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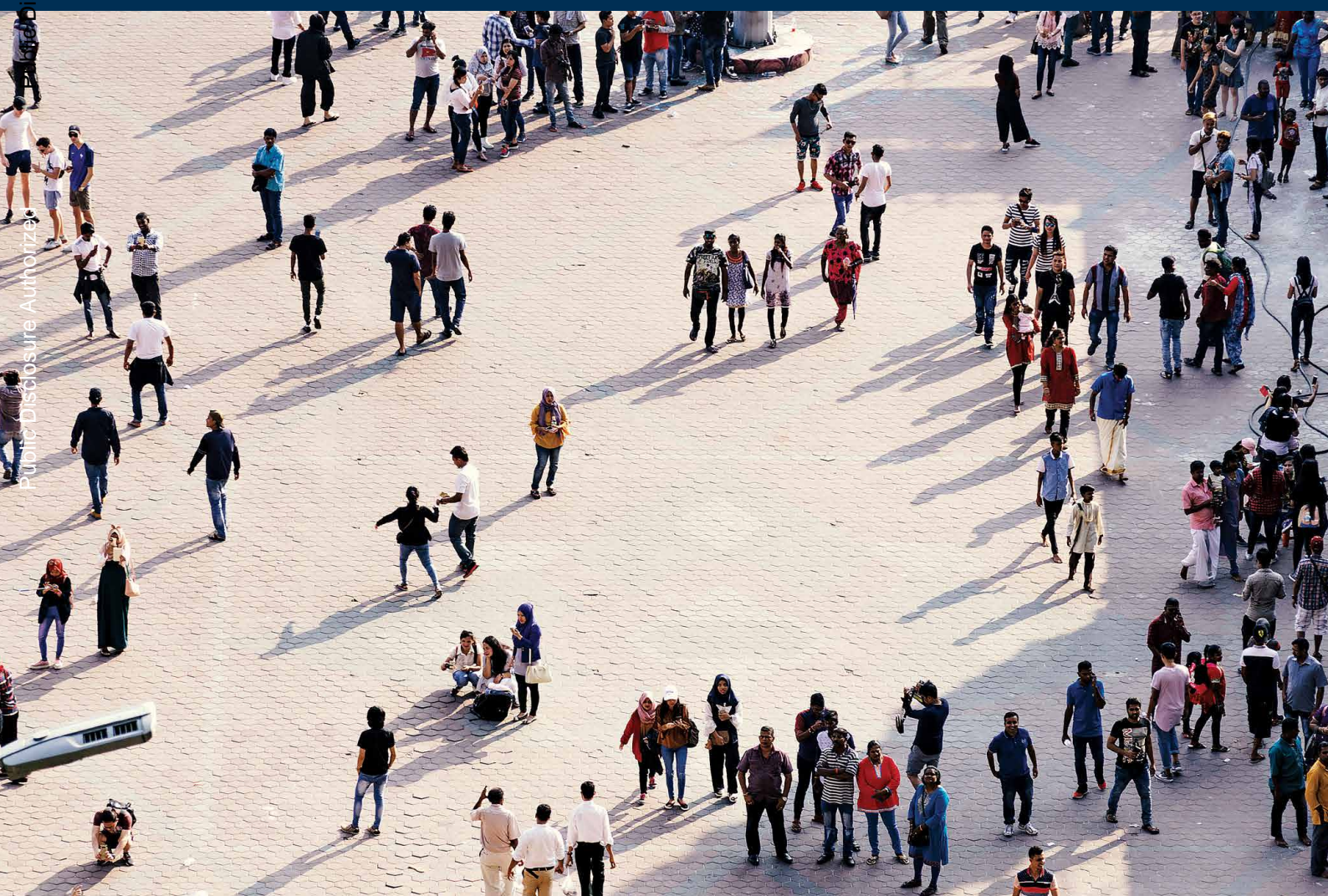in Malaysia

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Who is Keeping Score?

Estimating the Number of Foreign Workers in Malaysia

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The Malaysia Development Experience Series captures key lessons from Malaysia relevant for emerging economies in Asia, Africa, and elsewhere that are transitioning out of poverty and into shared prosperity.

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Acronyms and Abbreviations

ASEAN	Association of Southeast Asian Nations
BNM	Bank Negara Malaysia
DOSM	Department of Statistics Malaysia
EP	Employment Pass
E-Card	Foreign Workers Colour-Coded Identity Card
FOMEMA	Foreign Workers Medical Examination Monitoring Agency
FWCMS	Foreign Workers Centralized Management System
FWCS	Foreign Worker Compensation Scheme
FWIG	Foreign Workers Insurance Guarantee
G2G	Government-to-Government
ILMIA	Institute of Labour Market Information Analysis
IOM	International Organization of Migration
JTKSM	Department of Labour Peninsular Malaysia
LFS	Labour Force Survey
MOH	Ministry of Health
MOHA	Ministry of Home Affairs
MOHR	Ministry of Human Resources
MSP	Money Services Provider
NER	National Employment Returns
PEAs	Private Employment Agencies
PVP	Professional Visit Pass
SPIKA	Foreign Worker Hospitalisation and Surgical Insurance
SPPA	Foreign Workers Application System
VDR	Visa With Reference
VoA	Visa on Arrival
VP(TE)	Visit Pass (Temporary Employment)

Acknowledgements

Executive Summary

Malaysia has experienced a rise in foreign labor inflows in response to steady economic expansion and demographic changes. The foreign workforce has been hovering around 15 percent of the total labor force in recent years according to Labour Force Surveys by the Department of Statistics Malaysia (DOSM). Foreign labor is concentrated in low-skilled occupations, and in Malaysia the term "foreign worker" specifically implies a foreigner doing low-skilled work. These foreign workers come from neighboring countries, predominantly Indonesia, Bangladesh, Nepal and the Philippines.

Foreign labor makes important contributions to the labor market and economic growth. Immigrants address labor market imbalances by filling labor shortages in low-skilled, labor-intensive sectors. As a result, low-skilled foreign workers complement the majority of Malaysian workers and contribute to creating jobs for higher-skilled Malaysian natives, enabling Malaysians to specialize and increase their wage premiums, as research has shown. At the aggregate level, foreign labor supports domestic consumption and fuels economic growth as demonstrated through a computable general equilibrium model.

Yet, concerns over irregular foreign workers have been growing. Heated discussions have taken place on the number of irregular foreign workers in Malaysia as there is no definitive estimate of the number of irregular foreign workers. To illustrate the magnitude, the Ministry of Home Affairs (MOHA) reported that four out of ten foreign workers are irregular, based on its enforcement and amnesty program operations, suggesting the number of irregular foreign workers be about 1.2 million in 2017 and the total foreign worker population of about 3 million. Unofficial data suggests as many as 4 million irregular foreign workers. None of

these figures are backed up by rigorous analytical methods, except the estimate by the Institute of Labor Market Information and Analysis, which estimates the total foreign worker population to be 3.5 million using foreign-worker-related insurance subscription data.

This report is one of the first attempts, to our knowledge, to estimate the number of irregular foreign workers in Malaysia. Its contributions to this field are the following: first, it develops a conceptual framework that lays out potential entry points of irregular foreign workers. Second, it identifies alternative administrative data sources that could help estimate the magnitude of irregular foreign workers at each entry point. Third, it identifies methods that can be employed to measure irregular foreign workers with the current data availability and outlines what can be carried out further in the future using Immigration Department's microdata.

To be more specific about the estimation methods, this report employed three approaches. The first is a "residual method", which compares the total non-citizen population derived from the 2010 Population and Housing Census with estimates of the lawfully-residing non-citizen population. This is similar to the approach used by the U.S. Department of Homeland Security's Office of Immigration Statistics. The second approach is a "build-up" method that counts the various groups of irregular foreign workers based on administrative data. No microdata were made available and therefore the estimations under these two methods were at the aggregate level. This highlights the importance of making better use of existing administrative data at the micro level to improve the estimation process. Microlevel data analyses remain a potentially productive area for future research.

The data limitations were alleviated to some extent by analyzing the data on remittance transactions (carried out by money service providers, or MSPs) collected by the Bank Negara Malaysia (BNM) and made available at the micro level. The regular or irregular status of

individual remitters were identified using age, wage, and sectoral restrictions embedded in Malaysia's foreign worker management system. However, this method has its limitations as not all foreign workers use MSPs to send money home, especially those in plantation estates.

With such methods, the report estimates:

- The total number of foreign workers in Malaysia ranged from 2.96 million to 3.26 million in 2017.
- Among these, the number of irregular foreign workers is estimated to be 1.23 million – 1.46 million.

The estimates reflect the Immigration Department's efforts to curb irregular foreign workers through its amnesty programs and enforcement operations that involved deportation of irregular foreign workers.

Going forward, Malaysia should improve inter-agency coordination and collaboration to narrow gaps in estimating irregular foreign workers. This collaboration would be a building block to create an integrated management information system to better utilize existing administrative data. Such a system consolidates various administrative data and reports in one place and identifies individuals using administrative registers. This could potentially be complemented by improvements in the quality of remittance transaction data collected by BNM, which would allow a better understanding of the sectoral distribution of foreign workers and easier identification of irregular foreign workers.

Malaysia has become a magnet for foreign workers from neighboring lower-income countries, owing to fast and steady economic progress and a higher old-age dependency ratio. The foreign workforce has been hovering around 15 percent of the total labor force in recent years according to Labour Force Surveys by the Department of Statistics Malaysia (DOSM). The members of the Association of Southeast Asian Nations (ASEAN) have committed to facilitate the movement of high-skilled workers, and yet, many foreign workers in Malaysia tend to be low-skilled, work in labor-intensive sectors such as the manufacturing, construction, plantation, agriculture, and domestic helper sectors, and reside in Sabah, Selangor, and Johor. Indonesians continue to be the dominant foreign worker group, benefiting from geographical and cultural proximity, albeit on a declining trend.

This foreign labor participation has direct macroeconomic implications. As an immediate effect, low-skilled foreign workers fill labor shortages in these sectors. A continued influx of foreign workers in the labor market supports the competitiveness of labor-intensive Malaysian goods by containing wage costs for low-skilled labor.[1] Consequently, low-skilled foreign workers complement the majority of Malaysian workers and contribute to creating jobs for higher-skilled Malaysian natives, enabling Malaysians to specialize and increase their wage premiums (World Bank, 2015; Özden and Wagner, 2014[2]), as seen in other countries such as the United States (Dadush, 2014). At the aggregate level, foreign workers support domestic consumption and fuel economic growth as demonstrated through a computable general equilibrium model that takes into account the outflows of foreign workers' wages (Ahsan et al, 2014).

There are concerns about irregular foreign workers. First, whether regular or irregular, foreign workers could depress the employment and wages of low-skilled Malaysian workers, however Özden and Wagner (2014) have found the magnitudes to be small. Secondly, in terms of social implications, an over-concentration of irregular foreign workers may strain public resources and finances[3], as well as potentially be a source of highly communicable diseases given that irregular foreign workers avoid the health screening that is compulsory for all foreign workers (Kanapathy, 2004).

Despite this concern, there is no definitive estimate of the number of irregular foreign workers. Based on its enforcement operations, the Ministry of Home Affairs (MOHA) reported that there are seven irregular foreign workers for every ten regular foreign workers (or equivalently, that four in ten foreign workers are irregular foreign workers). This suggests that the number of irregular foreign workers stand at 1.2 million (based on 2017 data on registered foreign workers). At the same time, it has reported that one of the most recent regularization and deportation programs alone, known as the 6P program[4], registered 1.3 million irregular foreign workers since its inception in 2011.[5] The Malaysia Labour Force Survey suggests the total number of foreign workers was 2.27 million in 2017 including both irregular and regular foreign labors (encompassing both skilled and low-skilled foreign labors).

Various factors explain the presence of irregular foreign workers in Malaysia. Some of the main contributing factors are (i) porous borders, (ii) a fragmented immigration system with frequent policy changes,

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1   Based on the National Employment Returns 2016 survey, the median wages of mid-skilled foreign workers were generally lower than locals and the over-concentration of foreign workers could further widen these wage differentials (see Ang, J.W., Murugasu, A. & Chai, Y.W. 2018).
2   Özden and Wagner (2014) reported that a 10 percent increase in foreign workers results in a 0.71 percent wage reduction of Malaysians working in less skilled occupations. In a similar vein, Athukorala and Devadson (2012) showed that manufacturing wages were negatively impacted when foreign worker dependency increases; a 10 percent increase in foreign worker dependency reduces real wages by 1.3 percent.
3   In 2015, Deputy Home Minister, Datuk Wan Junaidi Tuanku Jaafar, revealed that up to RM29 million was spent on "illegal immigrants" in terms of the cost of meals in detention centres as well as cost of raids, investigation and repatriation.
4   The name 6P is shorthand for pendaftaran (registration), pemutihan (legalisation), pengampunan (amnesty), pemantauan (supervision), penguatkuasaan (enforcement), and pengusiran (deportation).
5   According to the Immigration Department's news briefing which is quoted in "No more 6P amnesty programme for foreign workers," R. Zolkepli, Jun 15, 2015, at https://www.thestar.com.my/news/nation/2015/06/15/fake-6p-programme/.

(iii) weak linkages between the immigration regime and market needs, (iv) a complex, lengthy foreign-worker recruitment process, and (v) weak enforcement of immigration rules and regulations (see World Bank, 2015, 2016 and Testaverde et al., 2017, for further discussion).

This report contributes to improving the understanding of the number of foreign workers in the Malaysian economy by using available administrative data to narrow the wide range in the current estimates. A better understanding of the number of irregular foreign workers may facilitate more rigorous analysis of the impact of the foreign workforce on economic and societal structures, as well as formulate evidence-based policies, including the conduct of monetary policy.

This report employs three approaches to estimate the number of irregular foreign workers. The first is a "residual method", which compares total non-citizen population derived from the 2010 Population and Housing Census with estimates of the lawfully residing non-citizen population. This measures the stock of foreign workers for a given period. This is similar to the approach used by the U.S. Department of Homeland Security's Office of Immigration Statistics. The second approach is a "build-up" method that counts the various groups of irregular foreign workers based on administrative data. An advantage of this method is that it constructs time-series data on irregular foreign workers. Once the stock of irregular foreign workers for a base year is identified, flows of irregular foreign workers can be added on an annual basis.

Undertaking the two approaches highlights the importance of making good use of administrative data at the micro level that are already collected by government agencies, such as the Immigration Department, to improve the process of estimating the number of irregular foreign workers. The compilation of various data sources is based on discussions with relevant stakeholders during the World Bank's field mission undertaken in April 2018. A major challenge faced in implementing these methods for this report is that microdata were not made available to the BNM and World Bank team and thus estimations were done at the aggregate level, leaving errors of under- or over-estimation.

The report finds a way around this drawback by analyzing a set of remittance microdata produced by Bank Negara Malaysia (BNM). BNM has been collecting remittance transaction data from money service providers, part of its financial supervision responsibilities. It attempted to identify the regular or irregular status of individuals using age, wage, sectoral restrictions imposed under Malaysia's foreign worker management system. Some challenges were encountered such as difficulties with identifying sectors an individual engages, but this is an innovative approach and the first attempt to utilize the BNM's remittance data for this purpose. This work is part of the World Bank's support to Bank Negara Malaysia (BNM) in improving the labor market information sources that inform BNM's monetary policy decisions.

