills mismatches, it has been shown that the VET model can tackle both, over- and under-qualification. The latter, together with a general lack of technicians, can be

reduced by companies engaging in VET curriculum development, which allows them to train in correspondence to their future skills needs. On the other hand, the decrease of over-qualification is seen as a more long-term consequence of a positively perceived VET model running on a large scale. Once overcoming its controversial reputation, VET can be perceived as a suitable formation alternative, allowing it to absorb further students who would have tended towards a University degree. This scenario allows to decrease the excess supply of University graduates in certain fields which finally means curtailing over-qualification.

Secondly, the condition for lowering youth unemployment through VET, is perceived to be similar: Only if the scope of dual training was increased, the model can be strong enough to decrease this pattern. However, literature about Costa Rica's educational system and likewise, the interview data has shown that decreasing secondary school dropouts is the more pressing matter when attempting to lower youth unemployment. Still, the theory, as well as international experience, have indicated that this can be a process of simultaneous exertion of influence. For the case of Costa Rica, the interviewed experts believe that more students will be incentivized to finish secondary school in case of an existing and highly regarded vocational training system.

However, due to its early stage, it remains up to further research to untangle the true benefits of the VET model once the law of dual formation has come into full effect. Although pilot projects and independent formation initiatives, such as the one of 'Reserva Conchal' provide an insight, especially regarding the different stakeholders' impressions on lessons learned, further investigation should be devoted to this topic once the model is fully implemented. More precisely, as derived from the analysis and discussion, policies and further research should be dedicated to two specific focus areas: Firstly, to the analysis of companies' future labour needs, resulting in specific calculations of offered dual trainings spots and secondly, to the identification of how to better connect the different institutional levels, particularly the business and educational sector. Moreover, the main argument that has been derived from the theory is to increase companies' "readiness" (Gonon, 2014, p. 244) by informing about their benefits when engaging in VET programmes. This, being the main determiner of the VET model's success in the future, has been confirmed through expert interviews and should thus be enforced by the Costa Rican government. Lastly, with respect to Costa Rica's labour market challenges, characterizing the centre of this research, it has been shown that further educational mechanisms, especially secondary school dropout prevention, should be the target of policymakers.

Concluding, this study contributed to the overall understanding of the VET model's potential to tackle the existing imperfections on Costa Rica's labour market. Although the results cannot be generalized, it has provided an insight into the perceptions of stakeholders that are directly or indirectly involved in either the model's implementation, the pilot project or alternative dual formation processes. In order to provide a high degree of objectivity, various stakeholder groups were included. Despite the early stage of this research, the variety of different expertise levels has allowed to achieve a micro as well as macro perspective. Exemplary, it has shown how VET can work in a specific tertiary sector in Costa Rica's state, Guanacaste, and more holistically, this research intended to demonstrate the VET model's potential and limits for the future.

Reference List

- AHK Mexiko (2019). El Modelo Mexicano de la Formación Dual. Available Online: <https://mexiko.ahk.de/es/formacion/formacion-dual-mexicana/>
- Alba, A. (1993). Mismatch in the Spanish Labor Market: Overeducation?
- Allen, J. & Van der Velden, R. (2001). Educational Mismatches versus Skill Mismatches: Effects on Wages, Job Satisfaction, and on-the-Job Search, *Oxford economic papers*, vol. 53, no. 3, pp.434–452.
- Alonso Guzmán, E. & de la Nación, P. E. (2014). Capítulo 3: Oportunidades, Estabilidad y Solvencias Económicas [2014].
- Alpin, C., Shackleton, J. R. & Walsh, S. (1998). Over-and Undereducation in the UK Graduate Labour Market, *Studies in Higher Education*, vol. 23, no. 1, pp.17–34.
- Artner, A. (2013). Is Youth Unemployment Really the Major Worry?, *Debatte: Journal of Contemporary Central and Eastern Europe*, vol. 21, no. 2–3, pp.183–205.
- Balamuralikrishna, R. & Dugger, J. C. (1995). SWOT Analysis: A Management Tool for Initiating New Programs in Vocational Schools, *Journal of Career and Technical Education*, [e-journal] vol. 12, no. 1, Available Online: <https://journalcte.org/article/10.21061/jcte.v12i1.498/> [Accessed 26 May 2020].
- Barnow, B. (1998). Skill Mismatches and Worker Shortages:, p.118.
- Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis, *Journal of political economy*, vol. 70, no. 5, Part 2, pp.9–49.
- Becker, G. S. (2009). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education, University of Chicago press.
- Becker, S., Bryman, A. & Ferguson, H. (2012). Understanding Research for Social Policy and Social Work: Themes, Methods and Approaches, Policy Press.
- Blanco, L. C. (2019). Emparejamiento Entre Competencias y Empleo En El Mercado Laboral Costarricense, *Revista de Ciencias Económicas*, vol. 37, no. 2, pp.7–41.

