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The Length of Stay of Foreign Workers in Malta

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Policy Note

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Abstract

The length of stay of foreign workers in the Maltese labour market is short. Indeed, using longitudinal administrative data we find that around a quarter of foreigners engaged in the Maltese labour market exit within the first year of engagement, and around half exit between one and two years later. In general, we find that EU nationals, younger individuals, and lower-skilled foreign workers exhibit a relatively shorter length of stay. Moreover, we find significant sectoral heterogeneity. In particular, smaller firms and the public administration, health, and education sector, exhibit better retention rates. The increasing reliance on a transient labour force poses a number of economic challenges. The short length of stay may limit economic assimilation and labour productivity growth. In addition, low retention rates generate additional strain on training and hiring costs. There are also important implications on the demand for public transport, private education and the rental market.

JEL classification: J21, J6, O4

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1 Executive Summary

The influx of foreign workers in Malta has been extraordinary in the last few years. It has been instrumental in mitigating labour market shortages thereby enabling strong expansion in firms' activities. In this light, understanding the characteristics of this growing segment of the Maltese labour market is vital. This note looks at one aspect of this: the length of stay of these workers and attempts to shed light on the following three questions.

- **What is the length of stay of foreigners in the Maltese labour market?**

The re-migration rate can be defined as the emigration of non-citizens as per 1000 of the population. When comparing Malta's migration flows to those experienced by other European countries we find that Malta has a dual phenomenon of large migrant inflows and outflows. In particular, Malta had the second largest immigration rate in 2015, but in the same year, Malta experienced the third highest re-emigration rate. Since migration to Malta in the last few years was mostly related to work opportunities, these large flows suggest that while Malta has managed to attract a large number of foreign workers, their length of stay is rather short.

Using anonymised longitudinal administrative data we compute the length of stay of foreign workers in Malta. Specifically, we compute the exit rate, which expresses the number of those who exit the labour market as a percentage of the number of entrants in a particular year. Over the period 2002 to 2017, on average, 25% of those that were engaged exited the labour market within the same year, whereas 45% of foreign workers exited after a period of between one and two years. Moreover, only 30% remained engaged in the Maltese labour market more than 6 years after their first engagement. The average length of stay of foreign workers is 3.5 years, relatively unchanged since 2012.

Exit rates have had limited evolution over time, and have indeed remained quite high throughout the period 2002 to 2017. As Malta went through a cyclical upswing in the period 2004 and 2007, exit rates also rose slightly, and then remained flat until 2010. These were followed by some decline until 2015, which coincided with the extraordinary increase in the share of foreign workers in the Maltese labour market.

- **What are the characteristics that determine the length of stay?**

Individuals that originate from countries in the European Union (EU) tend to have a shorter length of stay when compared with non-EU nationals. The exit rate of EU nationals is 6 percentage points

higher than that for third country nationals (TCNs) for those who exit the labour market within the first year of engagement, and 3 percentage points higher for those that exit between one and two years after first engagement. At longer durations, exit rates converge. In addition, individuals that originate from peripheral European countries tend to have marginally higher exit rates than those coming from eastern and core European countries.

Foreign workers in Malta are quite young. Indeed, 27% of all foreign workers that were engaged in the period 2002-2017 were below 25 years of age, while 43% of them fall within the 25-34 cohort. In general, the youngest cohort tends to have the lowest length of stay. The relationship between skill and the length of stay is largely positive. In general the highest skilled foreign workers tend to have a longer length of stay, but the results are mixed when comparing low and medium-skilled employees.

Smaller firms tend to have better retention rates than larger firms. Moreover, there is significant sectoral heterogeneity. The public administration, health, and education sector and the wholesale and retail sector have the lowest exit rates, while the manufacturing, water and electricity sector has the highest exit rates. Moreover, we find some evidence that average sectoral wages are positively related to the length of stay, but it cannot fully account for sectoral heterogeneities. In addition, it is difficult to explain sectoral heterogeneities with age and regional differences.

- **What are the economic and policy implications of the estimated length of stay?**

Due to the relatively short length of stay of foreign workers in Malta, it is likely that economic assimilation is low. Indeed, very few foreign workers ever change their job or improve their employment occupation while in Malta. The lack of labour mobility within the Maltese labour market in turn poses challenges to labour productivity growth as firms have to consistently hire new workers, with limited gains from ‘learning-by-doing’. This could be creating disincentives for employers to train staff. Additionally, the increasing flows of foreign workers can add cyclicalities to Malta’s potential output. The presence of a large transient workforce also has implications for demand for public transport, private education and the rental market. Policymakers need to provide incentives to favour training and upskilling, while trying to sustain incentives for the retention of workers, such as the provision of retirement income schemes and private health insurance. Particular attention also needs to be given to sustain those sectors where demand is rising quickly.