The Malaysia Labour Force Survey (LFS) and Economic Census are important data sources for understanding the role of foreign workers in Malaysia (Del Carpio et al, 2015). Nevertheless, like all such exercises they have limitations. First, the LFS is a household-based sample survey and therefore has inherent limitations in ensuring representative sampling of people living in communal housing. Irregular foreign workers are likely to get paid less than their regular counterparts and therefore more likely to live communal housing or hostels, especially in the plantation sector in which employers must provide housing for foreign workers.[6] Second, the Malaysia Economic Census offers insights on the share of foreign workers in the total employees by firm, but the sampling is limited to registered firms.[7]

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6 The government has been contemplating extending this requirement to all employers in other sectors who hire foreign workers.
7 Loayza (2018) finds that unregistered informal firms are seemingly large in Malaysia.
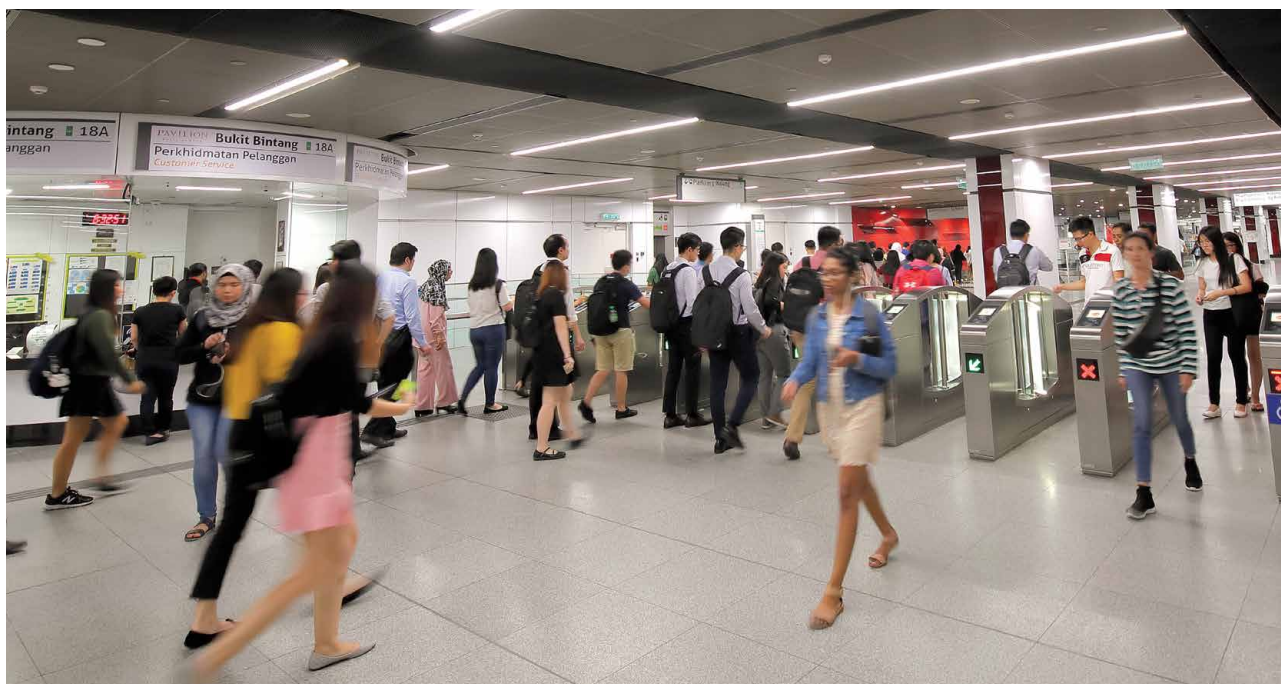
Using the three approaches, this report estimates the size of the irregular foreign worker population at 1.228 to 1.459 million as of 2017. This suggests a total foreign worker population of 2.956 to 3.256 million during the same period, based on the registered foreign worker population of 1.797 million in 2017. These estimates are subject to several caveats, mostly related to issues with data availability or data quality. They are high-level estimates based on aggregate data. As done in the United States (for example in Passel and Cohen, 2018), a more rigorous approach is to count the lawfully-resident immigrant population in the Population and Housing Census by applying demographic information of the lawfully-resident immigrants which could be derived from immigrant data of the Immigration Department. Owing to microdata unavailability, however, this report chose to undertake the estimation exercise at the aggregate level. Even at this level, furthermore, not all of the requested aggregate administrative data were provided by the relevant authorities, such as the departure of foreign visitors by nationality. In other cases, it proved impossible to reconcile data across different sources.

Going forward, Malaysia would benefit from the creation of an integrated management information system that consolidates various administrative data and reports in one place and identifies individuals using administrative registers. This could potentially be complemented by improvements in the quality of remittance transaction data collected by BNM, which would allow a better understanding of the sectoral distribution of foreign workers and easier identification of irregular foreign workers.

This report is organized as follows. Chapter 2 discusses the conceptual framework, including definitions of regular and irregular foreign workers, Malaysia's foreign worker employment system, and pathways of foreign workers becoming irregular. Chapter 3 examines the current publicly available estimates on regular and irregular foreign workers. Chapter 4 discusses administrative data sources that inform the extent of irregular foreign workers and Chapter 5 presents new estimates of the stock of irregular foreign workers. Chapter 6 concludes with recommendations to collect better administrative data to improve foreign worker estimates. As the objective of this report is to estimate the number of foreign workers, it does not make recommendations on immigration policies and systems.

Conceptual Framework

Definitions

Foreign workers

In this report, the term "foreign workers" refers to foreign individuals who lawfully entered Malaysia for a low-skilled job under the Visit Pass (Temporary Employment, VP(TE)) system. By design, they secure their jobs before entering Malaysia. The VP(TE) includes domestic helpers. Foreign workers typically have lower levels of education than the average Malaysian and tend to engage in manual, elementary occupations. They expect to earn at least the minimum wage, which was increased to RM1,100 per month (approximately US$266) in January 2019. The "foreign worker" designation excludes high-skilled foreigners who reside in Malaysia under the Employment Pass and their dependents under the Dependent Pass or Long-Term Social Visit Pass, as well as foreign spouses of Malaysians who engage in employment activities under the Social Visit Pass. The upcoming section on the foreign employment system discusses this in further detail.

Irregular foreign workers

Who counts as an irregular foreign worker? No universal definition of irregular foreign workers/migrants exists, but the International Organization of Migration (IOM)[8] defines irregular migration as "…movement that takes place outside the regulatory norms of the [worker] sending, transit and receiving country…. From the perspective of destination countries, it is entry, stay or work in a country without the necessary authorization or documents required under immigration regulations."

Based on this, irregular foreign workers can be broadly grouped into four categories, as follows:

- **Illegal entries** who failed to produce a valid official passport, travel document, or entry permit upon request, that is, entering Malaysia in violation of the formal immigration controls. This happens through porous borders, especially with Indonesia and the Philippines.[9]

- **Persons not authorized to work** who entered the country lawfully but are not allowed to work. This group includes those who (i) failed to pass a required foreign worker medical test in Malaysia, (ii) have a Visit Pass but changed employers while being in Malaysia, or (iii) have a tourist/student visa but engage in employment activities.

- **Overstayers** who do not leave the country after the expiry date or cancellation of their VP(TE).

- **Refugees and asylum seekers** who have no legal status in Malaysia but seek employment.

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8 Accessed at https://www.iom.int/key-migration-terms on January 18, 2019.
9 This is sometimes aggravated by rules imposed by origin countries. For instance, undocumented immigrants from East Java, Indonesia, tend to be those who fail to meet the migration requirements set by the Indonesian Manpower authorities, such as being younger than the legal migration ages (18 or older) or with lower education levels than required (Sibarani, 2017, from small sample analyses).

Foreign employment system

Who is permitted to take up employment?

Malaysia has a dual work permit system in place to admit and manage foreign labor to respond to labor market needs. As Figure 1 illustrates, it distinguishes foreign labor by skill level: the Employment Pass (EP) for the high-skilled (classified as "expatriates") and the Visit Pass (Temporary Employment) for the low-skilled ("foreign workers").

FIGURE 1. Skill-based immigration system in Malaysia
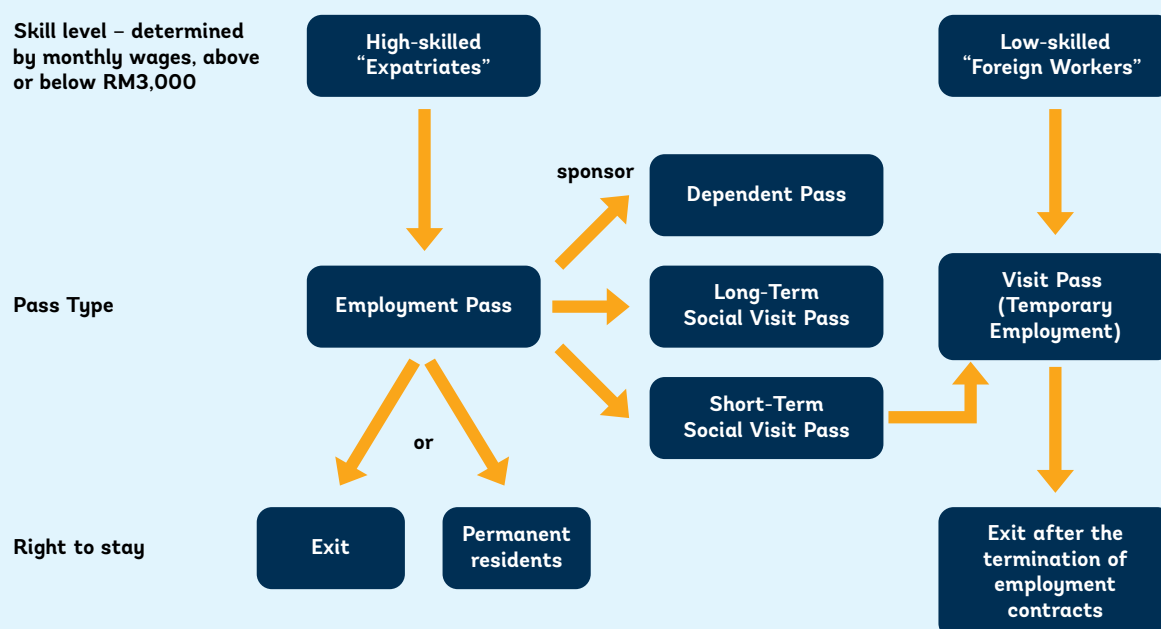
Source: Authors, based on Immigration Department of Malaysia.

The Employment Pass (EP)[10] holders can take up employment up to 5 years and may change employers within Malaysia. EP holders have a pathway to become permanent residents. EP holders may accompany their family members (Dependent Pass/Long-Term Social Visit Pass), and these pass holders can obtain the right to work by applying for an EP. Furthermore, EP holders may employ domestic helpers from foreign countries (Social Visit Pass (Temporary Employment)). The validity of dependent and social passes is tied to the principal EP holders. Another category for Social Visit Pass is foreign spouses of Malaysian citizens who have the right to take up employment.

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10 The Employment Pass has three categories that are distinguishable by the salary and employment duration requirement: Category 1 for salaries of RM10,000/month or higher and an employment contract of up to five years, Category 2 for salaries more than RM5,000 and less than RM10,000 an employment contract up to two years, and Category 3 for salaries more than RM3,000 and less than RM5,000 and an employment contract up to one year.

The Visit Pass (Temporary Employment) corresponds to the "foreign workers" category. The Ministry of Home Affairs controls annual inflows through an employer-specific quota mechanism, coupled with the foreign worker levy system. Some important features of the VP(TE) system are:

- These workers are between 18 and 45 years of age (between 21 and 45 for domestic helpers) at the time of a VP(TE) application and therefore all foreign workers are, in principle, less than 56 years of age.

- A VP(TE) is renewed every year, subject to approvals from medical check-ups by Foreign Workers Medical Examination Monitoring Agency (FOMEMA) (for the first three years in the country).

- The maximum stay is 10 years. Those VP(TE) holders under the amnesty program (the 6P Program, discussed later) can stay only up to three years.

- Once in the country, VP(TE) holders are not allowed to change their employer, even if it is within the same sector or industry.

- VP(TE) holders' dependents are not allowed to accompany the foreign worker to Malaysia.

- VP(TE) holders have no pathways to become permanent residents and thus must return to their origin countries after the completion of their employment contracts.

The VP(TE) is restricted to those individuals from 15 countries with which Malaysia has concluded a bilateral labor mobility arrangement (Table 1). VP(TE) holders can engage in low-skilled jobs in all sectors, except for those from the Philippines, India, Indonesia, and Bangladesh, who have sector and gender restrictions. Filipino females are not eligible for a VP(TE). Indonesian males are not allowed to work in the manufacturing sector, but Indonesian females can work in all sectors. Jobs in the construction and services sectors that Indians take up are restricted as presented in Table 1. Bangladeshis are permitted to work only in the plantation sector.

TABLE 1. Approved source countries and sectors for foreign workers in Malaysia

Country	Domestic helper sector	Sectoral/ occupation restrictions
Bangladesh	✗	Plantation sector only
Cambodia	✓	No restriction
India	✓	• Not allowed in Manufacturing. • Allowed for specific occupations in Construction (high tension cable only) and Services (goldsmith, wholesale/retail, restaurant-cooks only, metal/scrap materials and recycling, textiles and barbers). • Allowed in Agriculture and Plantation.
Indonesia	✓	• Males allowed for all sectors except Manufacturing. • Females allowed for all sectors.
Kazakhstan	✗	No restriction
Lao PDR	✓	
Myanmar	✗	
Nepal	✗	
Pakistan	✗	
Philippines	✓	• Females only allowed in the domestic helper segment. • No restrictions for males.
Sri Lanka	✓	No restriction
Thailand	✓	
Turkmenistan	✗	
Uzbekistan	✗	
Vietnam	✓	

Source: Immigration Department of Malaysia (https://www.imi.gov.my/index.php/en/foreign-worker.html).
Note: ✗ Not allowed. ✓ Allowed.

Who is not permitted to work?

A separate entry category for skilled workers is the Professional Visit Pass (PVP). PVP holders are not permitted to take up employment in Malaysia. Rather, the PVP allows skilled foreigners to provide services (including training) on behalf of an overseas company on a short-term basis of up to 12 months, consistent with Malaysia's commitment to the World Trade Organization General Agreement on Trade in Services. Foreign students hold a Student Pass that does not permit employment in Malaysia.

The process for employing foreign workers

The process to hire a foreign worker is complex, and a clear understanding of the process helps identify potential sources of administrative data related to foreign workers. Before proceeding to the hiring process, it is necessary to discuss the institutional arrangements that are in place. The Ministry of

Home Affairs (MOHA) and the Ministry of Human Resources (MOHR) implement foreign worker policies set out by the Cabinet Committee on Foreign Workers and Illegal Immigrants.[11] The MOHR overseas the Foreign Workers Compensation Scheme (FWCS),[12] and the Ministry of Health (MOH) administers the Foreign Worker Hospitalisation and Surgical Insurance (SPIKPA).[13] The Royal Malaysia Police receives reports from employers in the event that their foreign workers unilaterally abandoned employment.

Employers undertake lengthy steps to hire a foreign worker as displayed in Figure 2. The process first starts by meeting the labor market needs test: the employer obtains a letter from the Department of Labour Peninsular Malaysia (JTKSM) which confirms that the employer made efforts to recruit local workers through the Job Clearing System/Jobs Malaysia. Then, the employer seeks permission for a foreign worker quota from MOHR, which checks if the employer complies with the qualifications and requirements to recruit a foreign worker.[14]

The remainder of the process resides within MOHA, through the Foreign Worker One-Stop Approval Agency, which is supported by the Foreign Workers Centralized Management System (FWCMS). The employer applies for approval of a foreign worker quota, followed by making the levy payment per worker, the purchase insurance policies (SPIKPA, FWCS), and a security bond (Foreign Worker Insurance Guarantee, or FWIG, which is refunded to the employer after the departure of the foreign worker for his or her home country). This approval permits an employer to bring a foreign worker candidate in Malaysia and is conditional on meeting further requirements. After obtaining the foreign worker candidate's medical clearance in his or her home country and subsequently signing a labor contract with the candidate, the employer applies for Visa With Reference (VDR), which permits the foreign worker candidate to obtain a visa and subsequently enter Malaysia through an authorized point of entry. Within 30 days from the arrival, the foreign worker candidate undergoes a medical check-up by the Foreign Workers Medical Examination Monitoring Agency (FOMEMA). After receiving the medical clearance, the employer applies for a foreign worker permit, the VP(TE). MOHA issues a VP(TE) and then the foreign worker employment starts. For renewal of a VP(TE), the employer must submit the three insurance documents and FOMEMA medical clearance (limited to the 2nd and 3rd year). The process to hire a foreign domestic helper does not have a requirement to purchase SPIKPA and FWCS as they are subject to labor laws as in many countries.

The employer bears responsibility for managing the foreign workers. If a foreign worker unilaterally cancels or abandons employment, the employer must report it to the police. Prior to the foreign worker's departure for his or her home country, the employer must file a Check Out Memo with MOHR. Throughout the process with MOHR, the employer uses the online platform, FWCMS.

