REVIEW OF THE LITERATURE ON:

# The Economic Impact of Labour Migration

Uma Kollamparambil and Theo Sparreboom

International Labour Organization

THE SOUTHERN AFRICAN MIGRATION MANAGEMENT PROJECT

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# I. INTRODUCTION

With an increasing share of immigrants in the population of many OECD as well as developing countries, there is deep contention on its impact on the economy and society of destination countries. The objective of this review is to assimilate the findings of studies over the last decade on the economic impact of immigration on destination countries (developed and developing) with the purpose of drawing recommendations for policy and empirical research. The study draws on findings from both OECD and developing countries to elicit the role of context in driving the impact.

Studying the impact of immigration is complicated by the fact that the proportion and profile of immigrants vary widely across and within countries. While the global average of international migrant stock as a percentage of the total population at mid-year 2020 stood at 3.6% (UN DESA, 2020), the immigration phenomenon is biased towards richer countries as a proportion of the native-born population. There is also substantial variation in the proportion of immigration amongst rich countries, with Canada 21.3%, the US 15.3%, Australia 30.1%, New Zealand 28.7%, and Singapore (43%) being some of the rich countries with the highest immigrants to population shares.[1] Many of the Gulf countries (Bahrain, Saudi Arabia, United Arab Emirates, etc.) have an immigrant-to-population ratio of over 75%. Although not as acknowledged in many previous reviews of literature, not all immigrant recipients are from rich countries. Developing countries are increasingly becoming recipients of immigration within their regions partly due to their proximity to countries of origin. For Malaysia and Thailand, the proportion stood at 10.7% and 5.7% respectively, mostly accounted for by

1 Higher income aside, these countries also have high immigration rates because they have immigration-welcoming policies (historically) as part of their development and/or independence strategies.

**Snapshot of Global Immigration Trends**

Higher Immigration in Rich Countries

Canada
**21.3%**

USA
**15.3%**

Australia
**30.1%**

New Zealand
**28.7%**

Singapore
**43%**

Gulf nations
**>75%**

Growing Immigration in Developing Countries

Malaysia
**10.7%**

Thailand
**5.7%**

Chile
**8.6%**

South Africa
**4.8%**

immigrants from the ASEAN region. Chile has 8.6 % and South Africa has 4.8% of its population composed of immigrants primarily from South American and Sub-Saharan African regions, respectively. This indicates that cross-border migration is no longer dominated by the flow from developing to developed economies only but is also an equally relevant phenomenon observed between poor to emerging economies (McAuliffe & Triandafyllidou, 2021).

Cross-border migration is no longer dominated by the flow from developing to developed economies only but is also an equally relevant phenomenon observed between poor to emerging economies.

Given the complexity of the immigration phenomenon, the challenge in summarising the economic impact of immigration is the multiple channels through which immigration can impact the economy because the impact of each of these channels could also be specific to the destination country's characteristics. Studies typically assess a particular channel within a specific country, and therefore, drawing general conclusions on the economic impact of immigration as a whole from such studies should be done cautiously.

Additional factors to keep in mind are that the economic impact of immigration on destination economies can be both positive and negative depending on the skill levels of immigrants, the overall economic conditions of the destination country, and the policies in place to manage immigration. Additionally, the interpretation of an effect as "negative" or "positive" is not always based on economic reasoning. For instance, downward pressure on wages in the short run is construed as a "negative" impact on the destination economy, as native-borns are considered to lose, but it can be argued that this can, in the long run, have a positive impact on GDP, wages and employment creation through increased competitiveness of the country (Ottaviano, Peri & Wright, 2018). Therefore, it is important to consider the long-run effects as well when assessing the impact of immigration. Moreover, the counterfactual of offshore outsourcing in the absence of immigration-supported competitiveness is often not considered in the arguments made against immigration-led wage declines (Mehra & Kim, 2023). In addition, given country specificities, externalising the conclusions of a particular effect within one country also needs to be avoided.

Further, methodologies used for empirical estimation of the immigration impact will be a key focus of this review. Given the interlinkages between key economic variables, it is important to estimate the direct and indirect effects of immigration on the economy while keeping in mind the direction of causality. Increasingly, study designs and strategies have focussed on addressing endogeneity bias while estimating the impact of immigration using a series of econometric techniques, such as instrumental variable regression, difference-in-differences techniques,

synthetic control methods and natural experiments. The review will focus on the methods used in the last decade to analyse these issues.

The report comprises six chapters, with the four core chapters dedicated to a brief review of recent advancements in literature and methodologies utilised to study the impact of immigration on the destination country's labour market, macro economy, public finance and the immigration policy framework.

# II. LABOUR MARKET OUTCOMES

Labour market effects of immigration, particularly on wages and the employment rate, are of serious concern amongst the native-born population and highlighted by policymakers and media in developed as well as developing countries. Estimating the wage and employment effect of immigration is rife with theoretical and empirical challenges, leading to an absence of consensus despite many studies exploring the effect (Dustmann et al., 2016). This segment looks at the theoretical and empirical issues in studying the effect of migration on the labour market.

## 1. Wage and employment effects

Theoretically, the short-run static estimation of the immigration effect is formulated as excess labour supply leading to falling wage levels under conditions of constant capital (Borjas, 2003). Also, the employment rate amongst the native-born population is expected to fall because they have higher reservation wages than immigrants (Edo & Rapoport, 2019). The popular rhetoric of the downward impact on native-born wages and displacement of native-born workers due to increased labour supply and the lower reservation wages of immigrants is based on this static model.

These short-run static closed economy models are increasingly considered as over-simplistic as they do not consider the dynamic response from labour, firms and government in response to immigration (Mackie & Blau, 2017). Further, relaxing the constraint of fixed capital and increasing labour supply from immigration can also result in the expansion of investment and output through enhanced investments and international competitiveness (Friedberg & Hunt, 1995; Beerli et al., 2023). Firm responses of increased investments to take advantage of the declining costs of labour result in higher production and increased demand for labour absorption which were ignored in early studies (Lewis, 2013; Lewis & Peri, 2015; Peri, 2016). Further, the increase in aggregate demand due to investments and consumption by immigrants is also likely to shift the labour demand curve rightward, subduing the negative wage effect expected from the additional labour supply through immigration (Peri, Rury, and Wiltshire, 2020). Kerr et al. (2015) highlight the complementarity effect of skilled immigration using firm-level analysis in the US by showing the rise in overall employment of skilled native-born workers following the increase in employment of skilled immigrants by firms.

Ottaviano and Peri (2012) also flags that aside from the increase in labour supply, immigration also brings about a change in composition (based on age and skills profile of immigrants). A firm response to this structural change in labour composition can also be a change in the technology of production (Clemens, 2018).

Along the same lines, the differential skills of native-born workers and immigrants distinguish them by preferred occupation. Peri and Sparber (2011) note that highly skilled immigrants and native-born workers are seldom perfect substitutes, with the former specialising in quantitative and analytical skills and the latter in occupations requiring interactive and communication skills. Similarly, amongst the low-skilled immigrants and native-born workers, the former also specialise in manual activities, whereas the latter pursue jobs with more communication tasks (Peri & Sparber, 2009). This adds to the often-neglected argument that low-skilled immigration can also add value, especially in the context of developed countries, where their native-born counterparts are not in direct competition for jobs in the labour market.

Highly skilled immigrants and native-born workers are seldom perfect substitutes, with the former specialising in quantitative and analytical skills and the latter in occupations requiring interactive and communication skills.

Further, considering the option of regional migration available to native-born workers, the elasticity of their labour supply at a regional level is expected to be higher compared to national estimates (Dustmann et al., 2016). This underscores the relevance of the area of study while assessing the impact of immigration on labour markets. Also, the widely acknowledged phenomenon of downgrading by migrants to occupations below their educational/skill level is often neglected in studies. This leads to misclassification and mismatching between immigrants and native-born workers, which is likely to result in bias in the estimation of substitution and complementarity effect of immigration (Lebow, 2024). Moreover, even considering downgrading by immigrants does not capture the full effect of immigration as the assumption that the effects of immigration are most profound within the same occupation/skill category that the immigrant assigns himself/herself to may be limiting. This is because of the effects across skill categories, where complementarities can be observed for the occupation category different from that of the immigrant. In accordance with this argument, Alfano et al. (2023) found significant spillover benefits with an increase in the migrant-to-native-born worker ratio, raising average wages of native-born workers in the level of occupation by around 0.332%. Similarly, studies have found the cross-occupation/skill complementary effects where an increase in low-skilled domestic service providers can release the high-skilled native-born population (especially women) into the workforce (Cortès & Tessada, Jaumotte et al., 2016).

Moreover, the occupation (or industry) tradability is also expected to influence local labour-market adjustment to immigration (Burstein et al., 2020). Using data for US commuting zones over the period 1980–2012, Burstein et al. (2020) found that an influx of immigrants has a substitution effect in more immigrant-intensive non-tradable jobs but not so in tradable occupations. Off-shoring is another

key consideration to be incorporated while assessing the labour market impact of immigration. Mehra and Kim (2023) emphasise that ignoring the offshoring channel would overstate welfare gains of immigration cap reduction. Therefore, interactions between immigration, offshoring, and trade must be incorporated when studying the impact of immigration on domestic labour markets (Ottaviano et al., 2018; Mandelman & Zlate, 2015).

Based on the above nuances, the substitution effect of immigration is likely to be lower than premised under a simple short-run static model put forth by Borjas (2003). Multiple reviews of the literature (Peri, 2014; Edo et al., 2020; Koczan et al., 2021; Aubry et al., 2022) conclude that the effects of immigration are near-zero and that extreme concerns about deleterious labour market effects from new immigration are not warranted. Another argument in favour of the negligible effect of immigration on labour markets is based on a meta-analysis by Aubry et al. (2022), which flags potential publication bias caused by the higher probability of publishing results that are statistically significant. Despite the broad conclusion of these reviews that immigration's effect on labour markets has been negligible, the debate on the labour market effect of immigration is ongoing due to sensational media and political responses to populist views, which is further compounded by the wide variation in individual studies. The differences in these findings can be attributed to the area of study, the contextual differences, heterogeneity in effects across native-born populations as well as the wide variation in research designs and identification approaches. Each of these is considered in more depth in the following segments.

### Area of Study

Differences in the study area (local/regional or national) are identified as a key reason for the varied findings in literature on the wage and employment effect of immigration. In a review of the literature, Dustmann et al. (2016) found that the national skill-cell approach tends to produce more negative wage effects for native-born workers in response to immigration than the regional skill-cell approach. Llull (2017) found an average elasticity of minus one, stable across alternative-born native-born specifications and different instruments for the US and Canada. Bratsberg et al. (2014) found heterogeneous wage effects on immigration in Norway, with larger negative effects restricted to the wages of incumbent immigrants. The native-born wages were impacted only by immigration from Nordic countries but not from developing countries, indicating that immigrants from developing countries were not close substitutes to native-born workers in Norway.

