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# Economic Impact of Granting Refugees in Malaysia the Right to Work

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## Executive Summary

There are over 150,000 refugees currently residing in Malaysia. The majority are from Myanmar with many other nationalities represented including from Syria, Pakistan and Yemen. The rights of these refugees are tightly restricted, and they have no legal right to seek employment in Malaysia. Despite this, many in fact do work but their economic contribution is limited since they can only work in illegal jobs, limiting their productivity and exposing them to the risk of exploitation.

In their election manifesto, Pakatan Harapan committed to give all refugees registered in Malaysia the legal right to work on a par with locals. Nearly one year after the election there has been no confirmation that this promise will be implemented, let alone the timetable on which this will happen. If the promise is implemented, refugees will be able to make a greater contribution to the local economy, as a result of: stronger bargaining power reducing the scope for exploitation; greater job mobility improving labour market efficiency; and stronger incentives to invest in education and skills. This contribution can be further increased over the long term if refugees are given access to quality education and the best efforts are made to integrate them into Malaysian society.

In this paper, we estimate that:

- Granting the refugees currently in Malaysia the right to work will have a small but positive impact on the economy and public finances;
- We estimate that if refugees are given the right to work, they will contribute over RM3 billion to annual GDP through higher spending and the impact could be nearly double that when accounting for the wider indirect impacts;
- We estimate that if refugees are given the right to work, they will contribute RM35 million in tax each year. The net contribution to the public finances would depend on policy decisions, including application of the foreign worker levy and maintenance of the refugee healthcare discount; and
- Overall, employment and wages of Malaysians would likely increase as a result although there would be negative employment and wage effects for other foreign workers and older, less educated Malaysians. In the long term, maximising refugees' contribution to the economy would require substantial investment in their education, which would be repaid in the long term.
- Specifically, we estimate that under a scenario where refugees are granted access to education on a par with locals, their contribution to GDP would increase to over RM4.3 billion annually in real terms by 2040;
- This would require a substantial investment up to RM150 million a year potentially but we estimate a substantial increase in the tax contributions of future working refugees as a result, over RM 200 million per year by 2040, which would pay back the investment.

## Part I – Refugees in Malaysia



Malaysia is seen as a country of relative political stability and economic prosperity in a region that has seen great turmoil. As a result, many refugees and asylum seekers have sought Malaysia as a place of refuge.

Malaysia is not a signatory to the 1951 UN Refugee Convention and its 1967 Protocol, therefore, refugees and asylum seekers in Malaysia lead a precarious existence on the margins of society, at risk of arrest as illegal immigrants (Ahmad, 2012). Despite not being a formal signatory, the Malaysian authorities do cooperate with UNHCR to some extent and tolerate the refugee presence. The level of tolerance and extent of integration varies depending on the circumstances.

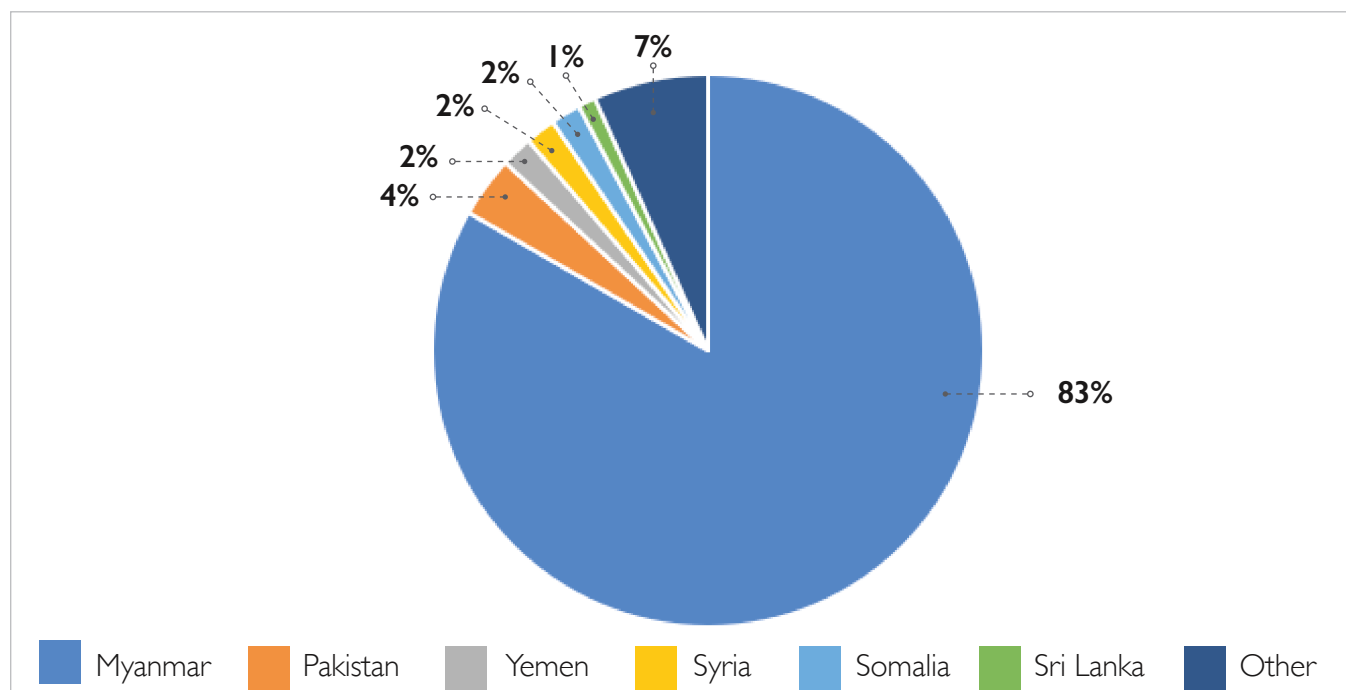
Munir Asen (2018) provides a historical perspective of refugees in Malaysia over the last few decades, since Malaysian independence. The earliest large scale of entry of refugees to Malaysia came from Vietnam, at the end of the Vietnam War. Between 1975 and 1991, Malaysia provided asylum to more than 250,000 refugees from Vietnam as part of a regional humanitarian effort (Munir-Asen, 2018). Subsequent inflows of refugees have not been administered in this formal way by the Malaysian authorities. Since the 1990s, Rohingya refugees have been arriving in Malaysia, and though their status has not been regularised they have been more or less tolerated, although kept to the relative margins of Malaysian society (Cheung, 2011). This pattern has continued with the recent high influx of Rohingya following increased persecution in Myanmar. Rohingya refugees now comprise the majority of refugees in Malaysia but have continued to be marginalised within Malaysian society (Munir-Asen, 2018).

By comparison Cham refugees, escaping the Khmer Rouge in Cambodia were treated differently, and given two options upon arrival during the same period as the Vietnamese: resettlement to a third country or integration in Malaysia. Filipino refugees from Mindanao arriving in Sabah, Malaysian Borneo, were granted "resettlement", and permitted to stay in Sabah and Labuan without limitation. Between 1976 and 1985, 73,000 were registered, and 30,000 given work permits from the outset, partly in response to labour shortages in Sabah at the time (Munir-Asen, 2018). This was also the case for Achese refugees arriving from Indonesia in 2003. This demonstrates that Malaysian attitudes towards and treatment of refugees vary significantly, depending on the political context, cultural factors and economic need.

## Refugees and asylum seekers currently in Malaysia

As of January 2019, there were over 160,000 Persons of Concern (PoC, comprising both refugees and asylum seekers) registered with the UNHCR, the majority of whom are from Myanmar.

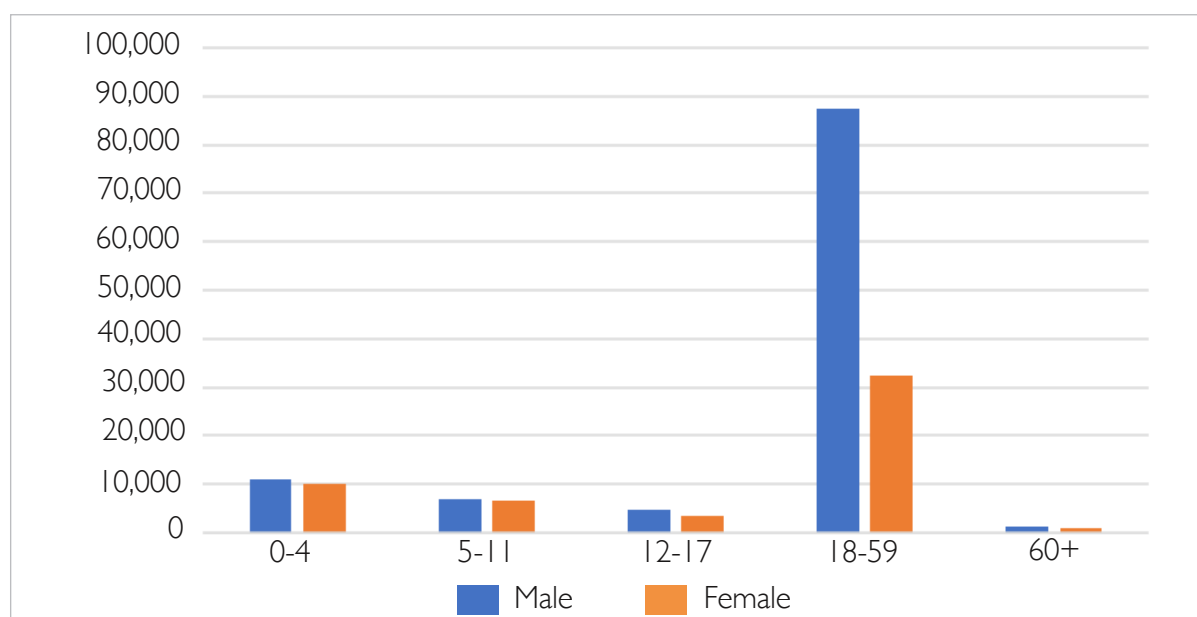
**Chart 1. UNHCR Registered Persons of Concern in Malaysia by Country of Origin, January 2019**



Source: UNHCR (2019)

The majority of UNHCR PoCs registered in Malaysia are adults (aged 18 – 59), and male. The genders are balanced more evenly among the other age groups.