By design, foreign workers arrive in Malaysia with a job in hand after incurring significant migration cost.[15] Employers frequently recruit foreign workers through intermediations by private employment agencies (PEAs). For example, 95 percent of Vietnamese low-skilled workers in the manufacturing sector were recruited by PEAs and only 2 percent experienced were directly hired by employers (World Bank

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11 The Committee consists of representatives from 13 ministries and is chaired by the Deputy Prime Minister with MOHA as the secretariat for the Committee.
12 Effective January 2019, employers must register their foreign workers (including domestic helpers) under the Social Security Organization and contribute to the Employment Injury Scheme, which replaces FWCS.
13 This health care scheme is mandatory and a prerequisite for a VP(TE) for all foreign workers except for plantation workers and domestic helpers. If an employer purchases SPIKPA for foreign workers in the planation and domestic helper segments, employers must pay the premiums. For other foreign workers, it is up to both parties to decide how premium costs are split among foreign workers and their employers.
14 For implementation at the state level, the responsible agencies vary. In Peninsular Malaysia, the Department of Labor Peninsular Malaysia (JTKSM) approves the recruitment quota. In East Malaysia, the Sabah State Labor Department and the Committee for Foreign Workers in Sabah and Labuan are responsible to issue licenses and recruitment quotas, respectively. In Sarawak the responsible entity is the Sarawak State Labor Department.
15 Employers incur the cost to hire foreign workers as well but have ways to recoup the cost – such as through salary deductions.

FIGURE 2. Process to hire foreign workers from the employer's perspective
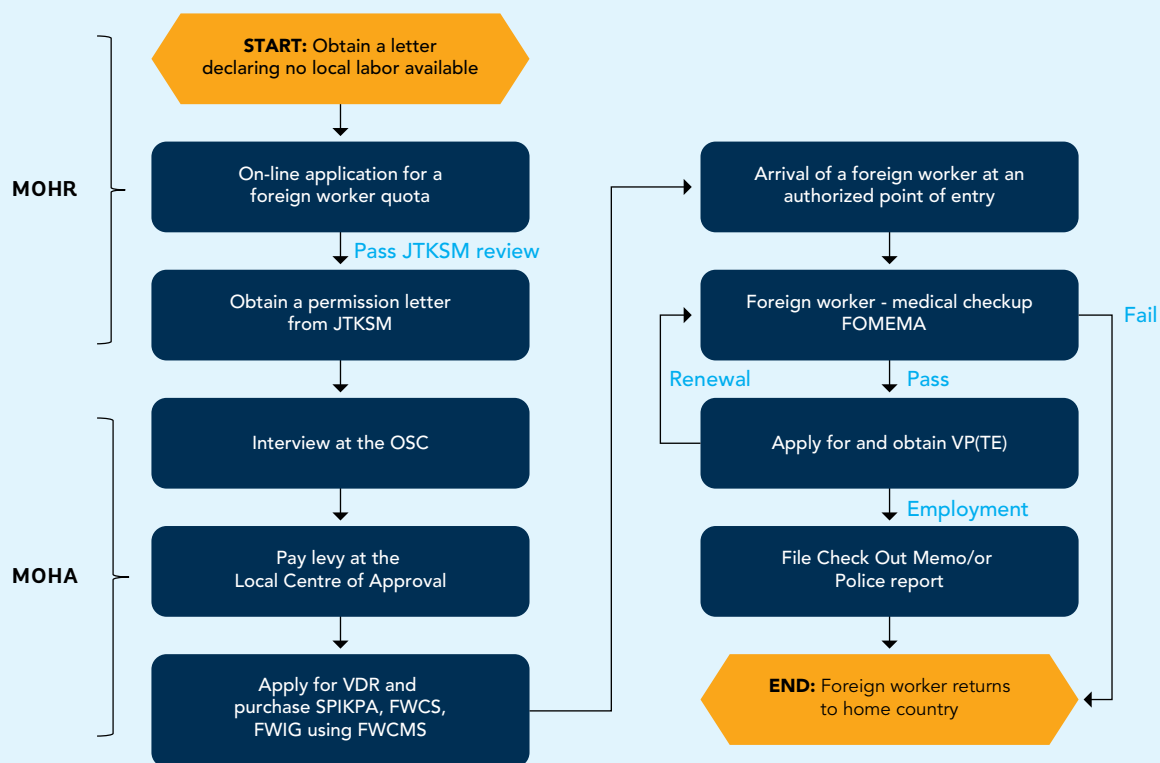
Source: Authors' compilation based on MOHA and MOHR

KNOMAD and ILO, 2015). Opaque private recruitment practices, sometime coupled with complex worker-deployment procedures set out by governments in labor-sending countries, often involve burdensome recruitment fees, causing or increasing the indebtedness of foreign workers. The transaction costs can be as high as US$2,700 (equivalent to ten-months' earnings in Malaysia), but can vary, depending on the origin of the workers.[16]

In an effort to curb costs and improve transparency in foreign worker recruitment practices, Malaysia introduced a government agency-led recruitment system under a bilateral Government-to-Government (G2G) agreement with Bangladesh in November 2012. It helped lower the costs from RM12,000 to RM1,300 (Wickramasekara, 2016, according to informant interviews in Malaysia). However, the G2G mechanism saw limited success in expanding labor mobility opportunities from Bangladesh to Malaysia: approximately 1.4 million workers registered themselves in the job-seeker pool but only 10,000 workers were deployed to Malaysia for the first 2.5 years of implementation (Wickramasekara, 2016).

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16 16 The migration costs can be more than five-month earnings of foreign workers in Malaysia. The World Bank KNOMAD team (2015) consisting of World Bank and ILO staff attempted to estimate migration costs incurred by Vietnamese workers in the manufacturing sector, reporting the mean migration costs of US$1,374 per worker. UNODC (2015) reported that Bangladesh workers incurred US$2,700 to be hired in Malaysia.

Under the G2G agreement, employers who wish to hire Bangladeshi foreign workers must apply through the Foreign Workers Application System (SPPA). Unlike the private recruitment mechanism, employers are not required to submit job vacancy advertisement online (see Figure 3). Instead, an employer will first have an interview session with MOHA before sending the notification to JTKSM, which is responsible to only conduct checking on the employer's eligibility to hire foreign workers.

FIGURE 3. Process to hire Bangladeshi workers under the G2G mechanism
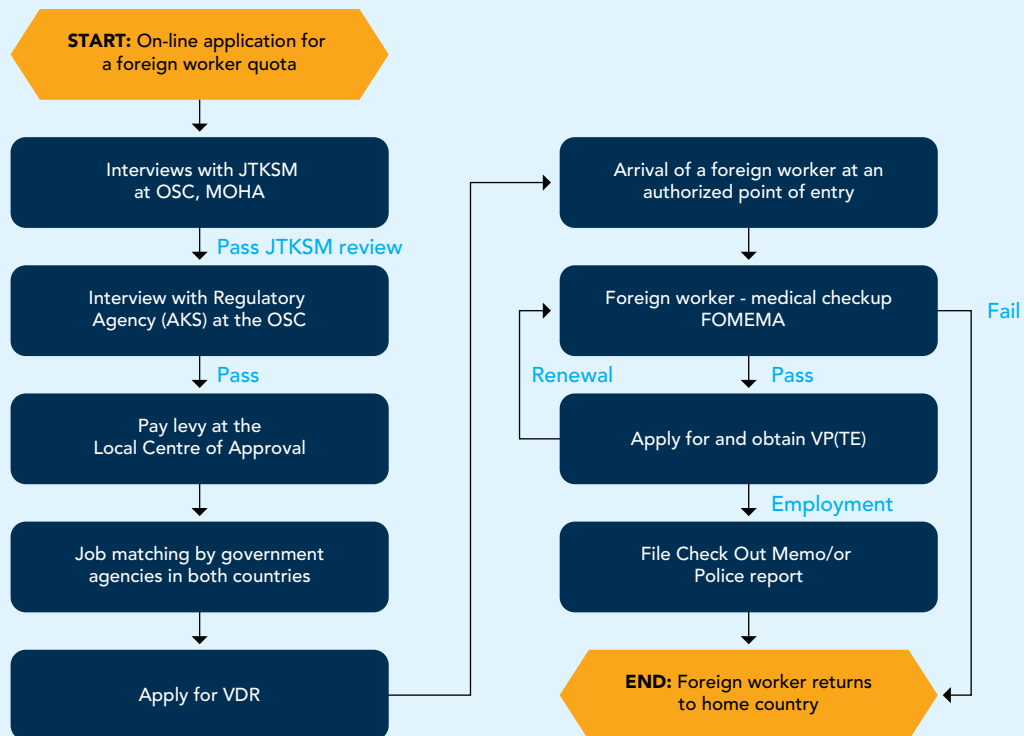
Source: Authors' compilation based on ILMIA, and MOHA.

Pathways to irregular foreign workers

This chapter discusses in more detail how a regular foreign worker may become an irregular foreign worker. Because of the complexity and fragmentation of the system for admitting and regulating foreign workers, there are many stages at which a foreign worker could become undocumented or irregular (for example, at the admissions, employment, or repatriation stage of temporary migration. See Figure 4).

FIGURE 4. Pathways to becoming an irregular foreign worker
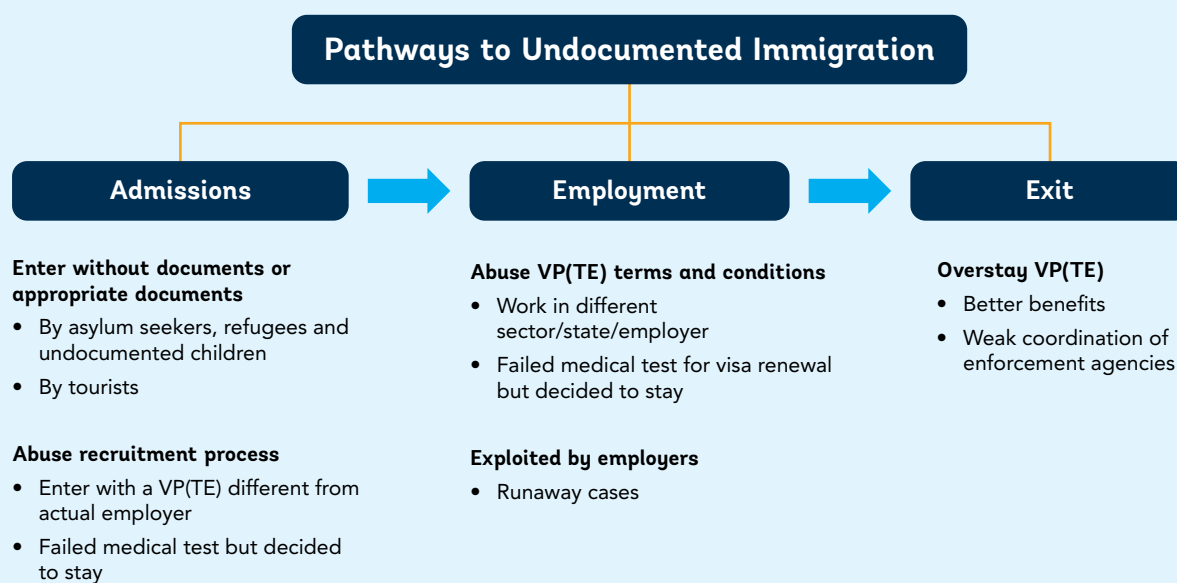
Source: Adapted from World Bank, 2016

During the admission stage

Foreign workers can become undocumented upon entry, by landing at a job different from that specified in a VP(TE). As noted earlier, foreign workers usually incur burdensome migration costs, owing to complex, lengthy, and opaque recruitment procedures (likely to be in both labor-sending and receiving countries)[17]. Interviews with relevant stakeholders indicate that to reduce costs, foreign workers may choose a job in the plantation sector, which requires the lowest levy. Then, after obtaining a VP(TE), they sometimes change to a higher-paying job such as in the manufacturing sector (see also World Bank, 2017 on the positive link between migration cost and irregular out-migration in Indonesia).[18] It is not uncommon for foreign workers to migrate to Malaysia and end up unemployed, or employed in a sector different from that stated on their VP(TE) (Amnesty International, 2010; Ajis et al, 2015; Verité, 2014; World Bank, 2016), resulting in their irregular status in Malaysia.

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17 World Bank/ILO KNOMAD surveys of Vietnamese workers in the manufacturing sector in Malaysia show that it took an average of 2.8 months to process their deployment to Malaysia. MEF reports that the processing of applications for VDR takes 30 working days (compared to one week in the past) and that the approval can take longer than three months. Moreover, the VP(TE) renewal can take from two weeks to more than a month, and that the processing time for applications for more than five workers can be longer than two months (MEF, 2014).

18 The government has attempted to eliminate this problem by transferring the levy payment responsibility back to employers in 2018, but this has its own weakness in that employers could potentially use irregular workers to fill labor shortages where the levy is burdensome (see Annex 3 on the foreign worker levy by sector, and World Bank, 2016 for further discussion on the levy system).

Regular foreign workers may become irregular after failing mandatory medical screening by FOMEMA. In principle they must return home after failing the medical screening, but in practice often choose to work illegally in Malaysia in order to at least recover the upfront migration cost incurred. The World Bank/ILO KNOMAD survey of Vietnamese workers in the manufacturing sector in Malaysia indicates that 80 percent of the respondents borrowed money to finance their migration to Malaysia, with the loans averaging US$1,185 (in 2014 dollars). The medical check-ups are designed to assess whether foreign workers are fit to work and to prevent the spread of communicable diseases at the workplace or more broadly within Malaysia (Jayakumar, 2016). According to FOMEMA, reasons for medical rejection include tuberculosis, sexually transmitted diseases, hepatitis-B, HIV/AIDS, and mental illnesses, as well as pregnancy and the detection of opiates or cannabis in urine samples. No actors in the immigration system are responsible for treating unfit workers with infectious disease and therefore, this medical screening is an imperfect measure to control hazards and could also potentially raise ethical issues (Jayakumar, 2016).

Foreign individuals sometimes enter Malaysia with a travel/student pass and then proceed to work in Malaysia even though they do not have a proper work permit. Under the ASEAN framework, citizens of member countries enjoy the visa-free entry to Malaysia for tourism purposes. The visa-free regime may increase the short-term mobility of individuals and promote economic integration among member countries. However, short-term mobility for tourism can also serve as an entry channel for irregular immigration.[19] For instance, EU member states have experienced that visa liberalization poses challenges such as persisting irregular migration (Europeach Commission, 2017). A similar situation could prevail in Sarawak, where most foreign workers come from Kalimantan.

Refugees and asylum seekers who enter Malaysia without documentation could join the labor market and become undocumented foreign workers. Most refugees are de facto integrated in the Malaysian society as part of a foreign worker economy (Wurscher, 2018). Filipino refugees who resettled in Sabah during the 1970s and 1980s are considered to be better off than other refugees (Kassim, 2009) because they received permission to stay and work in Sabah by the Malaysian Federal authorities under a special pass, the HF7 (later changed to IMM13), which is extended to their children and renewed annually. The United Nations High Commissioner for Refugees (UNHCR) classifies them as "people of concern", but there exists confusion regarding their status and the local population tends to see them as "illegal immigrants". Reasons include failure to renew the IMM13 passes (often because they cannot the afford pass renewal fees), being unregistered children of refugees, and IMM13 holders accommodating economic migrants from their home villages in the Philippines (Kassim, 2009).

During the employment stage

Even after obtaining VP(TE) to work legally in Malaysia, foreign workers may decide to switch employers or sectors in Malaysia, becoming irregulars. Several factors are at play. Demand for undocumented foreign workers is apparent: in 2016, a total of 1,174 employers were involved in hiring, harboring and helping irregular foreign workers escape arrest according to the Immigration Department, and in 2017, an estimated 70–80 percent of the 650,000 small- and medium-sized enterprises (SMEs) had undocumented foreign workers (Low, 2017).

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19 See Mau et al (2015) for discussions related to the link between short-term mobility and irregular immigration.

Table 2 below shows that employers knowingly hire irregulars to reduce costs (including opportunity costs) from the complex, lengthy recruitment process and financial costs to hire foreign workers, including foreign-worker levies and the purchase of insurance policies. They would also sometimes hire irregulars after applying for foreign workers through regular channels and not receiving approval for the full number of workers requested, or even having the application rejected completely.

Weak enforcement of immigration rules, especially over practices by employers, would create a favorable environment for both employers and foreign workers to take the risks associated with working irregularly. The OECD (2018) calls for sanctioning employers who violate the immigration rules and regulations as a punitive measure, as well as increasing awareness of the risk of employing workers in irregular situations as a preventive measure.