The total wage effect of immigration on a particular native-born skill category that takes into account complementarities across skill cells (pure spatial approach) varies widely depending on which skill group is studied. Dustmann et al. (2016) attribute the difference in results of national-level and regional-level studies to

the conceptual differences in the parameters of estimation of labour market effects using a spatial analysis at regional level and at national level, even when they are motivated by the same fundamental model. Unlike at the national level, labour supply in regional labour markets is likely to be more elastic considering the option of intra-country migration of native-born workers to regions with more job opportunities. Similar findings are reported by Furlanetto and Robstad (2019), who used a Structural Vector Autoregression[2] (SVAR) identification scheme with exogenous immigration shock lowering unemployment (even among the native-born population) in the Norwegian context.

Contrary to this, using the skills-cell approach, Sparreboom et al. (2020) found immigration to be negatively correlated with native-born employment at the regional (but not national) level in South Africa. The authors explain this through relocation of the native-born population which helps to mitigate the effects of immigration at the national level. Along similar lines, Facchini et al. (2013) found no impact on the native-born employment rate at the national level despite a significant negative effect at the district level. The study found opposite effects on income, with immigration decreasing native-born incomes at national level but not at district level. Using instrumental variable analysis, the study further found that the negative effect of immigration on native-born employment rates was the result of the relocation of native-born workers to low-immigration districts or to the informal labour market. Other South African studies, however, suggest that there may also be some negative effects of immigration on employment at national level (Fauvelle-Aymar, 2015; Broussard, 2017).

### Substitution vs Complementarity effect: Role of context

While the formulation and evolution of the theory of immigration have been inspired by the developed country context (with relatively low levels of unemployment and supply of low-skilled labour and higher availability of capital as well as human capital), developing country reality varies substantially. It must be kept in mind that the substitution effect resulting in the displacement of the native-born is likely to differ depending on the interplay between the destination country endowment as well as the skill level of the immigrant. Therefore, it is important to consider the role of context when evaluating the effects of immigration. For instance, in developed countries with high skill availability, further inflow of human capital is likely to result in higher investment and productivity and scale economies (Gorrín, 2020).

2 The baseline SVAR model used Norwegian quarterly data (1990Q1-2014Q2) for GDP for mainland Norway, real wages, the labour participation rate, and the immigration rate. Estimation was undertaken with five period lags with immigration variable treated as endogenous to the model.

Inflows of skilled immigration can also have effects on wage inequality between different education groups and the welfare of the incumbent population. Genç (2019) suggests that reducing the skilled immigration rate pushes more Canadian native-borns to opt for college, but the young generations with below college education face welfare losses. Overall, the study highlights the welfare-enhancing benefits of skilled immigration.

The inflow of low-skilled immigrants is less likely to displace the native-born population in developed country contexts because the type of jobs that they take on are less likely to be occupied by the native-born population. These types of jobs, often referred to as 3D/DDD, implying "dirty, dangerous and difficult" (Hessle, 2016) or "dirty, dangerous and demeaning" (Chiaromonte & Federico, 2021), are shunned by the native-born population.

**3D/DDD Jobs**

Dirty • Dangerous • Difficult

Although Borjas (2017, 2014, 2003) emphasised the competition effect of immigrants in the context of the US (especially for the native-born population with less than a high school degree), more recent studies with methodological improvements have argued that in developed countries low-skilled immigrants are more likely to take jobs that are different and complementary to those of native-born population (Foged & Peri, 2016; D'Amuri & Peri, 2014; Peri & Sparber, 2009). Family immigration from developing countries into France is also reported to reduce the country's unemployment rate, pointing to complementary rather than substitution effects (d'Albis et al., 2016). The substitution effect, where perceived in developed countries, was more for the existing immigrant population rather than their native-born counterparts (Beine et al., 2011).

This may not be the case in a developing country context with high unemployment rates, relatively higher wages and excess of low-skilled labour supply; further inflow of lower-skilled immigrants with lower reservation wages is likely to result in displacement of native-born workers in low-skill jobs. On the other hand, this displacement effect may not be as pronounced in low-income country contexts where unemployment rates are lower, but the quality of employment and wage levels are lower.

The substitution effect is prominent as observed in the case of some African economies by Sparreboom et al. (2020). The study used a skill-cell approach and found a negative effect on native-born labour market outcomes, especially for workers with lower levels of education, with the caveat that the result was limited to some econometric specifications and country contexts. The results show that immigrant inflows decreased the employment-to-population ratios and total annual income of native-born South Africans. Further evidence from Broussard

(2017) within the South African context, suggests a negative effect of immigrant inflows on the employment ratio and total annual income of native-born South Africans employed in the formal sector.

Some of the stylised facts about immigrant workers in South Africa are that they are more likely to be employed than the native-born population (Nontenja & Kollamparambil, 2018), are more polarised in educational attainments relative to native-born South Africans and have a higher share of workers with tertiary education (OECD/ILO 2018b). Although there is little evidence of displacement of native-born workers by immigrants at the national level in South Africa, OECD/ILO (2018b) records a negative effect of immigration on employment rates at sub-national levels. The study also notes a positive effect on incomes at the sub-national level for the native-born population. New immigrants under ten years in South Africa, on the other hand, are found to increase both the employment rate and the incomes of native-born workers.

The substitution effect between immigrants and native-born workers, especially in the low-skilled sector, is also highlighted in other developing countries like Thailand (Bryant & Rukumnuaykit, 2013; Pholphirul & Kamlai, 2014). A one per cent increase in the Thai labour force through immigration is expected to reduce wages by approximately half a per cent (Bryant & Rukumnuaykit, 2013). Similar findings are put forth by Pholphirul and Kamlai (2014), who showed that employing immigrants in the agricultural sector led to a decline in total employment and wage rates.

The existing evidence points to context as a key factor determining the substitution vs complementary effect. For instance, the inflow of low-skilled immigrants are expected to have a complementary effect on developed countries, releasing higher-skill labour into the labour force, but this relationship does not necessarily hold for developing countries. It can be concluded that the heterogenous effect of immigration on labour markets is driven by the immigrant skill-level, sector of employment in the destination country and the human resource endowments of the destination country.

## Empirical approaches

The main empirical approaches used to measure the effects of immigration on the labour market can be broadly grouped under structural and non-structural approaches (Edo 2019). The structural approach uses a theoretical production function framework to simulate the total labour market effects (Piyapromdee, 2021; Brücker et al., 2014; Edo & Toubal, 2015). However, this approach is sensitive to the assumptions underlying the chosen theoretical framework. The non-structural approach can be at the individual, spatial or national level, both with or without a skill-cell approach towards both (either) native-born population and (or) immigrants. Lastly, a multi-country estimation strategy (cross-section or panel)

is also used in the literature to explore the labour market effects of immigration (Esposito et al. 2020). Another approach to studying the impact of immigration has been through natural experiments which exploit exogenous events that triggered sudden surges in immigration. This reduces the endogenous bias of the destination labour market characteristics as motivators of immigration. While most of these studies are aggregate data regional studies, longitudinal individual-level outcomes of low-skilled native-born populations have also been undertaken (Foged & Peri 2016).

Using US Census data, Piyapromdee (2021) estimated a spatial equilibrium model to study the wage impact of immigration by skill level, gender, and nativity. According to the findings, restricting immigration to skilled workers is beneficial for low-skill native-born workers, but not for high-skill native-born workers and incumbent high-skill immigrants. Some of the other structural studies undertaken include Ottaviano and Peri (2012) for the US, Brücker et al. (2014) for Denmark, and Edo and Toubal (2015) for France. Two key findings from the structural studies in developed countries emerge. Firstly, immigration has on average either zero or slightly positive effect on native-born wages in the long run (when assuming imperfect substitution across native-born and immigrants of same skill cell) (as in Ottaviano & Peri, 2012; Manacorda et al., 2012; Brücker et al., 2014). Secondly, the long-run impact on the wages of native-born workers is driven by the skill composition of immigrants.

Using a nested-CES production function Lebow (2024) studied the effect of Venezuelan immigrants on native-born wages and inequality in Columbia relaxing the assumption of perfect substitutability between migrants and native-born workers and allowing for migrant occupational downgrading. Using counterfactual scenarios, the study revealed that migrant downgrading amplifies the negative wage effect of migration for low-skilled native-born workers (without completed secondary schooling) by 30%, and this increases to 80% after allowing for full capital adjustment in the long term. The study did not find a similar consequence for the wages of more educated native-born workers, who benefit from reduced competition but are harmed by reductions in aggregate productivity. The study concludes that migrant downgrading increases wage inequality and productivity in developing countries.

Similar differences in findings can be observed from the non-structured estimation where a wide variation in results can be attributed to model specification differences between studies. Dustmann et al. (2016) pointed out that the national skill-cell approach tends to produce more negative wage effects for native-born workers in response to immigration than the regional skill-cell approach, while estimates obtained from the pure spatial approach vary widely depending on which skill group is studied. Although superficially the differences in results might appear to

be incongruent, it must be kept in mind that the parameters in different models have different theoretical connotations and interpretations.

When using variation across skill-experience cells at the national level, employment adjusts only at the extensive margin. On the other hand, the labour supply of native-born workers may respond more elastically in a pure spatial approach, through regional migration of workers. Also, the national skill-cell and the mixture approach rely on the assumption that an immigrant and a native-born worker with the same measured education and experience compete against each other without consideration of the possibility of downgrading by the immigrant. This may seriously impair the estimation of the elasticity of substitution between immigrants and native-born workers.

Further, differences in estimations also emanate depending on whether the study factored in the phenomenon of downgrading by immigrants to levels below their skills/experience level. Skill-cell estimations (at national or regional level) based on perfect and direct matching of native-born population and immigrants based on skills/experience may lead to misclassification and bias the estimate of wage and employment effect of immigration on native-born population (Lebow, J., 2024). The study argues that downgrading immigrants into categories below their native-born counterparts explains why studies using the skills-matching approach often find positive wage effects of immigration for the native-born population. For this reason, Dustmann et al. (2016) recommended an estimation of the total effects of immigration on skills categories of the native-born population without categorising immigrants into skill groups. The disadvantage, however, is that immigrant heterogeneity and their differential impact are not accounted for in this approach.

Lastly, while the natural experiment approach exploits the exogenous event that triggered a sudden surge in immigration to reduce the endogeneity bias, the immigration flow is seldom typical or representative of migration patterns under normalcy. Card (1990), popularly called the Mariel Boatlift study, has become a landmark study for the first use of natural experiments to study the impact of large-scale immigration from Cuba into Miami in 1980 on the wages and unemployment rates of low-skilled native-born workers. While the study did not find any significant effect on the native-born population or the previous Cuban immigrants in the region, a subsequent study by Borjas (2017) contradicted this using a difference-in-difference approach and found that the wage of native-born high school dropouts in Miami dropped dramatically, by 10 to 30% following the influx of Cuban immigrants. Peri and Yasenov (2019) further refined the methodology by choosing the control group of cities using a synthetic control method and found no significant difference in the wages of workers in Miami relative to its control after 1980. They explain that the large wage differences found by Borjas (2017) can be attributed to large measurement errors emanating from the small sample size of sub-groups in the study.