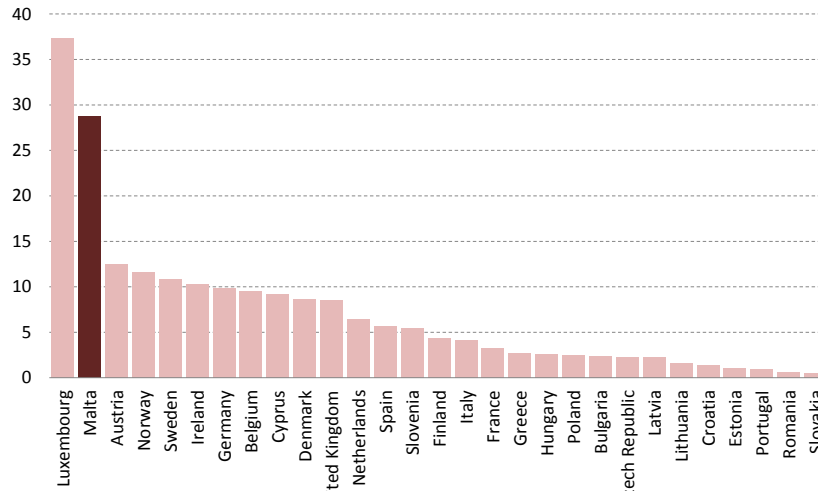
2 What is the length of stay of foreigners in the Maltese labour market?

The Maltese labour market was transformed in recent years, marked by a very large influx of foreign workers. Grech (2015) has documented how the rise in net inward migrant flows in Malta's labour market in the period 2010-2015 has led to the share of migrant stock climbing to around 10% of working age population by 2014. The author also pointed out that in absence of this phenomenon, Malta's working age population would have declined. In recent years, the share of migrant workers has continued to intensify, reaching 14% of the working age population and 21% of total employment by 2017.

The direct economic impact of the increase in net migration is well documented. Both in Grech (2015) and in Grech and Borg (2018) the macroeconomic impact of the rise in population as a result of the increase in the number of foreigners in the Maltese labour force was estimated to be positive and significant. However, the economic implications go beyond the direct impact related to the increase in the working age population. In particular, it is vital to understand the length of stay of foreign workers in Malta. Re-migration, that is the emigration of foreigners living in a particular country, has fundamental implications on the economic integration and assimilation of migrants. It is also an important determinant of immigrant behaviour, such as their housing and consumption preferences. Moreover, it can explain changes in the composition of the labour market, changes in wages and current and future labour productivity levels.

It is therefore vital to investigate the rate at which foreigners living in Malta re-migrate when compared with the rate observed in other countries. Using Eurostat data, Chart 1 depicts the total number of immigrants in 2015 per 1000 of the population as at the same year, across 29 countries. Malta had the second highest immigration rate, only smaller than Luxembourg. At 29%, the immigration rate is substantially higher than the average immigration rate across the EU.

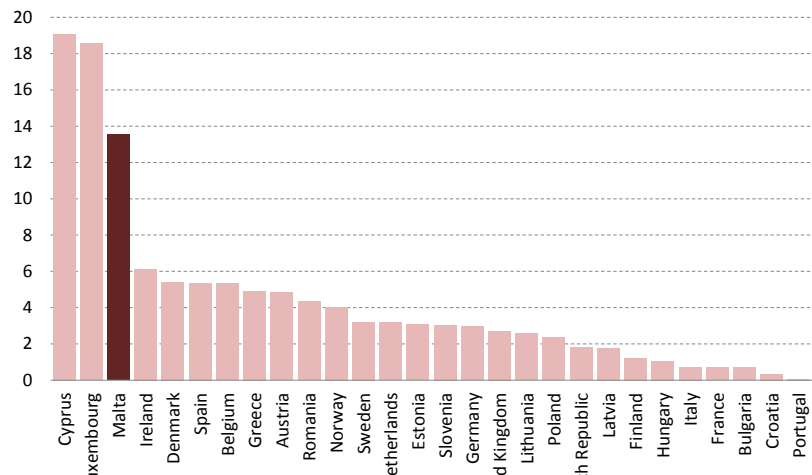
Chart 1: Immigration rates across countries - 2015
(Immigration per 1000 population)



Source: Eurostat, Demographic data

Chart 2 illustrates the re-migration rates across the 29 countries that is the emigration of non-citizens. Malta places third, only lower than Cyprus and Luxembourg. At 13.5%, the re-migration rate in Malta substantially exceeds that experienced in most countries.

Chart 2: Emigration rates across countries - 2015
(Emigration per 1000 population)



Source: Eurostat, Demographic data

In order to compute the length of stay of foreigners in the Maltese labour market, we have to be able to track an individual's first engagement and the last termination of his/her employment. An anonymised longitudinal administrative dataset compiled by Jobsplus, the national employment agency, was used to make these calculations.