**Chart 2. UNHCR Registered Persons of Concern in Malaysia by Gender and Age Group, January 2019**

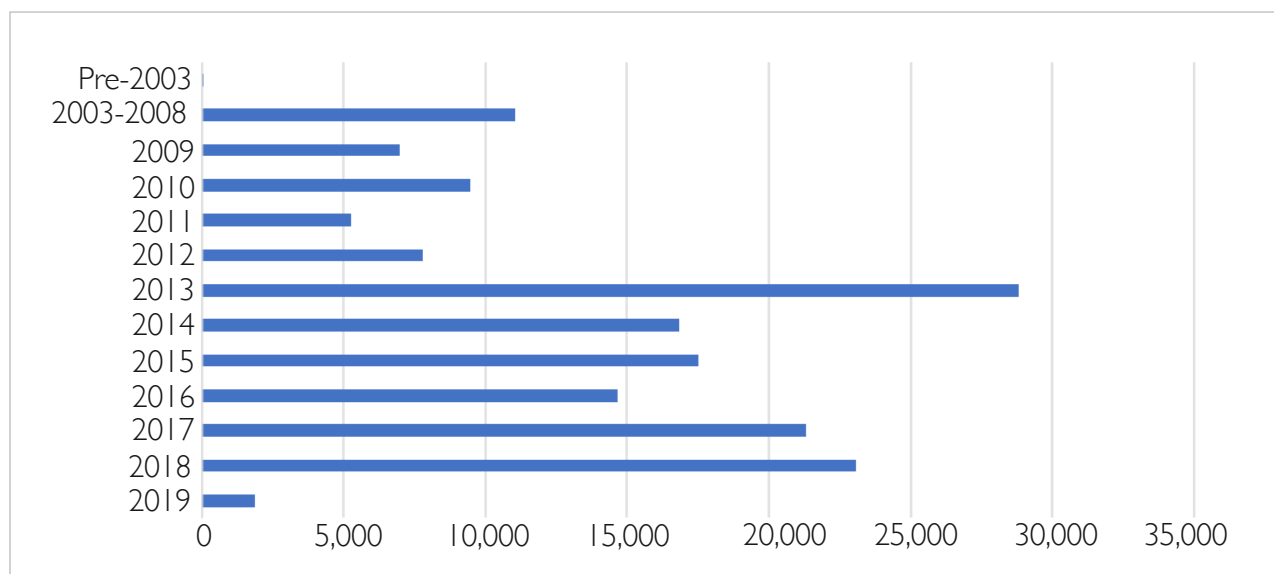


Source: UNHCR (2019)



Most PoCs in Malaysia arrived recently – the majority within the last six years. Fewer than 100 arrived before 2003. Unsurprisingly, there has been a significant growth in new refugees as a result of political instability in Myanmar.

**Chart 3. UNHCR Registered Persons of Concern in Malaysia by Year of Arrival, January 2019**

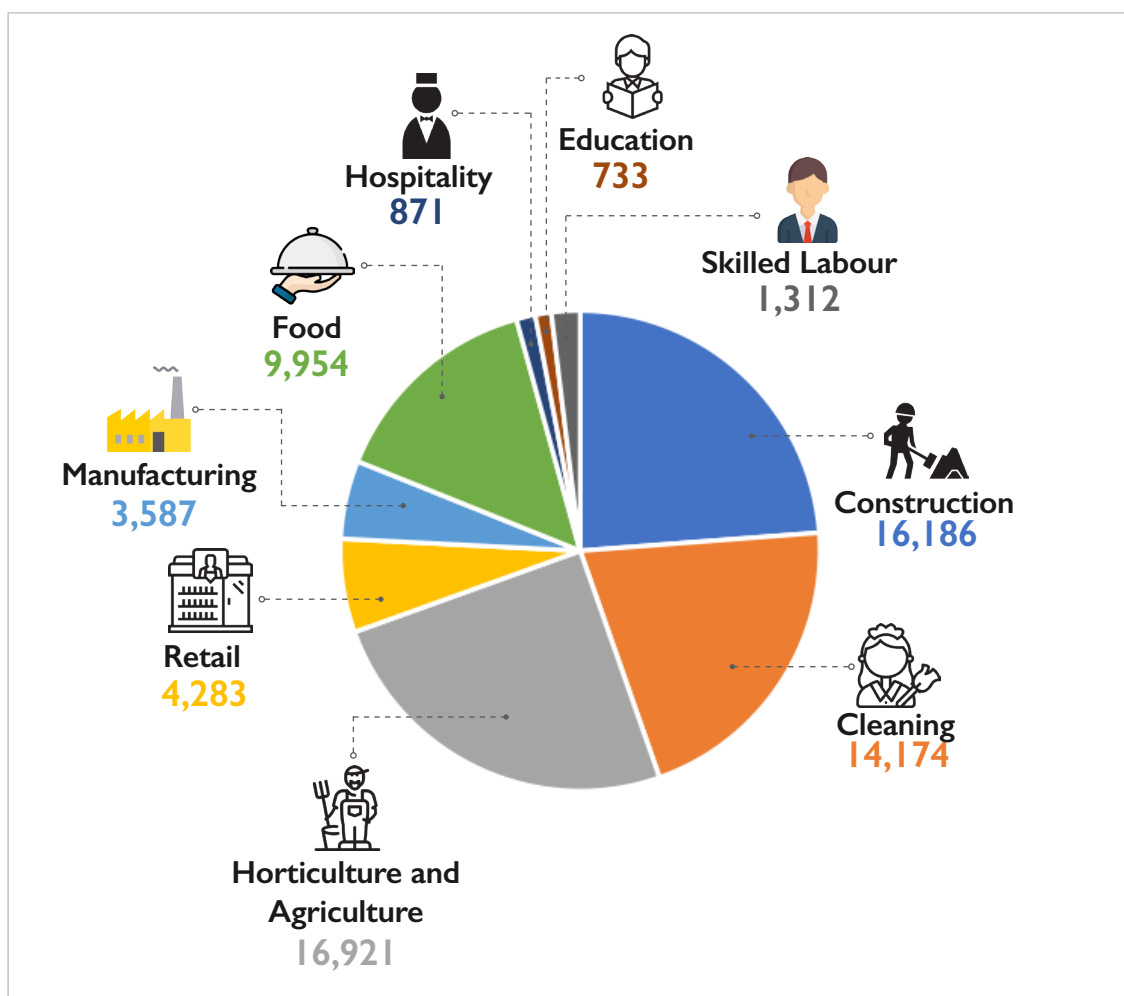


Source: UNHCR (2019)

## Refugees' access to employment

Despite not having the legal right to work, many of these PoCs are in fact engaged in employment. This is hardly surprising, given that refugees receive no welfare from the government and foreign aid and NGO support is insufficient to cover basic needs. The sectors that PoCs are employed in partly reflect their skills but their choice will be heavily restricted to employers that are willing to hire them illegally.

**Chart 4. UNHCR Registered Persons of Concern Employed in Malaysia by Sector, January 2019**



Source: UNHCR (2019)

Not all adult refugees are employed. It is difficult to distinguish between the participation rate (how many are in work or seeking work) and the employment rate (how many wanting to work are in work), but assuming those that want to work are able to, we can see that participation rates among PoCs are lower than for the population as a whole (Table 1.) This could reflect a range of issues, such as the risks associated with working illegally, lack of access to employment opportunities or lack of access to education for refugee children requiring parents to stay at home, to name a few. Cultural factors might also play a role.

**Table 1. Observed Participation Rate of UNHCR registered Persons of Concern in Malaysia, 2019**

Group	Participation Rate	
Rohingya	Male	65%
	Female	29%
	Total	58%
Non Rohingya	Male	59%
	Female	45%
	Total	55%
All PoC	Male	62%
	Female	39%
	Total	57%
Malaysia	Male	80%
	Female	55%

Source: UNHCR 2019, Labour Force Survey 2018, author's calculations. We do not have comprehensive data on the educational attainment of refugees in Malaysia, which – all else being equal – would be an important indicator of their employment potential. Nungsari and Flanders (2018) conducted an in-dept survey of Rohingya refugees working in the construction sector, which revealed the generally low level of education among the Rohingya.