More recent studies have used similar quasi-experimental approaches to assess the impact of the Syrian refugee crisis on the Turkish labour market (Aksu et al., 2022; Tumen, 2016; Ceritoglu et al., 2017). These studies found broad convergence in results reporting that the migrant influx from Syria has strong adverse effects on vulnerable native-born workers, including those in the informal sector (temporary, seasonal wage workers, less educated and young workers, women who are part-time employed and self-employed, and workers in agriculture and construction). At the same time, it has complementary effects on the wage employment and wages of men in the formal manufacturing sector. The adverse labour market effects on the most vulnerable groups and the rise in consumer prices imply an increase in poverty among these native-born groups.

The migrant influx from Syria has strong adverse effects on vulnerable native-born workers, including those in the informal sector.

Tabellini (2020) used the exogenous variation induced by World War I and the Immigration Acts of the 1920s and further instrumented immigrants' location decisions relying on pre-existing settlement patterns, to explore the political and economic response of European immigration to US cities between 1910 and 1930. The study found that despite adverse political fallout, immigration was found to increase native-born employment, spur industrial production, and did not generate losses even among native-born workers in highly vulnerable sectors.

On the whole, the natural experiment literature adds to the evidence suggesting a limited impact of immigrants on the native-born population in the context of developed countries. However, the effect in developing economies points to negative effects on vulnerable groups, especially amongst the less skilled informal sector women (Aksu, 2022).

Llull (2017) used a sub-sample two-stage least-squares (2SLS) estimator on a multi-country sample of developed countries to identify the effect of immigration on native-born male wages, correcting for the non-random allocation of immigrants across skill cells. While the standard 2SLS estimator addresses endogeneity by first estimating the endogenous variables through instrumental variables, followed by using these estimates to obtain consistent parameter estimates in the second stage, the sub-sample estimator uses in the second stage only a sub-sample of the data used in the first stage. Llull, J. (2017) used all data available for European countries, the United States, and Canada for the first stage, and the second stage estimation is restricted to a subset of countries of interest (either the US and Canada or the US alone) because of the availability of harmonised census microdata files on wage information.

## Causal effects

Literature on the labour market effects of immigration has come to recognise the importance of correcting for endogeneity bias arising from reverse causality. Empirically, it is difficult to estimate the causal effect due to the ambiguity in the direction of the relationship between immigration and the wage level and employment rate. The fundamental hurdle is the absence of counterfactuals in most studies, which makes the causal effect estimations less than perfect. For instance, immigration is more likely to flow to economies where jobs exist and where wages are high. Moreover, native-born labour supply also may move away from markets with excessive immigrant flow, subduing the impact of immigration on labour supply. Further, aside from the negative elasticity and substitution effect in similar skill categories, there can be positive effects across skill categories (complementarity). Taking account of all the above concerns adequately in an empirical study is often difficult.

Spatial studies have to deal with the endogenous location of immigrants and cross-area adjustments by native-born workers more seriously than national studies, especially in terms of the native-born population moving out of the region in response to changes in the labour market conditions as a result of immigration. However, from the perspective of country selection by immigrants, country-level or multi-country studies increasingly account for possible endogeneity. It has been acknowledged that the findings of early spatial methodology-based studies that compared the share of migrants in the population in a geographical area to native-born employment and wage outcomes (Alton & Card, 1991; Pischke & Velling, 1997), without consideration of immigrants self-selecting into areas with higher wages or the response of native-born population by moving out of the area with higher levels of immigration, are flawed. Therefore, addressing endogeneity bias has become of key importance.

Early use of instrumental variables has been through the two-stage least squares regression estimations in spatial studies. The critical requirement of a valid instrumental variable is to identify an exogenous variable that isolates the variation in immigrant inflows across areas that are not determined by wages or employment rate. The standard shift-share IV strategy put forth by Card (2001) is to use the past settlement pattern of migrants by country of origin on the grounds that the location choices of immigrants are influenced by network effects, which is expected to reduce the cost of integration and assist with the job search process. While the shift-share variable continues to be a popularly used instrumental variable (Broussard, 2017), it also cannot be considered a perfect instrument satisfying the strict exogeneity criteria and meeting the instrumental validity conditions (Edo et al., 2020; Jaeger et al., 2018; Goldsmith-Pinkham et al., 2020; Borusyak et al., 2022). This is because of the potential association between initial immigrant shares and both initial and subsequent economic changes, which makes it essential for an instrumental variable to pass the validity test (Goldsmith-Pinkham et al., 2020).

Another approach to deriving causal impact has been through a natural experiment that compares the outcomes before and after a strictly exogenous event for treated and control groups (Card, 1990). Including instrumental variables in these quasi-experimental methods, like the difference-in-difference method or synthetic control method, further mitigates the endogeneity concerns (Foged & Peri, 2016; Edo & Rapoport, 2019). Foged and Peri (2016) depart from the usual shift-share instrument to an innovative identification strategy by considering immigrants distributed across municipalities through a refugee dispersal policy in place between 1986 and 1998. The study found that immigration had positive effects on native-born low-skilled wages, employment, and occupational mobility as it pushed less-educated native-born workers (especially the young and low-tenured ones) to pursue less manual-intensive occupations. Exploiting the non-linearity in the level of minimum wages across the US created by the coexistence of federal and state regulations, Edo and Rapoport (2019) found states with low minimum wages to have a more negative effect for workers with low education and experience, further underscoring the importance of policy in driving the impact of immigration.

Aksu et al. (2022) implemented a difference-in-differences instrumental variable methodology using an instrument constructed from the prewar Syrian population in Turkey adjusted by the distance from the Syrian border to Turkish provinces as well as other neighbouring countries. The study tests for the validity of the instruments extensively, as recommended by Goldsmith-Pinkham et al. (2020).

In a multi-country estimation, Llull (2017) used exogenous variation obtained from the interaction of three sources, viz., push factors (wars, political regimes, natural disasters, and economic variables), distance and skill-cell dummies, for a robust identification strategy of wage elasticities to immigration.

Time series techniques such as Granger causality are also used to derive causal effects. Boubtane et al. (2013) used the panel Granger causality testing approach based on Seemingly Unrelated Regression systems to study the causal relationship between immigration, unemployment and per capita income growth of the destination country for 22 OECD countries over 1980–2005. The study concluded that immigration does not have any significant effect on unemployment.

In summary, the literature offers a range of econometric techniques applicable to various types of datasets in order to identify the causal effects of immigration on destination labour markets. The techniques used are not specific to immigration but rather are applications of generic techniques to the context of the research question.

## 2. Welfare effects

The welfare effects of immigration are assessed through the channels of wage variation, income distribution, effects on housing, and the gendered effects on the female population of the destination country.

### Wage variation and inequality

Another main concern relating to immigration is possible adverse welfare effects by promoting a race to the bottom for wages and work conditions for immigrants as well as native-born population and the accentuating income disparities. Immigration can impact wage inequality through two channels, viz., through the earnings distribution of the native-born population and the composition of the wage-earning population. Findings from empirical investigations are mixed and not only vary across countries but also have heterogenous effects on native-born population categories based on the characteristics of immigrants.

A cross-occupational study of the relationship between immigration and inequality in the UK from 1975 to 2015 found both effects (earnings distribution and wage-earning population) to be very small (Dustmann et al., 2023). However, inequality amongst immigrants was found to be consistently higher than inequality among native-born population.

Using a spatial equilibrium model, Piyapromdee (2021) showed that a skill-selective immigration policy leads to welfare gains for low-skill workers but welfare losses for high-skill workers and the incumbent high-skill immigrants. Although internal migration mitigates the initial negative impacts, particularly in cities where housing supplies are inelastic, substantial variations are found in the welfare effects of immigration across and within cities.

Pouliakas et al. (2014), on the other hand, explored the effect of low-skilled immigration using a computable general equilibrium (CGE) analysis and found that it increased wage inequality in three European Union regions (Scotland (UK), Greece and Latvia). Edo and Toubal (2017) also found a widening native gender wage gap with increasing feminisation of immigration in France.

The findings from structural studies (Ottaviano & Peri, 2012; Brücker et al. (2014), and Edo and Toubal, 2015) indicate that a higher proportion of skilled immigration reduced the wage inequality between highly and poorly educated native-born workers in Australia, Canada, France, Germany and Switzerland. For the United Kingdom, the wage effects are negative and larger for university-educated workers, while in countries where immigration has increased the shared of low-skilled workers (Denmark and the US), the wage gap between highly and poorly educated native-born workers has increased (Borjas, 2014; Brücker et al., 2014). However, it needs to be emphasised that structural model-based simulations are

theory-driven and rely on assumptions imposed by the model. Increasingly, there is recognition that the distribution consequence and, by extension, welfare effects of immigration are determined by immigration policies.

Another major concern is the wage and conditions of work discrimination against immigrants. Despite the theoretical expectation formed from human capital theory and marginal productivity theory that labour is remunerated based on skills and productivity, there is increasing empirical evidence that labour with similar skills or productivity is not remunerated equally (Heinze and Wolf (2010). In this context, wage and work condition differentials between native-born workers and immigrants have also attracted much attention in recent times. It is widely reported in various country contexts that immigrants are remunerated less than native-born workers.

**Wage Gap Study in 33 high-income and 16 low and middle-income countries**

**High-income countries**

Average percentage that **migrants earn less** than nationals

**12.6%**

**Low and middle-income countries**

Average percentage that **migrants earn more** than nationals

**17.3%**

The unfair treatment of immigrants is the focus of the KNOMAD working paper by Aleksynska (2017), highlighting adverse working conditions, such as contractual status, wage levels and wage payment frequency, work hours, workplace safety and health issues, as well as trade union participation and discrimination as areas in which migrant workers report considerable shortfalls in relation to decent work. The study estimated the monetary value of shortfalls in decent work as 27% of the total actual wage of the immigrant, which translates to double the cost incurred by the immigrant for job search and relocation to the destination country.

Using a mincerian specification, Borjas and Cassidy (2019) explored the wage penalty associated with undocumented immigrants and found that much of the 35% wage gap between documented and undocumented immigrants disappears when controlling for skill differences. Moreover, the study found that the wage penalty reduces with ease of hiring undocumented immigrants. Although the wage penalty for male undocumented immigrants was estimated only at about 4%, the study flagged the larger lifetime costs as the earning potential of undocumented immigrants rarely increases with experience.

In a comprehensive study covering 33 high-income and 16 low- and middle-income countries, migrant workers were found to earn on an average 12.6 per cent below national workers in high-income countries and 17.3 per cent above nationals in low and middle-income countries (Amo-Agyei, 2020). The high wage gap in high-income

countries is explained by the downgrading of migrants into occupations below their educational and skill levels, and discrimination, as ten percentage points of the 12.6 per cent wage gap was unexplained even after considering the labour market characteristics. On the other hand, the positive wage gap experienced by migrants in low- and middle-income countries is explained by the higher wages of the temporary skilled migrants that pulled up the average wage of migrants.

Abdullah et al. (2020) highlighted the discrimination against immigrants within the Malaysian labour market in the form of wage differentials. Importantly, the study adds to the literature by exploring the impact of demand side effects such as a firm's profitability, organisational structure, industrial relations, investment and financial performance, trade, labour and capital utilisation are recognised as playing important roles in this regard. Card et al. (2018) estimated that demand-side factors explain 20 per cent of the observed wage variation.