In addition, the outsourcing practices may push employers to turn a blind eye on the status of foreign workers. Companies hiring fewer than 50 foreign workers are required to use labor outsourcing firms.[20] With this arrangement, the responsibilities of managing foreign workers move from employers to outsourcing firms, which increases the exposure of foreign workers to being exploited. MOHA introduced the Foreign Workers Colour-Coded Identity Card (E-Card) by sector of employment for every WP(TE), which is issued together with a VP(TE) to the employer, but not all foreign workers carry these cards and may not present them to the employers. An easy verification system may help employers to check the status of a foreign worker supplied through outsourcing firms such as E-Verify of the United States Department of Homeland Security (DHS), a free online service, which allows employers to check the eligibility of foreign employees to work in the U.S.

Table 2. Demand for undocumented workers by employers

Factors	Demand for Undocumented Workers
High employment cost	• Employers seek informal channels to avoid employment costs. Starting in the year 2018, employers must cover levy payments and provide housing in permanent structure for foreign workers. Employers also must cover the insurance and medical costs of foreign workers. • Employers in smaller operation seek informal channel due to high cost charged by outsourcing companies.
Limited approved quantity	• Employers hire undocumented foreign workers to fill in some positions when they do not get the desired quantity from regulating agencies.
Long hiring process	• Employers seek informal channel because of long hiring process. The hiring process of foreign workers could take about 6 months before employers receive approval from regulating agencies.
High risk of paying penalty	• Employers may prefer to hire undocumented foreign workers to reduce the risks of paying penalty for runaway cases.

Source: Authors' compilation, based on newspapers which quote statements from MOHA and World Bank, 2016.

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20 The MOHR announced that outsourcing of foreign worker recruitment shall be gradually discontinued and placed under the MOHR's Private Employment Agency from 2019 onwards.

At the exit stage

Foreign workers, even after their Visit Passes have expired, would have incentives to take the risk of staying in Malaysia, potentially to meet their savings targets. Even though irregular foreign workers are likely to be paid below the minimum wage, the benefits of staying in Malaysia often still outweigh the cost of going back to their home countries where wages are generally lower than what they would receive in Malaysia. According to the World Bank/ILO KNOMAD survey data, 20 percent of Vietnamese respondents in the manufacturing sector in Malaysia had no income in Vietnam, and half of the respondents had earned less than US$200 (in 2014 US dollars) per month, prior to migrating to Malaysia.

After settling in Malaysia, foreign workers sometimes invite family members to enter on tourist visas who then overstay their visas. Sabah has long seen the problem of overstaying foreign workers (World Bank, 2013). The weak coordination across enforcement agencies makes it easier for foreign workers to overstay. Anecdotal evidence suggests that the corruption practices in Malaysia's governance structure is penetrated at different levels, and bribery to allow undocumented foreign workers to overstay is not uncommon (New Straits Times, 2018).

In sum, the presence of undocumented foreign workers in Malaysia is a result of many players, including employers, the migration system, and foreign workers themselves. Solving the undocumented foreign worker issue depends not only on the coordination within regulatory agencies, but also on better coordination of public and private sectors as well. Ongoing efforts to improve the immigration systems exist under the leadership of the MOHR.

Existing Estimates of Foreign Workers

The latest available estimates of foreign workers

Official estimates suggest the number of foreign workers in Malaysia could be as high as three million. A wide range of estimates are provided by different government sources: 1.8 million as of December 2017 estimated by the Ministry of Home Affairs (MOHA), 2.26 million by the Labour Force Survey (2017), and 3.3 million by the Population and Demography Department of DOSM (2018).

Two factors may help explain these differences. First, definitions differ. As presented in Table 3, the figures published by MOHA and MOHR cover only legally "documented" foreign workers under the VP(TE). DOSM figures, on the other hand, have a broader coverage: the LFS refers to "non-Malaysian citizens" in the labor force and therefore includes higher-skilled foreigners with employment passes, and the Population and Demography estimates cover both regular and irregular foreign workers, as well as high-skilled expatriates and their dependents as the non-citizen population is identified by the census questions on "place of birth" and "citizenship".

TABLE 3. Foreign worker estimates and associated definitions (2017)

Agency	MOHA	LFS (DOSM)	Population and Demography (DOSM)
Estimates	1.797 million	2.27 million	3.287 million (estimate of 2018 based on the 2010 census)
Definition	Foreign workers to whom a VP(TE) issued for the given year (VP subject to an annual renewal) (so-called 'registered' foreign workers)	Non-citizen labor force, including irregular foreign workers but excluding tourists or foreign workers who do not reside in households (for example, hostels, labor camps).	People who are not born in Malaysia including children, students, spouses of Malaysian citizens, and expatriates and their dependents.

Source: MOHA, MOHR, DOSM, and authors' compilation

Unofficial estimates of the total number of foreign workers tend to be much higher, ranging from 3.4 million to 5.5 million. The Institute of Labour Market Information Analysis (ILMIA) under MOHR attempted to estimate the number of foreign workers based on the number of foreign workers who subscribe the mandatory Foreign Workers Insurance Scheme. Measured that way, the average number of foreign workers during 2012-2016 was approximately 3.429 million, with higher concentrations in Selangor, Johor, and Sarawak states as official estimates suggest (Figure 5). Lee and Khor (2018) estimated a minimum number of foreign workers of about 3.85 million by multiplying the number of the employed in LFS 2016 by a share of foreign workers in each sector identified by National Employment Returns data (2016). They suggest that the actual total number of foreign workers could be around 5.5 million. A Malaysia Parliament Discussion document (2016) suggested that the ratio of Malaysian citizens to foreign workers is 2.5:1.

FIGURE 5. **Estimate of foreign worker distribution by state**
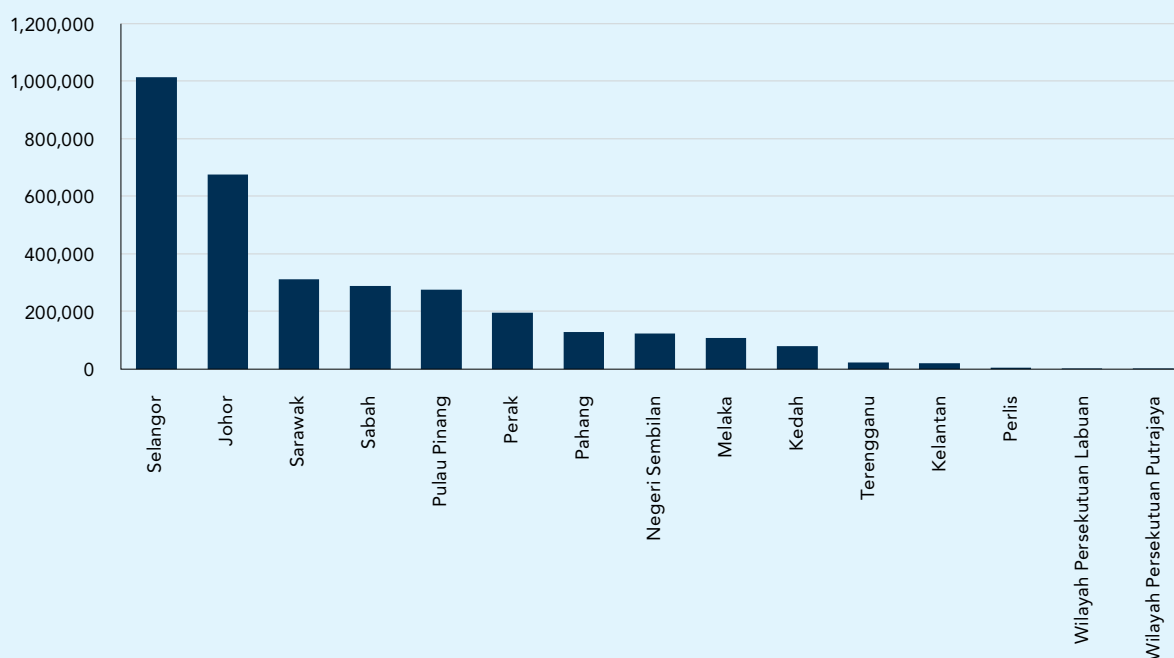
Source: ILMIA, 2018.

Trends and stylized facts of foreign workers

MOHA's administrative data offer a glimpse of trends and stylized facts regarding foreign workers. According to this source, after peaking at 2.25 million in 2013, the number of foreign workers has been declining, hovering around 1.8 million during 2016–2017. The jump in 2013 is largely attributable to the legalization of irregular foreign workers through the "6P" regularization program. Although lower than the 2013 peak, the number of foreign workers in 2017 was approximately 30 percent higher than the total in 2011 (Figure 6).

FIGURE 6. Number of foreign workers from 2011 to 2017
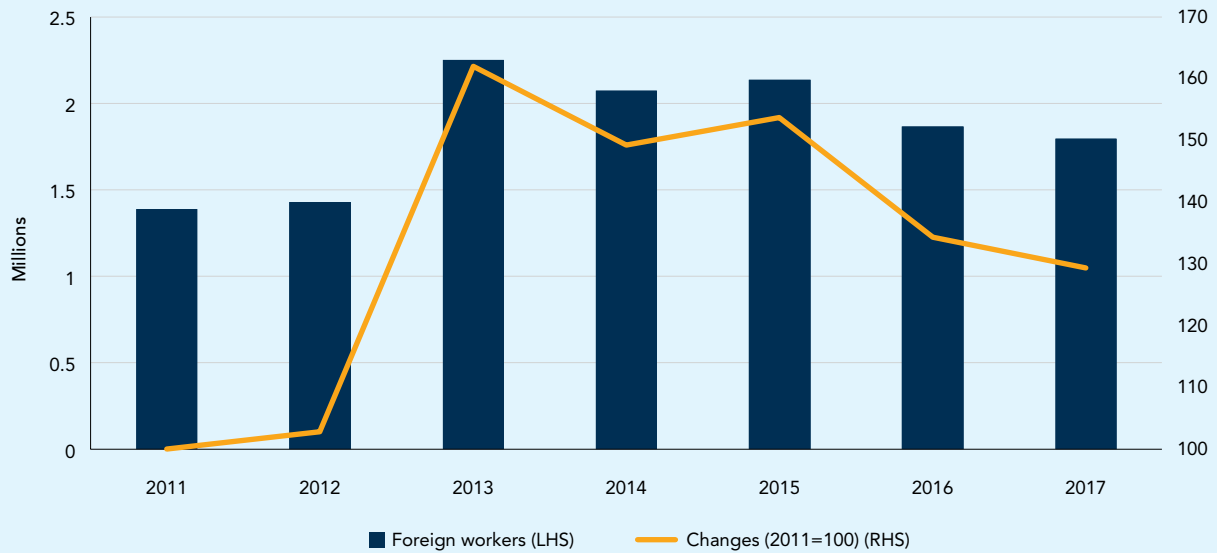
Source: MOHA.
Note: Number of foreign workers (LHS); Changes in the number of foreign workers (RHS)
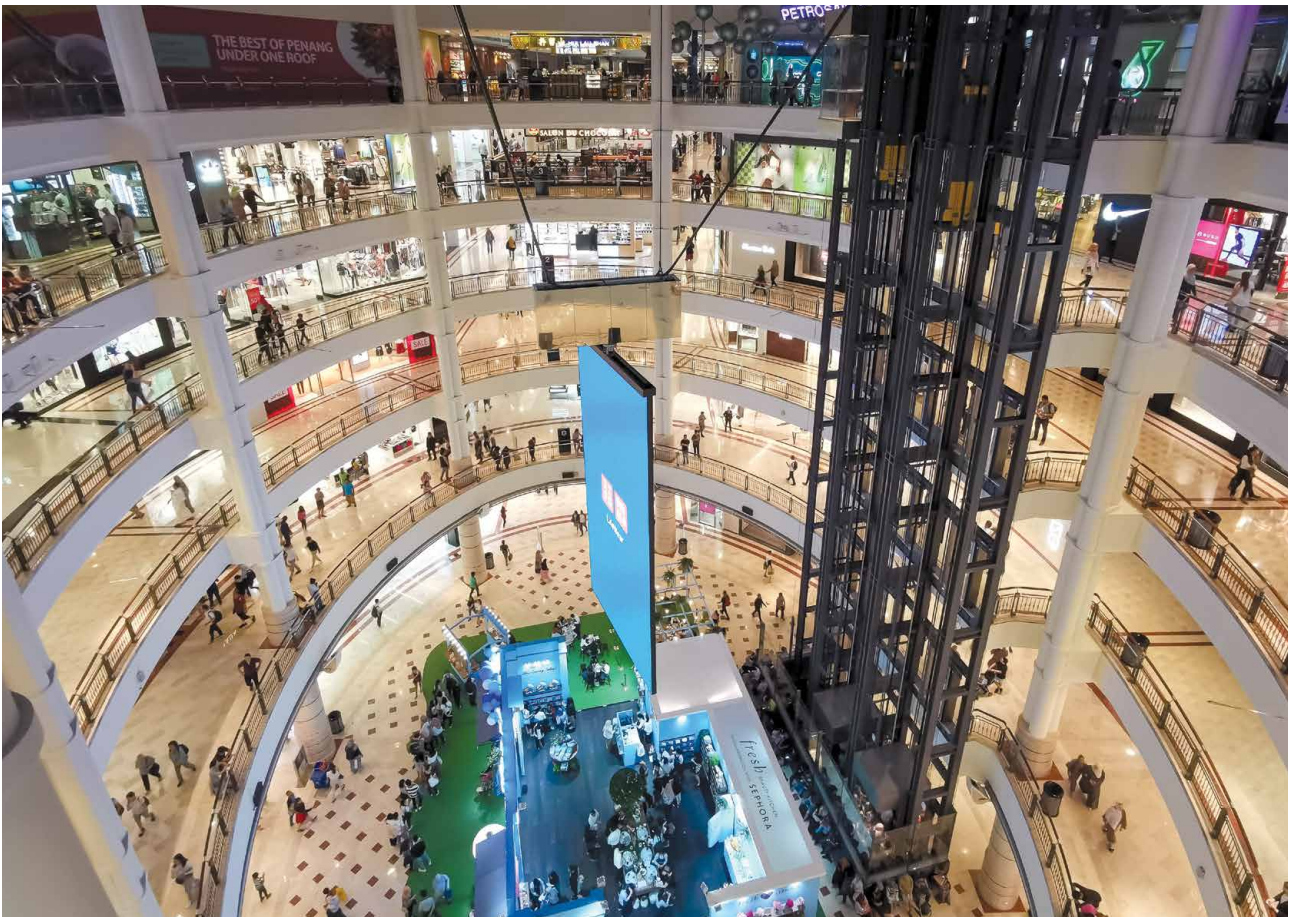
FIGURE 7. Indonesians make up the largest group (number of foreign workers by country of origin, 2018)
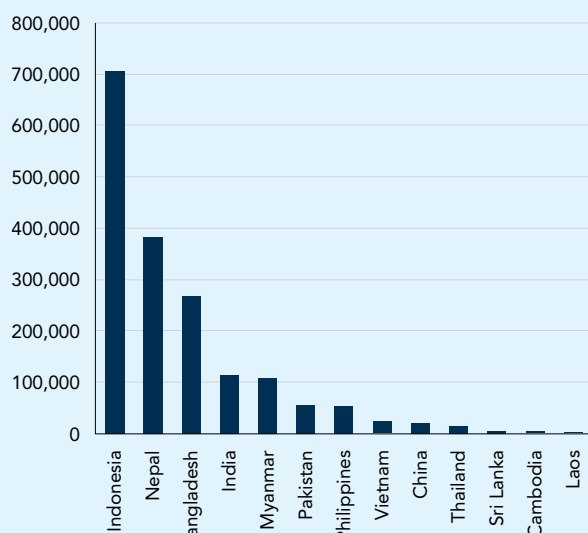
Source: MOHR, 2018.