**Table 2. Educational Attainment of Rohingya Refugees in Construction Sector in Malaysia, 2018**

Educational Attainment	% reported
No formal Education	54%
Some Primary	29%
Primary	11%
Some Secondary	4%
Secondary	1%
Some Tertiary	1%
Tertiary	1%

Source: Nungsari & Flanders, 2018

As the majority of refugees are Rohingya, it is reasonable to say that the majority of refugees in Malaysia are relatively low skilled. Refugees from outside Myanmar, including those from Pakistan, Syria and Yemen faced different circumstances in their home country and we understand have a generally higher level of educational as a result, although there is no comprehensive data on this.



## Current government policy on refugee employment

The previous government initiated specific work-schemes to provide legal opportunities to registered refugees in Malaysia. However, these efforts have been relatively unsuccessful. The Malaysian Cabinet agreed in March 2016 to embark on a work pilot project to allow 300 ethnic Rohingya UNHCR registered refugees to legally work in the plantation and manufacturing sectors. For the plantation sector, the UNHCR contacted over 4,000 refugees of whom only 10 per cent expressed an interest in participating in the scheme. Of these 400 only 50 remained interested following interviews and further briefings; of whom only 32 were selected by the plantation operator and passed medical assessment. Of these, only 14 showed up on the day, and within 9 months only two were still working at the designated plantation. The UNHCR Evaluation attributes the lack of interest on the part of refugees to, inter alia, the unsuitability of plantation work for the community-centred refugees and the availability of relatively more attractive illegal work (UNHCR, n.g.d.). The UNHCR evaluation recommends broadening the scheme to a wider range of sectors.

These pilot schemes were undertaken under the previous government. Following the 14th General Election, the opposition coalition, Pakatan Harapan (PH), came to power in Malaysia. In their election manifest, *Buku Harapan*, PH made two very important promises with respect to refugees: the government pledged to ratify the 1951 Refugee Convention and to grant refugees in Malaysia the legal right to work. Specifically:

*“The Pakatan Harapan government will legitimise their status by providing them with UNHCR cards and ensuring their legal right to work. Their labour rights will be at par with locals and this initiative will reduce the country’s need for foreign workers and lower the risk of refugees from becoming involved in criminal activities and underground economies. Providing them with jobs will help refugees to build new lives and without subjecting them to oppression.”*  
(*Buku Harapan*, 2018)

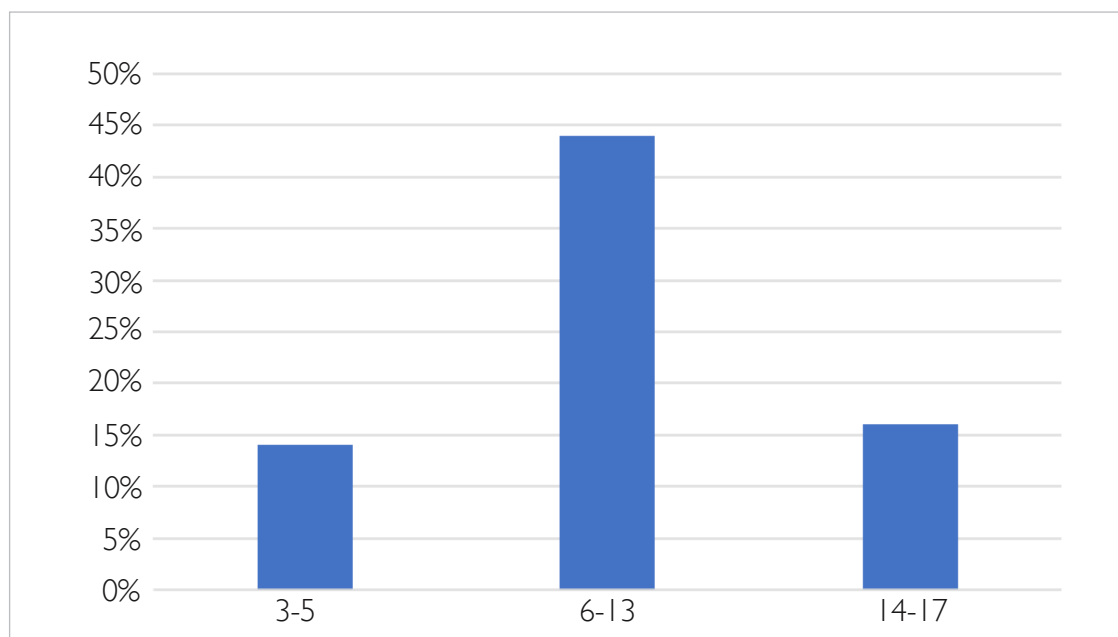
Since coming to office, the government has indicated that they remain committed to supporting refugees, but they have not yet set out a clear timetable for implementing this promise. Speaking in February 2019, Foreign Minister Saifudin said that: “Even though the government ministries have not come out with a policy, in many instances the government ministries have been very helpful in providing assistance to the Rohingya community” (FMT, 2019). The Human Resources Minister has recently mentioned exploring further pilot schemes.

## Refugees’ current access to welfare, education and health

Since refugees in Malaysia do not enjoy a legal status, their entitlement to public services is minimal. UNHCR registered PoCs are not entitled to government funded social security – the main national social security programmes, BRIM, or its successor Bantuan Sara Hidup (BSH) are restricted to Malaysian citizens, hence the requirement for refugees to seek illegal employment to survive.

Refugees in Malaysia are also not entitled to access the public school system, instead some limited education is provided through an informal parallel system of over 130 community-based learning centres. These centres are provided by NGOs and charities relying on fundraising and international aid. UNHCR Malaysia currently has six implementing partners in the sector of education which operate 10 learning centres and coordinate projects such as teachers training and teacher’s compensation. As a result of this limited education provision, only 30 per cent of refugee children of school-going age are enrolled in community learning centres.

**Chart 5. Percentage of UNHCR registered Persons of Concern in Malaysia enrolled in age-appropriate education by age group, 2018**



Source: UNHCR 2018

Aside from low levels of enrolment, refugees inevitably face lower or at least varied quality of education given the resource constraints of civil society organisations. As a result, their educational attainment is unlikely to match that of Malaysian citizens.

In the case of healthcare, refugees do not receive free access to the public healthcare system. However, in 2005 UNHCR secured a Memorandum of Understanding (MoU) with the Ministry of Health (MOH) to offer UNHCR card-holders a 50 per cent discount on the rates offered to non-citizens at public hospitals. Refugees also have access to private clinics and dedicated healthcare centres run by NGOs, nonetheless the 50 per cent public healthcare discount represents the only government policy which explicitly provides for some level of public services for refugees.

Estimating the exact cost of this provision is complicated by a number of factors. First, there is no publicly available comprehensive data on the use of public hospitals by refugees. According to UNHCR, over 90 per cent of refugees requiring healthcare were able to access primary care, of these nearly 30,000 accessed primary healthcare services provided by NGOs. According to a health access survey of urban refugees conducted by UNHCR in 2015, 45.2 per cent of those who sought healthcare went to government health facilities, 43.3 per cent went to private facilities, and the remaining 11.5 per cent went to facilities run by NGOs (Leh Hoon Chuah et al., 2018). Even with these figures, we do not know the exact rates paid by refugees (or the value of the government discount), as these depend on the type of treatment sought.

A study by Normah Awang Noh et al. (2016) on the usage of public hospitals by foreign workers provides some insights. From a survey of 600 foreign workers in Klang Valley, 89 per cent received treatment less than six times a year and – of those that received treatment – over 60 per cent spent less than RM400 per visit. However, since this study was undertaken, the fee fees for non-citizens have been substantially increased, in an attempt to reduce the subsidy provided to foreigners. According to the government, the rates now reflect the actual cost of treatment (NST, 2016). As a result, the non-citizen rates can range very high and to many multiples of the citizen rates, as see in table 3.

**Table 3. Citizen and Non-Citizen rates at Hospital Kuala Lumpur, 2019 (RM)**

Ward Class	Medical		Surgery		Maternity	
	Citizen	Non-Citizen	Citizen	Non-Citizen	Citizen	Non-Citizen
First Class	1050	7000	1650	11000	800	7000
Second Class	200	3000	400	5000	350	5000
Third Class	20	1400	30	2800	15	2800

Source: Hospital Kuala Lumpur, retrieved from <http://www.hkl.gov.my/index.php/advanced-stuff/hospital-charges>

As a result of these high and increasing costs, affordability of healthcare for refugees is a major issue, despite the discount, with 50 per cent of refugees unable to access healthcare due to unaffordability (UNHCR, 2018). This further complicates attempts to estimate the cost to the taxpayer of the discount as the cost – but also the take up – will vary dynamically with the price, since it is a discount on a paid service, not a direct subsidy or cash transfer. The question of the cost of the discount is further complicated by the relative opacity of the rates, in particular it is not clear whether the non-citizen rates now cover the full or the marginal costs of the relevant treatment. Nonetheless, if the use of services remains reasonably high, as suggested by the UNHCR survey and the study for foreign workers, then the cost of providing the discount could be well into the tens of millions of ringgit.