Using dominance analysis on a matched employee-employer dataset, Abdullah et al. (2023) found noteworthy differences in the wage determination process of native-born and immigrant workers. Individual supply-side characteristics are found to be a key driver of wages for native-born workers, but less so for immigrants. The demand-side characteristics of firms and regions affect the wages of immigrants compared to native-born workers. Based on these findings, the study concludes that workers' productivity is not the sole driver of wages for either native-born workers or immigrants, particularly for the latter.

Immigration is also expected to lead to the reconfiguration of urban spaces and locational preferences. The inflow of Syrian refugees increased the demand for higher-quality neighbourhoods in Turkey, as the refugees mostly moved into low-cost neighbourhoods, pushing the native-born population toward higher-cost neighbourhoods (Tumen, 2016).

In the context of South Korea, Kim and Peri (2022) found that immigration resulted in heterogenous effects on the locational preference of the native-born population. While on the one hand, locations with concentrated immigrant inflow saw outflows of native-born residents due to reduced quality of local amenities, the increased economic opportunities in these areas triggered through immigration also attracted native born residents who value labour income over local amenities. Thus, immigration changed the composition of the native-born population in Korean municipalities resulting in little net effect on housing prices.

### Gendered effects

In developed economies, low-skilled female immigrants represent a significant proportion in sectors that provide services to households offering a viable alternative-born native-born for time-consuming care work, traditionally provided

by women (Barone & Mocetti, 2011; Cortès and Tessada, 2011, Cortès (2008) and Frattini (2012). Cortès and Tessada (2011) and Jaumotte et al. (2016) discovered that the presence of affordable immigrant workers in sectors like services and healthcare can facilitate the entry or extended participation of highly skilled women in the workforce, thereby enhancing a country's productivity. Conde Ruiz, Ramón Garcia, and Navarro (2008) also observed that the rapid influx of immigrants in Spain during the early 2000s stimulated growth in the personal services sector, consequently boosting female labour force participation among the native population.

Affordable immigrant workers in sectors like services and healthcare can facilitate the entry or extended participation of highly skilled women in the workforce, thereby enhancing a country's productivity.

Along similar lines, Barone and Mocetti (2011) demonstrated the significance of this effect within the Italian context. They found that when there is a higher presence of immigrants offering household services, skilled native-born Italian women tend to allocate more time to work (intensive margin) without experiencing changes in their overall labour force participation (extensive margin). While the study further provides evidence that the impact works through substitution in household work rather than complementarities in the production sector, it also flags questions on fairness and sustainability of private provision (through immigration) of welfare services.

Using a multi-level multi-country approach, Forlani et al. (2015) analysed the second-order effect of such provision on native-born female labour supply and found a positive and statistically significant effect on the extensive margin of labour supply for low-skilled native-born women (but not for skilled women). Moreover, the study found that low-skilled immigration increases the intensive margin of labour supply for skilled native-born women, but not for low-skilled native-born women. The study found these findings to be particularly strong for women in households with children and in countries where policies are less supportive of families.

Similar findings are reported using a pseudo-maximum likelihood gravity instrument to study OECD countries where low-skilled migration was found to have a positive impact on the female labour force participation of native-borns (IMF, 2016). As expected, high-skilled immigrants had no significant effect on native-born female labour force participation. However, the country heterogeneity discussed before suggests that we should desist from generalising these findings to all countries, as large-scale immigration of low-skilled workers into a country that already has a large share of low-skilled native-born female population, may not contribute to increased labour productivity. Despite the domestic supply of low-skilled native-born workers, the presence of immigrants in low-skilled sectors

can be explained by wage discrimination and differences in the working conditions between immigrant and native-born workers.

Different from the findings in developed country contexts, evidence from developing countries is adverse against native-born females especially from vulnerable groups (Aksu et al., 2022). Sparreboom et al. (2020) found that the immigrant population had a negative effect on the paid employment rate of the female native-born population (Ghana and South Africa) but increased the employment rate (Rwanda) and reduced the unemployment rate amongst the female native-born population (South Africa). Broussard (2017) also showed that immigration caused an intersectoral employment shift for males and females differently. While the composition of the employed labour force shifted to the formal sector for Black male South Africans, it shifted to the informal sector for Black female South Africans.

With increasing female immigration observed into developing countries, understanding the differential impact of female immigration on the native-born female population is imperative. While in the developed country context, it is seen to have a positive effect, especially on the intensive margin of skilled native-born females, it is yet to be explored in developing contexts whether there is a negative effect of the intensive/extensive margin of native-born low-skilled women. There is an urgent need for more studies in the developing country context that analyses the labour market effects of immigration by the sex and skill of the native-born population, as well as of the immigrant.

## 3. Technology and Entrepreneurship

According to Bodvarsson & Van den Berg (2013), immigration is expected to boost technological progress through four main channels: (1) facilitation of transfer and spillover of technology, (2) contribution to innovation both as entrepreneurs and workers, (3) increase the size of economies and scale of production, and (4) enhance innovative competition by facilitating the process of creative destruction (Bodvarsson & Van den Berg, 2013).

A key argument put forth in support of immigration is that positive self-selection based on observed and unobserved qualities sets immigrants apart from an average individual from the origin country (Chiswick, 1978; Carliner, 1980). These qualities in turn increase the probability of an immigrant succeeding in the destination economy through higher levels of aspiration, entrepreneurship and productivity (Nontenja & Kollamparambil, 2018; Duan et al., 2021; Malerba & Ferreira, 2021). In addition to higher aspiration and drive, this category of immigrants often has the social capital capabilities to identify and utilise new opportunities in the host nations (Chou & Chow, 2008; Williams & Krasniqi, 2018; Prah & Sibiri, 2021).

Given the above, it is not surprising that Fairlie and Lofstrom (2015) and Vandor and Franke (2016) find that the level of entrepreneurship is higher amongst immigrants compared to native-born individuals. Entrepreneurial activities by immigrants result in opportunities for themselves as well as for the native-born population (Fairlie & Lofstrom, 2015). Therefore, this class of immigrants can be seen as job creators, rather than as those who steal native-born jobs. Vandor and Franke (2016) report that at least one immigrant co-founder was present in about a quarter of all technology and engineering companies started between 2006 and 2012 in the US. Along similar lines, Kerr and Lincoln (2010) and Docquier et al. (2020) also argue that the diverse skill sets, and fresh perspectives brought by immigrants are strongly associated with fostering innovation and promoting growth in destination economies.

Immigrants may start businesses, engage in research and development, and introduce new ideas and technologies. This can lead to economic growth and an increase in GDP over the long term.

Despite this, especially within the context of developing countries, self-employed immigrants are often portrayed as ethnic entrepreneurs operating in the informal sector catering to their fellow immigrants and low-income communities within destination economies (Urban & Ratsimanetrimanana, 2015). Unfortunately, this class of immigrant entrepreneurship has in the South African context become a target for xenophobic attacks due to allegations of undercutting the native-born competition (Fubah & Moos, 2022).

Although entrepreneurship from low-skilled immigrants in South Africa seems to fit the profile of necessity entrepreneurship, Urban et al. (2024) argue that it does not capture the full gamut of immigrant entrepreneurship. Entrepreneurship from more skilled immigrants (Dana & Morris, 2007; Venter & Urban, 2015; Maphaka et al., 2020) from within Africa can start and grow ventures that contribute to the formal economy (Dana & Morris, 2007; Turkina & Thai, 2013; Brzozowski, 2017; Li et al., 2018).

Immigrants, particularly those with high levels of education and skills, can contribute to innovation and entrepreneurship (Dabić et al., 2020; Duan et al., 2023). They may start businesses, engage in research and development, and introduce new ideas and technologies. This can lead to economic growth and an increase in GDP over the long term. This effect is amplified when firms respond to immigration by expanding and relocating to areas where immigrants settle, thereby stimulating investments and creating additional opportunities for native-born individuals (Beerli et al., 2023). Aside from human capital, structural and resource-related dimensions of social capital are found to be important determinants of entrepreneurial success among immigrants (Urban et al., 2024).

Through a structural estimation of endogenous growth and migrations model, Burchardi (2020) suggests that the significant influx of foreign migrants into the US since 1965 might have led to an additional 8% growth in innovation, as evidenced by the increased number of patents filed by local firms. Ortega and Peri (2014), through multi-country analysis, also show that the positive effect of immigration on economic growth is accounted for through increased total factor productivity, primarily as a result of enhanced diversity in productive skills, but also a higher rate of innovation. Similarly, Bosetti et al. (2015) found through a study of twenty European countries that the presence of immigrants in skilled professions is associated with higher levels of both the creation of "private" and "public" knowledge creation, where private knowledge is proxied by the number of patent applications and "public" knowledge is characterised as basic research captured through the number of citations to published articles.

According to Duleep et al. (2021) immigrants whose human capital is not immediately utilisable in the destination country will be more open to additional human capital investments than their native-born counterparts because the former are faced with lower opportunity costs. Regions with substantial immigrant populations may consequently foster greater levels of entrepreneurship and innovation, extending their benefits even to the native-born population. The research furnishes empirical evidence from the United States, indicating that college-educated immigrants, especially those hailing from less-developed nations, are linked with heightened levels of entrepreneurship at the state level.

# III. MACROECONOMIC OUTCOMES

Macroeconomic outcomes of immigration can be driven through multiple channels with sometimes opposing outcomes, with the net effect reflected in economic growth. The most prominent effect of immigration on GDP per capita is expected to occur through shifts in aggregate supply, aggregate demand and productivity within the economy. Other external factors such as trade, investment and exchange rates are also expected to respond to immigration and must be considered while assessing the macroeconomic outcomes of immigration. Borjas (2019) has cautioned that the impact of immigration on GDP will depend on the skills and education levels of the immigrants and how well they complement the existing labour force in the destination country.

## 1. GDP and Productivity

Going beyond just the immediate labour supply effect of immigration, it is important to consider the broader aggregate supply effects, such as the expansion of the production base of the economy, as immigrants often come with capital and assets that boost production and labour demand.

The increased economic activity, as well as reduced labour costs in turn spills over to overall expansion in consumption. Thus, immigration has the potential to expand the consumption base at a broader societal level resulting in increased demand through the product market. This enhanced consumer spending is expected to have an impact on economic growth through enhanced aggregate demand, as shown by historical evidence from European immigration to the US during the Age of Mass Migration (1850–1920) (Sequeira et al., 2020).

More recent evidence also shows that increased consumer spending can be particularly noticeable in sectors such as retail, housing, and services (Peri, Rury, & Wiltshire, 2020). Further, Tumen (2016) found that the arrival of Syrian refugees in Turkish labour markets via informal employment avenues created cost advantages in labour, leading to lower consumer prices for goods produced in informal sectors compared to those produced in formal, labour-intensive sectors.

Labour force expansion through immigration has the potential to contribute to economic growth as well as to influence the factor intensity of production technology used in destination economies (Furlanetto & Robstad, 2019). The ultimate effect is likely to be driven by the skill intensity of the immigrants as well as the destination country factor endowment conditions. It is, therefore, not surprising that literature does not arrive at a consensus on the growth and productivity effect of immigration.

