Case for support: Can dual apprenticeships create better and more equitable social and economic outcomes for young people? A comparative study of India and Mexico

Importance, Challenge and Key Aim

The aim of this proposal is to support more effective implementation of dual apprenticeship in India and Mexico and to strengthen the capacity of project partners to evaluate their apprenticeships in the medium to long term. Dual apprenticeships combine a strong component of school-based education with highly regulated work-based training in integrated learning plans leading to a formal qualification and have proven successful in Germanic countries. They are being introduced by the federal governments of India and Mexico to raise the quality of current provision of skills, to improve the labour market conditions for young people, and to increase the productivity levels of the workforce. However, policy transfer across different political, economic and social contexts raise important academic, policy and practice questions: Why and how dual apprenticeships are adopted and re-contextualized by national governments? And, how and under what contextual and institutional circumstances do dual apprenticeships create better and more equitable social and economic outcomes for young people? Our project will synthesise international evidence on the adoption, implementation and impact of dual apprenticeships in low and middle income countries; it will analyse the drivers of the adoption and re-contextualization of dual apprenticeships in India and Mexico; it will evaluate their implementation and impact on inequalities of access, learning and labour market outcomes among young people; and it will provide evidence-based policy recommendations to inform current design and implementation of dual apprenticeships at the same time that will strengthen the capacity of project partners to evaluate their apprenticeships through innovative methodologies.

State of the art and research gaps

Despite the growing political interest in Technical Vocational Education and Training (TVET) (King & Palmer, 2013), academic studies have paid little attention to the role of TVET in low and middle income countries (McGrath, 2012), which are precisely the countries facing greater challenges in terms of youth unemployment and underemployment, dehumanising working conditions and rampant inequalities (Pieters, 2015). This lack of research evidence explains why the development agenda in TVET is still dominated by policy frameworks and recommendations originally designed to address the needs of high-income countries and based on an analysis blind to the cultural, political and economic realities that shape skills formation in the Global South (Valiente, 2014). When governments in the Global South try to borrow international best practices from the Global North, they embark on complex processes of policy transfer that do not always produce the expected results, that are difficult to scale-up and that quite often are not sustained over time (Maurer & Gonon, 2014). Today, many cooperation actors in TVET recognise the impossibility of directly ‘copying’ international best practices (hard transfer) and advocate for the adaptation of these policy ideas in the development of tailored national solutions that actually respond to local needs and capacities (soft transfer) (Chakroun, 2010; Raffe, 2011).
The dual model of apprenticeships is one of these travelling policies (Ozga & Jones, 2006) that have attracted the attention of governments globally because of its positive effects on student learning of occupational skills, the early labour market integration of young people, and the contribution of TVET graduates to the productivity of companies in countries like Germany, Switzerland or Austria (Hoeckel & Schwartz, 2010). The dual model differs from the market model of apprenticeships that is typical in the UK (Ryan & Unwin 2001) in the greater involvement and regulation from the state (Pilz, 2009). Three fundamental characteristics define the dual model of apprenticeships: 1) combination of strong school-based education with vocational training in the workplace; 2) intense coordination between social partners and the state in the governance of the system; and 3) highly demanding occupational standards based on broad profiles of occupational competence. While there is a wide international consensus about the strengths of the dual model of apprenticeships in its home countries (Steedman, 2012), there is also extensive evidence on the difficulty of transferring this model at large scale and with the same standards of quality to other political, economic and cultural contexts (Valiente & Scandurra, 2015). Langthaler (2015) classifies international evidence on the policy transfer of dual apprenticeships in two bodies of literature: academic research in the field of comparative education; and, evaluation studies commissioned by governmental and cooperation agencies. The existing evidence from these, including extant gaps in knowledge, are summarized below:

A) Comparative education studies on dual apprenticeships have focused on the theoretical and institutional foundations of the model in the donor countries and the possibility of adapting the model to the contextual conditions of recipient countries without losing its essential principles. Deißinger (2001) claims that the notion of ‘Beruf’ is the organizing principle of the dual model, which designates a holistic conception of work comprising multidimensional labour processes and requiring a range of specific knowledge and abilities, in contrast with the Anglo-Saxon notion of work that comprises fragmented processes and narrow tasks that only require a ‘set of skills’ (Allais 2012; Brockmann et al. 2011). This notion of ‘Beruf’ is strongly linked to a specific corporatist form of social contract and institutionalized bargaining structures between public administrations, employers’ and workers’ representatives (Mayer, 2001), which are the result of societal and cultural reactions to historical problems (Greinert, 2001). In addition, Wolf and Barabasch (2011) denounce the lack of attention paid to the culture of work in previous efforts of policy transfer, specifically to the company culture of training, labour legislation, involvement of workers’ representatives in the management of the company, the level of technological development and the working conditions (permanent full-time contracts). More recent comparative studies have stressed the importance of researching the contextual factors in recipient countries for the process of policy transfer (Pilz, 2017), and adapting the design and implementation guidelines of dual apprenticeships to the local needs and capacities of these countries (Batliner, 2014; Gonon, 2014).

While these comparative studies have made significant contributions to our understanding of the importance of some contextual factors for the effectiveness of dual apprenticeships, their starting point are the historical and institutional processes that gave birth to the model in donor countries instead of the political processes and the contextual conditions in recipient countries (Steiner-Khamsi 2004; Schriewer 2012). As research on cross-national policy attraction has shown (Phillips & Ochs, 2003; Rappleye, 2006), taking the recipient countries as the starting point of the research and investigating the logic of the actors involved in the process of policy adoption is fundamental for studies on policy transfer. This will allow us to better understand the factors involved in the adaptation of this policy into their own political, economic and educational contexts.

B) Evaluation studies of transferred dual apprenticeships have mainly focused on the implementation and management of the programmes and their impact on local institutions and practices. Most of these studies were commissioned and funded by the German and the Swiss Agencies for international cooperation (GIZ, SDC) and their main aim was to provide evidence on
the level of penetration of the principles of the dual model into the regulatory frameworks and institutional practices of recipient countries (BMZ, 1992; Maurer, 2012). The last decade has witnessed a renewed global interest in the dual model driven by the demands of developing (mainly middle income) countries and the growing presence of German industries abroad (Euler, 2015; Langthaler, 2015). Most of the initiatives evaluated by these studies (Stockman, 1996; Stockmann et al., 2000) were small scale projects (China, Ecuador, Honduras, Guatemala) that demonstrated sustainable impact on school institutional practices but very limited success when tried to scale them up. More ambitious initiatives that pursued systemic changes at national level (Burkina Faso, Kazakhstan, Macedonia, The Philippines and Uzbekistan) were also evaluated showing limited impact at institutional level and the failure to generate systemic changes in these countries. The reasons for the limited success of policy transfer initiatives were the lack of proper analysis of the contextual conditions prior to implementation (Stockman, 1996), the lack of ownership from recipient countries together with the inflexible management of cooperation agencies (Stockmann et al. 2000), and the little attention paid to monitoring and evaluation of their impact (Stockman, 2014).

While these evaluation studies provided important insights on the requirements of policy transfer at programme management level, they suffer from two fundamental problems. First, these evaluations and their associated programmes were part of cooperation packages led by donors. No evaluations are available on national reforms, like the one in India and in Mexico proposed in our study, led by national governments and responding to the information needs of national implementers. Second, the focus of these evaluations is not the impact of the programme on apprentices but on the transformation of institutional practices. Recipient countries are genuinely interested to know if the adopted reforms are making a difference on the educational and living conditions of the beneficiary populations. Also, they need to know under what circumstances the programmes achieve better outcomes and what is their effect on the social inequalities among young people. It is important to remember that dual apprenticeships can exacerbate gender and social class inequalities due to the selection process of apprentices by employers and the separation of apprentices from students that follow the school-based model of provision (Mayer 2001; Atzmüller, 2011). The focus on social inequalities should be a central objective of any evaluation of dual apprenticeships in countries with large gender, social class, caste and ethnic inequalities.

To address these gaps, our study develops a comprehensive research approach that scrutinizes the different, but mutually constitutive stages of policy transfer, from the adoption and re-contextualization of dual apprenticeships in national programmes to their implementation and impact on social inequalities in multiple local contexts. A robust comparative and multi-level methodological strategy that combines quantitative and qualitative methods will contribute to advancing such an innovative approach.