These costs could be further exacerbated by the issue of unpaid bills – according to MOH in 2017 foreigners owed public hospitals over RM50 million (The Star, 2017). Hospital Kuala Lumpur stated that the top five foreign countries who had consistently defaulted in settling their medical bills with the hospital from 2012 to 2016 were from Indonesia, followed by Myanmar, Bangladesh, India and Nepal.

A further health-related risk associated with illegal workers, including refugees, can be the wider public health risk, which can emerge precisely because illegal workers, including refugees, have poor access to healthcare. The World Bank (2015) notes that there is “anecdotal evidence [in Malaysia] of additional fiscal costs associated with the screening and follow-up health measures incurred due to the re-emergence of hitherto eradicated infectious diseases, such as tuberculosis” coming from illegal worker populations. There is no specific claim that refugee population in Malaysia is a particular cause of this wider public health risk.

Another channel through which refugees incur costs to public finances is through the cost of arrest and detention. There are no precise estimates of these costs publicly available, but the government has been quoted in the media as saying that the cost of detaining illegal migrants can range between RM35 and RM75 per day per person and up to RM26 million per year in total (Says, 2014). Of course, it is difficult to say how much of this cost is expended detaining refugees rather than other illegal workers and working refugees comprise a small percentage of the wider illegal worker population, which some reports claim to be as high as 6 million (ISEAS, 2018).

There are a number of other channels through which refugees could theoretically impose a cost on the public finances, including wear and tear of public infrastructure, but this is inherently difficult to estimate and attribute.

In terms of fiscal contribution, we assume that no refugees pay direct tax, given they are illegal workers. The level of indirect tax paid by refugees will be determined by their income and consumption habits. We do not have comprehensive data on the current wages of refugees in illegal employment, but we expect it to be very low. A survey by the Malaysian Human Rights Commission, SUHAKAM found that of refugees surveyed, 26 per cent earned less than RM500 per month, whilst 58 per cent earn between RM500-RM1000 per month (SUHAKAM, 2013). Nungsari and Flanders (2018) found that the average daily wage of Rohingya construction workers is about RM55, and the reported average monthly income was about RM1420. This is actually reasonably high, however construction is likely to be one of the higher paying sectors, and the survey also revealed that even the highest paid refugees were compensated less than local workers.

## Conclusions



Malaysia has a long history with refugees but as a non-signatory to the UN Refugee Convention, refugees have no legal status or right to work. Instead the authorities tolerate their presence and co-operate with UNHCR to some extent;



There are over 160,000 UNHCR registered Persons of Concern in Malaysia, most of whom are working albeit illegally;



Refugees in Malaysia have no access to social security or public education. The government does provide a 50 per cent discount on the non-citizen rates at public hospitals. Many services are provided through a parallel system of NGOs and charities working with UNHCR;



Refugees are likely to contribute very little in tax due to illegal work and low incomes; and



The extent to which refugees are a net cost to the public finances largely depends on the take up of the 50 per cent healthcare discount. But – given this – and the cost of detention, it is plausible to suggest that refugees are currently a net cost.

## Part 2 - Potential economic impact of granting refugees the right to work

In this section we consider the potential economic impacts of granting refugees in Malaysia the right to work. The conclusions here are largely drawn from a report by the Centre for Global Development (CGD), titled *The Economic and Fiscal Effects of Granting Refugees Formal Labour Market Access* (CGD, 2018).

### *Impact on refugee incomes*

The most direct economic impact of granting refugees the right to work will arise as a result of increasing refugee incomes. In the first instance, this will occur simply by increasing the employment rate of refugees. As we noted in Part 1, many refugees are already working albeit illegally. However, the participation rate is lower than the national average, which will be in part due to the dangerous and unattractive nature of the work available. Formal access to the labour market would present a wider array of work opportunities which we can expect would increase the participation rate, and therefore incomes.

The legal right to work would also increase incomes for refugees already in employment by reducing the scope for exploitation. Illegal workers in Malaysia, including working refugees, are vulnerable to exploitation by employers, including lower wages and withheld wages. Nungsari and Flanders (2018) find that the Rohingya refugees employed in the construction sector in Malaysia earned lower wages than native counterparts, which could be a case of exploitation. If refugees are given the legal right to work, these practices will reduce as refugees enjoy increased bargaining power and the right to pursue claims against unscrupulous employers.

Granting refugees the legal right to work could also be expected to raise their incomes through increased productivity. This could occur through a number of channels:

- ➔ **Reduced mental stress.** Living with the anxiety of working illegally and under the threat of exploitation and detention is likely to reduce the productivity of working refugees; this would be partly addressed through formalising their legal status in the labour market.
- ➔ **Better job matching.** Only having access to illegal work, severely restricts the pool of work opportunities. Although the majority of refugees in Malaysia are relatively low skilled, there are some with higher educational backgrounds that are poorly matched to illegal work. For lower skilled workers, their access to some jobs could be restricted due to licensing requirements (e.g. requiring Malaysian driving license). With access to more job opportunities, refugees could find work which better match their skills increasing their productivity.
- ➔ **Better job mobility.** Linked to the point above, access to a wider pool of employment opportunities would provide refugees with improved job mobility, which can improve productivity over time.
- ➔ **Incentives to invest in human capital.** If refugees are given a more certain legal status, it improves the incentives for employers and refugees themselves to invest in their skills and education, which in turn will enable them to be more productive.

In addition to increasing the income of employed refugees, these factors would also apply to refugees who have chosen to start their own businesses. In addition, those refugees with their own businesses would have the option to formalize, creating opportunities to increase productivity including through more opportunities to expand and access to government financing.

### *Impact on consumer spending*

Increasing of refugee incomes would bring substantial economic benefits to the refugee community, enabling them to purchase more and better quality goods and services and raising their overall quality of life. The increase in refugee incomes and the increase in consumer spending occurring as a result would also have a positive impact for the wider economy. This increase in spending would stimulate demand for goods and services produced in Malaysia. In turn this translates into higher profits and incomes for those producing these goods and services.

### *Wider impact on the economy and labour market*

In addition to stimulating demand in the economy through increased spending, granting refugees the right to work would also have a positive effect on the wider economy through increasing the labour supply. The increase in available workers would reduce wages, in turn lowering costs for businesses, stimulating production and investment. This would expand economic activity which can in turn create new employment opportunities and raise the income of other workers.

From a labour market perspective, the impact would vary based on the degree of substitution and complementarity between refugees and other workers. As noted in Part 1, in Malaysia, the majority of refugees are lower skilled and would therefore be expected to complement the better educated Malaysian workforce. Substitution would be expected to occur between refugees and other low skilled foreign workers and between refugees and the less educated Malaysians. These dynamics are explored in more detail in Part 3.

### *Impact on public finances*

All of the above impacts on the economy would translate into increased government revenues. In the first instance, the increased income of refugees would translate into increased income tax receipts. However, it is important to note that the tax base in Malaysia is relatively narrow, with the majority of workers paying little or no income tax; so only the higher earners among the refugees would be expected to make significant direct tax contributions.

However, the increase in refugee consumption would translate into increased government revenue through indirect taxation, specifically the Sales and Services Tax (SST) which applies to many goods and services in Malaysia.

Beyond the contributions arising from refugees themselves as taxpayers, the wider economic activity stimulated as a result of refugees in the workforce would translate into high government revenues.



The net impact on public finances would depend on the extent to which refugees impose fiscal costs. In general terms as incomes rise, we would expect demands on public finances to decrease. However, as we noted in Part 1, refugees have very limited entitlements to public services in Malaysia. We would expect to see some fall in costs, for example a reduction in the cost associated with detaining refugees for working illegally, but other cost implications would depend on policy decisions on whether to expand (or reduce) refugees access to public services. These dynamics are explored in more detail in Part 3.

## Conclusions



Granting refugees, the legal right to work would have a range of economic impacts;



The incomes of refugees themselves would increase as a result of higher participation in the labour market and improved productivity;



This would translate into higher spending as refugees consume more goods and services, stimulating the wider economy;



The increased supply of workers would reduce the cost of production stimulating business activity and investment;



From a labour market perspective, the precise impact would vary depending on the degree of substitutability and complementarity between refugees and other workers; and



The increased income, spending and wider economic activity would translate into increased government revenues. The net impact on public finances would depend on policy decisions on the entitlements of refugees.

## Part 3 - Estimating the short-term impact of granting refugees in Malaysia the right to work



In this section we consider how to quantify the magnitude of the various effects identified in Part 2.

### Other studies

Several studies, including those mentioned above, have considered the economic impact of refugees being granted the legal right to work. However, there are few studies that focus on the impact in developing countries or Malaysia specifically. There are also few studies which aim to forecast the impact for formalising labour market access for refugees. There are a greater number of studies which estimate the impact of legalising undocumented migrants more generally (i.e. not specifically refugees).