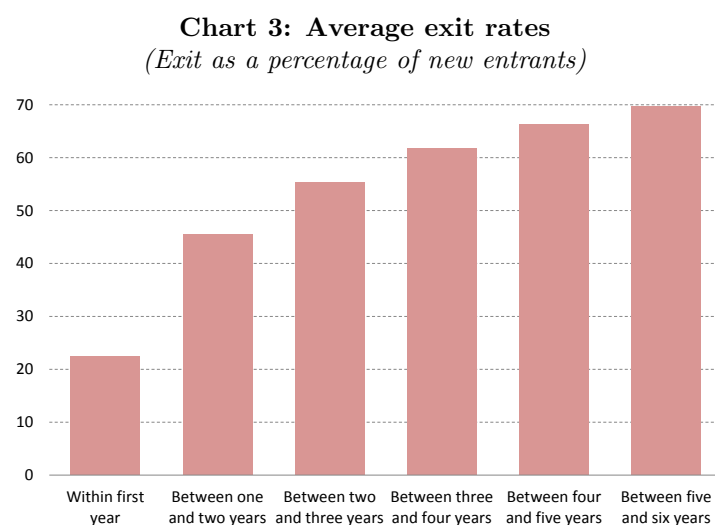
The first engagement dates and last termination dates in the dataset are in annual frequency, and hence

we do not have the exact date of engagement and termination. Consequently, the following length of stay estimates can be interpreted as ranges. For example: an individual who was first employed in 2005, and had his last termination in 2008, is said to have a length of stay of between three and four years. We assume that after the last termination the individual has left the labour force permanently.

After calculating the length of stay per individual in the data set, we then compute the exit rate for each year. The exit rate expresses the number of those that exit the labour market as a percentage of the number of entrants in a particular year. For example: if 1000 foreigners were engaged in 2004 out of which 500 exited the Maltese labour market in 2004, it would imply an exit rate of 50% in that year. If a further 250 persons left in 2005, it would imply that by 2005 the exit rate for the 2004 cohort had reached 75%, meaning that three quarters of the foreigners who joined the Maltese labour market in 2004 exited it between one and two years after they were first engaged.

We compute these exit rates for each year, but initially we plot the time series mean over the full horizon in Chart 3.² It shows that on average 25% of those that were engaged exited the labour market within the same year, whereas 45% of foreign workers exited after a period of between one and two years. Only 30% of non-Maltese workers remain in the Maltese labour market more than 6 years after their first engagement.

OECD (2008) find that between 20% and 50% of immigrants either return to their home country or move to third countries five years after their arrival. In Malta, around 50% of those engaged exit the Maltese labour market within two years of their arrival which implies that the phenomenon of re-emigration is relatively high in Malta.

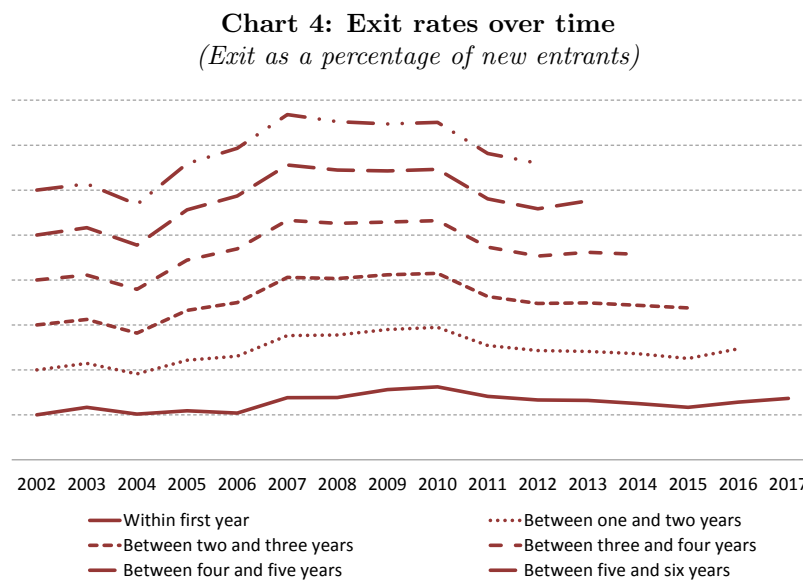


Source: Jobsplus, Own Calculations

²See table A in appendix A for the year-by-year exit rates.

The length of stay of foreign workers in Malta is unlikely to be time invariant, especially when considering that over the last two decades, the Maltese and world economy went through a series of significant cyclical and structural transformations. In particular, Micallef (2016) shows that Malta’s cyclical position evolved from negative in the early 2000s to positive before the 2008 financial crisis, after which it slipped into a mild recession, followed by a quick recovery. In addition, Micallef and Ellul (2017) document the rapid structural transformation in Malta, with a doubling of its potential growth rate. At the same time, Malta experienced a rapid increase in net migration in the period 2010-2015.

Chart 4 plots the exit rates across time, with a base of 100 in 2002. Exit rates tended to rise slightly between 2004 and 2007, which coincided with a cyclical upswing in the Maltese economy. These rates remained flat until 2010, which were then followed by some declines until 2015. The latter declines coincided with the sharp rise in the number of migrants in the Maltese labour market. In general, while there seems to be some evolution in the length of stay over time, it remains quite low throughout the last two decades.



Source: Jobsplus, Own Calculations

Chart 5 shows a measure of the weighted length of stay for each year in the sample period.³ The weighted length of stay was historically high in the early 2000s, reaching 4.2 years in 2004. During this period the number of new entrants was relatively low at around 1200 per annum on average. Since 2005, the number of new entrants started to rise while at the same time the weighted length of stay declined.

³The weighted length of stay converts the ratio of those that stayed in the Maltese labour market to the number of entrants per annum, to years. Since we cannot observe the full length of stay of individuals that have not yet left in the later periods, we project their “potential” length of stay based on that of the previous year. For example: in 2002 we can observe the percentage of those that left after 16 years, but for 2003 we can only observe the percentage of those that left after 15 years. We project the potential length of stay of the 16th year of 2003 based on that of 2002. This is done for each successive year.