The two middle income countries selected for the comparison, India and Mexico, face important educational and socioeconomic developmental challenges that justify the interest in the impact of their dual apprenticeship programmes. India and Mexico present a high percentage of young people out of school in upper secondary education (48%, 42%), high occurrence of informal employment (92%, 60%) and large inequalities of income as measured by the Gini index (35, 48) (ILO, 2016; World Bank 2018). From a policy transfer perspective, they present similarities and differences in the adoption of dual apprenticeships that make the comparison particularly interesting. Both countries share the strong national ownership of the reform and its wide systemic scope, which has already led to significant legislative changes in both countries: creation of the Dual System of Training (DST) in India and the Mexican Model of Dual TVET (MMFD) in Mexico. On the other hand, while the adoption of dual apprenticeships in India represents an upgrade of its current model of market apprenticeships, in the case of Mexico it implies the creation of the first apprenticeship experience in a country where the whole TVET provision was delivered in schools. Given the different TVET
traditions and political economies in these two federal countries, it is expected that the factors driving and mediating the adoption, implementation and impact of their dual apprenticeship programmes will differ between them and at local level.

Research objectives

The aim of this proposal is to support more effective implementation of dual apprenticeship in India and Mexico and to strengthen the capacity of project partners to evaluate their apprenticeships in the medium to long term. This general aim is sub-divided into four specific research objectives:

1. Synthesise international evidence on how dual apprenticeships have been adopted, implemented and how they have impacted inequalities of access, learning and labour market outcomes in low and middle income countries.

2. Analyse the material and ideational drivers of the adoption and re-contextualization of dual apprenticeships into different regulatory frameworks and policy interventions at national and local level in India and Mexico.

3. Investigate the way apprentices, employers and trainers interpret and enact dual apprenticeship programmes within concrete training and learning practices, and elucidate the mechanisms that explain the different impact of dual apprenticeships on inequalities of access, learning and labour market outcomes among young people in different local contexts.

4. Provide evidence-based policy recommendations to inform current implementation of apprenticeships in India and Mexico and strengthen the capacity of project partners to evaluate their apprenticeship programmes through innovative methodologies.

Research design and methods

The policy transfer of dual apprenticeships in India and Mexico raises two main general research questions for this study. First, why and how dual apprenticeships are adopted and re-contextualized by national governments? Second, how and under what contextual and institutional circumstances do dual apprenticeships create better and more equitable social and economic outcomes for young people? In order to address these overarching research questions, the project is structured in four work packages (WPs) that correspond to the four objectives of the study. The research is designed as a comparative multilevel mixed-methods evaluation study at international, national, local and individual level. It is based on three major analytical perspectives – Cultural Political Economy (Jessop, 2010; Sum & Jessop, 2013), Realist Review and Evaluation (Pawson & Tilley, 1997; Pawson, 2006) and Human Capabilities (Sen, 1999; Nussbaum, 2000). The combination of these interdisciplinary approaches allows us to conceptualize the specific research questions and the methods of each work package according to the objectives of the study.

WP1. International evidence (Obj. 1)

The first WP will synthesise international evidence on how dual apprenticeships have been adopted, implemented and how they have impacted inequalities of access, learning and labour market outcomes in low and middle income countries. A realist literature review on dual apprenticeships in low and middle income countries will be conducted. Realist review is a relatively new strategy for synthesizing research evidence which seeks to unpack the mechanisms of how complex programmes work (or why they fail) in particular contexts and settings (Pawson et al. 2005). The research questions that the realist review approach allows us to address are: What are the factors driving the adoption of dual apprenticeships in low and middle income countries? What is the ‘theory of change’ behind these interventions? What context-mechanisms-outcomes configurations explain
the success or failure of dual apprenticeships in low and middle income countries? As a result of the review, a database of resources on the topic will be constructed. The items included in this database will be: author, source, date, place, methodology of the paper, territorial scope, impact dimensions of dual apprenticeships considered, indicators, and results. Results will be extracted in relation to context-mechanism-outcome configurations identified within and across individual studies—that is we will summarise individual studies and cumulate across studies. We will review all the literature on the topic in English, German, Spanish and French published from 1990 onwards included in the databases and catalogues of ERIC, Scopus, and Sociological Abstracts and grey literature from governments and cooperation agencies. A preliminary search in ERIC following the stated criteria has reported 96 references, demonstrating the feasibility of the task. The evidence synthesised through this realist review will inform the design of the analytical framework and research tools of WPs 2 and 3.