- Boll, C., Leppin, J. S., Rossen, A. & Wolf, A. (2016). Overeducation-New Evidence for 25 European Countries, HWWI Research Paper.
- Chevalier, A. & Lindley, J. (2009). Overeducation and the Skills of UK Graduates, *Journal of the Royal Statistical Society: Series A (Statistics in Society)*, vol. 172, no. 2, pp.307–337.
- Coady, D. & Dizioli, A. (2017). Income Inequality and Education Revisited: Persistence, Endogeneity, and Heterogeneity, [e-book], Available Online: <http://proxy.cegepat.qc.ca/login?url=http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&AN=1536284> [Accessed 14 May 2019].
- Corvalán, O. (1988). Trends in Technical-Vocational and Secondary Education in Latin America, *International journal of educational development*, vol. 8, no. 2, pp.73–98.
- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th ed., Thousand Oaks: SAGE Publications.
- Developing Skills for Employability with German Partners. (n.d.) , p.24.
- Dolton, P. & Silles, M. (2001). Over Education in the Graduate Labour Market: Some Evidence from Alumni Data, Centre for the Economics of Education, London School of Economics and
- Edwards, P. D. & Potter, J. (1992). *Discursive Psychology*, SAGE.
- Eisenhardt, K. M. (1989). Building Theories from Case Study Research, *Academy of management review*, vol. 14, no. 4, pp.532–550.
- El Mundo CR. (2015). ¿Qué significa la Educación Dual en Costa Rica?, *El Mundo CR*, Available Online: <https://www.elmundo.cr/opinion/que-significa-la-educacion-dual-en-costa-rica/> [Accessed 26 May 2020].
- El Mundo CR. (2019). Pese a Protestas, Congreso Aprueba En Primer Debate Proyecto de Educación Dual, Available Online: <https://www.elmundo.cr/costa-rica/pese-a-protestas-congreso-aprueba-en-primer-debate-proyecto-de-educacion-dual/> [Accessed 26 May 2020].

- Euler, D. (2013). Das duale System in Deutschland – Vorbild für einen Transfer ins Ausland?, *BStift - Bertelsmann Stiftung*, [e-journal], Available Online: <https://www.bertelsmann-stiftung.de/doi/10.11586/2017021> [Accessed 12 March 2019].
- Fernández, M. & Messina, J. (2018). Skill Premium, Labor Supply, and Changes in the Structure of Wages in Latin America, *Journal of Development Economics*, vol. 135, pp.555–573.
- Flick, U. (2014). *An Introduction to Qualitative Research*, Sage.
- Freeman, R. (1976). *The Overeducated American*.
- Galor, O. (2011). Inequality, Human Capital Formation, and the Process of Development, in *Handbook of the Economics of Education*, Vol. 4, [e-book] Elsevier, pp.441–493, Available Online: <https://linkinghub.elsevier.com/retrieve/pii/B9780444534446000055> [Accessed 5 May 2020].
- Gambin, L., Hasluck, C. & Hogarth, T. (2010). Recouping the Costs of Apprenticeship Training: Employer Case Study Evidence from England, *Empirical research in vocational education and training*, vol. 2, no. 2, pp.127–146.
- Gindling, T. H. & Terrell, K. (2007). The Effects of Multiple Minimum Wages throughout the Labor Market: The Case of Costa Rica, *Labour Economics*, vol. 14, no. 3, pp.485–511.
- Gorski, S. E. (1991). The SWOT Team Approach: Focusing on Minorities., *Community, Technical, and Junior College Journal*, vol. 61, no. 3, pp.30–33.
- Hernández, A. & Picón, J. C. (2013). Huella Hídrica En Tierras Secas: El Caso Del Turismo de Sol y Playa En Guanacaste (Costa Rica), *Revista de Ciencias Ambientales*, vol. 45, no. 1, pp.41–50.
- ILO. (2017). *The Future of Vocational Training in Latin America and the Caribbean: Overview and Strengthening Guidelines* | ILO/Cinterfor, Oficina Regional para América Latina y el Caribe, Available Online: https://www.oitcinterfor.org/en/publications/future_vt [Accessed 20 May 2020].
- ILO. (2020). *GLOBAL EMPLOYMENT TRENDS FOR YOUTH 2020: Technology and the Future of Jobs.*, S.I.: INTL LABOUR OFFICE.