Varying results emerge in literature on the relationship between immigration and economic growth considering the differences in nature of immigrants and destination country characteristics (Pouliakas et al., 2014). Differences in the estimation methods and underlying assumptions could also contribute to the lack of consensus in empirical literature. Estimating the complex interplay of relationships between the numerous variables is complex and challenging. A wide-ranging array of estimation strategies, each with its own strengths and weaknesses, have been used in literature to estimate the macroeconomic outcomes of immigration, ranging from structural approaches such as growth accounting methods (Strzelecki et al., 2022), CGE modelling (Pouliakas et al., 2014; Ortiz et al., 2020), production function based FMOLS regression (Bashier & Siam, 2014) and non-structural estimations with gravity model using cross-section/panel of countries (Jaumotte et al., 2016), and time-series methodologies such as granger causality (Boubtane et al., 2013), VECM (Muysken et al., 2013), SVAR (d'Albis, 2016), autoregressive distributed lag model (Kisswani & Khan, 2023) etc.

Boubtane et al. (2013) conclude that immigration does not have any significant effect on growth using the panel Granger causality test (based on Seemingly Unrelated Regression systems) for 22 OECD countries from 1980–2005. On the other hand, Jaumotte et al. (2016), using an augmented gravity model for advanced countries, found that there are long-term benefits to both high- and low-skilled immigration in terms of higher GDP per capita for recipient countries. Ortega and Peri (2014) used cross-sectional variation of the migration share across countries and identified a positive effect of openness to immigration on long-run income per capita.

Findings from single-country studies are equally divided. Using vector error-correction model (VECM) estimation for the US over the period 1947–2018, Kisswani and Khan, (2023) find a significant long-run bidirectional causality between immigration and GDP per capita decrease. VECM is a time-series data-based regression method used to analyse the long-run and short-run dynamics between a set of cointegrating variables. Given the atheoretical nature of estimation, the study is not able to explain the mechanism of this impact. On the other hand, d'Albis et al. (2016) found using the structural vector autoregression (SVAR) model that immigration itself increases France's GDP per capita, particularly in the case of family immigration. AboElsoud et al. (2020) evaluate the dynamic causal relationship between immigration, and GDP per capita in the Australian context and present evidence of the positive spillover effect of immigration.

Similarly, using a growth accounting approach built on a constant return to the scale production function, Strzelecki et al. (2022) found that the surge in Ukrainian immigrants contributed to about 13% of Poland's GDP growth over the period 2013–2018. Based on these findings, the authors conclude that recent growth in Poland has been much more labour-intensive than previously understood. A similar

finding of a large decline in capital intensity is found in the context of Norway by Furlanetto and Robstad (2019), where immigration is modelled as endogenous to economic growth using a SVAR identification scheme over the period 1990Q1 - 2014Q2.

Another channel of benefit, especially in the context of many OECD countries with an ageing population, is the young age profile of immigrants. Jaumotte et al. (2016) reported the complementarity between lower-skilled migrants and native-born workers to be particularly high in fast-ageing societies with rising education levels, where there are shortages in non-tradable low-skilled service sectors. A similar conclusion is reached by Muysken and Ziesemer (2013) for the Netherlands from 1973 to 2009. Using a Vector Error Correction Model (VECM), the study found that, as long as immigrants are able to participate in the labour force, it helps to alleviate the ageing problem through a positive long-term contribution to employment, wages and GDP per capita. Immigration, through both direct and indirect effects, leads to an increase in the economic activity rate and, consequently, higher GDP per capita.

However, the problem of ageing societies is not as relevant to most developing countries. Therefore, the skills that immigrants bring in are more important to developing countries rather than the benefit simply from young immigrants. It is therefore not surprising that Bashier and Siam (2014) did not find low-skilled "Guest workers" to have an impact on economic growth in Jordan using the Fully Modified Ordinary Least Square (FMOLS) approach with the Cobb-Douglas Production function for the period 1980–2012.

Skilled immigrants, on the other hand, have a significant impact on economic growth in developing countries. Findings from Tipayalai (2020) indicate that high-skilled immigrants have a statistically significant and positive impact on the growth of the regional economy as well as labour productivity in Thailand. Similar indications of the differential impact on developing country contexts driven by the heterogeneity of immigrant labour are highlighted by Ismail and Yuliyusman (2014). Using panel data from three Malaysian sectors, manufacturing, services, and construction, for an Autoregressive Distributed Lag estimation over the period of 1990–2010, the study showed that the skilled and semi-skilled foreign labourers have a significant positive short- and long-run effect on the output. However, the study found an opposite effect of low-skilled foreign labour underlining the importance of quality of immigration in developing country contexts. Pholphirul and Kamlai (2014) flagged declining labour productivity in the manufacturing and service sector in Thailand with increased immigrant share in labour using a macroeconomic simulation model and the growth accounting method. However, the study also confirmed that low-skilled immigrants have contributed around 0.75-1 percentage points of real GDP growth in Thailand, especially through the labour-intensive and low-technology agriculture sector. These studies point to

the need to consider the heterogenous effects of immigration and the need to consider the skill level, country as well as sector context while assessing the impact on productivity.

The impact of immigration on South African per capita Gross Domestic Product (GDP) is positive, with OECD/ILO (2018b) estimates indicating that immigrant incomes hike up average South African per capita income by up to 5%. This result is not surprising given the limited or even positive impact of immigration on native-born employment rates and wages and the higher employment rate of immigrant workers in relation to their native-born counterparts (Nontenja & Kollamparambil, 2018). This could be due to the higher-than-average educational and unobservable characteristics of immigrants (Chiswick, 1978), the higher share of foreign-born individuals in the working-age population (Kollamparambil, 2019), as well as the possible total factor productivity gains.

Bove & Elia (2017) use 2SLS estimation of the gravity model to explore the effect of diversity to stimulate economic growth and found that overall, both fractionalization and polarization have a significant positive impact on real GDP per capita, especially in developing countries.

Even though there is a lack of consensus, there is widespread evidence that an influx of additional workers (low as well as high-skilled) can lead to an increase in overall productivity and economic output, positively influencing developed country GDP per capita. While the evidence of the positive impact of immigration on economic growth is more widespread in developed countries, developing countries need to pay more attention to attracting high-skilled migrant workers in order to complement the existing labour force and meet their economy-specific requirements.

## 2. Trade and Investment

Immigration can stimulate bilateral trade through two main direct mechanisms reducing transaction costs and through the preference effects (Erhardt & Lassmann, 2023; Genç, 2014; Parsons, 2012). Through a better understanding of the local conditions, language, culture, business practices and informal norms in their origin country, immigrants are able to facilitate trade (export and import) between origin and destination countries, especially when the cultural barriers between the countries are high. Apart from this, the immigrant's preference for the products from their home countries is also expected to boost imports to the destination country through the consumption channel. This can spill over to the native-born population as well through a demonstration effect in which, depending on the scale of demand, a case substitution effect is possible through a shift to local production.

Aside from the direct channels of transaction cost and preference effect, the indirect but important channel of network effects in promoting trade is widely acknowledged (Rauch, 2001). Immigrants from ethnic minorities develop formal or informal networks that play an effective role in overcoming informal international trade barriers through additional market information and contractual enforcement support. Based on a review of the evidence, Felbermayr et al., (2015) conclude that as much as half of the total trade-creating effect of immigration may be accounted for through the preference channel. Leblang and Peters (2022) consider immigrants as an engine of globalization not just through information distribution and networks but also through channels for diffusing democratic norms and practices throughout the world that have the potential to increase trade and investment flows.

From a policy perspective, Peters (2015) argues that trade and immigration policies are rarely opened together. Instead, the various states within the US often chose the same set of policies at the same time, with most labour-scarce states in the 19th century opening immigration and restricting trade. In contrast, since the 1950s these states have flipped their policy by restricting immigration and opening trade. Nevertheless, Jacks and Tang (2018) suggest that immigration and merchandise trade in the US moved largely in parallel during the period 1870–2010 except for the years of disruption during and between the world wars. The study also documents a large shift in the sources of goods and people from Europe to developing regions, especially Asia. The composition of merchandise trade also moved towards manufactured goods from 1950.

Despite the trade and immigration policies not being in tandem, the pro-trade effect of immigration is validated by many studies in various country contexts (Aziz & Uddin, 2016; Bratti, 2014; Ottaviano et al. 2018, Faustino & Proença 2015). Aziz and Uddin (2016) note a direct positive impact of immigration on exports through their study using a panel dataset spanning five decades of exports from 18 top migrant destination countries to 69 top emigrant origin countries. The study also notes that immigration-trade links vary across product types and found that immigrants' ethnic network contributes positively to exports. The pro-trade causal effect of migration networks is also evidenced by the findings of Parsons and Vézina (2018) using a natural experiment of the exodus of the Vietnamese Boat People to the US.

Ottaviano et al. (2018) found a positive relationship between immigration and exports of UK firms. The mechanism for this is explained as the cost-cutting impact of immigrants through increased overall productivity. Immigrants also increase country-specific exports through reduced transaction costs. Analysing Portugal's bilateral intra-industry trade with 37 countries, Faustino and Proença (2015) report a significant positive association between immigrant stock and intra-industry trade indices. The pro-trade effect of immigration is also suggested by Bratti (2014) using

Italian panel data at the province level, which showed that while immigrants have a significant positive effect on both exports and imports, it was much larger for the latter.

Similar findings are emerging from studies of immigrants in developing countries. Ekakkararungroj et al. (2022) used a static panel gravity model for the 10 ASEAN countries over five-year intervals between 1990 and 2020 and found only a pro-import immigrant effect. Although no significant export or intra-trade effect was found, the study nevertheless makes a case for trading blocs to consider the interrelations between trade and immigration policies.

Aside from the trade impact, immigration is also expected to impact FDI inflows through both the transaction cost effect and network effect channels (Garas et al., 2016). Cuadros et al. (2019) in a multi-country gravity model study for developed countries, found a positive association between immigration and FDI. Similar findings are reflected in Mihi-Ramirez et al. (2019) in the context of Spain, with a greater number of immigrants increasing foreign direct investment (FDI), remittance and trade both through imports and exports.

Tomohara (2017) highlighted the differences between the short- and long-term effects of immigration on FDI. While the contemporaneous relationship between FDI and immigration is negative through an FDI–migration substitution effect, larger immigration stocks induce FDI inflows, indicating an ethnic network externalities effect. Therefore, the study argues that the trade-off between the two needs to be considered while assessing the total effects.

Moreover, in relation to trade, FDI flow is more sensitive to the skill capacity of the immigrant. Tomohara (2017a) showed in the Japanese context that FDI inflows become more dominant compared to imports with increased skilled immigration and less dominant with low-skilled immigration. Contrary to this, the presence of low-skilled migrants is found to attract inward FDI in the Malaysian context (Devadason & Subramaniam, 2016), indicating that the country context, with its factor endowments and the nature of FDI inflow, drives the relationship between immigration and FDI.