Lynch and Oakford (2013) conduct regression analysis to identify that granting citizenship to undocumented workers increased their wages by 25.1 per cent. This 25.1 per cent wage effect is disaggregated into a “legalisation” effect and a “citizenship” effect. For our study, we are interested in the former “legalisation” effect, as the question of citizenship for refugees is not under discussion. The “legalisation” component of the 25.1 per cent wage increase estimated by Lynch and Oakford is 15.1 per cent. This figure is taken from a very detailed study undertaken by the U.S. Department of Labour, based on a carefully constructed and large longitudinal survey of the nearly 3 million unauthorized immigrants who were granted legal status and given a road map to citizenship under the Immigration Reform and Control Act of 1986. The study found that these previously undocumented immigrants experienced a 15.1 percent increase in their average inflation-adjusted wages within five years of gaining legal status.

In another study, Ortega et al. (2018) sought to estimate the impact of granting the “DREAMers” the legal right to work. They construct a model which identifies that – on average – there is a 22 per cent productivity deficit afflicting undocumented workers in the US compared to documented workers of the same age and observable skills. This estimate is reached by analysing a special extract of the American Community Survey (ACS) for the year 2012 provided by the Center for Migration Studies (2014). This custom data set contains an individual-level measure of imputed undocumented status constructed on the basis of information on citizenship, year of arrival, country of origin, occupation, industry, and receipt of government benefits (Warren (2014)). Ortega et al. estimate the impact of granting the DREAMers the legal right to work by endowing them with increased productivity of their documented peers for the same age/education group.

Unfortunately, the data is not available in Malaysia to replicate the approach taken by Lynch and Oakford (i.e. there is no historic study of the effect of legalising undocumented workers in Malaysia) or by Ortega et al. (i.e. there is no custom data set which provides detailed characteristics of the refugee population in Malaysia). Nonetheless, these studies provide us with helpful ideas for constructing an estimate for the Malaysian context, within the constraints of limited data.

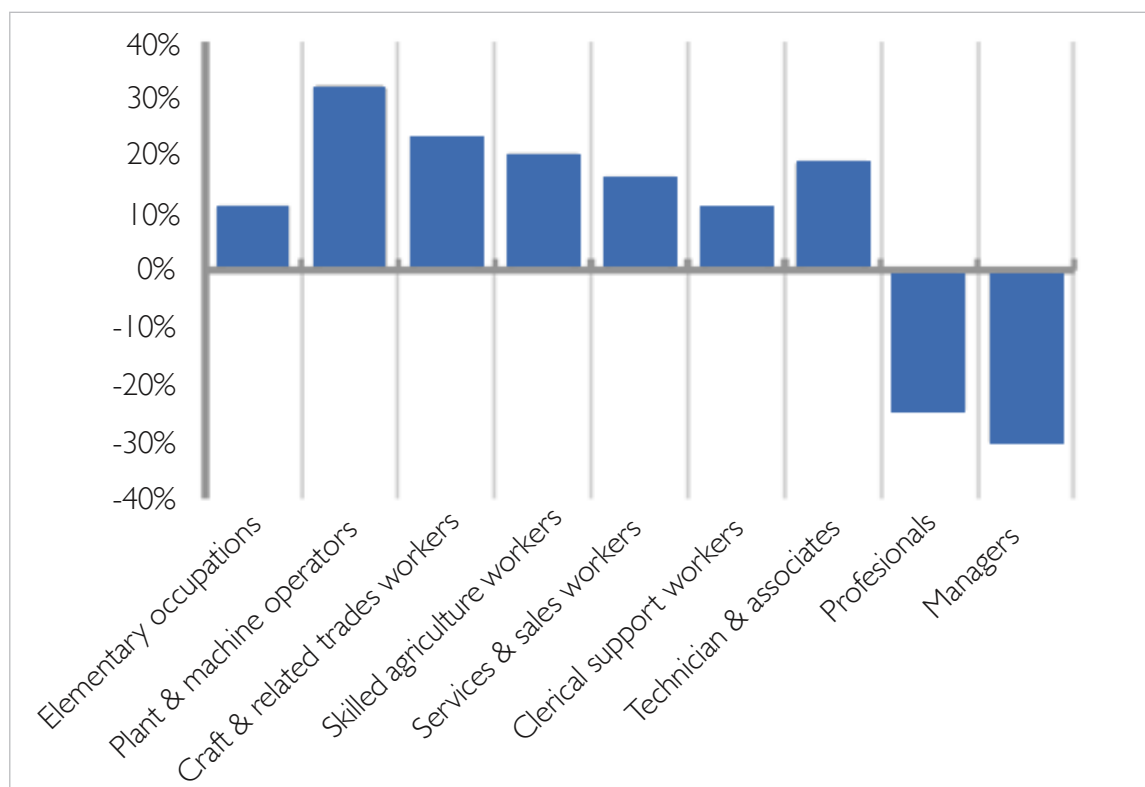
### Estimation of increased earnings

Taking the example of these studies we have therefore undertaken an estimation of the potential earnings of refugees should they be given the right to work. Our estimate is based on the following reasoning which seeks to reflect the conclusions in Part 2:

- ➔ If refugees are given the right to work, their participation rates will converge with the national average; and
- ➔ If refugees are given the right to work, their wages will converge with the national average for a given level of educational attainment; and
- ➔ We assume that these effects will be seen within five years.

Our rationale that both participation and wages will increase in this way is informed by the conclusion in Part 2 that granting refugees the right to work will encourage their participation in the labour market, reduce the scope for exploitation and increase their productivity - specifically by enabling them to match their skills to employment. However, we also note that there is likely to be an ongoing “income penalty” associated with not being a Malaysian citizen. Lynch and Oakford (2016) estimate a further 10 per cent increase in wages associated with obtaining citizenship. In Malaysia, the World Bank (2015) have found that once other factors are accounted for, Malaysian workers earn more than immigrant workers in low- and mid-skilled occupations, although not in high-skilled occupations.

**Chart 6. Percentage change in hourly wage associated with being a citizen rather than a non-citizen in Malaysia, 2011 to 2014**



Source: World Bank (2015)

We use this World Bank finding to apply an ongoing “non-citizen pay penalty” to refugees, to reflect their ongoing status as non-citizens. Given that we do not know the occupations that refugees might choose to work in should they be given the right to work, we cannot apply the penalties directly. We therefore take the average of the penalty for the low and medium skilled occupations, which is 17 per cent. We apply this penalty to our estimate of future earnings.

Our approach requires an assumption about the level of educational attainment for refugees currently resident in Malaysia. However, we do not have comprehensive administrative data for this. In the case of refugees from Myanmar we therefore use the distribution of educational attainment identified for Rohingya working in the construction sector from Nungasari and Flanders (2018) and we assume this same distribution for all refugees from Myanmar. For non-Myanmar refugees, we have not been able to identify any survey data for Malaysia. Instead, we base our assumption on a survey undertaken in Germany on refugees from the same set of countries arriving in the same period, conducted by the Institut Der Deutschen Wirtschaft (Stoewe, 2018).

The summary estimate is presented in the table below, with full detail provided at Appendix I.

**Table 4. Summary of estimation of short-term impact of legalising LMA  
for refugees on total compensation, 2017 prices**

Educational Attainment	Employed Refugees	Monthly Wages (RM)	Total Compensation (RM)
No formal Education	41,405	1,489	61,649,294
Primary	16,737	1,741	29,144,785
Secondary	22,537	2,170	48,906,925
Tertiary	5,496	4,562	25,071,976
<b>Total</b>			<b>164,772,981</b>

*Source: UNHCR 2018, Salary and Wages Report 2017, author's calculations*

In other words, we estimate that granting refugees in Malaysia the legal right to work will increase the total monthly income of all refugees to over RM160 million by 2024. Note, this reflects the total compensation of refugees granted the right to work, including those that might have already been working.

## Estimating the GDP Impact

Having arrived at a figure for the total compensation for refugees, we can now estimate the impact on GDP as a result of refugee spending stimulating activity in the wider economy as identified in Part 2. Given the lack of data and resource constraints we cannot conduct a Computable General Equilibrium (CGE) approach, instead we estimate the increase output as a result of high levels of refugee spending.

We assume that that refugee spending habits match those of the B40 (bottom 40 per cent) of the national population. This is an imperfect assumption: although refugees are likely to be towards the lower end of the income distribution they might exhibit different spending patterns from the wider B40 for a number of reasons, most notably the fact that Malaysian citizens receive access to public healthcare and public education and refugees are likely to remit some of their earnings. Nonetheless, we have no data on the consumption habits of refugees and only national consumption data at a broad level of disaggregation.

Based on national data on B40 income and consumption, we calculate the marginal propensity to consume (MPC) of this group. We use this B40 MPC to calculate the GDP multiplier effect for B40 spending. Assuming the same multiplier effect for refugees, we estimate the GDP impact associated with higher refugee consumption below (detail of estimation provided in Appendix 1).