- Jackson, D. (2010). An International Profile of Industry-Relevant Competencies and Skill Gaps in Modern Graduates, *International Journal of Management Education*, vol. 8, no. 3, pp.29–58.
- Jovanovic, B. (1979). Job Matching and the Theory of Turnover, *Journal of political economy*, vol. 87, no. 5, Part 1, pp.972–990.
- Kucel, A. (2011). Literature Survey of the Incidence of Over-Education: A Sociological Approach, *Revista Española de Investigaciones Sociológicas (REIS)*, vol. 134, no. 1, pp.125–142.
- Lerman, R. (2014). Do Firms Benefit from Apprenticeship Investments? Why Spending on Occupational Skills Can Yield Economic Returns to Employers, *IZA World of Labor*, vol. 55.
- Lerman, R., Eyster, L. & Chambers, K. (2009). The Benefits and Challenges of Registered Apprenticeship: The Sponsors' Perspective., *Urban Institute (NJI)*.
- Lewis, T. (2007). The Problem of Cultural Fit—What Can We Learn from Borrowing the German Dual System?, *Compare: A Journal of Comparative and International Education*, vol. 37, no. 4, pp.463–477.
- Llisterri, J. J., Gligo, N., Homs, O. & Ruíz-Devesa, D. (2014). N° 13. Educación Técnica y Formación Profesional En América Latina. El Reto de La Productividad.
- Londoño de la Cuesta, J. L. (1996). Poverty, Inequality, and Human Capital Development in Latin America, 1950-2025, Washington, D.C: World Bank.
- Martin, W. R. (1989). Handbook on Marketing Vocational Education.
- Maurer, M. & Gonon, P. (2014). The Challenges of Policy Transfer in Vocational Skills Development: An Introduction, *The challenges of policy transfer in vocational skills development. National Qualifications frameworks and the dual model of vocational education in international cooperation. Bern*, pp.15–35.
- McMillen, D. P., Seaman, P. T. & Singell Jr, L. D. (2007). A Mismatch Made in Heaven: A Hedonic Analysis of Overeducation and Undereducation, *Southern Economic Journal*, pp.901–930.