The broad conclusions from the recent studies suggest that the relevant policy instruments regarding the promotion of trade, FDI and immigration need to be sensitive to the economic goals, such as current account balances and labour shortages of countries.

## 3. Exchange rate

The relationship between exchange rate valuation and migration movements is well-documented (Shin, 2021; Dustmann et al., 2024); however, the evidence on the impact of immigration on destination country exchange rate is sparse and less clear.

The external rate effect of immigration is expected primarily through three channels: the capital that immigrants typically bring with them at the time of immigration, remittances that immigrants periodically make to their origin countries, and the trade as well as FDI channels discussed in the earlier section. These different types of flows can affect exchange rates differently and offset each other Dungan et al. (2013). Despite this, Aziz et al. (2021) found that the exchange rate appreciated as a result of the money brought into Canada by immigrants. Furlanetto and Robstad (2019) also estimate that immigration shocks account for around 35% of exchange rate fluctuations over long time periods in the Norwegian context.

The above direct effects on the exchange rate aside, immigration can also moderate the Dutch disease effects of exchange rate appreciation, and the resulting loss of competitiveness associated with booms in natural resource sectors. Using data from Canadian provinces, Beine et al. (2015) found evidence that through interprovincial migration and temporary foreign workers, aggregate immigration controls the expansion of the non-tradable sector in booming regions.

Clearly, there is room for more research exploring the exchange rate effect of immigration in both the developed and developing country contexts.

# IV. PUBLIC SECTOR OUTCOMES

Immigrants, like the native-born population, pay taxes and use the public goods and services available to them in the destination country. Aside from these direct effects, immigrants contribute indirectly to public finance through the broader spillover effects on GDP via shifts in productivity, entrepreneurship, wages, competitiveness etc. The net contributions of immigration to public finances can have either a positive or negative impact depending on a myriad of factors such as immigrants' employment rates, wage levels, their use of public services, life stage, etc. Jaumotte et al. (2016) also suggest that considering both the direct and indirect effects of immigration is likely to yield larger fiscal benefits from immigration than typically estimated through solely the direct effects.

Even though seldom supported by facts, the perception that immigrants are, on average, economically weaker compared to the native-born population and more likely to take advantage of, rather than contribute to, the welfare system is widespread in most destination countries (Alesina et al., 2023). It is important to shift these narratives and align them to evidence.

## 1. Public Finance

The impact of immigration on public finance is not easy to calculate given the direct and indirect channels through which immigration can impact the country, as well as the need to take into account the life stages of the immigrant and the intergenerational effects. The methodological approaches used in empirical studies can be categorised broadly as static and dynamic (Hennessey & Hagen-Zanker, 2020). The static approach calculates the actual fiscal contributions of immigrants at a one-time point using a cost-benefit analysis of migrants' fiscal impact whereby taxes paid are summed against benefits derived to estimate the net fiscal contribution as a percentage of gross domestic product (GDP). Although static studies offer relatively precise estimates of the actual net fiscal impact of immigration, it is highly dependent on the year selected for analysis and fails to account for the differential effect depending on the stage of the life cycle of the immigrant.

Dynamic approaches, on the other hand, estimate migrants' expected long-term net fiscal impacts (Dustmann and Frattini 2014 for the UK, Martinsen and Rotger 2017 for Denmark and Chojnicki et al. 2018 for France), but such estimates are based on assumptions about the future. The main three dynamic approaches are Net Present Value (NPV) models, Generational Accounting (GA) models and Macroeconomic models like computable general equilibrium (CGE). NPV models estimate the inter-generational net fiscal impact of migrants over their lifetime

using an imputed discount rate. Calculations are thus sensitive to the discount rate used. This approach is extended in the Generational Accounting (GA) models by including the destination country's intertemporal budget constraint (based on assumptions about future economic performance, the fiscal objectives and debt by governments) to simulate the fiscal burden for future generations by new immigration flows. Lastly, macroeconomic models like CGE go beyond NPV and GA models to simulate the fiscal impact of immigration shocks considering direct as well as indirect effects from changes in macroeconomic variables such as wages, employment, consumption and savings. Each of these three approaches comes with pros and cons. As flagged by Clemens (2022), while cash flow accounting methods provide precision, they may introduce bias. Conversely, methods based on general equilibrium modelling aim to mitigate bias but often sacrifice precision and transparency.

Some recent studies have taken a combination of both static and dynamic approaches (Mackie & Blau, 2017; Hansen et al., 2017). Long-term fiscal effects estimated for the UK (Dustmann & Frattini, 2014), Denmark (Martinsen & Rotger, 2017) and France (Chojnicki et al., 2018) yield mixed results. The net contribution of immigration to the public finances of France between the late 1970s and the early 2010s was found to be negative but negligible (Chojnicki et al., 2018). The relatively negligible effect of immigrants on the public accounts of countries with ageing populations is explained by a favourable demographic structure of immigrants offsetting their lower net individual contribution (Chojnicki & Ragot, 2016; Holler & Schuster, 2017). On the other hand, Martinsen and Rotger (2017) find that EU immigrants to Denmark made a significant positive net contribution from 2002–2013. Similarly, a positive fiscal contribution of Ukrainian immigrants is found in Poland, explained mainly through the immigrant characteristics such as age, education and also the pure labour migration strategies adopted by the immigrants.

Furlanetto and Robstad (2019) and Aldén and Hammarstedt (2019), in the context of Norway and Sweden respectively, found that a positive immigration shock leads to an increase in public spending in the medium run. However, fiscal revenue follows the same response to immigration and the net effect turns out to be mildly positive in the short run and neutral in the long run (Furlanetto & Robstad, 2019; Kancs & Lecca, 2018). Mackie Blau (2017) also found the long-term fiscal impact in the US to be positive at the federal level, though negative at the state level. D'Albis et al. (2018) and Fiorio et al. (2023) found that international migration improved the fiscal balance by reducing the per capita transfers paid by the government (especially old-age public spending) for OECD and EU countries, respectively.

Differences in the fiscal impact of immigrants across their origin countries are reported in literature (Dustman & Frattini, 2014; Hansen et al., 2017). While immigrants from Western countries are found to have a positive fiscal impact in

Denmark, the rest of the immigrants have a largely negative one (Hansen et al., 2017). The negative effect is reported to be caused by the weak labour market performance of immigrants compounded in the context of Denmark with early retirement age and universal welfare schemes. Dustman & Frattini (2014) reported immigrants from the European Economic Area (EEA) as having made a positive fiscal contribution in the UK, while non-EEA immigrants along with the native-borns, have made a negative contribution. Following a country comparison of net tax payments and generational accounts for migrants and native-borns in Germany and Denmark, Hinte and Zimmermann (2014) conclude that the right mix of migrants is required to ensure positive and sustainable net fiscal effects. Kitao et al. (2016) also emphasise that the size and skill distribution of guest workers will determine their contribution to mitigating Japan's fiscal imbalance problem.

On the contrary, refugee immigration implies a net cost for public-sector finances for several years and is dependent on the refugees' labour market assimilation (Aldén & Hammarstedt, 2019). The policy environment also has an influence on the fiscal impact of economies that absorb immigrants (including refugees) into formal labour markets with migrants' rights to work and receive welfare benefits. The evidence does not support the negative public narratives that depict migrants as a drain on public finances and a strain on welfare systems.

The evidence presented above and from a review of literature on the fiscal impact of immigration by Hennessey and Hagen-Zanker (2020) indicates context-dependency and that there was no final answer as to whether migrants are net fiscal contributors or net burdens. The offsetting effect of the immigrant contribution towards fiscus and benefits drawn from it is evident by the near zero net fiscal impacts of immigration on the GDP of the destination countries. The review flagged that the overall fiscal benefits are higher for young, employed and highly skilled migrants. Based on existing studies, the fiscal impacts of immigration are mostly positive, but they are all relatively negligible and, therefore should not be the criteria to base either support or opposition to immigration (Nowrasteh, 2015).

## 2. Public goods

Public finances effect aside, a key concern amongst the native-born population regarding immigration is that it causes a congestion effect in the provision of public goods leading to a decline in the quality of provision or a hike in taxes (Breunig & Priest, 2018). However, this is not true for "pure" public goods that are non-rivalrous and non-excludable, such as expenditure on military or streetlights (Preston, 2014). For such goods, immigrants lower the average tax burden of providing pure public goods by increasing the tax base (Nowrasteh, 2015).

The concerns amongst the native-born population regarding the impact of immigration on public education and healthcare are probably the two best examples of congestible publicly provided goods. While the destination country benefits from the economic contributions of immigrants whose educational costs were entirely borne by their countries of origin, the children of immigrants are often perceived as putting a strain on the educational system. Empirical investigation identifies education channel as the key reason for the difference in the long-term fiscal impact of immigration at the federal and state level in the US, as the state bears the costs of educating immigrant children (Mackie & Blau, 2017).

Feng (2016) validates the concern through the findings of the causal impact study of immigrant inflows on public education expenditure. The study found a 13% reduction in per-pupil current expenditure following a ten percentage point increase in the share of Hispanic immigrant children in the total child population. Speciale (2012) arrived at a similar conclusion with a small negative effect on public education spending in EU-15 countries following an increase in foreign population. The negative association between immigration and public education expenditure is consistent with evidence of low levels of public good provision in communities characterised by ethnic fragmentation and diversity.

However, it needs to be acknowledged that not all immigrants avail of all the welfare schemes in the destination countries, with income being a powerful predictor for the probability of welfare dependency. Higher-skilled immigrants are found to consume few welfare benefits based on means-testing (Desai et al., 2009). Also, even the lowest-skilled temporary immigrants (both undocumented and documented) can have a net fiscally positive effect as they return to their origin countries when unemployed or upon retirement.

Moreover, additional factors, such as the legal status and policies governing access to means-tested welfare, limit the access of undocumented immigrants to public benefits. Despite this argument, Feng (2016) found that efforts at screening for eligibility for the Supplemental Nutrition Assistance Program (SNAP) are not only ineffective in discouraging unqualified immigrant applicants but also diminish the uptake among qualified US-born children.

Despite the adverse findings by Feng (2016), there are key methodological considerations to be kept in mind to arrive at a fair assessment of the impact of immigration on public goods and finance. The method adopted for cost becomes critical in this regard (Preston, 2014). Mackie and Blau (2017) and Hennessey and Hagen-Zanker (2020) argue for the use of marginal (additional) unit cost rather than average cost for immigrants on the grounds that fixed investments are incurred even in the absence of immigration, and so should not be considered part of immigrants' fiscal impact. Because average costs are higher than marginal costs for the immigrant (which is expected to be close to zero), the fiscal impact

of immigration in Argentina, Costa Rica, Côte d'Ivoire and Ghana was found to be negative based on average costs, but positive based on marginal costs (OECD & ILO, 2018a).

Immigrants are found to have a positive net impact on South Africa's fiscal balances due to the fact that they tend to pay more in taxes, especially in income and value-added taxes relative to native-borns (OECD/ ILO 2018b). The per-capita net fiscal contribution of immigrants in 2011 is estimated at 17% using the average cost approach and much higher at 27% under the marginal cost approach. This starkly contrasts native-born individuals, whose contribution is estimated at -8%.