**Table 5. Summary of estimation of GDP impact of legalising LMA for refugees, 2017 prices**

Estimated Monthly Income (2024)	164,772,981
Estimated Annual Income (2024)	1,977,275,774
Estimated B40 Average Propensity to Consume (APC)	0.8
Estimated Annual Consumption (2024)	1,581,820,619
Estimated B40 GDP Multiplier Effect	1.9
<b>Estimated GDP Impact</b>	<b>3,005,459,176</b>

*Source: Household Expenditure Survey 2014, 2016, author's calculations*

In other words, we estimate that if refugees are given the right to work, they will contribute over RM3 billion to annual GDP through higher spending by 2024. This estimate only encompasses the economic impact which arises from the increased spending of refugees, as a result of more refugees working and those refugees working earning higher wages. There will be additional economic impacts, both positive and negative that would arise as a result of higher employment of refugees.

## *Wider economic impact*

The GDP estimate above is a partial estimate, accounting only for the impact of increased consumption by refugees. As noted in Part 2, increased employment of refugees will have wider economic impacts beyond increased consumption. To that extent, the economic impact of employed refugees can be compared with the economic impacts of immigration more generally.

In terms of the likely magnitude of this wider economic impact, Ahsan (2014) estimates that a 10 percent net increase in low-skilled immigrant workers in Malaysia increases real GDP by 1.1 percent. This impact reflects the fact that increased low-skilled immigration reduces wages, and therefore the cost of production which increases exports. In turn overall employment increases and profits rise leading to increased investment and demand for other forms of labour. This in turn translates to broader wage rises and a boost to domestic demand (World Bank, 2015). Applying this estimate to our refugee scenario is imperfect, because the refugee population does not necessarily reflect the wider low skilled immigrant population, and the estimate was undertaken in 2014 and the prevailing conditions in the Malaysian economy may have changed. Nonetheless, this estimate still provides us with a useful tool to illustrate the wider economic impact of granting refugees the right to work.

The result of applying this estimate to our refugee scenario, is that the working refugee population under our scenario would represent a little over 4 per cent of the low skilled foreign worker population, contributing over RM5.5 billion to the economy. It is not possible to compare this figure with RM3 billion impact we identified earlier, as they are based on fundamentally different methodologies, but we would expect the wider impact to be significantly larger, given it accounts for the wider indirect effects

## *Estimating the impact on public finances*

In order to estimate the impact on the public finances, we need to estimate the possible tax receipts associated with higher incomes and more spending. Given that our estimation provides us an estimate of the refugees' future earnings, developing an estimate for their direct tax contribution is relatively simple. However, given that – even following the expected increase in earnings – refugees are still likely to earn relatively little, and given the fact that the Malaysian income tax system is shallow by OECD standards, the direct contribution is likely to be rather small.

The estimate below is taken from the applying the incomes estimated in table 3. and applying the Malaysian income thresholds for 2018, assuming that employed refugees are entitled to the RM9,000 personal income tax relief.



**Table 6. Estimate of direct tax contribution of refugees. 2017 prices**

Refugees	Annual Income	Chargeable Income	Tax Due per Refugee	Total Tax Due
41,405	15,570	6,570	15.70	650,214
16,737	18,210	9,210	42.10	704,569
22,537	22,693	13,693	86.93	1,959,153
5,496	47,705	38,705	896.40	4,926,598
<b>Total</b>				<b>4,926,598</b>

Source: LHDN, author's calculations

We judge it unlikely that the authorities would enforce collection on annual amounts below RM100, so we exclude these from our estimate. This caution also balances the fact that we have only assumed entitlement to RM9,000 of relief when there are other reliefs available. As a result, we estimate a very modest annual contribution in income tax of nearly RM5 million.

To estimate the contribution in indirect taxes, we again assume that the refugees' consumption habits would have a similar pattern to that of B40 households. For each category of item that comprise B40 consumption we identify whether the Sales and Services Tax (SST) applies or whether those goods are exempted (full detail at Appendix 1). As a result, we estimate that SST applies to 31.1 per cent of B40 household expenditure. We then apply this to the estimated expenditure of refugees to calculate refugees' contribution in indirect taxes.

**Table 7. Estimate of SST paid by refugees**

Estimated Annual Consumption	RM1,581,820,619
Estimated % of Annual Consumption subject to SST	RM491,946,212
Estimated Annual SST paid	RM29,516,773

Source: Household Expenditure Survey 2016, author's calculations

In other words, we estimate that giving refugees the right to work would result in their paying nearly RM30 million in SST each year by 2024. Again, this is a relatively modest contribution, which reflects the relatively low-income level we estimate for refugees and the fact that many goods consumed by low income households are zero-rated.

This estimate relates only to the direct contribution of refugees, i.e. the amount they themselves pay in taxes, not the potential revenues arising as a result of the increased economic activity that employed migrants would help stimulate.

### *Increased pressure on public finances*

Under this short term scenario – which is intended to closely match the letter of the manifesto commitment and no more – we are not assuming that the government provides access to social security or education.

The World Bank (2015) concludes that low skilled documented workers are a net positive contribution to the public finances, whilst undocumented workers impose higher fiscal costs partly due to the costs of arrest and detention. This assessment can be broadly applied to refugees, however there are some important differences. One of the contributing factors to the World Bank's conclusion is that the foreign workers levy (RM4,000 per worker per year) which is mandatory for employers of documented immigrants provides a significant fiscal contribution. Therefore, the extent of the fiscal contribution of refugees, would depend on whether the levy was applied. In turn the decision to apply the levy would have impacts on employability of refugees themselves, and therefore wider implication for the economic impact of granting them the right to work in the first place.

The other complicating factor is the nature and use of the healthcare discount in the event that refugees are given the right to work. As we noted earlier it is difficult to estimate the cost to the public finances of the 50 per cent healthcare discount, and it is therefore difficult to say whether this estimated tax contribution would be greater than this pre-existing fiscal cost. The nature of the discount is particularly difficult, as the increased income of refugees might enable them to spend more on healthcare which, whilst of course being a positive development, could in theory result in greater use of the discount at a higher cost to taxpayers. A decision to discontinue the healthcare discount might be presumed to increase the net fiscal contribution of refugees, but could also have severely negative consequences, given that under the current situation refugees struggle with access to healthcare already. Poor health will reduce the scope refugees' economic contribution, which in turn could lead to a net negative impact on the public finances.

We cannot say therefore that under the scenario whether refugees are given the right to work that they would definitively be net contributors to the public finances, as this depends on contingent policy decisions (on the foreign worker levy and healthcare discount) which would themselves impact the economic contribution of refugees. It is however reasonable to say that giving refugees the right to work will increase their gross contribution to the public finances.

Of course, as noted above these considerations relate only to refugees' direct impact on the public finances, i.e. their taxes paid, and services used. Given the wider, positive contribution to economic growth their indirect contribution to public finances will be greater.

### *Labour market impact*

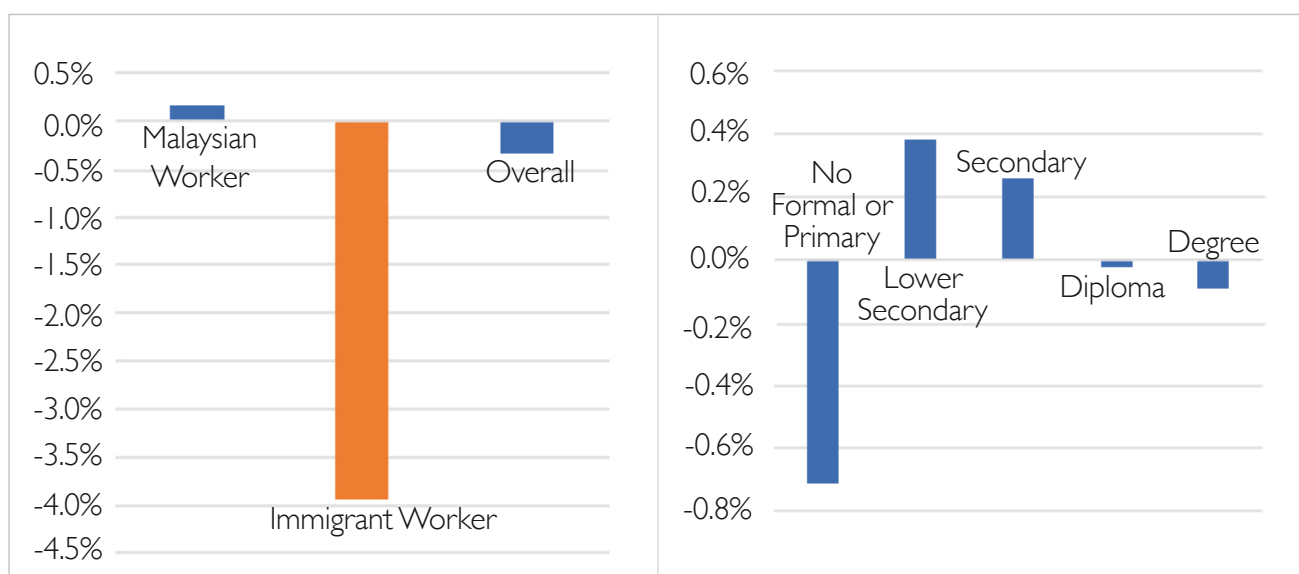
Finally, we want to consider the impact of granting refugees the right to work on the wider labour market. As noted in Part 2, there is likely to be some negative impact on wages and employment, concentrated in certain groups (substitution), and a positive impact on wages and employment for others (complementarity). To understand the likely impacts in Malaysia we can consider previous studies on the labour market impact of low skilled migration. For example, Athukorala and Devadason (2012) find that an increase in the share of both immigrant workers and unskilled foreign workers in the manufacturing sector results in a small decline in real wages, with a 10 percent increase in the share of immigrant workers resulting in a 1.3 percent decline in real wages. However, commenting on this and other studies, the World Bank (2015) notes that the focus is usually on the wages of all workers, obscuring the difference between the effect on Malaysians and other immigrant workers.