- Miller, L., Neathey, F., Pollard, E. & Hill, D. (2004). Occupational Segregation, Gender Gaps and Skill Gaps, Citeseer.
- Mincer, J. (1974). Schooling, Experience, and Earnings. *Human Behavior & Social Institutions* No. 2.
- Monge-González, R., Hewitt, J. & Torres-Carballo, F. (2015). Do Multinationals Help or Hinder Local Firms?: Evidence from the Costa Rican ICT Sector.
- Murillo, G. A. & Hernández, G. R. (2006). La Carrera de Turismo ECoLógiCo de La Sede GuanaCasTe y EL Desarrollo DeL ECoTurismo En La Universidad de CosTa RiCa, *Intersedes*, vol. 7, no. 13.
- OECD. (2011). Education at a Glance 2011: OECD Indicators, [e-book] OECD, Available Online: https://www.oecd-ilibrary.org/education/education-at-a-glance-2011_eag-2011-en [Accessed 26 May 2020].
- OECD. (2013). PISA 2012 Results: What Makes Schools Successful (Volume IV): Resources, Policies and Practices, [e-book] OECD, Available Online: https://www.oecd-ilibrary.org/education/pisa-2012-results-what-makes-a-school-successful-volume-iv_9789264201156-en [Accessed 20 May 2020].
- OECD. (2014). Skills beyond School: Synthesis Report, [e-book] OECD, Available Online: https://www.oecd-ilibrary.org/education/skills-beyond-school_9789264214682-en [Accessed 20 May 2020].
- O'higgins, N. (1997). The Challenge of Youth Unemployment, *International Social Security Review*, vol. 50, no. 4, pp.63–93.
- Ortiz, L. & Kucel, A. (2008). Do Fields of Study Matter for Over-Education? The Cases of Spain and Germany, *International Journal of Comparative Sociology*, vol. 49, no. 4–5, pp.305–327.
- Oviedo, A. M., Sanchez, S. M., Lindert, K. A. & Lopez, J. H. (2015). Costa Rica's Development: From Good to Better, World Bank.
- Pacheco Jiménez, J. F. (2013). Desempleo Juvenil En Costa Rica.
- Pandiella, A. G. (2016). Making Growth More Inclusive in Costa Rica, *OECD*.

- Quintini, G. (2011). Right for the Job.
- Ritchie, J., Lewis, J., Nicholls, C. M. & Ormston, R. (2013). *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, sage.
- Robbins, D. & Gindling, T. H. (1999). Trade Liberalization and the Relative Wages for More-Skilled Workers in Costa Rica, *Review of Development Economics*, vol. 3, no. 2, pp.140–154.
- Roberts, L. D., Breen, L. J. & Symes, M. (2013). Teaching Computer-Assisted Qualitative Data Analysis to a Large Cohort of Undergraduate Students, *International Journal of Research & Method in Education*, vol. 36, no. 3, pp.279–294.
- Sattinger, M. (1993). Assignment Models of the Distribution of Earnings, *Journal of economic literature*, vol. 31, no. 2, pp.831–880.
- Schaack, K. (1997). Die Exportierbarkeit Des Dualen Systems, *Strategien der internationalen Berufsbildung. Ausgewählte Aspekte*, pp.197–233.
- Schultz, T. W. (1974). *Economics of the Family; Marriage, Children and Human Capital; a Conference Report.*, University of Chicago Press, Chicago, US.
- SDG, U. (2018). Sustainable Development Goals.
- Sevilla, B. & Paola, M. (2017). Panorama de La Educación Técnica Profesional En América Latina y El Caribe.
- Sicherman, N. (1991). ‘Overeducation’ in the Labor Market, *Journal of Labor Economics*, vol. 9, no. 2, pp.101–122.
- Sicherman, N. & Galor, O. (1990). A Theory of Career Mobility, *Journal of political economy*, vol. 98, no. 1, pp.169–192.
- Singleton, J., Brown, J. S. & Pea, R. (1998). *Learning in Likely Places: Varieties of Apprenticeship in Japan*, Cambridge University Press.
- Sloane, P. J., Battu, H. & Seaman, P. T. (1999). Overeducation, Undereducation and the British Labour Market, *Applied Economics*, vol. 31, no. 11, pp.1437–1453.
- Spence, M. (1978). Job Market Signaling, in *Uncertainty in Economics*, Elsevier, pp.281–306.