FIGURE 8. The majority of foreign workers are males (share of foreign workers by gender, 2016)

Female 377,043 20%

Male 1,489,326 80%
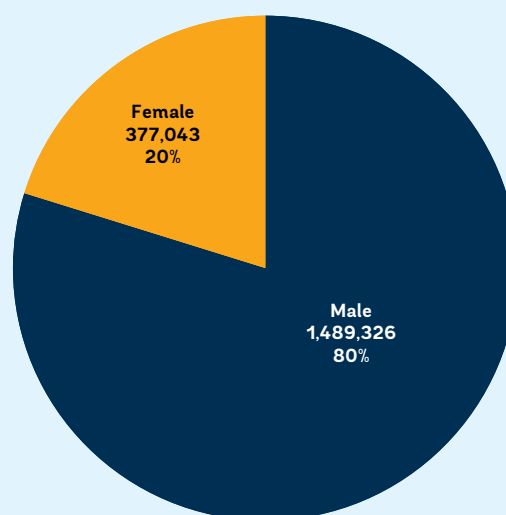
Source: MOHA

Figures 7 to 11 depict salient features of foreign workers: by nationality, gender, state, sector, and occupation. Indonesians make up 40 percent of Malaysia's total foreign worker population, followed by Nepalese (22 percent) and Bangladeshis (14 percent) (Figure 7). Females account for only 20 percent (Figure 8). MOHR data show that more than half of the registered foreign workers reside in the three states of Selangor (30 percent), Johor (18 percent) and WP Kuala Lumpur (15 percent) (Figure 9). This is a departure from what the LFS 2016 presents, which is Sabah is the most common destination, followed by Selangor and Johor, potentially indicating the high presence of irregular foreign workers in Sabah.[21] Foreign domestic helpers account for only 7 percent of the total foreign worker population (Figure 10). Foreign workers tend to have elementary jobs or machine operating occupations (Figure 11) and are concentrated in the manufacturing (36 percent), construction (19 percent), plantation (15 percent), and services (14 percent) sectors and sub-sectors.

Foreign workers' monthly salaries tend to be lower than those of their native counterparts in general, and appeared to range between RM1,200 (US$289) and RM970 (US$234) in 2016 (measured by median salaries for different occupations, Figure 12). The Malaysian Employment Federation (MEF) Survey on the management of foreign workers in 2016 on the other hand reports that approximately 81 percent of the 210 MEF member firms confirmed that they paid their workers at least the minimum wage, and that the average monthly basic salary of foreign workers ranges from RM1,200 to RM1,758 (US$424)[22], depending on the length of employment (MEF, 2016). The MEF estimates may have an upward bias, as the MEF Survey tends to capture a smaller proportion of SMEs and a larger proportion of large firms, which may be more likely to comply with immigration regulations. The KNOMAD survey respondents reported lower amounts – earning an average of US$354 per month (in 2014 US dollars).

21 It was widely reported that Indonesians form the largest number of foreign nationals in Sabah. According to a statement from the Indonesian Consul General in 2008, there are 230,000 legal Indonesian workers, in addition to about 569,000 undocumented Indonesian immigrants, in Sabah, who are largely working in the plantations and smallholdings in the countryside (Kassim, 2009).
22 Using the 2016 annual average rate of RM4.14/US$1.

FIGURE 9. Selangor, Johor, and Kuala Lumpur are the main destinations of regular foreign workers (number of foreign workers, 2018)
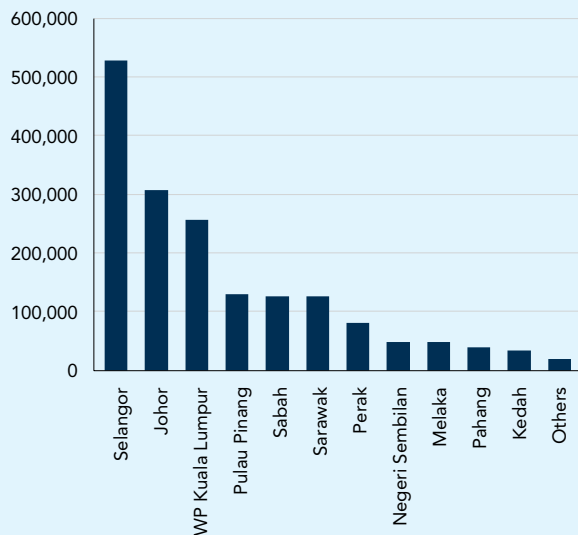
Source: MOHR, May 2018.

FIGURE 10. 70 percent of foreign workers employed engage in three sectors/sub-sectors: manufacturing, construction and plantation (sectoral distribution of foreign workers, 2018)
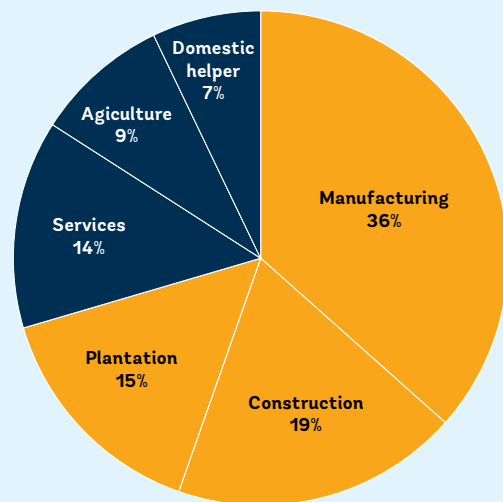
Source: MOHR, May 2018.

FIGURE 11. Foreign workers tend to engage in low-skilled jobs (distribution of foreign workers by occupation, 2011 and 2014)

Immigrant workers as a share of total employment, percent
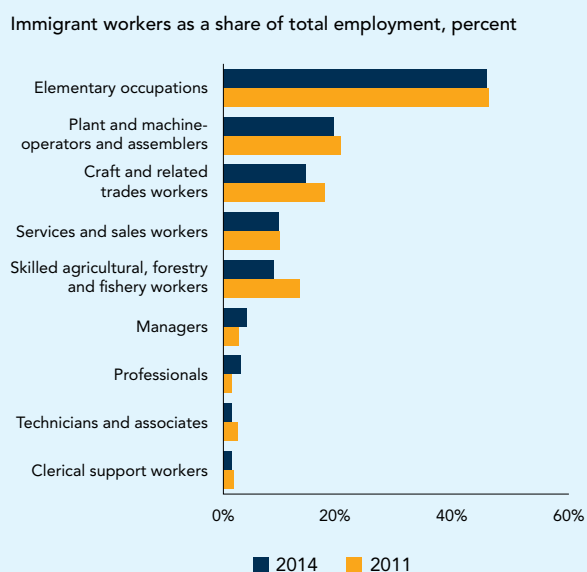
Source: World Bank, 2015.

FIGURE 12. Median salary of foreign workers in low-skilled occupations is less than RM1,200 per month (2016 National employment returns, median, RM)
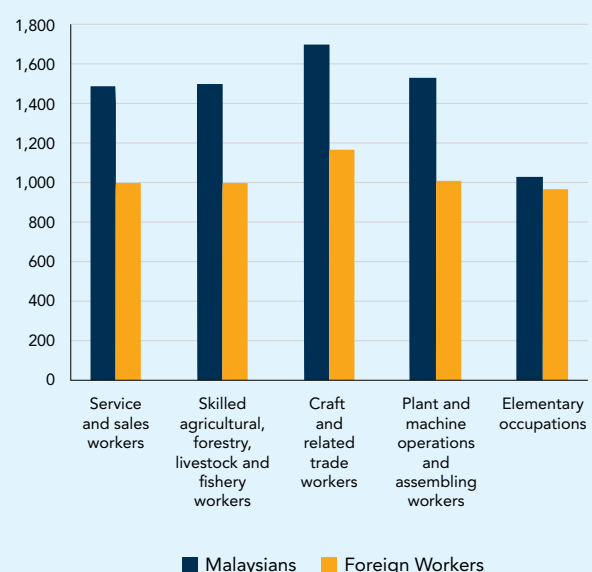
Source: ILMIA, 2016.

How many are irregular foreign workers?

There is no specific framework in place to estimate irregular foreign workers. Official estimates suggest four out of ten foreign workers are irregulars, based on data from enforcement operations by the Immigration Department. This suggests 1.258 million irregular workers based on MOHA's official estimate of 1.8 million regular foreign workers in 2017. In other words, the total number of foreign workers are approximately 3.055 million.

Caveats are warranted. The ratio is based on the Immigration Department's enforcement activities and therefore could have errors owing to selection biases. The Department conducts raids based on reports by informants and the results can vary depending on enforcement efforts by the Immigration Department for a certain period, and the number of irregular workers rounded up during the implementation of regularization or voluntary departure programs. For instance, in 2017, 47,000 out of 190,000 people screened were identified as irregulars, according to the Immigration Department reports, suggesting that 1 in 4 foreign workers is an irregular.[23]

Nevertheless, the government's continued efforts to curb irregular foreign workers—aiming to achieve "zero irregular migration" by 2020—contribute to assessing the magnitude of irregular foreign workers, albeit imperfectly[24]. The government has implemented various regularization, voluntary departure, and deportation programs, leading to varying results as presented in Table 4 and Table 5. These figures do not, however, reveal how many irregulars remain unregistered or unidentified.

The government implemented the 6P program to legalize irregular foreign workers during 2011–2014[25] as a total package solution.[26] Under the program, irregular foreign workers are either legalized or deported without penalties. Through the biometric registration process, it apprehended 1.3 million irregular foreign workers. A total of 521,734 irregular foreign workers registered (Table 4) and received work permits for 2–3 years depending on the sectors[27], and therefore they are expected to have returned to their home countries by 2017.

Based on the 6P implementation data, in 2016, the government estimated that there were 1.7 million irregular foreign workers, using a higher ratio between irregular and regular foreign workers (8 irregulars for every 10 regulars).[28]

In 2017, the government granted "illegal immigrants" without valid passport or VP(TE) opportunities to obtain an identification card (the temporary Enforcement Card, or E-Card) which would create a pathway for "illegal immigrants" to register for a rehiring program. This was limited only those who have fixed-term employment. It was seen as a less effective measure, as more than half of irregulars do not have fixed-term contracts (Low, 2017). It was reported by the Immigration Department that only 164,808

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23 As reported in "Immigration Dept wants more Sabah employers caned for hiring illegal foreigners" by J. Chan on December 28, 2018, Malaymail, at https://www.malaymail.com/news/malaysia/2018/12/28/immigration- dept-wants-more-sabah-employers-caned-for-hiring-illegal-foreig/1707056
24 In addition to the 6P legalization program, another initiative to neutralize irregular foreign workers is the Rehiring program targeted at irregular foreign workers with an employer.
25 It was supposed to be a one-off program to end in October 2011, but the deadline was extended three times – first to April 2012, then to 2013 and then finally to the end of 2014.
26 Unregistered and formal recruitment agents undertook the registration and regularization of irregular immigrants. In the process, some agents received fees from employers and irregular immigrants for identification papers (renewed passports), levy payment and work permits, but failed to deliver them, and as a result those irregular immigrants fell back to the illegal status again (Kassim, 2014).
27 According to the Immigration Department, "No more 6P amnesty programme for foreign workers," R. Zolkepli, Jun 15, 2015, at https://www.thestar.com.my/news/nation/2015/06/15/fake-6p-programme/.
28 According to "Malaysia downplays foreign worker controversy," S. Naidu, Feb. 19, 2016, at https://www.channelnewsasia.com/news/asia/malaysia-downplays-foreign-worker-controversy-8185762.

"illegal immigrants" applied for E-Card (Table 4). The card is valid only for one year during which the card holders can apply for a VP(TE) through the existing Rehiring Programme. Those who failed to do so would be relegated to illegal status unless they leave the country.

The Rehiring Programme, which ran from February 2016 through August 2018, is a regularization program for irregular foreign workers who meet three qualifying criteria: they entered Malaysia legally, are currently employed, and have no criminal record. Three companies were established to process the rehiring of all "illegal immigrants" who registered under the Rehiring Programme. A VP issued under this program is valid for 5 years for those who had held a VP(TE) and for 3 years for irregulars who overstayed a Social Visit Pass. Those not meeting the qualification criteria were deported. During the two-plus years the Rehiring Programme was in effect, 744,942 "illegal immigrants" and 83,919 employers registered under the Programme, according to the Ministry of Home Affairs (see Table 4).

TABLE 4. **Irregular foreign workers registered under various regularization programs (1992–2018)**

	Regularization (1992-1997)	6P Programme (2011-2014)	E-Card Programme (2017)	Rehiring Programme* (2014-2018)
Total	1,452,537	1,303,126	164,808 (as of Aug.)	744,942
Of which				
Qualified to rehire	n.a.	521,734		307,557
Pending (registered but yet to provide biometric information)	n.a	n.a.		329,151
Deported	n.a	760,392 (est.)		108,234

Source: Authors' compilations, based on statements by the Immigration Department, and World Bank, 2013.
Note: * estimates are likely to include some of those who applied E-Card and then subsequently applied for the Rehiring Programme.

In parallel, the government operated a voluntary repatriation program, the 3+1 amnesty program, to allow irregular foreign workers who are not qualified for the Rehiring Programme to return to their home countries voluntarily. Irregular immigrants who surrendered under this program could receive an exit pass upon paying RM400 and not face punishment. Since its inception in 2014, some 867,336 irregulars surrendered. According to the Immigration Department, over the first seven months of 2018, 148,774 "illegal immigrants" surrendered (see Table 5).

Between regularization programs, the government conducted nationwide crackdown operations against irregular foreign workers and their employers, for example, Ops 6P Bersepadu (Integrated Operations) in January 2014, which involved 10,000 personnel from the police, People's Volunteer Corps (RELA, Volunteer Corp), armed forces, civil defense and local councils as well as the National Registration Department. These operations rounded up 27,000 "illegal immigrants". In July 2017, the Immigration Department launched the Ops Mega 3.0 (Special Operations) special operation to track down foreign workers and employers who failed to apply for E-Card, the Rehiring Programme, or voluntary repatriation programs before their respective deadline (see Table 5 for the magnitude).

TABLE 5. Irregular foreign workers who were deported through amnesty or crackdowns (1998–2018)

Year	Amnesty (Voluntary deportation, 3+1 program)	Workplace raids/crackdown
1998	187,486	
2002	439,727	
2005	398,758	
		1,039,219 (Ops Nyah 1& 2; Ops Tegas)
2007	175,282	
2013-14		27,199 (Ops 6P Bersepadu, or 6P Integrated Operations)
2017	125,061 (Jan – Jul, 3+1 program)	5,065 (Ops Mega 3.0, Jul)
2018	148,774 (as of Jul)	45,499 (as of Dec 6)
2014-2018	867,336*	

Authors' compilations, based on statements by the Immigration Department, and World Bank, 2013.
Note: *Estimates are likely to include some of those who were deported in through arrests and 3+1 program in 2017.

Irregular foreign workers are likely to be from Bangladesh and Indonesia according to data from the Immigration Department. Nevertheless, the exact distribution of apprehended irregular foreign workers by nationality is challenging as the timing and duration of each program do not coincide. According to the Immigration Department, workers from Bangladesh account for 65 percent of the total irregular foreign workers who registered under the Rehiring Programme, followed by Indonesians (16 percent), Myanmar workers (6 percent), and Indians (4 percent). These estimates are quite different from those of Djafar and Hassan (2012), who reported that well over half of irregular migrant workers are Indonesians. Documentation from the 6P program indicates that 70 percent of registered undocumented immigrants under the program are Indonesians (World Bank, 2013). Pull factors may explain the presence of high concentration of irregular Bangladeshis and Indonesians – such as the geographical proximity, porous borders, as well as Malaysia's economic stability.

Irregular foreign workers could be as many as 4.6 million. Table 6 presents varying numbers of irregular foreign workers in Malaysia. But caution is advised in using these figures as those reports and studies provide very little information on the methodologies used to derive such estimates.

TABLE 6. Irregular foreign workers reported by studies and reports

Authors	Year	Estimates of irregular foreign workers	Data source
Low (2017)	2017	4.6 million	-
ILO (2018)	2005	4 million in an irregular situation	Worker member of Malaysia during Malaysia's ILO session on equality of treatment convention in 2018
OECD	2011	2.5 million	Applications for regularization
Djafar and Hassan (2012)	-	2 million, over half of them from Indonesia	-
Huling (2012)	2009	1.9 million without documentation	-
Kudo (2013)	-	2 million undocumented	Based on operations conducted by People's Volunteer Corps (RELA, volunteer-based paramilitary force)

Source: Authors' compilations.