Under their own analysis, the World Bank (2015) finds that immigrant workers complement the majority of Malaysian workers – they do not replace Malaysian workers. Indeed, they estimate that 10 new migrant workers create between 0.3 and 0.5 new jobs nationwide. This is a simplified tool to illustrate the net effect of immigration on employment and is not necessarily applicable to refugees – but nonetheless suggests that refugees with the right to work would create between 2,500 and 4,000 jobs for Malaysians nationwide.

The World Bank (2015) finds that this complementarity reflects differences for different age groups and education levels. The most positive impacts are greatest among younger Malaysians with a higher level of education. Only Malaysian workers between 50 and 64 years of age and with no formal or at most primary education see no benefit from the presence of immigrant workers.

A similar pattern is found in the impact on wages – immigration causes a small decrease in the overall level of wages, but this reflects a small increase of the wages for Malaysians and a larger decrease in the wages of other immigrant workers (Ozden and Wagner, 2014). Among Malaysians, those with at least some secondary education see the greatest increase in wages, whilst there is a negative impact on the wages of Malaysians with no formal education or only primary education. Although this is a shrinking part of the workforce as Malaysians become better and better educated.

**Chart 7. Change in wages due to 10 percent increase in immigration, Malaysia**



Source: Ozden and Wagner (2014)

More recent research by the Khazanah Research Institute (KRI) supports these findings. KRI (2018) find that “foreign workers do not directly affect employment opportunities and wages of Malaysians because they occupy very different economic spaces from Malaysians, and therefore do not directly compete with Malaysians”.

Although these findings relate to low skilled migrants, not specifically to refugees, the conclusions are broadly applicable given that refugees with the right to work are similar in terms purely of economic contribution to low skilled foreign workers.

## Conclusions



We estimate that granting refugees in Malaysia the right to work will increase their contribution to the economy and the public finances;



We estimate that if refugees are given the right to work, they will contribute over RM3 billion to annual GDP through higher spending;



The impact could be nearly double that when accounting for the wider indirect impacts;



We estimate that if refugees are given the right to work, they will contribute RM35 million in tax each year. Under this scenario there would be no additional entitlement to public services, and this would therefore represent a net contribution to the public finances;



The net contribution to the public finances would depend on policy decisions, including application of the foreign worker levy and maintenance of the refugee healthcare discount; and



Overall, employment and wages of Malaysians would increase as a result although there would be negative employment and wage effects for other foreign workers and older, less educated Malaysians.

## Part 4 - Maximising refugees' contribution over the long term



The economic impact identified above, although positive, is marginal in the context of the whole economy. This is largely due to the fact that refugee population in question is not very large and that it is generally a low-skilled population. As a result of this skill composition, the potential earnings are relatively low.

Maximising the future contribution of refugees would require improving their overall access to education. Given that this improved educational access would focus on refugee children, we now consider a longer-term scenario which focuses on the potential contribution of the refugee children currently in Malaysia. To do this, we consider a scenario under which refugee children are given access to primary, secondary and tertiary education

on a par with locals.

In policy terms, this scenario could reflect a hypothetical government decision to provide free access to the public-school system to refugees. It could also reflect a decision by donors to invest in a community-based schooling system which delivers educational outcomes on a par with the public education system. We do not consider a scenario under which refugees participate in the public education on a fee-paying basis, because of the complexity of estimating the affordability of this for the refugee parents.

To do this we consider a scenario where access to education is provided on a par with locals and consider the future economic contribution of refugee children as a result. Under this long-term scenario, we assume that educational attainment levels of refugee children converge with the educational attainment levels of the population, albeit to a varying degree based on age. The results in Schoellman (2016) indicate that the education outcomes for refugees that arrived in the United States aged 0-6 are similar to outcomes for natives. Evans and Fitzgerald (2017) come to a similar conclusion, and with successively poorer outcomes for refugees of a higher age at arrival.

Drawing on these findings, we assume that under this scenario refugees currently aged 0-4 achieve educational outcomes on a par with locals. For the age group of 5-11, we discount their achievement by half at each level (i.e. half of those that would have achieved secondary are assumed to only achieve primary). This process is then repeated for the age group of 12-17. We then project forward by 20 years (sufficient time for education to be completed and children to enter the work force) and assume the refugees (now working age adults) earn wages commensurate with their expected educational attainment levels.

Of course, there are many 18-59 year old refugees who would remain in the workforce during this time. We assume that their educational attainment (and therefore wages) do not improve. We do not have precise statistics on their age profile, so we cannot say exactly how many would exit the work force over this time. Based on a qualitative understanding of the demographics, we assume 35 per cent of those currently aged 18-59 have left the workforce by 2040. Combining these assumptions, we calculate the total compensation for the refugees currently in Malaysia 20 years from now.

**Table 8. Summary of estimate of long term (2040) scenario for total compensation, 2017 prices**

Educational Attainment	Employed Refugees	Mean Wages	Total Compensation
No formal Education	33,357	3,111	20,207,501
Primary	16,307	3,638	43,171,212
Secondary	31,601	4,534	104,123,861
Tertiary	10,797	9,530	73,067,646
<b>Total</b>			<b>240,570,219</b>

*Source: author's calculations*

In other words, we estimate that under a scenario where refugees are granted access to education on a par with locals, their total income would increase to RM240 million per month in real terms by 2040.

### *Estimating the GDP impact*

Adopting the same methodology as for the short-term impact we can estimate the GDP impact of this increase income, assuming the propensity of refugees to spend is unchanged.

**Table 9. Summary of long-term GDP impact under long term (2040) scenario, 2017 prices**

Estimated Monthly Income (2040)	240,570,219
Estimated Annual Income (2040)	2,886,842,625
Estimated B40 Average Propensity to Consume (APC)	0.8
Estimated Annual Consumption (2040)	2,309,474,100
Estimated B40 GDP Multiplier Effect	1.9
Estimated GDP Impact (2040)	4,388,000,790

*Source: author's calculations*

In other words, we estimate that under a scenario where refugees are granted access to education on a par with locals, their contribution to GDP would increase to over RM4.3 billion annually in real terms by 2040. Given that the number of refugees working does not change significantly, this increased contribution is driven by the high wages for younger refugees entering the workforce with a better education.

As with the short-term economic impact, this estimate is a partial assessment only. In this case we do not consider the wider indirect impact by applying the estimates from World Bank (2014), because the change in the refugee population over this time period is not an increase in the total number of working refugees, but rather an increase in their earnings due to an improved skill composition. The World Bank estimate only considers the impact on increasing the total stock of low skilled immigrants and does not therefore apply.



## Impact on public finances

It is even more difficult to predict the future impact on public finances, given the possibility for change in the tax system. But, for the purposes of understanding the potential long-term impact of this scenario on the public finances, we can repeat the methodology used for the short-term impact.

**Table 10. Estimate of income tax due under long term (2040) scenario, 2017 prices**

Refugees	Annual Income	Chargeable Income	Tax Due per Refugee	Total Tax Due
33,357	37,327	8,327	400	13,337,048
16,307	43,655	34,655	590	9,615,076
31,601	54,403	45,403	1,432	45,258,994
10,797	114,365	105,365	12,027	129,853,831
<b>Total</b>				<b>198,064,948</b>

Source: author's calculations

Under this scenario – and assuming no change in the real tax rates – the direct tax contribution of working refugees stands to increase significantly as a result of the greater number of higher earners. It is important to note that about half of this increase emerges simply as a result of the expected real wage growth over the period, but this still represents a significant growth in the direct tax contribution.

Again, if we assume the real tax rates for SST are also unchanged, then we can repeat the method to estimate the indirect tax contribution.

**Table 11. Estimate of SST due under 2040 long term scenario, 2017 price**

Estimated Annual Consumption	RM 2,886,842,625
Estimated % of Annual Consumption subject to SST	RM 897,808,056
Estimated Annual SST paid	RM 53,868,483

Source: author's calculations

We can see that the forecast increase in indirect contributions is more modest. This is as expected, given that the SST does not scale for higher earners as income tax does. Overall, we estimate a substantial increase in the tax contribution of refugees under a scenario where they have access to education on a par with locals.

## Increased pressure on public finances

In terms of the cost of refugees to the public finances, this scenario does not entail any change to health or welfare entitlements. However, this scenario is only possible if access to education is provided. It is possible that this could be delivered through substantial external investment, but more plausible is that the government would choose to provide free access to public education for refugees. This would be a substantial investment. The government does not produce estimates of the marginal per pupil cost of the public education system, but UNESCO has calculated government spending per capita as below.