Indeed, between 2007 and 2010 the length of stay went down to around 3.2 years. After this period, the number of new entrants accelerated sharply. In the meantime, the weighted length of stay stabilised at around 3.5 years, which is close to the historical length of stay.

Chart 5: Weighted average length of stay



Source: Jobsplus, Own Calculations

Although the length of stay has been rather stable over time, the economic impact of the rather short length of stay has increased over time. Looking at the number of leavers within the same year, the average number of leavers in absolute terms for the period 2002 to 2012 stood at around 840 per annum, around 0.5% of the labour supply. For the period 2013 to 2017, the absolute number of leavers was around 2850 per annum, or 1.5% of the labour supply. As at 2017, the number of persons that left within the first year was close to 4000, or around 1.8% of the labour supply. Thus, while foreign workers are not becoming more transient over time, since their absolute numbers are rising, the issue of transience is increasing in importance.

3 What are the characteristics that determine the length of stay?

The dataset contains a number of individual characteristics, which allows us to delve deeper into the determinants of the length of stay of foreign workers in Malta. The characteristics available are the following: 1) nationality; 2) age; 3) employment status; 4) size of employer; and 5) economic sector.

It is important to note that these available characteristics do not represent a full set of determinants of the length of stay. OECD (2008) outline four main categories that might determine return migration, including failure to integrate in the host country, the individuals preference to return to the home country, the achievement of a savings objective, and the opening of new employment opportunities in the home country. Moreover, the length of stay could also depend on wage differentials between different countries (not limited to host vs home country), and different employment opportunities.

Nevertheless, the set of characteristics available in this note provide the first attempt to describe in some detail how some individual characteristics may impinge on the length of stay of foreign workers in Malta.

3.1 *Length of stay by nationality*

Since Malta joined the EU, it has become part of the European single market, which entails the free movement of goods and services, capital, and labour between Member States. In fact, around 70% of foreign workers in Malta originate from countries in the EU, while 30% are TCNs.⁴ EU nationals are therefore expected not only to find it easier to migrate to Malta, but also to find it less costly to re-migrate.⁵ Unlike TCNs, they are not limited to return to their home country, but can relatively easily migrate to other countries.

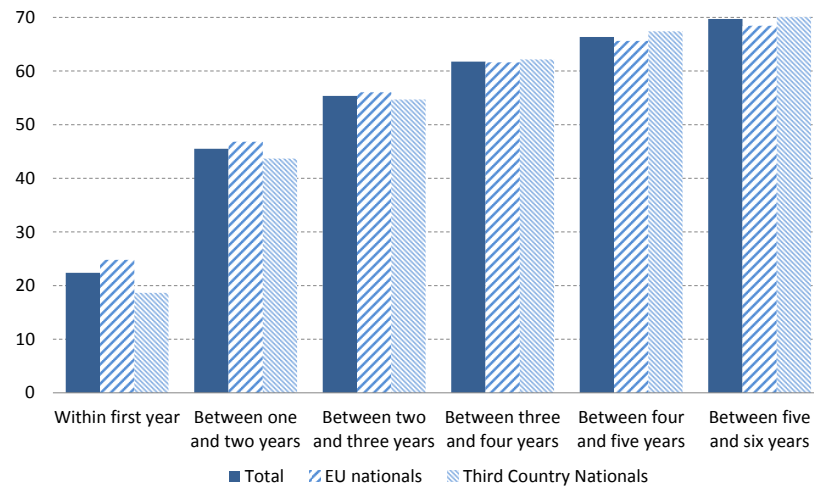
Chart 6 shows the exit rates according to whether the home country of an individual is an EU or non-EU country. The percentage of EU nationals that exit the labour market within the first year of first engagement is around 6 percentage points higher than that for TCNs. Moreover, the percentage of EU nationals that exit between one and two years after first engagement is 3 percentage points higher. These rates tend to converge for longer durations. The results imply that as expected EU nationals tend to stay for shorter periods in the Maltese labour market, as the cost of migration and re-migration is relatively low, both due to relatively shorter distances involved, but more importantly due to free movement within the EU. However, these results also show that for longer durations, differences are rather small, which

⁴See table B in appendix B.

⁵Third country nationals who obtain their visa to work in Malta are required to remain in the country of issuance. See <https://homeaffairs.gov.mt/en/MHAS-Information/Schengen/Pages/Third-Country-Nationals.aspx>.

implies that at longer lengths of stay re-migration becomes relatively as unattractive for EU citizens as it is for TCNs.