- Thelen, K. (2007). Contemporary Challenges to the German Vocational Training System, *Regulation & Governance*, vol. 1, no. 3, pp.247–260.
- Thurow, L. C. (1975). *Generating Inequality*, Basic books.
- Tsounta, E. & Osueke, A. (2014). What Is Behind Latin America’s Declining Income Inequality?, International Monetary Fund.
- Tu, T., Colahan, M., Higton, J. & Emmett, R. (2013). Apprenticeship Evaluation: Employer.
- Vandenberge, V. (2006). Achievement Effectiveness and Equity: The Role of Tracking, Grade Repetition and Inter-School Segregation, *Applied Economics Letters*, vol. 13, no. 11, pp.685–693.
- Vocational Training Act. (n.d.). , p.56.
- Westley, F., Antadze, N., Riddell, D. J., Robinson, K. & Geobey, S. (2014). Five Configurations for Scaling up Social Innovation: Case Examples of Nonprofit Organizations from Canada, *The Journal of Applied Behavioral Science*, vol. 50, no. 3, pp.234–260.
- Wilson, D. N. (1996). Reform of Vocational and Technical Education in Latin America, PREAL, Program to Promote Educational Reform in Latin America and the Caribbean.
- Zúniga, Alejandro. (2019). President Alvarado Signs Controversial Dual Education Law, *The Tico Times Costa Rica*, Available Online: <https://ticotimes.net/2019/09/12/president-alvarado-signs-controversial-dual-education-law> [Accessed 20 May 2020].

Appendix 1
Interview consent form in the original language



SCHOOL OF
ECONOMICS AND
MANAGEMENT

La educación dual en Guanacaste, Costa Rica

Esta entrevista forma parte del proyecto final del Máster en Ciencias “Economic Growth, Population and Development” de la Escuela de Economía y Management de la Universidad de Lund en Suecia.

El proyecto “La educación dual en Costa Rica – su potencial y sus límites” tiene como objetivo entender el potencial de la formación dual que se implementa en Costa Rica y especialmente en la región de Guanacaste, tal como sus límites en bajar el desempleo juvenil y responder al desequilibrio de capacidades.

El proyecto está organizado por Juliane Koch y supervisado por Andrés Palacio.

Información de contacto:

Juliane Koch – Número de teléfono (whatsapp): +4915168466272; para llamadas: 71710420; correo electrónico: ju1206ko-s@student.lu.se

Prof. Andres Palacio – andres.palacio@ekh.lu.se

Appendix 2

Questionnaire Politicians and Institutional Representatives – English Translation



SCHOOL OF
ECONOMICS AND
MANAGEMENT

Opening the interview:

1. Presentation of the researcher and the topic
2. Organisational setting
 - a. Confidence letter to be signed
 - b. Recording of the interview
 - c. Follow-up after the interview – study and results will be shown for consent before the thesis is being published; study will be at their disposal once it is finished

General starting questions:

1. How would you define the dual education?
2. What was the motivation to initiate the vocational educational training (VET)?
 - a. Which three principal reasons come to your mind in regard to the motivation to initiate the dual formation?
3. When was VET started in CR?
4. How many people have taken part in it so far? (INA: in Guanacaste; for companies: in their company itself)
 - a. Do you have any document/presentation with these facts?
5. Which sectors have started and which are now being added?
6. Where is it easily applicable and where not?
7. How long are the trainings (in months)?
8. How is the time in the company/school being split up?
9. How does the application process work?
 - a. In what way are schools/companies been included?
 - b. How is the application/training spot ratio?
10. How does the application process work?
 - a. How does the majority of the students get to know about the programme?
 - b. How is the information/career guidance being included in the high school curriculum?
 - c. How does the majority of the companies get to know about the programme?
11. How do the examinations work?

4. How are the employment possibilities for students once they have finished the programme?
 5. Would the image change if there were better possibilities to be employed by the educating company afterwards?
 - a. Is there a trend in which side rather impedes a future employment?
- Which are the alternatives available?
6. What other alternatives do companies have to recruit employees if there was no VET system?
 7. Do companies that offer VET programmes share similar characteristics?
 8. What are the main reasons for those companies that do not participate in doing so?
 9. What other alternatives does youth have to acquire education in order to be employed?
 10. Do students who participate in VET programmes share similar characteristics (e.g. social economic background)?
 11. What are the main reasons for youth that does not want to participate in doing so?

Block 2: Strengths & Opportunities

→ Possibility to close mismatch/gap between labour demand and supply & to reduce youth unemployment

1. Which are the three main strengths of the VET programme in CR?
2. What does the government do to make VET successful?
3. Which are the mechanisms that could make VET a success tool to decrease youth unemployment?
4. How is gender equality being promoted?
5. Is the programme made apt for people with disabilities or older people as well?
6. Literature shows that the CR labour market lacks technicians – do you think the VET programme responds to this need?
7. Literature shows that the tourism sector is highly important for CR' economic growth – do you think the VET programme responds to this need?
8. Where do you see the VET programme in 10 years?