**Table 12. Malaysian government spending per pupil, 2010-2015**

Year	Government spending as a % of GDP per capita		
	Primary	Secondary	Tertiary
2010	12%	18%	45%
2011	15%	19%	59%
2012	17%	20%	44%
2013	16%	20%	44%
2014	16%	19%	50%
2015	16%	18%	50%

Source: UNESCO

These figures better represent the full (rather than marginal) per pupil cost, and therefore represent an upper bound of the cost of providing refugees with access to the public education system. Nonetheless, if the government were to provide this level of investment for refugee children this could be expected to cost up RM150 million per year in some years. This is unlikely to be matched by the tax contribution of working refugees in the short term based on our earlier estimates. However, once those educated refugees enter the work force, their higher earning would translate into higher tax receipts which would recoup the investment – and pay significant dividends in the long term.

## Conclusions



We estimate that under a scenario where refugees are granted access to education on a par with locals, their contribution to GDP would increase to over RM4.3 billion annually in real terms by 2040;



This would require a substantial investment up to RM150 million a year potentially in the short term;



But we estimate a substantial increase in the tax contributions of future working refugees as a result, over RM 200 million per year by 2040, which would pay back the investment.

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## Appendix I – Calculation Detail

### 1) Estimating the total compensation of refugees (short term)

In this estimate we are seeking to identify the short-term effect of granting refugees in Malaysia the right to work. To do this we simulate the effect of refugees earning wages relative to the educational attainment level, on the basis that all else being equal they should be in a position to earn this amount. We assume that if refugees are given the right to work in 2019, they would obtain this level of income by 2024 (within five years).

First, we identify the total number of refugees in employment. We take the total number of persons of concern aged 18-59 from UNHCR data and apply the national participation rates for the national population, 80 per cent for men, 55 per cent for women.

These working age refugees are then allocated against educational attainment levels according to the following process:

- All refugees from Myanmar are assumed to reflect the educational attainment distribution identified in Nungsari and Flanders (2018) for Rohingya working in the construction sector; and
- All other refugees are assumed to reflect the educational attainment distribution identified in Stoewe (2017) for refugees arriving in Germany.

**Table I. Educational Attainment of Rohingya Refugees in Construction Sector in Malaysia, 2018**

Educational Attainment	% reported
No formal Education	54%
Some Primary	29%
Primary	11%
Some Secondary	4%
Secondary	1%
Some Tertiary	1%
Tertiary	1%

Source: Nungsari & Flanders (2018)

In order to align the categories with those reported by DOSM, we treat those as having “some” education as having attained the prior level



**Table 2. Educational Attainment of Refugees in Germany, 2016**

Educational Attainment	% reported
No formal Education	11%
Primary	11%
Middle School	25%
Secondary	35%
Other School	4%
Tertiary	12%

Source: Stoewe (2017)

In order to align the categories with those reported by DOSM, we treat the proportion as having attended Middle School as having received only a primary education.

For each educational attainment level, we identify the national mean wage from the DOSM Salaries and Wages Report 2016. We apply a real wage growth rate based on the Compound Annual Growth Rate of real wages in Malaysia. We estimate the CAGR for real wages in Malaysia is 3.4 per cent.

**Table 3. CAGR for Real Wages Malaysia, 2013-2017**

Year	Nominal Mean Wage	Real Mean Wage	CPI (2010=100)
2013	2,186	2,439	107.1
2014	2,377	2,571	110.5
2015	2,487	2,635	112.8
2016	2,657	2,756	115.2
2017	2,880	2,880	119.5
	<b>CAGR</b>	<b>3.4%</b>	

Source: DOSM, author's calculation

We then apply this growth rate to the mean wages for each educational attainment level to 2024 and allocate refugees according the process above. We also apply a penalty for non-citizenship, identified in World Bank (2015) of 17 per cent.

**Table 4. Estimate of Total Compensation of Refugees**

Educational Attainment	Mean Wage (2017)	Estimated Mean Wage (2024)	Employed Refugees	Male	Female	Total Compensation
No formal Education	1,410	1,563	41,405	35,865	5,539	64,727,468
Primary	1,649	1,828	16,737	13,099	3,638	30,599,996
Secondary	2,055	2,278	22,537	16,625	5,912	51,348,867
Tertiary	4,320	4,790	5,496	4,083	1,413	26,323,830
Total						173,000,161
Total Compensation with Immigrant Pay Penalty of 17 %						143,590,134

## 2) Estimating the GDP impact on increased refugee compensation

In this estimate we are seeking to identify the increased GDP as a result of increased consumer spending by refugees.

We assume that the refugees will exhibit the same consumption habits as the bottom 40 per cent (B40). Given the data by Department of Statistics Malaysia (DOSM) on average household income and expenditure as well as the B40 income and expenditure in 2016 and 2014, we can then calculate the multiplier effect of the B40.

**Table 5. Estimating Propensity to consume of B40**

	Overall Mean Income	Overall Mean Consumption
2014	RM6,141.00	RM3,578.00
2016	RM6,958.00	RM4,033.00
Change in Income	RM817.00	-
Change in Consumption	-	RM455.00
Average consumer Marginal Propensity to Consume (MPC) = ((Change in Consumption)/(Change in Income))	<b>0.556915545</b>	

Source: Nungsari & Flanders (2018)

**Table 6. Estimating the multiplier effect for B40**

	B40 Mean Income	B40 Mean Consumption
2014	RM2,537.00	RM2,027.00
2016	RM2,848.00	RM2,284.00
Change in Income	RM311.00	-
Change in Consumption	-	RM257.00
B40 Marginal Propensity to Consume ( $MPC_{B40}$ ) = ((Change in Consumption)/(Change in Income))	<b>0.826366559</b>	
B40 Multiplier effect = $(1/(1-MPC)) + (MPC/MPC_{B40}) - 1$	<b>1.930838896</b>	

### 3) Estimating the fiscal impact

To estimate the fiscal contribution of working refugees we first estimate the direct tax contribution. We apply the 2018 income tax rates to the wages in estimated in table 4. We assume refugees are entitled to the RM9,000 income tax relief.

**Table 7. Estimate of income tax due**

Refugees	Mean Wage Monthly	Annual Income	Chargeable Income	Tax Due per Refugee	Total Tax Due
41,405	1,298	15,570	6,570	15.70	650,213.64
16,737	1,517	18,210	9,210	42.10	704,568.55
22,537	1,891	22,693	13,693	86.93	1,959,153.47
5,496	3,975	47,705	38,705	896.40	4,926,597.93
<b>Total</b>					<b>8,240,533.60</b>

Using B40 expenditure in 2016 as a proxy of refugee's expenditure, we found that the B40 spent about RM716 per month or 31.1% of total expenditure on expenditure group that deem to be charged SST. Table below is the list of B40 expenditure group:

**Table 8. estimating proportion of expenditure to which SST is applied**

Expenditure Group	Amount (RM)	Percentage (%)	SST Coverage
Food and non-alcoholic beverages	RM582	25.5%	No
Alcoholic beverages and tobacco	RM58	2.5%	Yes
Clothing and footwear	RM83	3.6%	Yes
Housing, water, electricity, gas and other fuels	RM563	24.7%	No
Furnishings, household equipment and routine household maintenance	RM74	3.2%	Yes
Health	RM42	1.8%	No
Transport	RM269	11.8%	No
Communication	RM91	4%	No
Recreation services and culture	RM81	3.5%	Yes
Education	RM22	1%	No
Restaurants and hotels	RM271	11.8%	Yes
Miscellaneous goods and services	RM149	6.5%	Yes
<b>Total expenditure covered in SST</b>	<b>RM716</b>	<b>31.1%</b>	

Source: Nungsari & Flanders (2018)

Given the assumption that the refugee total expenditure shares the same pattern with the B40's, then we can calculate the estimated amount of SST paid by refugees.

#### 4) Estimating long term impact

To simulate the long term impact we construct a scenario whereby access to education improves, reflected in higher educational attainment for refugees. We look forward 20 years and assume that the refugees currently aged 0-4 have achieved a level of educational attainment on a par with the rest of Malaysia. For the age group of 5-11 we apply a “cascading discount” effect whereby the number obtaining each level of educational attainment is reduced by half with those falling into the previous category. We repeat the process for 12-17 year olds. For 18-59 year olds, we continue to use the previous assumptions on educational attainment, distinguishing between those from Myanmar and those from the rest of the world. Given the period in time, we also assume that a proportion of the 18-59 year old refugees have left the work force. We have no detailed demographic data so we assume that 35 per cent have left the work force based on qualitative understanding of the age profile.

Educational Attainment	Employed Refugees	Mean Wages	Total Compensation
No formal Education	33,357	3,111	20,207,501
Primary	16,307	3,638	43,171,212
Secondary	31,601	4,534	104,123,861
Tertiary	10,797	9,530	73,067,646
<b>Total</b>			<b>240,570,219</b>

## This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



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