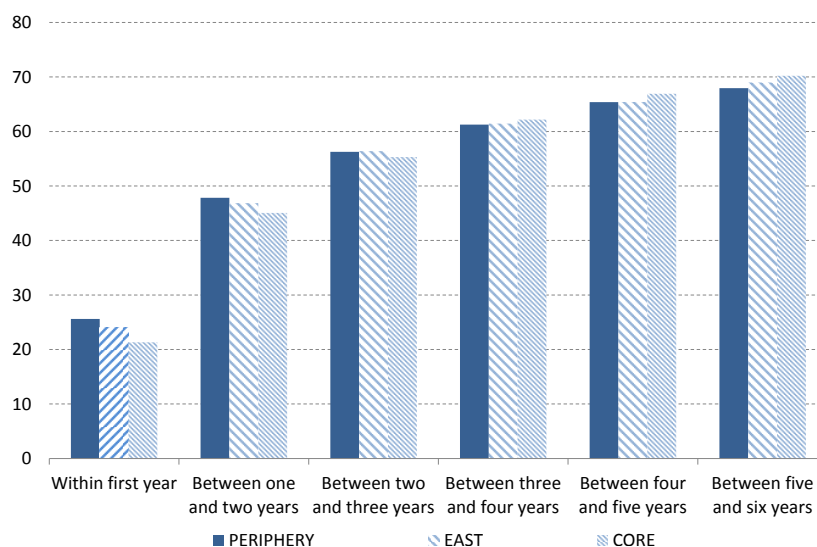
Chart 6: Nationality differences
(Exit as a percentage of new entrants)



Source: Jobsplus, Own Calculations

The EU comprises countries that are quite heterogeneous. In chart 7, we split EU countries into three distinct groups, that is periphery, east, and core. Periphery countries include Greece, Ireland, Italy, Portugal, Spain, and Cyprus. East includes eastern European countries such as Latvia, Slovakia and the Balkans. The rest are considered as core. The differences in the exit rates between the three groups are not very large. The exit rates for periphery countries are marginally higher than the other two groups for individuals that stay less than two years. Exit rates converge for longer lengths of stay.

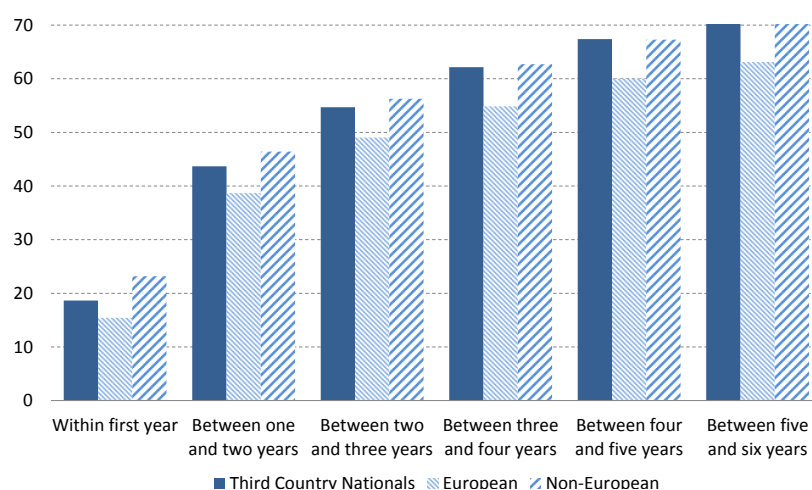
Chart 7: Differences within the EU region
(Exit as a percentage of new entrants)



Source: Jobsplus, Own Calculations

Moreover, TCN also comprises countries that are quite heterogeneous. In Chart 8 we split between European TCN countries and non-European TCN countries. European countries that are not in the EU have lower exit rates than non-European countries. Indeed, the exit rates of European countries are around 7.5 percentage points lower than non-European countries.

Chart 8: Differences within the TCN region
(Exit as a percentage of new entrants)



Source: Jobsplus, Own Calculations

3.2 *Length of stay by age*

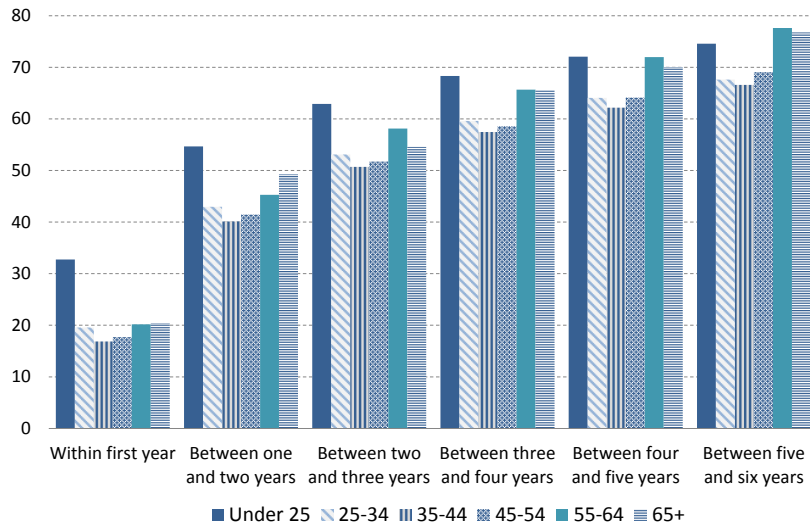
The literature finds that age is a vital determinant in the migration decision. In particular it tends to be U-shaped, that is it tends to be highest for the young and those nearing retirement. Lewis (1977) finds that the migration rate is inversely related to age. On the other hand, Goss and Paul (1986) argue that while age increases the psychological costs related to the migration decision, older workers tend to have more experience which in turn increases their geographic mobility. With regards to the impact on the length of stay, the empirical findings are mixed. Mara and Landesmann (2013) do not find a statistically significant impact of age on the expected length of stay of Romanian immigrants in Italy. On the other hand, Dustmann (2003) finds that age is inversely related to return intentions in Germany. Similarly, Gundel and Peters (2008) show that the length of stay of migrants in Germany tends to increase with age.