Block 3: Weaknesses & Threats

→ Difficulty to reach out to the broad masses – an exclusive model? / Lack of participatory will?

1. Which are the three main weaknesses of the VET programme in CR?
2. What is needed on behalf of the government to make the system more successful?
3. In what way does the VET programme lack to respond to the high numbers of youth unemployment?
4. What could be improved in the VET programme to further promote gender equality?
5. What could be improved in the VET programme to further promote ethnic equality?
6. What could be improved in the VET programme to further promote equality among people with disabilities or elderly unemployed people?
7. What are necessary skills that are in need in the CR labour market that are not yet being tackled by the VET programme?
 - a. Are there certain professions that are needed in the CR labour market which you think are not suitable for VET programmes? (e.g. highly specified IT education that requires specific machines or professors?)

→ Challenges?

8. Can you think of further challenges for the VET system to fully develop in CR?
9. Do you see the success of the VET programme being threatened through its strong alignment to public institutions and hence dependent on political preferences?
10. Literature mentions the following challenges within the VET system in LA, which do you see most challenging in the case of CR (Scale 1: no challenge; 5: predominant challenge) and what is being done to counteract?

Challenge	Scale 1-5	Action taken
1) Educational Quality		
2) Fragmentation of the system and lack of understanding of qualifications		
3) Lacking focus on teacher development		
4) Difficulties in developing efficient and sustainable financing plans		
5) High dropout rates		

- a. In what rhythm do they take place?
- b. Who is responsible for them? (Is the German Chamber being involved, or planned so?)
2. How does the remuneration work?
 - a. Who decides the payments of certain professions?
 - b. Can students afford their living with the VET payment?
 - c. How are payments split up? (Party company and partly governmental?)
3. Are there any other governmental subsidies?

Block 1: Social acceptance

→ perception of the status of vocational educational

1. How is the VET being perceived?
 - a. Among companies?
 - b. Among students?
 - c. Among colleagues in the companies?
 - d. Has this changed over time? E.g. since the manifestations at the end of last year and now?
 - e. How would you explain the strong public resistance?
 - f. What do you think regarding the assumption that the VET programme is producing 'cheap labour' as being criticised by students and teachers after the law has been passed?
 - i. What would be your answer to these people?
 - ii. Can you imagine that older colleagues fear to be replaced by the (cheaper) youth?
 - iii. Have you experienced that they are a valuable asset in the learning process of the youth?

→ Importance of good image

2. How important is a good image of the VET programmes for its success?

→ other factors that influence participation (e.g. financing?)

3. Apart from the image, what other factors have an influence in its participation?
 - a. For companies?
 - b. For students?

Appendix 3
Questionnaire Learning Venues (Schools/Companies) – English Translation



SCHOOL OF
ECONOMICS AND
MANAGEMENT

Opening the interview:

1. Presentation of the researcher and the topic
2. Organisational setting
 - a. Confidence letter to be signed
 - b. Recording of the interview
 - c. Follow-up after the interview – study and results will be shown for consent before the thesis is being published; study will be at their disposal once it is finished

General starting questions:

1. How would you define the dual education?
2. Which three principal reasons come to your mind in regard to the motivation to engage in the dual formation programme?
3. How many people have taken part in it so far? (in their company/school itself)
4. Which VET programme tracks are being included in the company/educational programme?
5. How long are the trainings?
6. How is the time in the company/school being split up?
7. How does the application process work?
 - a. In what way are schools/companies been included (do they have a say)?
8. How many applications are there per training spot?
9. How does company/vocational school inform the youth about their training offers?
10. How does company/vocational school cooperate with high schools to distribute training information?
11. How does company/vocational school take the examinations?
 - a. In what rhythm do they take place?
 - b. Who is responsible for them? (Is the German Chamber being involved, or planned so?)
12. How does the remuneration work?
13. Are there governmental subsidies?