Immigrants are found to have a positive net impact on South Africa's fiscal balances due to the fact that they tend to pay more in taxes, especially in income and value-added taxes relative to native-borns.

Chojnicki et al. (2018) emphasise that the outcomes of studies are largely driven by the chosen costing methodology, the time period, and, critically, by assumptions about what to include and exclude from the calculations. Public services are defined as pure public goods, and the demographic unit (individuals or households) also plays a key role in determining outcomes. The general consensus though is that just as in the case of public finances, the public goods impact of immigration is negligible and, therefore, should not be the criteria to either support or oppose immigration.

# V. ANALYTICAL FRAMEWORK FOR IMMIGRATION POLICY

While sections I-IV primarily dealt with economic literature on the destination economy impact of immigration, there is increasing acknowledgement that immigration policy needs to take a broader view that incorporates rights-based (ILO, 2010; Taran, 2009) as well as international economic law (Trachtman, 2009) perspectives. The ILO starts from the position that migration, if well-managed, is beneficial for both countries of origin and countries of destination (ILO, 2017). This means that labour migration should be managed in accordance with international labour standards, in particular the ILO Fundamental Conventions and those focusing on migrant work.[3] ILO Convention No. 97 - Migration for Employment Convention (Revised), 1949, and ILO Convention No. 143 - Migrant Workers (Supplementary Provisions) Convention, 1975, together with the ILO Recommendation No. 86 - Migration for Employment Recommendation (Revised), 1949, and ILO Recommendation No. 151 - Migrant Workers Recommendation, 1975, cover many aspects of the migration journey, while a series of other conventions cover key issues that are often of particular importance for migrant workers. Examples are conventions concerning social security, notably ILO Convention No. 102 - Social Security (Minimum Standards) Convention, 1952, and ILO Convention No. 118 – Equality of Treatment (Social Security) Convention, 1962; ILO Convention No. 181 - Private Employment Agencies Convention, 1997; and ILO Convention No. 189 - Domestic Workers Convention, 2011; and the commensurate recommendations. Conventions and recommendations speak directly to normative and economic aspects of labour migration policy development, including the importance of a coherent policy on international migration for employment, which should be based upon the economic and social needs of both countries of origin and countries of employment (cf. ILO Recommendation No. 151).

ILO's Fair Migration Agenda (ILO, 2014) recognises that promoting decent work in countries of origin is essential in making migration an option rather than a necessity and it identifies a number of key issues in labour migration governance in accordance with a rights-based approach. In this way, the Fair Migration Agenda, together with other policy frameworks such as the ILO's Multilateral Framework on Labour Migration, points to the linkages between labour migration and other ILO

3 The ILO Fundamental Conventions are the following: Convention No. 29 - Forced Labour Convention, 1930; Convention No. 87 – Freedom of Association and Protection of the Right to Organise Convention, 1948; Convention No. 98 – Right to Organise and Collective Bargaining Convention, 1949; Convention No. 100 – Equal Remuneration Convention, 1951; Convention 105 – Abolition of Forced Labour Convention, 1957; Convention No. 111 - Discrimination (Employment and Occupation) Convention, 1958; Convention No. 138 – Minimum Age Convention, 1973; Convention No. 155 – Occupational Safety and Health Convention, 1981; Convention No. 182 - Worst Forms of Child Labour Convention, 1999; Convention No. 187 - Promotional Framework for Occupational Safety and Health Convention, 2006.

areas of work. Examples are the need to adequately cover migrant workers in labour statistics, the need for skills recognition for migrant workers, and the need for migrant workers to have a voice in tripartism. Generally, the ILO's policy approach underscores that the economic contribution of migrant workers is maximised if their potential is fully recognised, and migrant workers are not being marginalised in labour markets or elsewhere.

ILO's Fair Migration Agenda (ILO, 2014) recognises that promoting decent work in countries of origin is essential in making migration an option rather than a necessity.

From a policy perspective, it is also important to recognise that the endogenous relationship between policy and immigration has implications for the economic outcomes observed in the destination countries. Since one of the key factors driving destination country choice is policy friendliness towards immigrants, the most in-demand immigrants choose countries that are attractive in terms of policy, which in turn determines the economic outcomes of immigration. The rights that immigrants enjoy in the destination country play a crucial role in shaping their savings, investment, and remittance behaviour. The legal and social environment in which immigrants find themselves can significantly influence their economic decisions. Policymakers should consider these relationships when designing immigration policies that promote economic inclusivity and social harmony.

The World Development Report 2023 (World Bank 2023) has proposed an integrated framework that considers both the economic and rights-based imperatives to maximise the development impacts of immigration on both destination and origin countries and on migrants (and refugees) themselves. The match-motive framework outlined in the report offers a structure for informing policy decisions, focusing on the alignment between migrants' skills and attributes with the requirements of destination countries, as well as the underlying motives driving their migration.

While the economic gains for both destination and origin countries are determined by the "match," the "motive" is expected to determine the rights of the immigrant under the international law obligations of the destination country. The framework identifies four categories, the most favourable of which is high match and when immigration is motivated by opportunities at destination (pull factors). This category maximises gains for all and is the dominant of all four categories as a proportion of total migration observed in the world. High-match individuals who move out of their origin countries due to a well-founded fear of persecution, armed conflict, or violence from origin countries also maximise gains for the destination country, despite immigrant eligibility as the refugee category and protection under international law. This group is expected to be the minority in relation to world migration patterns. Evidence points to a higher proportion of the refugee category being low on match, resulting in higher costs for the destination country.

The match and motive framework provide a valuable tool for policymakers to assess and respond appropriately. Under conditions of a strong match, the economic gains from high- or low-skilled, regular or irregular immigration are high for the destination country. Hence, the policy goal should aim to optimise benefits for everyone involved. However, in the case of the third category with low match and severe push factors from origin countries (such as persecution and threat to life qualifying immigrants for refugee status), the cost to the destination economy can be high. Therefore, the cost of refugees with weak matches must be shared multilaterally as refugee situations can be prolonged and cost the destination country large. The recommendation, therefore, is for policy to lower the cost of hosting refugees without compromising on standards of international protection.

The fourth category of immigrants are those with a weak match to the destination country and where there are no life-threatening push factors in their country of origin. The destination country is not obligated to host this category of immigrants under international law as they are not considered refugees. Nevertheless, these are often distressed irregular migrants with few economic opportunities in their origin countries and, therefore, pose a moral policy conundrum for destination countries. Deportation and refusal of entry is a prerogative of the destination countries to regulate the entry of these migrants, however, it often results in inhumane treatment. Moreover, with porous borders and illicit smuggling of individuals by organised gangs, the costly exercise of deportation is often ineffective. Therefore, the more viable and lasting alternative is to aim to reduce the need for distressed migration from the origin country, which would make migration a choice rather than a necessity. It is in the interest of the destination countries to support economic development within the origin countries to minimise the incentives for irregular distressed migration.

For countries to benefit from policymaking aligned to the match and motive framework, destination countries must first assess and evaluate the needs of their own economy. This will enable countries to design evidence-based policies to facilitate labour mobility, address skill gaps, promote labour market integration, and maximise the development benefits of migration for individuals, communities, and economies. Various developed countries with ageing populations can benefit from low-skilled immigration required to support the native-born population and economy. Therefore, match does not only refer to high-skill individuals but is context-dependent, as was also highlighted in the review of the literature. Regularising semi-skilled and low-skilled immigration in countries with high matches can have positive economic and social impacts. It addresses labour market needs, promotes entrepreneurship, fosters social integration, and contributes to the public finance of the economy. Policymakers can design comprehensive immigration policies that balance economic priorities with social inclusivity, reaping the benefits of a well-regulated immigration system.

Similarly, developing economies with skills shortages must manage migration strategically to attract an ideal match for the economy. Countries must promote a "strong match" migration policy to meet the labour needs of their economy while proactively facilitating migrants' (and their families') social integration by addressing cultural concerns amongst the native-born population.

Lastly, immigration policy must be considered as part of the globalisation framework (Peters, 2015), and it is important for countries to integrate their immigration policy with policies on international trade and foreign investment in order to develop a comprehensive policy framework towards the movement of capital, goods and people.

# VI. SUMMARY AND RECOMMENDATIONS

The review has made it clear that the popular perception that immigrants are economically weaker and a drain on the economy of destination countries is not supported by evidence. There is, hence, a need to shift the false narratives and align them to evidence provided by recent literature.

The popular perception that immigrants are economically weaker and a drain on the economy of destination countries is not supported by evidence.

The review covered literature on the economic impact of immigration over the last decade from 2013. For purposes of the review, the economic impact was broadly categorised under the labour market, macroeconomic and public finance effects of immigration. While recent reviews on the economic impact of immigration are available (Edo et al., 2020; Hennessey & Hagen-Zanker, 2020), these are focused on developed countries. A key contribution of this attempt has been to incorporate evidence and lessons from developing countries along the lines of Bohme and Kups (2017). The value of incorporating evidence from developing countries is evident from the fact that conclusions derived from developed countries are not necessarily valid for developing countries because of differences in the context. The main findings and recommendations emerging from the review are summarised below.

## 1. Labour market

The focus of recent empirical literature has been to estimate the causal effect of immigration on the average wage and employment rate amongst the native-born population of destination countries. This review delved into the details of the different methodological approaches used to account for the endogenous relationship between destination country economic conditions and immigration. The variation in results found in the literature can be explained by the differences in the spatial scale (regional vs national), the temporal scale (short-run vs long-run) as well as the order of effects (direct vs indirect) estimated in these studies. While the differences in approaches and methodologies used make it difficult to strictly compare the findings of different studies, there is a broad consensus emerging that the magnitude of the effect of immigration on average wages and employment rates of the native-born population is negligible. Nevertheless, it may be acknowledged that immigration has a heterogenous effect and creates both winners and losers among the native-born population.

Further, it is clear from the review that the outcomes of immigration are largely driven by destination country characteristics and policies, underlying the important

role of context in assessing the outcomes from immigration. Developed countries often benefit from the contributions of low-skilled immigrants in filling labour gaps and sustaining non-tradeable economic activities. However, in developing countries, the potential for exacerbating existing unemployment and wage suppression issues may outweigh the benefits associated with low-skilled immigration. A race-to-the-bottom scenario can also be mitigated through the implementation of a minimum wage law. Indeed, the argument for regularising semi-skilled and low-skilled immigration may not hold as straightforwardly in developing economies where there is an excess supply of low-skilled labour. Depending on the context, the complementarity and substitution effects of immigration can be vastly varied. Policymakers need to carefully consider these dynamics within each country's context and implement policies that ensure complementarities between the native-born population and immigrants.

One of the key reasons for the positive effects of immigration in ageing OECD societies is the inflow of young immigrants. However, the problem of ageing societies is not as relevant to most developing countries. Therefore, the skills that immigrants bring are more important to developing countries rather than the benefit simply from young immigrants. Developing countries, therefore need to be more selective in attracting immigrants.