Foreign workers in the Maltese labour market are rather young; 27% of all foreign workers that were engaged in the period 2002-2017 were below 25 years of age, while 43% of them fall within the 25-34 cohort. 19% of all foreign workers were aged between 35 and 44, and only around 10% were 45 years or older.⁶

Age differences play a role in determining the length of stay in Malta. Chart 9 shows that those under 25 tend to have the largest exit rates when compared with older cohorts. The percentage of those under 25 that exit within the first year is around 12 percentage points higher than that for the other cohorts. In addition, the percentage of those under 25 that exit between one and two years after they were first engaged is around 6 percentage points higher. The gap closes down for employment durations beyond five years. Indeed, while the exit rate for those aged between 25 and 34 is only marginally higher than that for those aged between 35-44 and 45-54, it is lower when compared to older workers. The high exit rate of the older cohorts however may be biased due to the small number of observations. Therefore, in general, we find an inverse-U between age and exit rates. The youngest cohort tends to have the largest exit rates, while those between 35-54 have the lowest exit rates. On the other hand, foreign workers close to retirement tend to have higher exit rates than middle-aged foreign workers.

⁶See table B in appendix B.

Chart 9: Age differences
(Exit as a percentage of new entrants)



Source: Jobsplus, Own Calculations

3.3 Length of stay by employment status

One of the main topics of interest in migration literature is the selection of immigration based on their skill level. Borjas (1987) outlines a model whereby the decision to migrate depends in part on the skill level of the individual, and also on the wage distribution of the host country. In this model, high-skilled workers typically would choose to move to less equal societies to have more opportunities to end up in the highest part of the wage distribution. This is called positive sorting. Conversely, negative sorting occurs when low-skilled workers choose to move to societies with a more compressed wage structure as it provides some level of insurance.

Although administrative data does not provide information regarding the educational level of foreign workers, we can use as a proxy the employment status at the date of first engagement in the Maltese labour market.⁷ Grech (2015) had already outlined the main trends that emerge from administrative data. We find similar developments, that is, the share of managers, professionals, and technical staff has been declining, while the share of elementary occupations has been increasing. Moreover, Knoppe (2018) has shown that while wage inequality in Malta has increased over time, it remains low by international standards. In terms of the Borjas model, Malta seems to have been experiencing negative sorting.

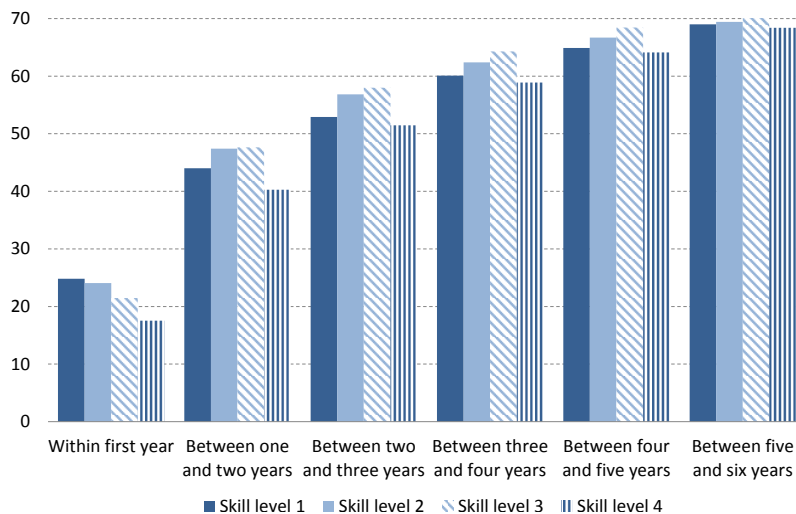
Individuals with higher skills tend to have more geographic mobility, and it may be more likely for them to re-migrate to other countries. Moreover, highly skilled workers could be in a better position to find

⁷The employment occupation is based on the International Standard of Classification of Occupations (ISCO), which is categorized into 9 groups: 1) Managers; 2) Professionals; 3) Technicians and associate professionals; 4) Clerical support groups; 5) Service and sales workers; 6) Skilled agricultural, forestry and fishery workers; 7) Craft and related trades workers; 8) Plant and machine operators and assemblers; 9) Elementary occupations.

good employment with superior working conditions in their home country, and hence they could be more likely to return, especially during periods when housing costs in the host country are rising. On the other hand, lower skilled workers might be more motivated to exit their jobs due to their generally low remuneration. Gundel and Peters (2008) find that for the case of Germany, the highest skilled workers tend to have shorter durations than less-skilled workers.

For the case of Malta, skill seems to be positively correlated with the length of stay.⁸ This result is slightly puzzling as theory would predict that higher skilled workers are more likely to move between jobs and hence, would be more likely to move to other countries. Chart 10 shows that those categorised as skill 1 (lowest skilled workers) have the highest exit rates or the shortest duration of stay, while skill 4 have the lowest. For longer durations, those in skill 2 and skill 3 (which can be considered as medium-skilled) have higher exit rates when compared with skill 1, but also higher than skill 4.⁹ Exit rates converge at longer durations. Hence, in general the highest skilled foreign workers tend to have a longer length of stay, but the results are mixed when comparing low and medium-skilled employees.