14. How do they choose teachers/trainers?
 - a. What education have they received to be selected?
 - b. Do they receive further education?
15. How does the majority of the students get to know about the programme?
16. On a scale from 0 (not important at all) to 5 (highly important), how important are the following abilities to be learned during the VET programme:

Ability	Scale (1-5)	How is this ability transmission implemented?
Capacity to take decisions		
Strategic, tactical and operational thinking		
Leadership skills		
Group work		
Administration and development of human talent		
Capacity to work under pressure		

Block 1: Social acceptance

→ perception of the status of vocational educational

1. How is the VET being perceived?
 - a. Among companies?
 - b. Among students?
 - c. Has this changed over time? E.g. since the manifestations at the end of last year and now?
 - d. How would you explain the strong resistance, e.g. the manifestations at the end of last year?
 - e. What do you think regarding the assumption that the VET programme is producing 'cheap labour' as being criticised by students and teachers after the law has been passed?
 - i. What would be your answer to these people?
 - ii. Can you imagine that older colleagues fear to be replaced by the (cheaper) youth?
 - iii. Have you experienced that they are a valuable asset in the learning process of the youth?

→ Importance of good image

2. How important is a generally good image of the VET programmes for its success?

→ other factors that influence participation (e.g. financing?)

3. Apart from the image, what other factors have an influence in its participation?
4. Would the image change if there were higher educated youth to apply for the programme?
 - a. Is there a trend in which side rather impedes a future employment?
 - b. What's the percentage of students that are being offered an employment after the programme?
 - c. Are there problems with competing companies recruiting your freshly educated absolvents?

→ Which are the alternatives available?

5. What other alternatives do you as a company have to recruit employees if there was no VET system?
6. Do you only employ VET programme absolvents or also University absolvents?
 - d. If so, where is the job difference between VET programme/Uni absolvents?
7. Do your competitors also offer VET programmes?
 - e. If not, what do you think are the reasons?

Block 2: Strengths - Impact on inclusion, e.g. youth unemployment

→ Possibility to close mismatch/gap between labour demand and supply

1. Where do you see the strengths of the VET programme in CR?
2. What does the government do to make VET successful?
3. How do you think does the VET programme respond to the high numbers of youth unemployment?
4. How is it assured that theory (vocational school) teaches what the praxis (companies) needs?
5. Are teachers and employers connected to each other?
6. How is gender equality being promoted?
7. Is the programme made apt for people with disabilities or older people as well?
8. Literature shows that the CR labour market lacks technicians – do you think the VET programme responds to this need?
9. Where do you see the VET programme in 10 years?

Block 3: Weaknesses – An exclusive model? Lack of participatory will?

→ Difficulty to reach out to the broad masses

1. Where do you see the weaknesses of the VET programme in CR?
2. What is needed on behalf of the government to make the system more successful, what would you wish in behalf of the government?
3. In what way does the VET programme lack to respond to the high numbers of youth unemployment?
4. What could be improved in the VET programme to further promote gender equality?
5. What could be improved in the VET programme to further promote equality among people with disabilities or elderly unemployed people?
6. What are necessary skills that are in need in the CR labour market that are not yet being tackled by the VET programme?

→ Challenges?

7. Can you think of further challenges for the VET system to fully develop in CR?

Block 4: Wider applicability

→ Importance of well-established institutions

1. How important is a well-functioning system of institutions?
2. Which institutions have to work together to make the system work?
3. Do you see the need of further institutions? (That have not yet been established)

→ Applicability to further sectors

4. Which further sectors do you see suitable for the VET application in CR?
5. Where do you see the advantages and disadvantages of the dual formation at the University, in comparison to the dual formation at the vocational schools?
6. Do you see the dual formation as a complement or as a replacement of a University formation?

→ Nation-wide implementation possible

7. Do you think a nation-wide implementation would be possible?
 - a. If so, what would be needed for a nation-wide implementation (are there strong rural-urban discrepancies?)?