In sum, data reported here indicate a vast range in the estimated number of irregular foreign workers in Malaysia. Estimates of irregular foreign workers vary across sources and each source has provided different insights on this group on multiple aspects. Although these sources make references to administrative sources, their precision is uncertain as they are related to time-bound initiatives to incentivize irregular foreign workers to register. Furthermore, the data do not capture those workers who reside in Malaysia without proper documents and may not come forward, may avoid arrest or miss the deadline of such initiatives. Nonetheless, there are potential alternative data sources that can be leveraged to narrow the estimated range, and these are discussed in the next chapter.

Administrative Data Sources to Estimate Irregular Foreign Workers

A common method to measure migration flows (for instance, in the United Kingdom) is by surveying individuals in air and sea ports and land border points. Malaysia currently does not have international passenger surveys. Tourism Malaysia conducts a Departing Visitors Survey every year to collect information on visitor demographics, traveling patterns, and tourist profiles, but its relevance to measure irregular foreign workers appears to be low owing to its sampling method that distributes the sample in proportion to arrivals by port.

As such, this chapter explores other administrative data and the extent to which these sources might potentially provide additional information that would help improve estimates of the number of irregular foreign workers. As displayed in Figure 13, the approach rests on the conceptual framework set out earlier and therefore the key question is what administrative data are available to capture irregular entry and irregular stay/employment, and can indicate the stock and flows of irregulars and the demand for irregulars. Throughout this process, the Immigration Department is the principal data source. At the entry level, it compiles data on net tourist arrivals, applications of foreign worker quota, and refugees, asylees and asylum seekers. During the stay and repatriation stage, the Department's operations to ensure the compliance of foreign-worker related regulations constitute another key data source. The underlying potential from the Immigration Department's microdata is likely to be rich, but the Department shares aggregate administrative data through media and access to the microdata is highly restricted. Annex 1 presents further information on alternative administrative data and their relevance to measuring irregular foreign workers.

FIGURE 13. **Administrative data sources to capture irregular entry, stay, and departure of all foreign workers**

ENTRY → **EMPLOYMENT** → **EXIT**

Tourism Malaysia:
Net tourist arrivals.

Immigration Department:
Border apprehension data.

UNHCR/ Immigration Department:
Refugees and asylees/ asylum seekers.

MOHR/MOHA:
Application of foreign worker quota data from FWCMS.

Immigration Department:
Registration of "illegal immigrants" (including overstayers) through Amnesty programs and enforcement operations.

Police:
Runaway report data.

FOMEMA:
Medical screening test results.

Immigration Department:
SPIKA/FWCS enrollment data by sector from the FWCMS.

Immigration Department:
Deportation data, foreign worker check-out memo data.

Source: Authors' compilations.

Foreign workers present as tourists

The net arrivals of non-resident tourists by nationality for a given year provides information on the flows of tourists who do not depart but stay in Malaysia, and have higher probability of being irregular for the given year. By law, tourists from ASEAN member countries are permitted to enter Malaysia without tourist visas and stay up to 30 days. Among non-ASEAN member countries, the introduction of the Visa on Arrival in 2007 saw rampant abuse of tourist visas, particularly visitors from South Asian countries such as India, Pakistan, Bangladesh and Sri Lanka.

However, this exercise is hampered by limited data availability. Tourism Malaysia publishes time-series data on non-resident tourist arrivals by nationality but the Immigration Department's data on non-resident tourist departures are not available to the World Bank and BNM teams. Sustained inflows of Indonesian tourists could imply the likelihood that some of these remain and work in Malaysia (see Figure 14). Furthermore, some of social pass holders could be potential overstayers but the information is unavailable.

Yet, a benchmark exists. It is estimated that 36 percent of the 146,500 tourists who arrived under Visa on Arrival (VoA) in 2007 overstayed, with many seeking employment (World Bank, 2013). Facing concerns over VoA overstay, with effect from January 2019 the Malaysian government has stopped the VoA for tourists from Afghanistan, Bangladesh, China, India, Nepal, Pakistan and Myanmar.

FIGURE 14. **Nearly 3 million Indonesian tourist arrivals in Malaysia per year, suggesting repeat travels within a year (gross non-resident tourist arrivals by nationality, 2013–2017)**
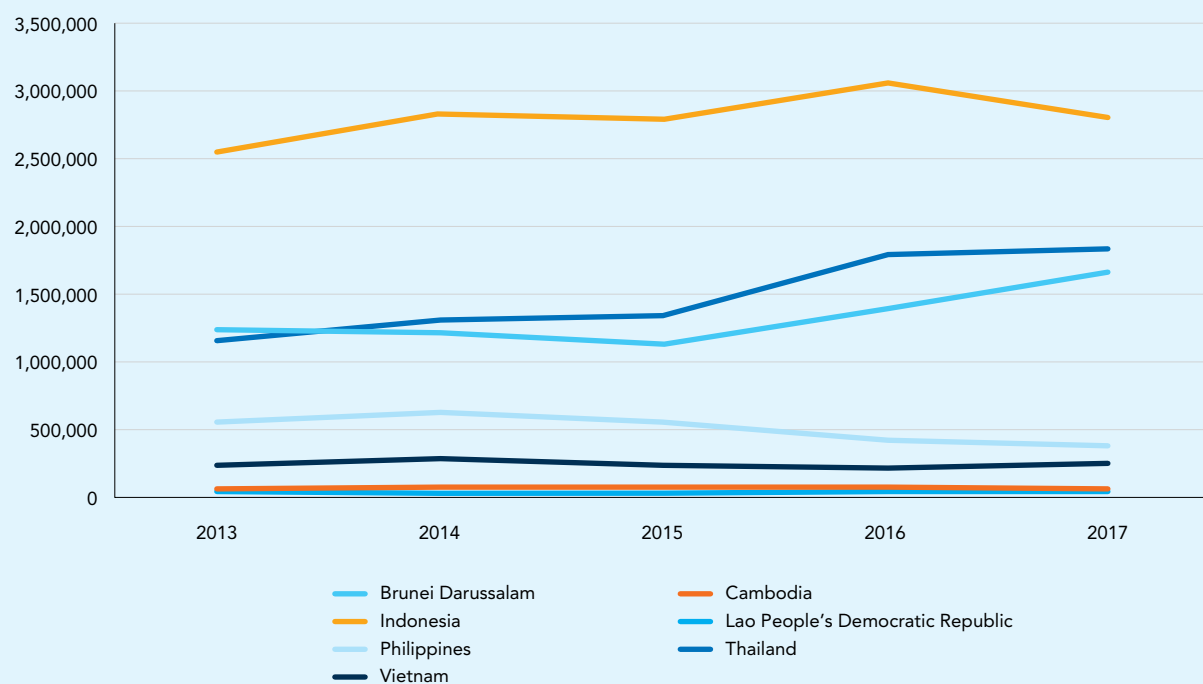
Source: Tourism Malaysia.

Refugees and asylum seekers

UNHCR data report that about 163,600 refugees and asylum seekers currently remain registered with the UNHCR in Malaysia as of November 2018. Of those, approximately 141,700 were from Myanmar, including 81,760 Rohingyas. The other 21,890 originated from Pakistan, Yemen, Somalia, Syria, Sri Lanka, Afghanistan and other vulnerable countries in the Middle East and Africa. One in three refugees and asylum seekers were women and a little more than one-fourth were children, according to UNHCR.

These registered refugees and asylum seekers in Malaysia have no lawful access to the labor market. As a result, the informal labor market is their only option for earning a livelihood (Asylum Access Malaysia, 2018). In an effort to curtail this effect, the government launched a pilot project in 2015 to permit 300 Rohingya refugees to legally work in the plantation and manufacturing sectors, according to World Bulletin (2015). Furthermore, failed asylum seekers and their dependents may still be residents in Malaysia, taking up jobs as irregular foreign workers. MOHA does not publish data on failed asylum seekers.

Of 99,000 IMM13 holders (Filipino refugees) in Sabah, only approximately 55,000 have been renewing their passes annually (Kassim, 2017, based on data from the Immigration Department). It is possible that those who didn't renew their passes have either returned to the Philippines, have died, or have become permanent residents of Malaysia. Those who returned to the Philippines could potentially return to Sabah as irregular immigrants. The Sabah National Registration Department shows that, of 2,894,984 residents, 44,482 are permanent residents and 24,645 are temporary residents. Kanapathy (2008a) reports that there are approximately 100,000 stateless children in Sabah.

Regular foreign workers becoming irregular (flows)

The FOMEMA data on the results of foreign worker medical examinations can be used to estimate annual flows of irregular foreign workers. As mentioned earlier, all foreign workers – new or existing, must go through a FOMEMA medical exam, part of the condition to obtain a VP for the given year. On average, about 3 percent of test applicants fail the medical test (Table 7). They are thus ineligible for a VP and must leave Malaysia. Some of those who fail the medical screening manage to stay in Malaysia and become irregulars, particularly new entrants who have just incurred migration costs and need to recover as much of the cost as possible. The shortcoming of these data is that there is no way of identifying how many of those who fail the medical screening have left Malaysia and how many have stayed, and for how long.

Police could have data on the number of foreign workers who broke their employment contracts. The foreign worker system mandates employers to report to the Royal Malaysian Police foreign workers who ran away from their designated employment sites. These foreign workers, by definition, become irregular. However, not all employers file these reports and therefore these data are far from complete.

TABLE 7. About 2.8 percent of regular foreign workers may become irregulars annually

	2010-2017	2017	
	Total	New entry	VP(TE) Renewal
Total	8,698,692	469,622	449,440
Passed	8,455,716	457,272	441,369
Failed	242,976	12,350	8,071
Share of the failed (percent)	2.8	2.6	1.8

Source: FOMEMA

Demand for irregular foreign workers (flows)

Data on the number of rejected foreign worker applications by firms can shed light on the demand for foreign workers. As shown in Figure 2 earlier, rejections take place at two stages of the application process. First the JTKM rejects the application after assessing qualifications of the employers. Second, MOHA rejects the JTKM-approved applications.

The MOHR data reveals the total number of rejected foreign worker applications by sector on monthly basis. During January – September 2018, JTKM rejected approximately 15 percent of the initial applications for both new employment and renewals, largely attributable to faults on the employer side, such as employers' poor track records on hiring foreign workers and facilities for foreign workers that do not comply with regulations. Subsequently, MOHA rejected 69 percent of the total JTKM-approved applications (Figure 14). The rejection rate is highest in the services sector – 92 percent. At the MOHA approval stage, 74 percent of new applications and slightly over half of renewal applications were rejected, amounting to a total of 268,164 and reasons for this high rejection rates at the MOHA approval stage are unclear.

The unmet demand may encourage workers to change their jobs to higher paying sectors, such as from construction to manufacturing, or from plantation and agriculture to services. As displayed in Figure 16, LFS data that capture irregulars show a higher share of foreign workers in the manufacturing sector than the MOHA data indicate.

Nevertheless, the data may not fully convey the unmet-demand for foreign workers. The rejections could be politically motivated, for example, to restrict the annual inflows of foreign workers or to contain the size of the foreign workers population.

This report does not consider an economic modelling approach to gauge demand for foreign workers. The key reason is that the input data on the overall foreign workers are very incomplete and therefore the results generated would likely be biased and not robust.

FIGURE 15. Firms that applied for foreign workers but received rejections or reduced quotas might fill the unmet-demand with irregulars (January 1, 2018 through September 3, 2018, the rejection rate in the total application by sector)
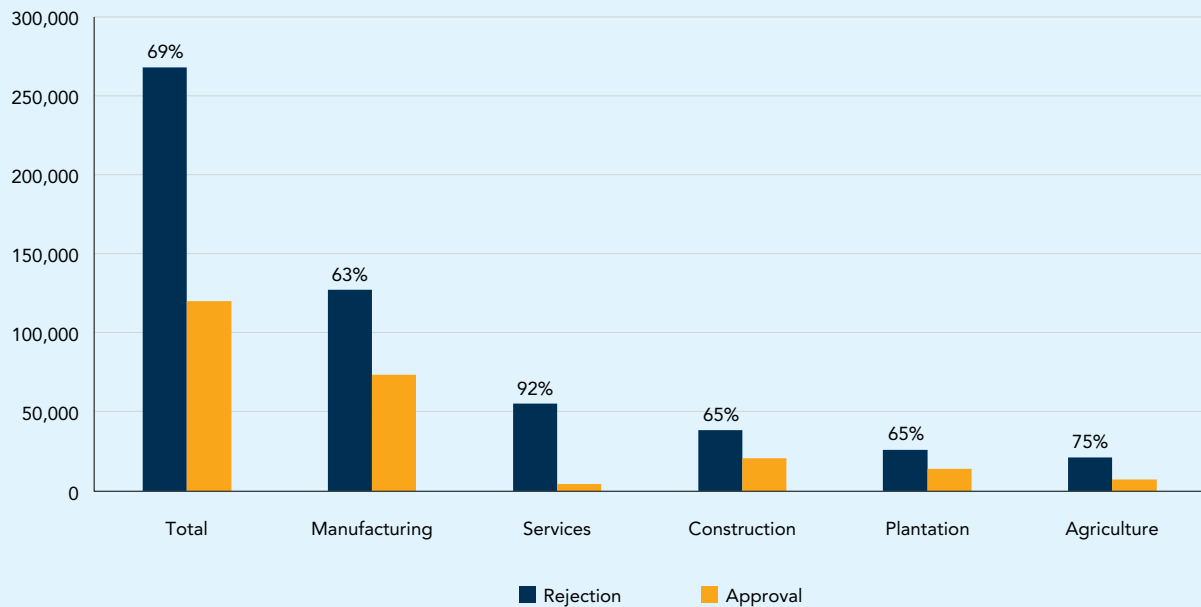
Source: MOHR

FIGURE 16. Sectoral distribution of foreign workers/labor in 2016 (percent)
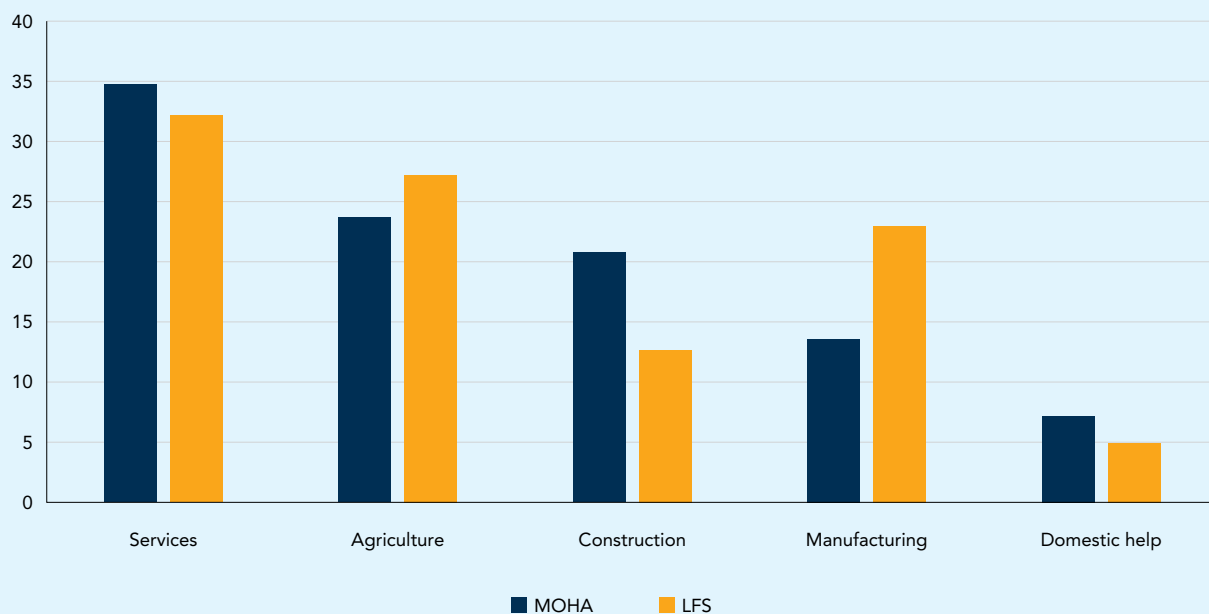
Source: MOHA and LFS

Estimates of the Irregular Foreign Worker Population

Estimating the size of the irregular foreign worker population is a challenging task. One key reason is that they would avoid engagements with government agencies because of the fear of being removed from the country. Furthermore, as discussed in Chapter 2, irregulars are not homogenous but include irregular entries, work-permit violations, overstays, and refugees/asylum seekers. Given these circumstances, this report employs two methods to fill data gaps – a residual method (indirect measurement) and a build-up approach (direct measurement) utilizing official statistics and available administrative data. Furthermore, the report also explores using BNM's remittance transaction data to estimate the stock of irregular foreign workers for a given period.