Chart 10: Skill differences
(Exit as a percentage of new entrants)



Source: Jobsplus, Own Calculations

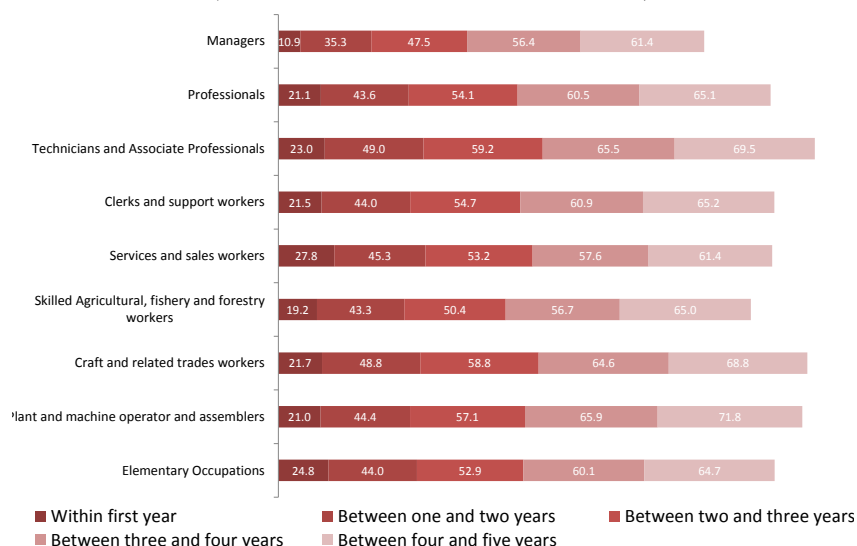
Chart 11 shows that managers have the lowest exit rates throughout the different durations. These are followed by those engaged as agricultural workers and professionals. Foreign workers employed in services and sales have the highest exit rates for the shortest duration, which probably reflects the fact that some are engaged in the accommodation sector, which is highly seasonal. At longer horizons, exit

⁸Skill is defined using that utilised by the ISCO classification. Skill 1 includes category 9; skill 2 includes categories between 4 and 8; skill 3 includes category 3 and part of category 1; and skill 4 includes category 2 and part of category 1.

⁹The exit rate of the lowest skilled workers has increased sharply in the last three years, while those for medium-skilled remained flat and those for the highest-skilled workers declined. This might reflect the ability of different individuals at different wage levels to absorb the increase in housing costs.

rates tend to converge, although managers maintain the lowest exit rates, while those employed as plant and machine operators have the highest exit rates.

Chart 11: Employment Status
(Exit as a percentage of new entrants)



Source: Jobsplus, Own Calculations

A relatively large proportion of EU nationals tend to be high-skilled, with managers, professionals, and technicians forming almost 40% of the total number of workers that come from EU countries. On the other hand, a larger proportion of TCNs tend to be low-skilled, with more than 30% engaged in elementary occupations.¹⁰ Table 1 shows exit rates by employment occupation and region. For each employment occupation, EU nationals have higher exit rates than TCNs for those who stay less than two years in the Maltese labour market. For longer durations, TCNs have higher exit rates across the different employment occupations. Hence, this table shows that the exit rates by nationality are not impacted significantly by differences in the regional composition of employment occupations.

¹⁰See table B in appendix B.

Table 1: Employment Occupation by region
(Exit as a percentage of new entrants)

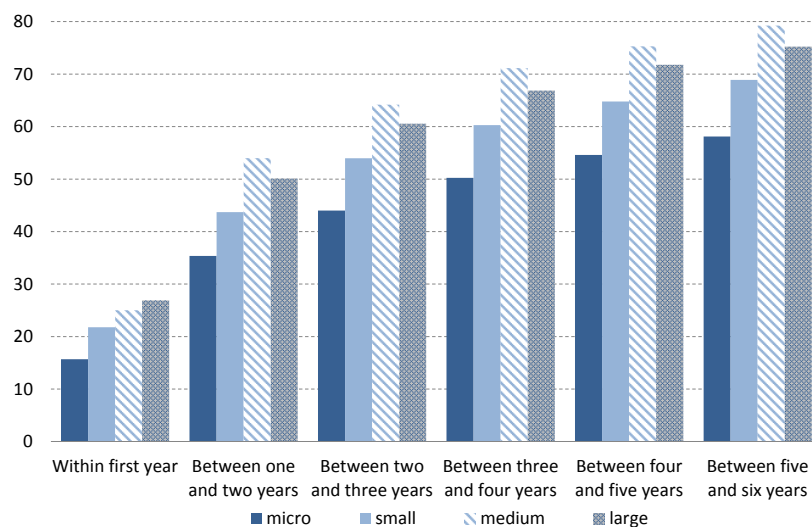
	EU						TCN					
	Within first year	Between one and two years	Between two and three years	Between three and four years	Between four and five years	Between five and six years	Within first year	Between one and two years	Between two and three years	Between three and four years	Between four and five years	Between five and six years
Managers	10.9	33.1	44.9	53.3	58.3	62.8	10.5	40.1	53.7	63.5	68.1	72.9
Professionals	22.6	44.0	54.1	60.1	64.7	67.8	18.0	43.3	55.1	62.4	68.6	73.6
Technicians	24.9	49.0	58.8	64.4	68.5	71.1	19.2	49.7	60.3	67.3	72.2	75.0
Clerks	22.1	44.2	54.7	60.5	64.8	66.7	19.5	42.3	53.9	61.3	66.6	68.9
Services	30.9	48.7	56.2	60.0	61.7	63.5	20.7	37.6	46.6	51.8	56.3	59.5
Agricultural	21.7	44.1	47.7	49.9	59.1	59.9	12.9	36.1	48.0	59.5	67.6	73.2
Craft	27.6	51.8	60.8	65.7	69.1	71.7	17.8	46.5	57.5	64.0	69.4	71.5
Operator	20.3	46.1	53.9	60.5	63.9	66.0	21.2	43.4	59.1	68.6	75.2	77.8
Elementary	31.8	49.7	54.7	59.8	62.5	65.2	21.1	41.2	51.9	60.1	65.5	70.1