## 2. Welfare effects

The review explored the multiple channels through which immigration can have welfare implications on the destination country. These include not just the labour market impact on the native population through the wage, employment rate and labour force participation effect channels but also through the wage gap and discrimination in conditions of work towards immigrants in various contexts as well as through the channels of income distribution, effects on housing, and the gendered effects especially through the intensive and extensive margin effects on female native population.

A main concern relating to immigration is possible adverse welfare effects by promoting a race to the bottom for wages and conditions of work for immigrants as well as native-born population, and the accentuating income disparities. Immigration can impact wage inequality through two channels, viz., through the earnings distribution of the native-born population and the composition of the wage-earning population. Findings from empirical investigations are mixed and not only vary across countries but also have heterogenous effects on native-born population categories based on the characteristics of immigrants. Moreover, evidence points to wage inequality amongst immigrants being consistently higher than inequality among the native-born population.

The wage and work condition differentials between native-born workers and immigrants have also attracted much attention in recent times. It is widely reported in various country contexts that immigrants are remunerated less in relation to native-born workers. The high wage gap in high-income countries is explained by the downgrading of migrants into occupations below their educational and skill levels and discrimination, as ten percentage points of the 12.6 per cent wage gap was unexplained even after taking the labour market characteristics into account. On the other hand, the positive wage gap experienced by migrants in low- and middle-income countries is explained by the higher wages of the temporary skilled migrants that pulled up the average wage of migrants.

Increasingly, there is recognition that the distribution consequences and, by extension, the welfare effects of immigration are determined by the immigration policies of the destination country.

## 3. Gender effects

With the increasing feminisation of immigration observed in developing countries, understanding the differential impact of female immigrants on the native-born population, and more specifically, the native-born female population, is imperative. Evidence shows that in the developed country context, low-skill immigration has a positive effect especially on the intensive margin of skilled native-born females. Further, evidence indicates that the impact works through substitution in household work rather than complementarities in the production sector. The effect is particularly strong for women in households with children and in countries where policies are less supportive to families and raises questions on fairness and sustainability of private provision (through immigration) of welfare services. As expected, there was no significant effect of high-skilled immigrants on the participation of native-born female labour force in developed countries.

The impact of low-skilled female immigration on the native female population is yet to be explored in the context of developing countries. Unlike developed countries, developing countries have a large share of low-skilled native-born females. Therefore, whether there is a negative effect on the intensive/extensive margin of native-born low-skilled women, or whether it contributes to raising labour productivity through the increased labour force participation of high-skilled native-born females, is yet to be understood. There is an urgent need for more gendered studies in the developing country context that analyses the labour market effects of immigration by the sex and skill of the native-born population, as well as of the immigrant.

## 4. Entrepreneurship effect

Immigrants, both high- and low-skilled, are found to be more entrepreneurial than native-born populations in both developed and developing country contexts. Particularly those with high levels of education and skills, can contribute to innovation and economic growth. A key argument put forth in support of the entrepreneurial capabilities of immigrants is based on their positive self-selection, which increases the probability of an immigrant succeeding in the destination economy through higher levels of aspiration, productivity, social capital and networks. Although informal entrepreneurship from low-skilled immigrants in some developing countries fits the profile of necessity entrepreneurship, entrepreneurship from more skilled immigrants can also contribute to the formal economy by establishing new ventures.

Moreover, immigrants whose human capital is not immediately transferable to the destination country are more open to human capital investments in new skills or methods. Areas with large numbers of immigrants may, therefore, lead to more entrepreneurship and innovation, even among native-born populations. This effect is further amplified when local firms frequently react to immigration by expanding and relocating to areas where new immigrants settle, thereby fostering investments and creating additional opportunities for the native-born population.

## 5. Trade and Investment effect

Immigration also has a pro-trade effect, acting through direct (transaction cost and preference effects) and indirect (network and productivity effects) channels. Whether the trade effect is through exports, imports or both is determined by the destination and origin country characteristics as well as the size and skill capacity of the immigrant population. It is important to note that the impact of immigrant global linkages on trade can vary depending on factors such as the size and nature of immigrant communities, the economic conditions of the destination and origin countries, and the presence of supportive policies that facilitate international business activities. Overall, immigrants often play a significant role in promoting economic ties and trade between countries.

FDI flows, in relation to trade, are found to be more sensitive to the skill capacity of the immigrant, with the factor endowments of the country and the nature of FDI (market-access vs export-oriented) inflow driving the relationship between immigration and FDI. The overarching findings of recent studies indicate that the appropriate policy instruments concerning the encouragement of trade, foreign direct investment (FDI), and immigration should be tailored according to specific demographic composition and economic objectives, such as current account balances and skills shortages.

## 6. GDP and Productivity Effect

Labour force expansion through immigration has the potential to contribute to economic growth as well as to influence the factor intensity of production technology used in destination economies (Furlanetto & Robstad, 2019). The ultimate effect is likely to be driven by the skill intensity of the immigrants as well as the destination country factor endowment conditions. There is widespread evidence that an influx of additional workers (low as well as high-skilled) can lead to a decrease in capital intensity and an increase in overall productivity with a positive influence on developed country GDP per capita.

Going beyond just the immediate labour supply effect of immigration, studies have highlighted the broader aggregate supply effects, such as the expansion of the production base of the economy, as immigrants often come with capital and assets that boost production and labour demand. Further, the increased economic activity, as well as reduced labour costs in turn spills over to overall expansion in consumption. Thus, immigration has the potential to expand the consumption base at a broader societal level resulting in increased demand through the product market. This enhanced consumer spending is expected to have an impact on economic growth through enhanced aggregate demand. Estimating this complex interplay of relationships between the numerous variables is complex and challenging.

The varying results emerging in literature on the relationship between immigration and economic growth can be attributed to the differences in immigrants and destination country characteristics, as well as the differences in the estimation methods and their underlying assumptions. However, there is a general consensus that in the context of many OECD countries with ageing populations, as long as immigrants are able to participate in the labour force, immigration leads to an increase in the activity rate and, consequently, GDP per capita, both through direct and indirect effects.

However, the problem of ageing societies is not as relevant to most developing countries. Therefore, the skills that immigrants bring in are more important to developing countries rather than the benefit simply from young immigrants. Skilled immigrants, on the other hand, are found to have a significant impact on economic growth in developing countries.

Even though there is a lack of consensus, there is widespread evidence that an influx of additional workers (low as well as high-skilled) can lead to an increase in overall productivity and economic output, positively influencing developed country GDP per capita. While the evidence of the positive impact of immigration on economic growth is more widespread in developed countries, developing countries need to pay more attention to attracting high-skilled migrant workers

in order to complement the existing labour force and meet their economy-specific requirements.

## 7. Fiscal effect

The review has established as a misperception the view that immigrants are economically weaker and more likely to be a drain on the fiscus of the destination country. The net contributions of immigration to public finances considering immigrants' employment rates, wage levels, their use of public services, life stage, as well as the indirect effects of immigration on the aggregate productivity of the economy over time is challenging to estimate. The differences in the findings in literature mainly emanate from the differing approaches taken to estimate the fiscal impact of immigration. The policy environment also has an influence on the fiscal impact of economies that absorb immigrants (including refugees) into formal labour markets with migrants' rights to work and receive welfare benefits. The evidence runs counter to negative public narratives that depict migrants as a strain on public finances and a threat to welfare systems.

An emerging perspective suggests that the fiscal advantages of immigration might surpass conventional estimates, particularly when accounting for the indirect impacts of immigration on the overall productivity of the economy. There is consensus that the overall fiscal benefits are higher for young, employed and highly skilled migrants. Refugees with a high match to the destination country can contribute meaningfully to the economy provided their economic integration is encouraged and facilitated. However, the fiscal cost of refugees with a weak match for the destination economy is high and needs to be shared multilaterally as refugee situations can be prolonged. The fiscal effect of immigration is found to vary between countries depending on the match of the immigrant, tax structure, public welfare schemes as well as the methodology of the study. Nevertheless, there is consensus that the net fiscal effect is negligible.

## 8. Public goods effect

The public goods effect of immigration needs to be considered separately for pure and impure (quasi- or partial) public goods. For pure public goods, immigrants lower the average tax burden of providing these goods by increasing the tax base without creating congestion, exclusion or rivalry. However, there is concern that immigration burdens the education and healthcare system, leading to a decline in per-user provisioning. This has led to concerns regarding the cost, access and quality of congestible public goods for the native-born population. Despite these adverse findings, the review indicates that there are key methodological considerations to be kept in mind to arrive at a fair assessment of the impact of immigration on public goods, with a strong case emerging for the use of marginal

(additional) unit cost rather than the average cost for immigrants. There is evidence that immigrants have a positive net impact on the fiscal balances under the marginal cost approach, even for congestible goods.

Moreover, it needs to be acknowledged that not all immigrants avail of all the welfare schemes in the destination countries, with income being a powerful predictor for the probability of welfare dependency. Also, due to the circular flow of some immigration (both undocumented and documented), even the lowest-skilled immigrants can be net fiscally positive as they return to their origin countries when unemployed or upon retirement.

The general consensus emerging is that the public goods and public finance impact of immigration is negligible and, therefore should not be the criteria to either support or oppose immigration.

## 9. Role of Immigration Policy

The studies on the economic impact of immigrants underline the need to match the skills of the immigrants with the needs of the economy. Therefore, match does not only refer to high-skill individuals but is context-dependent. It needs to be emphasised that regularising semi-skilled and low-skilled immigration in countries with a high match can have positive economic and social impacts. It addresses labour market needs, promotes entrepreneurship, fosters social integration, and contributes to the public finance of the economy.

The rights immigrants enjoy in the destination country, in turn, shape their economic behaviour in terms of savings, investment, and remittances. Secure legal rights provide a foundation for financial stability, entrepreneurship, and social integration, ultimately contributing to both the immigrants' well-being and the economic development of the destination and origin countries. Policymakers should consider these relationships when designing immigration policies that promote economic inclusivity and social harmony.

The endogenous relationship between immigrant rights, particularly the prospect of settlement and citizenship, and their contributions to the destination country is a crucial factor in shaping the overall economic and social impact of immigration. Policymakers should recognise the importance of providing clear pathways to settlement for matched immigrants to maximise the positive outcomes for both immigrants and the host society. There is growing recognition that the economic outcomes of immigration for the destination country are determined by its own immigration policies. Aside from the humanitarian argument for a rights-based immigration policy that calls for the need to uphold the dignity and rights of migrants in a manner consistent with international human rights standards, there is strong economic reasoning for it as well.

## 10. Evidence-based integrated Policymaking

Moving away from public opinion and political considerations that often play a role in shaping the narrative around immigration, the emerging need is for evidence-based policy-making specific to the needs of each country. This entails that countries invest in data collection on immigrants (regular and undocumented) as well as the native-born population to enable meaningful analysis. In particular, together with demographic information, there is a need for harmonised census microdata files on the use of public goods, fiscal contributions, and wage information (together with details on occupation, education, and experience classification).

Finally, immigration policy must be considered as part of the globalisation framework, and it is important for countries to integrate their immigration policy with policies on international trade and foreign investment in order to develop a comprehensive policy framework towards the movement of capital, goods and people.

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