A residual approach

Methodology and data

The irregular foreign worker population is the remainder after the lawfully present foreign nationals are subtracted from the total foreign-born population (that is, the difference between the two estimates). This indirect method is the most straightforward and widely used, for example, by the US Department of Homeland Security's (DHS) Office of Immigration Statistics, the Pew Research Center (Passel and Cohen, 2018), Migration Policy Institute, and in the United Kingdom (Woodbridge, 2005).

The first step is to use the total current size of the foreign-born population estimated by DOSM's Population and Demography division based on the 2010 census. Next, this report employs official counts of permits/passes issued to foreign nationals compiled by MOHR. These two estimates are then subtracted at the high level to obtain an estimate of the irregular foreign worker population. This could lead to an overestimation as it includes children and retirees in the irregular foreign worker population, even though they many are not engaged in employment.

Multiple data sources are generally required to employ the residual method, and these data typically come from various government agencies. The U.S. Census Bureau and the DHS's Office of Immigration Statistics are good examples. Using more than one data source is needed to complement the missing information in each data source (Costanzo et al 2002).

Passel and Cohen (2018) estimate the lawful resident immigrant population by applying demographic methods to counts of lawful admissions spanning the period since 1980 obtained from the US DHS. Given the available demographic information, they calculate age-gender groups separately in six states[29] and the balance of the country. They further subdivide the estimates into immigrant populations from 35 countries (or groups of countries) by the period of their arrival in the United States. Once the residuals are estimated, individual foreign respondents in the American Community Survey (ACS) are assigned a specific status based on "…the individuals' demographic, social, economic, geographic, and family characteristics in numbers that agree with the initial residual estimates for the estimated lawful immigrant and unauthorized immigrant populations" in the ACS survey (p.37). The final step is to assign weights in the estimation process by developing state-level estimates that "take into account trends over time in estimates" (p.37).

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29 California, Florida, Illinois, New Jersey, New York and Texas.

This report is unable to undertake a similar exercise because only aggregate data are available. To carry out an analysis similar to Passel and Cohen (2018), one must obtain data at the micro level which contains information on demographic characteristics of lawfully resident foreigners and unauthorized immigrants. Data sources in Malaysia are VP(TE) issuance data by individual foreign worker (with demographic information) as well as regularization, amnesty, and workplace raids data at the micro level. This would allow us to tabulate individual's demographic, social, economic, and geographical characteristics, to the extent possible, by lawful or irregular immigrant. Next, we need the population census survey data from DOSM to identify lawful and irregular foreign individuals in the census using the tabulated individual characteristics. At the time of writing, however, such data are not available to the World Bank and BNM teams.

Thus, we limit our attempts to compute irregular foreign workers at the aggregate level, contributing to identifying which components of each population should be in place in the computation framework. The following steps and assumptions are involved in estimating each component, closely following the methods employed by the US DHS (2018).

Step 1. **Foreign-born population (a+b+c+d in Table 8).**

a. **Non-citizen population in the census data.** The initial estimate of the total foreign-born population as of 2017 was obtained from the population census provided by DOSM's Population and Demography division. The Population and Demography division projected the population data based on the 2010 Population and Housing Census. This dataset we have is time series. Information on the age, nationality, and gender distributions of the foreign-born population rests on the United Nation's migration data, which relies on the 2010 census.

b. **Undercount of foreign workers in the census.** Kanapathy (2008b) reports that the 2010 census undercounts the foreign-born by 197,348, or by 25.82 percent. This is consistent with Woodrow (1991) who suggested that plausible levels of undercount in the census were between 20 and 30 percent. Therefore, our preferred scenario is 25 percent, which is in line with the finding of Kanapathy (2008b) and the midpoint of Woodrow (1991).

c. **Undercount of refugees and asylees in the census.** Following the US DHS (2018), we assume that the undercount rate of permanent residents, refugees and asylees in the population census was 2.5 percent. The method employs UNHCR's data on refugees and asylees and excludes pending asylum cases to derive the estimates.

d. **Undercount of irregular immigrants in the census.** The census covers non-citizen who had stayed or intended to stay in Malaysia for more than six months in 2010 and therefore excludes tourists who were in Malaysia for less than six months. Tourists may in fact overstay and engage in employment. Furthermore, the census asks a question on citizenship as well as the year of first arrival in Malaysia. This raises concerns of decreasing irregular immigrants' response rates in fear of being caught. Therefore, we assume the undercount rate of irregular immigrants in the 2010 census was 10 percent, which is consistent with the approach used by the US DHS (2018).

Step 2. **Lawfully resident population, using the MOHA's data on pass issuance, unless otherwise specified (a+b+c+d+e in Table 8).**

a. **Foreign worker population.** This refers to the number of VP(TE) issued in the given calendar year. This offers sectoral and gender distribution. It includes domestic helpers

b. **Expatriate population.** This includes EP issuance, plus dependent pass and long-term social visit pass issuance. In line with the policies, we assume that these passes are valid for five years.

c. **Students and professional visit pass holders are considered lawful residents.** This category does not include those admitted with a Cross-border Malaysia-Indonesia pass, Border Pass (Malaysia-Thailand), or Asia-Pacific Economic Cooperation (APEC) Business Travel Cards.

d. **Social visit pass issuance** is tied to the employment pass, which allows expatriates to hire foreign domestic helpers.

e. **Filipino refugees with IMM13 holders in Sabah,** as being authorized to reside and work in Malaysia. The data source is MOHA's IMM13 issuance data.

By design of the immigration system, all of the lawfully-residing foreign population in Malaysia should fall in one of these categories and foreign labor migrants are supposed to remain employed. For instance, children of Filipino refugees in Sabah have a IMM13 unless they obtain citizenship. Children and spouses of skilled foreign workers (expatriates) are counted under the dependent pass category. Foreign spouses of Malaysians fall under the social visit pass, as mentioned earlier.

Step 3. **Irregular foreign workers, subtracting the lawfully resident foreign population from the foreign population plus reflecting an undercount of irregular immigrants in the census (that is, Step 1 - Step 2).**

Results

This method suggests that the irregular foreign population stood at 1.459 million in 2017, which is broadly in line with MOHA's estimates based on enforcement activities (Table 8). This method in principle allows us to estimate irregular foreign population by age-gender group. This report does not attempt to do this, as data available from MOHR offers only the total number of pass issuances by type and does not disaggregate by age or by gender (except the foreign worker, VP(TE) category).

TABLE 8. An estimate of the irregular foreign population – 1.459 million (2017)

	Item	Estimates
1	**Foreign-born population (a+b+c+d)**	**3,942,530**
	a. Non-citizen population	3,287,500
	b. Undercount of foreign workers	449,344
	c. Undercount of refugees and asylees	25,948
	d. Undercount of irregular immigrants	179,738
2	**Lawfully resident foreign population (sum of a-e)**	**2,483,475**
	a. Foreign workers (VP(TE))	1,797,377
	i. *Construction*	*355,968*
	ii. *Manufacturing*	*645,388*
	iii. *Services*	*247,008*
	iv. *Plantation*	*260,429*
	v. *Agriculture*	*160,276*
	vi. *Domestic helper*	*128,308*
	b. Expatriates	183,274
	i. *Category 1*	*65,957*
	ii. *Category 2*	*55,269*
	iii. *Category 3*	*11,544*
	iv. *Dependents*	*50,504*
	c. Student pass + temporary work visit	101,220
	d. Social pass	302,604
	e. Filipino refugees in Sabah (IMM13)	99,000
3	**Irregular foreign workers (1-2)**	**1,459,055**

Source: Authors' computations based on DOSM and MOHA.

Despite the care taken in the estimation process, the estimate should be treated cautiously. First, the population census tends to undercount the foreign-born population especially the irregular population (Passel and Cohen, 2018). Undocumented foreign workers may avoid census interviews for fear of apprehension or data sharing with public authorities. We tried to address these by adjusting the number of foreign workers, refugees and irregular immigrants to the total foreign-born population. Second, given that the estimates of the lawfully residing foreign population is based on pass/permit issuance data, it may underestimate the irregular foreign population by failing to identify the foreign worker population whose actual employment is different from the permit or a foreign national on a student permit employed more than the maximum number of hours permitted. Furthermore, underestimation is likely to occur because of limited data sources: firstly, the population census that was the basis for estimating the foreign born population was conducted nearly ten years ago and therefore the size of the non-citizen population could be underestimated, and secondly, the estimation of the lawfully resident foreign population is mainly based on the MOHA data and thus may not adequately capture lawfully residing foreign-born children and dependents.

A build-up approach

Methodology and data

The irregular foreign population is built up from year to year by adding and subtracting entries and exits from the irregular population. This build-up method is employed to address the key shortcoming in the residual approach, namely, to adjust the potential underestimation of the irregular population from the residual method. We employ the following steps to estimate the number of irregular foreign workers in 2017.

Step 1. **Stock of foreign labor in 2016.**

   a. We compare the non-citizen population in the LFS with the lawfully employed foreign population (MOHA), including those who became regularized through rehiring programs and deportees.

   b. We assume that 40 percent of those registered under regularization become regulars, based on the practice under 6P and the 2014–2018 rehiring programs.

   c. The number of deportees apprehended through voluntary repatriation programs or enforcement operations by the Immigration Department is incorporated in the estimates.

   d. As in the population census under the residual approach, we adjust regular and irregular foreign workers as the LFS does not capture workers in hotels, hostels, dormitories, plantation estates, or other communal housing.

Step 2. **Then we add annual flow estimates of irregulars to the stock estimate in the following manner:**

   a. **Refugees and asylum seekers.** Malaysia does not grant the right to work to them and therefore we assume that all refugees and asylum seekers (pending) join the labor market through irregular channels. The figures are based on the UNHCR 2017, referring to refugees in all similar situations and pending asylum seekers.

   b. **Tourists.** We use the e-visa issuance data as a proxy and assume that 36 percent of these become irregular foreign workers (based on earlier findings on the VOA abuse).

   c. **Filipino refugees in Sabah.** We assume that the 44,000 IMM13 holders failed to renew their IMM13 and thus have become irregulars.

   d. **Foreign workers who failed FOMEMA medical screening** are assumed to become irregulars, and stay for ten years.

   e. **Unmet demand.** Companies fill the rejected foreign worker quota with irregular foreign workers and we use the unmet quota of 268,164 during January – September, 2018 as a proxy. We do not use the rejection rates to approximate the unmet demand because the annual quota for foreign workers is often guided by a targeted number of foreign workers (see World Bank, 2016 for further discussions on the weakness in the quota system).

Results

This method would yield 1.228 million irregulars, as presented in Table 9. This is an extremely rough estimation as we do not take into account (i) how many number of foreign workers left Malaysia in a given year, (ii) how many foreign workers died, as foreign worker death data is only available for Sarawak (34 in 2017), and (iii) how many foreigners entered Malaysia without documentation in line with the Immigration authorities' regulations.

Cautions in understanding these results are warranted. First, the LFS has its own limitations in sampling the foreign worker population. As shown in 1.a-b in Table 9, the number of non-citizen labor captured by the LFS is smaller than lawfully employed foreign population. While such shortcomings are adjusted as in 1.e-f in Table 9, underestimation might occur. Second, the UNHCR's data on refugees and asylum seekers do not capture stateless persons and do not inform the how many asylum seekers have become asylees. Third, E-visa issuance data may not necessarily match with the number of tourist arrivals. Fourth, assuming all unmet demand by firms is filled by new inflows of irregular foreign workers might lead to overestimation.

TABLE 9. **An estimate of the irregular foreign worker population – 1.228 million (2017)**

	Item	Estimates
1	**Irregular foreign workers – stock in 2016 (a-b-c-d+e+f)**	**375,582**
	a. Non-citizen labor force in 2016 (LFS)	2,274,300
	b. Lawfully employed foreign population (estimated from the residual approach in 2016)	2,331,751
	c. Regularized foreign worker population in 2016	65,923
	d. Deportees	130,126
	e. Undercount of foreign workers	449,344
	f. Undercount of irregular immigrants	179,738
2	**Irregular foreign workers – flows in 2017 (a+b+c+d+e)**	**852,839**
	a. Refugees and asylum seekers	151,291
	b. E-visa issuance	146,408
	c. Filipino refugees in Sabah without valid IMM13	44,000
	d. Irregulars from failing annual medical exams (2010-17)	242,976
	e. Irregulars responding to new unmet demand	268,164
3	**Irregular foreign workers (1+2)**	**1,228,421**

Source: Authors' computations based on DOSM, MOHA and other data sources mentioned in Chapter 4.
Note: As mentioned earlier, calculations assume the irregulars stay for at least ten years in Malaysia, based on focus group discussions in Indonesia and on the maximum duration permitted for regular foreign workers.

A remittance-data driven approach

Data

Since 2016, Bank Negara Malaysia (BNM) has been building a database on outbound remittance transactions reported by remittance service providers (RSPs), part of its monitoring of money-transfer activities and of implementing statistical obligations. These include transactions undertaken by post offices, money changers, and money wholesalers who are subject to BNM's supervision.

Transaction reporting by banks is not detailed transaction-level data, but rather monthly aggregate sums, and therefore this dataset excludes money-transfer transactions undertaken by regular banks or by informal channels such as individuals travelling to a destination country, or informal transfer systems (chit, fei ch'en, hundi or hwala[30]).

This RSP transaction data are daily and contain the full details of individual transactions, such as information on money senders and beneficiaries collected by RSPs at the transaction point in compliance with the BNM's Know Your Customer (KYC) policy, as well as information on transaction amounts and the location of the RSPs at the state level.

Full details for a remitter include the remitter's unique identification code, date of birth, nationality, occupation, purpose of transfer, transfer-destination country, currency of transfer, source of finance, and the type of remitter (individual or company). On the beneficiary side, the information includes the beneficiary's name, account number (while not always completed), family relationship with the remitter, and the ultimate beneficiary's name and identification number.

The data can be used to estimate the stock of irregulars, using those transactions with foreign government IDs and transactions by one foreigner to multiple beneficiaries (seemingly unrelated) as proxies to identify irregular foreign workers. Furthermore, it allows us to estimate the distribution of foreign workers by state, using the geographical codes for Money Services Provider (MSP) premises. This transaction dataset is massive and in this exercise we look into a one-year period—March 2017 through February 2018—as the work permit issuance and renewals in March tend to be higher than in other months.

Methodology to identify potential irregular foreign workers

The objective was to create a dataset with a unique identification code for each individual remitter, a considerable undertaking considering the millions of transaction records. In doing this, the approach references findings from the World Bank Greenback2.0 surveys in Johor Bahru and the foreign worker regime implemented by the Ministry of Home Affairs to identify foreign workers. Cautions are called for in using findings from the Greenback2.0 surveys as the surveys may not represent the entire foreign worker population in Malaysia. Specific steps to prepare a sample are as follows (see Annex 2 for further discussion on each relevant variable and associated risks).

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30 For how each system works, see IMF 2008, "Understanding Remittances: Demography, Transaction Channels, and Regulatory Aspects," Chapter 2 in *International Transactions in Remittances: Guide for Compilers and Users.*

Step 1. Create a potential foreign worker sample, using information on senders' characteristics.

    a. It excludes Malaysian remitters except the cases in which the remitter sends money to multiple recipients in different countries. This can be an indication that the person is sending money on behalf of several foreign workers.

    b. As discussed earlier, an average monthly wage of foreign workers is not more than US$650 and therefore we exclude those individuals whose monthly remittance is more than US$650. As a point of reference, the World Bank KNOMAD surveys show that Vietnamese workers in the manufacturing sector send, on average, US$200/month to their family members back home.

    c. Using variables of a unique identification code, date of birth, and nationality, we create a unique individual identifier. If a person sends money to multiple beneficiaries, it is very likely that the person is doing so on behalf of others and therefore we assign the individual indentifiers to recipients, rather than to the sender.

Step 2. Drop observations with the following characteristics: if

    a. "cus_type" (customer type) is a company.

    b. If the remitter's age is under 18 years or more than 50 years, but keeping observations with age greater than 50 years if there are indications that individuals are in fact employers who remit on behalf of their foreign workers.

    c. If the transaction amount is more than RM5,000 (equivalent to about three months' salary of an ordinary foreign worker)

    d. If "SOF" (Source of Fund) is business income.

    e. If "Purpose" is payment of goods and services as they are likely to be traders.