Appendix 4
Questionnaire VET Graduates and Students – English Translation



SCHOOL OF
ECONOMICS AND
MANAGEMENT

Opening the interview:

1. Presentation of the researcher and the topic
2. Organisational setting
 - a. Confidence letter to be signed
 - b. Recording of the interview
 - c. Follow-up after the interview – study and results will be shown for consent before the thesis is being published; study will be at their disposal once it is finished

General starting questions:

1. How would you define the dual education?
2. Which three principal reasons come to your mind in regard to the motivation to participate in the vocational education training (VET)?
3. Which sector are you doing your VET in?
4. Where did you direct your application to?
5. How did you get to know about the VET system?
6. How long is the training (in months)?
7. How is the time in the company/school being split up?
8. How do the examinations work?
 - a. In what rhythm do they take place?
9. Do you get paid?
 - a. Does the payment increase over the years?
10. Do you want to stay in the company once you have finished the VET programme?
11. How do you see your possibilities to be employed by the company once you have finished your VET programme?

Block 1: Social acceptance

→ perception of the status of vocational educational

1. On a scale from 0-10 how do you perceive the VET programme (0: extremely unhelpful; 10: highly helpful)?

2. On a scale from 0-10 how do you think the society perceives the VET programme (0: extremely unpopular; 10: highly popular)?
 3. Has your view about VET always been like this or did it change over time? (E.g. since the manifestations at the end of last year and now?)
 4. How would you explain the strong resistance on behalf of the population at the end of last year?
 5. How do your colleagues at work think about the VET programme?
 6. Do you feel that your colleagues are happy to help you and could you yet learn from them?
 7. What do you think regarding the assumption that the VET programme is producing 'cheap labour' as being criticized by students and teachers after the law has been passed?
 - a. What would be your answer to these people?
- Importance of good image
8. How important is a generally good image of the VET programme for you?
- other factors that influence participation (e.g. financing?)
9. Apart from the image, what other factors have influenced your participation?
 10. Would your image change if there were better possibilities to be employed by the educating company afterwards or if you would earn more money during their participation?
 11. What are the reasons of your classmates to have taken this educational path?
- Which are the alternatives available?
12. What other alternative would you have chosen to pursue this career if it was not the VET programme?
 13. Do students who participate in VET programmes share similar characteristics?
 14. What are the main reasons for youth that does not want to participate in doing so?

Block 2: Strengths - Impact on inclusion, e.g. youth unemployment

→ Possibility to close mismatch/gap between labour demand and supply

1. Where do you see the strengths of the VET programme? / What do you like so far about the VET programme?
2. Do you feel a connectivity between theory (vocational school) and praxis (companies)?
3. How many girls and how many boys are in your class?
4. Are there any people with disabilities or older people in your class?
5. How are the future possibilities being communicated to you and your classmates?
6. Where do you see yourself in 5/10 years?
7. On a scale from 0 (not important at all) to 5 (highly important), how important are the following characteristics of your educating employer:

Characteristic	Scale (1-5)	How do you rate this for your current employer?
Enjoys a good reputation		
Pays on time		
Provides work hour flexibility to its employers		
Provides skills that are also useful for other employers		
High possibilities to keep being employed in the future		
Nice work atmosphere with friendly colleagues		

Block 3: Weaknesses – An exclusive model? Lack of participatory will?

→ Difficulty to reach out to the broad masses

1. Where do you see the weaknesses of the VET programme in CR? / What did you dislike so far about the VET programme?
2. How would you wish the support on behalf of the VET organisers once you finish the programme?
3. Do you feel you will be sufficiently prepared for the labour market once you finish with the programme?

→ Challenges?

4. Can you think of further challenges for the VET system to fully develop in CR?

Block 4: Wider applicability

→ Importance of well-established institutions

1. With which institutions have you been in touch throughout your VET programme?
2. Which institutions have to work together to make the system work?
3. Do you see the need of further institutions? (That have not yet been established)
4. Where do you see the advantages and disadvantages of the dual formation at the University, in comparison to the dual formation at the vocational schools?

→ Applicability to further sectors

5. Which further sectors do you see suitable for the VET application in CR?

→ Nation-wide implementation possible

6. Do you think a nation-wide implementation would be possible?
7. What would be needed for a nation-wide implementation (are there strong rural-urban discrepancies?)?