WP2. Policy adoption (Obj. 2)
The second WP will analyse the material and ideational drivers of the adoption and recontextualization of dual apprenticeships into different regulatory frameworks and policy interventions at national and local level in India and Mexico. The analysis of the policy adoption of dual apprenticeships in India and Mexico will draw on the cultural political economy (CPE) approach to policy analysis (Jessop, 2010; Sum & Jessop, 2013). CPE is a recent analytical approach in policy studies that, contrary to structuralist political economy approaches (Busemeyer & Trampusch, 2012), considers not only material (economic, institutional and political) but also semiotic drivers (discourses and ideas) and the interaction between them in the explanation of processes of policy adoption (Verger, 2014). The research questions that CPE allows us to address are: How do different material conditions and narratives of variation define the social and educational problems that dual apprenticeships should tackle? How the analysis of the feasibility and adequacy of dual apprenticeships in particular contexts affect their selection as policy solutions? What governance technologies are put in place to retain dual apprenticeship practices and to govern its participants (apprentices, employers, trainers)?

WP2 will consist on the qualitative analysis of two national (India & Mexico) and two local case studies in each country (Maharashtra & West Bengal; State of Mexico & Coahuila). The selection of the local case studies has followed two criteria: 1) all the regions should present a significant number of apprentices; 2) one of the regions should have its economy mainly oriented to the manufacturing sector (Maharashtra & State of Mexico) while the other should be mainly oriented to the service sector (West Bengal & Coahuila). The methods will entail a stakeholder analysis that corresponds with interviews to key informants (e.g. German cooperation agencies, ministries of education, chambers of commerce, state governments, civil society) and document analysis (archives work, legal texts, policy reports, media news). The sample of 65 informants include: five cooperation actors in Germany (n=5), 20 national stakeholders in each country (n=40), and five implementers in each region (n=20). Each case study will be constructed through the process-tracing technique and the data analysed via discourse analysis (see Fairclough 2003). In order to facilitate the comparison between countries and regions, we will carry out a quantitative characterisation of the contexts of the study through secondary statistical data. An initial search in the IFS Low and Middle Income Longitudinal Population Study Directory has reported 16 studies for India and 9 studies for Mexico. In the case of India, we will use the socioeconomic, employment, education, economic/living conditions data provided by the India Human Development Survey. In the case of Mexico, we will use the socioeconomic and employment data from the Mexican Family Life Survey and the labour market data from the Mexico Urban Labour Force Survey.

W3. Policy implementation and impact (Obj. 3)
The third WP will investigate the way apprentices, employers and trainers interpret and enact dual apprenticeship programmes within concrete training and learning practices, and will elucidate the
mechanisms that explain the different impact of dual apprenticeships on inequalities of access, learning and labour market outcomes among young people in different local contexts. The evaluation of the implementation and impact of dual apprenticeships will draw on the analytical contributions of the realist evaluation approach (Pawson & Tilley, 1997) and human capabilities theory (Sen, 1999; Nussbaum, 2000). Realist evaluation understands policy programmes as hypotheses about social betterment that need to be unpacked and tested through the analysis of the operating social mechanisms and the contextual conditions that trigger them (Blamey & Mackenzie, 2007). Focusing on the interaction between context-mechanisms-outcomes permits evaluations to go beyond the simplistic question of ‘what works?’ and to interrogate ‘how dual apprenticeships work, for whom and why they generate different impacts in different contexts?’

The research questions that the realist evaluation allows us to address are: How are dual apprenticeship programmes anticipated to operate within each country and how is context understood as integral to success? How do education and business actors interpret and strategically react to the introduction of dual apprenticeships? What context-mechanisms-outcomes configurations explain the different impact of dual apprenticeships on diverse populations and contexts? Human capabilities theory has placed ‘agency freedom’, the capacity of individuals to pursue the life that they value, at the centre of development debates. Contrary to the ‘productivist’ view of TVET as skills for employment and economic growth (Anderson, 2009), the ‘agency freedom’ view of TVET focuses on supporting students’ development of their autonomy and their ability to make choices (Wheelahan & Moodie, 2011; Tikly, 2013; Powell & McGrath, 2014). The research questions that human capabilities theory allows us to address are: What inequality factors affect the capacity of apprentices to benefit from the learning opportunities in the programme? What inequalities of opportunity exist between apprentices in their transition to formal employment, decent working conditions and the continuation of their studies? To what extent the voices and experiences of apprentices are considered by the management of dual apprenticeship programmes?