Step 3. Identify individual ID

    a. Code individuals identified by the combination of date of birth, nationality and "Cus-ID" (customer ID).

    b. Create "state" variable using the "outlet code" (RSB location code).

    c. Create "sector" variable using "Occ_NoB" (occupation) into five broad sectors – Manufacturing, Services, Mining (including oil/gas), Agriculture and Plantation.

Step 4. Identify potential irregular foreign workers. Create dummy variables for the following:

    a. Beneficiaries who are seemingly not related to the sender and who are not regular beneficiaries of the given sender, using variables "RS_Type" (recipient type), "BO_name" (Bank account name) and "Bene_Name" (Beneficiary name) for a given individual. This might be particularly apparent during Ramadan months for Islamic destination countries, December (Christmas) in the Philippines, and the beginning month of a school year (for example, June in the Philippines).

    b. The individuals whose "Occ_NoB" is not consistent across transactions during the year.

    c. Transactions in which the nationality code differs from the destination country for a given individual.

    d. Whether the individuals conducted transactions in different states during the year, identified by "outlet code".

    e. Individuals whose occupations are seemingly inconsistent with Malaysia's foreign worker system.

Step 5. Tabulate summary statistics of individuals and dummy variables by sector, state and nationality.

Before proceeding to a discussion of the results some of the drawbacks of this approach (all related to data limitations) should be noted. First, it does not capture those foreign workers who use bank accounts or informal remittance channels to send money to their home countries. Second, it could underestimate the number of irregular foreign workers because not all irregular use RSBs. Some irregulars might be afraid of getting caught while using foreign (home country) identification documents.

Results

Estimates using transaction data during March 2017 - February 2018 suggest that the total number of foreign workers is about 2.279 million, of which approximately 1.184 million are irregulars. Making a general assumption that 77 percent of foreign workers use the RSP channel to transfer money (World Bank, 2017), the estimates would rise to 2.956 million total foreign workers and 1.419 million irregular foreign workers. This is a safe assumption given that most foreign workers use RSPs or irregular channels to remit money home, because they have limited access to the formal banking sector.

As a robustness check, we compared the sectoral and state distribution of foreign workers identified in the remittance data set and found that the distributions are broadly in line with the LFS. In other words, the remittance data suggest that foreign workers are highly concentrated in Selangor followed by Johor and W.P. Kuala Lumpur (Figure 17a). In terms of the nationality of foreign workers, the BNM remittance data also indicates that Indonesians account for a plurality of foreign workers. However, the BNM remittance data indicate that there are more Bangladeshi foreign workers than Nepalese, which is the opposite of the results shown by the MOHA data (Figure 17b). This could be an indication that when taking into account irregular foreign workers, there are more Bangladeshis than Nepalese working in Malaysia.
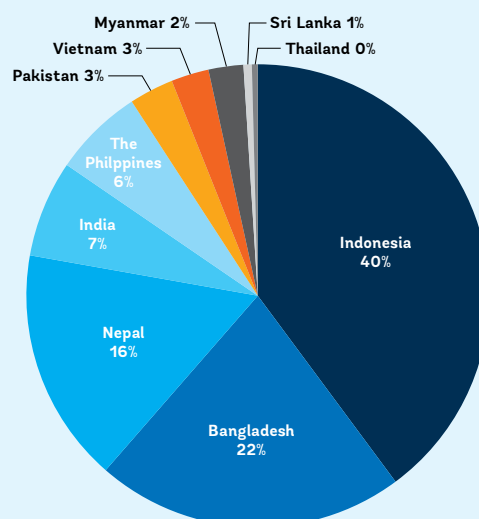
FIGURE 17. The BNM remittance data shows consistency with the MOHA and LFS data respectively in terms of the state and nationality distributions of foreign workers

(a) State distribution
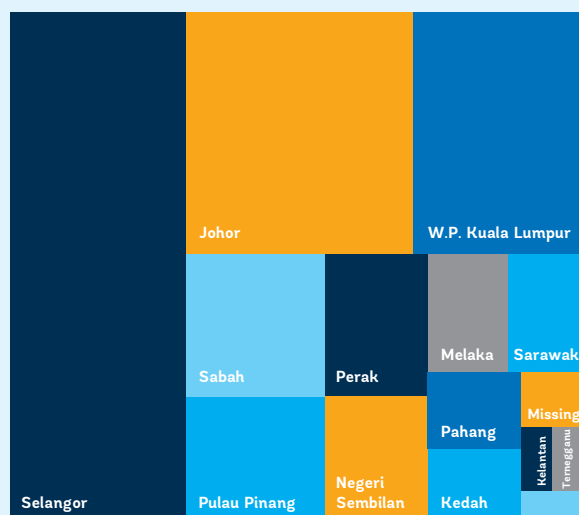
**(b) Nationality distribution**

Source: Staff estimates, based on BNM remittance transaction data.

Does the BNM remittance transaction data really shed light on the nationality distribution of irregular foreign workers? As Figure 18 shows, indeed, it does present a different picture from MOHA's figures. It shows that 41 percent of irregular foreign workers are Bangladeshis and Indonesians are less numerous, representing 30 percent of total. This is followed by Indians and Filipinos. At least two different explanations are possible: first, recent years might have seen a rise in irregular workers from Bangladesh as the aforementioned G2G agreement was unable to deliver the employment of an agreed number of Bangladesh workers. Media in Bangladesh has heavily criticized that this pushes workers to be on a perilous journey to Malaysia perhaps to become an irregular foreign worker. Another explanation is that the BNM remittance data might not fully capture Indonesian workers, especially in the plantation sector, where access to MSPs might be rather limited. This may explain also why Selangor has the highest concentration of foreign workers, while the LFS indicates that Sabah has the highest concentration of foreign-workers.

This exercise indicates that the BNM remittance transaction data is a potentially valuable standalone data source to estimate irregular foreign workers. To improve the quality of the remittance data, some further refinement in data collection is warranted, as follows:

a. Minimize free-text inputs (such as occupations) and use a drop-down list to the extent possible. Free-text inputs are prone to generate unwarranted errors.

b. Simplify the list of occupations to better identify foreign workers and those who send money on behalf of foreign workers.

FIGURE 18: **Distribution of irregular foreign workers by nationality**
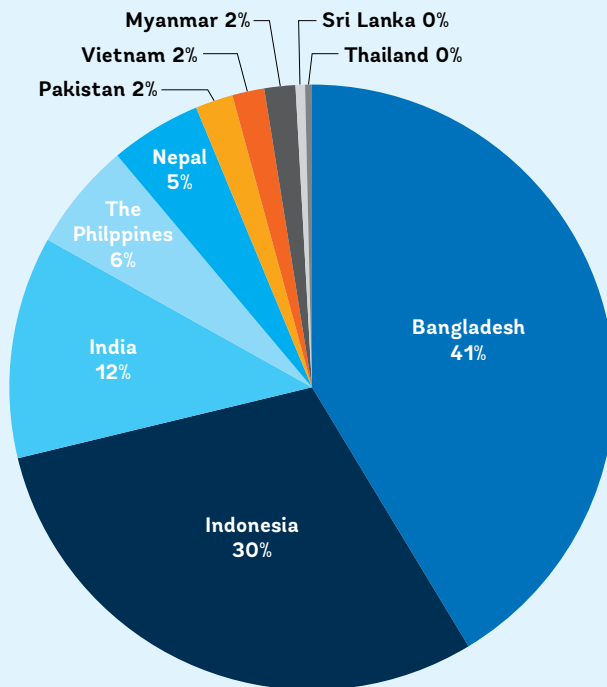
Source: Staff estimation, using the BNM remittance data.

c. Add additional variables to identify (i) type of ID to minimize errors of double counting, (ii) gender to help identify female domestic helpers, (iii) duration in Malaysia to link it with the remitter's foreign worker status, (iv) distance from MSP outlets from the remitter's residence to map the location of foreign worker over time, (v) employment status to understand changes in the employment status over time, and (vi) sector of employment to identify potential irregular foreign workers per the MOHA's foreign worker regime.

The design to improve the quality of data collection has to be approached cautiously and balance the desire for more complete information with irregular foreign workers' concerns about being caught. Additional work to better understand informal or alternative channels to send money would complement the use of remittance data to estimate the number of irregular foreign workers. Another potential source from BNM, going forward, could be the number of foreign worker's salaries paid through bank accounts. A new law mandates that all foreign workers be paid through their respective bank accounts, but it is yet to be implemented.

Building up on this estimation exercise, furthermore, a systematic estimation model can be developed. An example is a discrete choice model which predicts the likelihood of each remittance sender being an irregular foreign worker based on the characteristics variables in the remittance database.

Conclusions

Estimates of the possible size of the foreign worker population are essential to quantify the effects of foreign workers and to develop evidence-based immigration policies in Malaysia. The analysis is complex and subject to large margins of error because data on irregular foreign workers are relatively scarce, and much of the data that are collected are not shared among key stakeholders.

This report explores three ways of estimating the number of regular and irregular foreign workers: the residual approach, the build-up approach, and a remittance transaction data approach. The former two approaches bear significant challenges as the data available are at high levels of aggregation, and some of the potentially informative administrative data managed by the Immigration Department are not shared. A well-coordinated data-sharing approach could lead to better data triangulation methods for estimation and as a result improve the quality of the estimates. Nevertheless, the BNM's remittance data offers the possibility of improving the quality of foreign worker estimates by adding additional variables in the data collection process to better identify irregulars (see a separate note on how to utilize the BNM remittance data to estimate the foreign worker population).

The resulting overall estimates are lower than the other estimates that are currently available. Our estimates suggest a total population of 2.96–3.26 million foreign workers at the end of 2017. Of these, an estimated 1.23–1.46 million are irregular foreign workers, a much lower and narrower range than the estimated 1.9–4.6 million reported by other sources.

Given the importance of foreign workers, Malaysia would be wise to make fuller and better use of existing administrative data and to improve its collection and cross-agency analysis of both statistical and administrative foreign worker data. Some recommendations to consider are the following:

Recommendation 1. Through better inter-agency coordination and collaboration, collect data on the resident population regardless of citizen/non-citizen status. Therefore, undocumented foreign workers can be registered with national demographic statistics, as done in the municipality Padrón in Spain (UNHCR, 2013). The number of irregular foreign workers can then be inferred by taking the residual of residence/foreign worker permits issued to non-citizens.

Recommendation 2. Identify ways to create an integrated management information system to make better use of existing administrative data. This would allow mapping of various administrative data using a personal identifier. A big data platform could be used, such as mobile phone records, Facebook and other social media data. Other countries such as Georgia have seen positive results in estimating the migrant population (covering both regular and irregular) in recent years.

Recommendation 3. Conduct a regular comprehensive migrant survey to better understand how foreign workers shift from regular to irregular and the motivations for overstaying visas. The existing network of money transfer businesses can be leveraged in conducting such migration surveys.

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Annex 1: Potential data source to measure irregular foreign workers

Type	Dataset	Institutions responsible	Description	Foreign worker category	Shortcomings
Population census	UN Migration data 2017	UNDESA	Stock of migrants by origin	Immigration	Projections based on past population census
Surveys	Labor force surveys (LFS)	Department of statistics	Stock of non-citizen workers	Regular and irregular foreign workers	Not capturing those living in common dwellings (e.g., construction workers or plantation workers)
	Economic activity census	Department of statistics	Stock of foreign employees	Regular foreign workers	Missing those employed in unregistered employers (e.g., manpower suppliers in the construction sector)
	Migration module of LFS	Department of statistics	Movement of non-citizens within Malaysia	Regular and irregular foreign workers	Sampling represents total labor force.
	Informal sector surveys	Department of statistics	Stock of non-citizen/foreign-born workers in the informal sector	Regular foreign domestic helpers and irregular foreign workers	Not capturing those living in common dwellings (e.g., construction workers or plantation workers)
	Departing visitor surveys	Ministry of tourism	Flow of irregular foreign workers	Irregular foreign workers from ASEAN member countries	Limited to understand the distribution of potentially irregular foreign workers by ASEAN origin
Financial/ banking data	Remittance transaction dataset	Bank Negara Malaysia	Stock of foreign workers	Regular and irregular foreign workers, including domestic helpers	Captures only those remitting money through formal remittance channels.
Administrative data	Foreign worker quota	Ministry of Home affairs	Flow of regular foreign workers		Quota does not always match with actual inflows
	Issuance of visa/work permits	Department of Immigration	Flow of regular foreign workers	Regular foreign workers	Possible to overestimate regular foreign workers if they work with employer/in industry different from those specified in work permits
	International arrival and departure data	Department of Immigration	Flow of foreigners who have not left within 12 months	Irregular foreign workers	

Type	Dataset	Institutions responsible	Description	Foreign worker category	Shortcomings
Administrative data	Medical test exam data	Foreign Workers Medical Examination Monitoring Agency (FOMEMA)	Flow of foreign workers (Visit Pass)	Regular and irregular foreign workers. The proxy for the irregular is those who failed to pass medical tests.	Not capturing those irregular foreign workers who have remained with "irregular" status for a prolonged period.
	Rehiring dataset	Department of Immigration	Stock of foreign workers who desires to get regularized	Irregular foreign workers	Not all those in the re-hiring pool get employed. Knowing this, not all irregular foreign workers may come forward to this rehiring process, especially those failed medical tests in the past.
	Construction personnel registration	CIDB	Flow of regular foreign workers employed in the construction sector	Regular foreign workers	Not capturing those irregulars hired by unregistered manpower agencies in the sector.
	Run-aways reports	Police	Flow of foreign workers who ran away from job sites	Irregular foreign workers	Not all employers report runaways as it involves costs.
	Enforcement reports	Department of Immigration	Stock of irregular foreign workers	Irregular foreign workers	Raids are based on informants and not risk-based. Yet, possible to estimate the ratio between regular and irregular foreign workers
	Enforcement reports	CIDB	Stock of irregular foreign workers in construction sector	Irregular foreign workers employed in the construction sector	Raids are ad-hoc.
	Data on application for foreign worker employment	MOHR	The number of foreign workers in demand	Demand for irregular worker in a given year by industry	Possible to apply for a higher number of foreign workers than needed as the rejection rates are high
	Data on quota application for foreign workers	MOHA (One-stop shop)	The number of foreign workers in demand	A subset of demand for irregular worker in a given year by industry	

Annex 2: Attempts to identify foreign worker (FW) information using the BNM's remittance transaction data

Variable	Use	Risks
MSB outlet code	Location of FW by state	Over/underestimation by state. FW may visit KL and vicinity (i.e., crossing the state border of their job site) to wire money.
Customer ID/ DOB/ nationality	Identify a FW. Limit those who are between 15-64.	Possible to double count in case a worker uses a different ID every time.
Occupation	Occupation	Free text. Suggesting a drop-down. Currently not used.
Customer type	Identify a FW	
Transaction type	Identify a FW. Use only those to "send"	
Purpose of remittances	Identify a FW. Limits to those to support families and pay debt.	Possible to underestimate. Suggest a drop-down option in line with the remittance literature.
Source of fund	Identify a FW. Limits it to those from earnings.	Free-text. Suggest a drop-down option.
Destination country	Identify a FW. Match it with a FW's nationality.	If not matching, possible to do the transaction on behalf of other FWs.
Beneficiary ID/ Relationship		If sending to multiple beneficiaries, possible to send those on behalf of other FWs.
Purpose of remittances	Identify a FW. Limits to those to support families and pay debt.	Possible to underestimate. Suggest a drop-down option in line with the remittance literature.
Source of fund	Identify a FW. Limits it to those from earnings.	Free-text. Suggest a drop-down option.
Destination country	Identify a FW. Match it with a FW's nationality.	If not matching, possible to do the transaction on behalf of other FWs.
Beneficiary ID/ Relationship		If sending to multiple beneficiaries, possible to send those on behalf of other FWs.

Annex 3: Foreign worker levy by sector – equivalent to about one-month salaries (RM)

Sector	Peninsular	Sabah/ Sarawak
Manufacturing	1,850	1,010
Construction	1,850	1,010
Plantation	640	590
Agriculture	640	410
Services	1,850	1,490
Services (island resort)	1,850	1,010

Source: Immigration Department.

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