This is the WP that is more demanding in terms of time, material and human resources and the one that will combine quantitative and qualitative methods in the collection and analysis of primary data. WP3 follows a fully mixed sequential equal status design (Leech & Onwuegbuzie, 2009). In this design, the quantitative (national apprentices survey) and qualitative phases (in depth interviews with apprentices, employers and trainers) occur sequentially with both elements given approximately equal weight in the analysis. The national survey will classify apprentices in six groups according to their responses to the questions: completion of the apprenticeship (y/n), labour market situation (formal employment, informal employment, unemployed, inactive), continuation of studies (y/n). The six groups are: 1) did not complete the apprenticeship, 2) completed but neither in employment nor education, 3) completed and in informal employment but not in education, 4) completed and in formal employment but not in education, 5) completed and combining work and study, 6) completed and only studying. These six types of labour market situations will conform the theoretical sample from which we will select the 15 apprentices per region for the in-depth interviews (n=60). When possible, respondents will be selected considering gender, social class, caste and ethnic diversity. We will triangulate the interviews to apprentices with ten interviews per region to their employers and five interviews per region to their trainers (n=60). Triangulation is especially important due to the slippery object that we are dealing with at this stage, consisting of perceptions, preferences, interests, opportunities and capabilities (Hay 2002). With the in-depth interviews, we will analyse the enactment of the programme through the reflexivity and strategic behaviour of the actors; which implies capturing actors’ reasoning, interpretations and strategies, as well as those social norms framing actor’s reflexivity and choices (Ball 2012).

In addition to the interviews, the national apprentice survey will not only generate data on the impact of the programme on a representative sample of young people’s labour market outcomes, it will also provide data on the potential explanatory factors of their unequal labour market outcomes. The target population of the survey will be apprentices between one and two years after
of the typical date of completion of their dual apprenticeship. Based on the population enrolled in DTS apprenticeships in India in the last two years (4,897) and the population enrolled in MMFD apprenticeships in Mexico (3,848), we expect to survey 536 participants in India and 520 in Mexico to ensure a representative sample with a 4% of margin of error and an interval of confidence of 95% (assuming p=q=0.5). Both samples will be proportional to the distribution of the population among regions and sex. Government officials will provide the telephone contact details of these apprentices and a consultancy firm will administer a 30 minutes’ telephone survey with them after acquiring and recording their verbal consent. A telephone survey questionnaire has already been piloted in Mexico by the research team (Lopez-Fogues et al., 2017) but the final version of the questionnaire will be discussed with project partners in the two countries. The national survey will be structured in five thematic blocks, which will collect information on the following domains: a) socioeconomic profile of the apprentice and company characteristics, b) reasons to participate and selection process, c) satisfaction with processes (school, company and at the programme) d) self-perception of learning outcomes (occupational skills, transversal skills and attitudes, theoretical knowledge), e) labour market outcomes. Based on the typology of six labour market situations of young people described above, we will carry out a multinomial logistic regression analysis to determine the causes of the different labour market outcomes of young people in the programme.

WP4. Knowledge exchange (Obj. 4)
The fourth WP will provide evidence-based policy recommendations to inform current implementation of apprenticeships in India and Mexico and strengthen the capacity of project partners to evaluate their apprenticeship programmes through innovative methodologies. The project wants to involve research users in the evaluation process by co-constructing the goals, the scope and the methods of the evaluation. In addition to the involvement of project partners in the two countries during the whole process of evaluation since its inception, we have also designed three national workshops in New Delhi and Mexico City, a showcase event in each country and training activities for early career researchers the day before our three project team meetings in Glasgow. These activities will be complemented by the dissemination of our work through: the project website, leaflets, videos, reports, blog entries, press releases and policy briefs.