Source: Jobsplus, Own Calculations

3.4 Length of stay by type of employer

The dataset allows us to see whether there are any significant differences in the length of stay of foreign workers depending on the type of employer with whom they are engaged. Grech (2018) has shown that Small and Medium sized Enterprises (SMEs) in Malta accounted for around half of total value added in 2015, higher than the two-fifths registered in the EU. Moreover, the author also shows that SMEs accounted for around 70% of total employment in Malta in 2016. The employment distribution of foreign workers is very similar to that for Maltese workers, with SMEs accounting for around 70% of the employment of non-Maltese workers. Chart 12 plots the exit rates according to the size of employer. Micro firms, that is firms employing less than 10 workers, have the lowest exit rates across the different durations. Moreover, small enterprises, that is firms employing between 10-49 workers, have the second lowest exit rates across all durations. On the other hand, while medium sized enterprises have a slightly lower exit rate when compared with large enterprises for duration of less than one year, they have a higher exit rate for longer lengths of stay.

Chart 12: Differences by size of employer
(Exit as a percentage of new entrants)



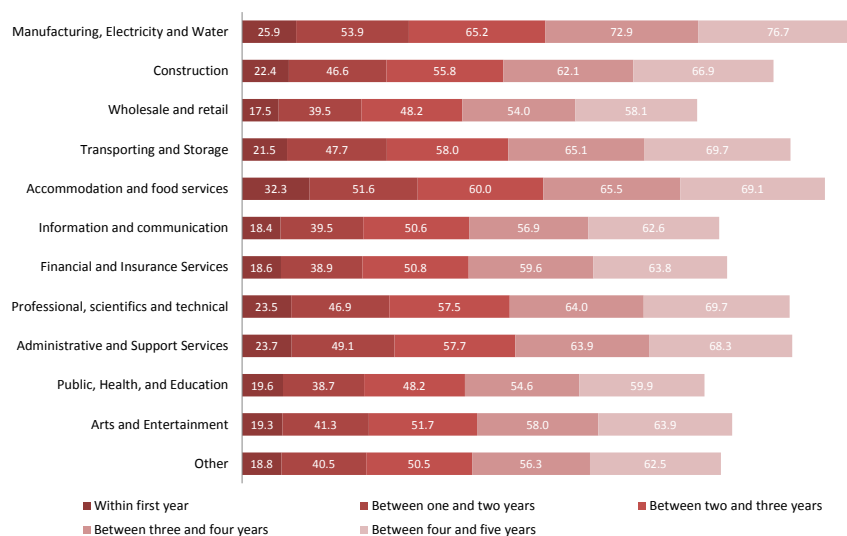
Source: Jobsplus, Own Calculations

Chart 13 shows the exit rates across different sectors of the Maltese economy. For the shortest duration, foreign workers in the wholesale and retail have the lowest exit rates at 17.5%, which are followed closely by those engaged in information and communication at 18.4%, financial and insurance at 18.6%, and by arts and entertainment at 19.3%. On the other hand, with an exit rate of 32.3% the accommodation sector tends to have the highest percentage of foreign workers that exit the labour market in the same year of engagement, which probably reflects the strong seasonal component in this sector. Moreover, foreign workers engaged in the manufacturing, electricity, and water sector, also tend to have very low retention rates at the shortest duration.

The sectoral decomposition of the length of stay changes slightly for longer durations. In particular, the public administration, health, and education sector, and the wholesale and retail sector, experience the lowest exit rates for durations beyond the first year of engagement. These are followed by sectors which traditionally require high skills, such as the financial and insurance sector, arts and entertainment, and information and communication. Nevertheless, those engaged in the professional, services, and technical sector typically have low retention rates. The manufacturing, water, and electricity sector remains the sector with the highest exit rates.

Chart 13 clearly shows that there are sectoral heterogeneities. However, similar to previous analysis, exit rates tend to converge for longer durations.

Chart 13: Sectoral differences
(Exit as a percentage of new entrants)



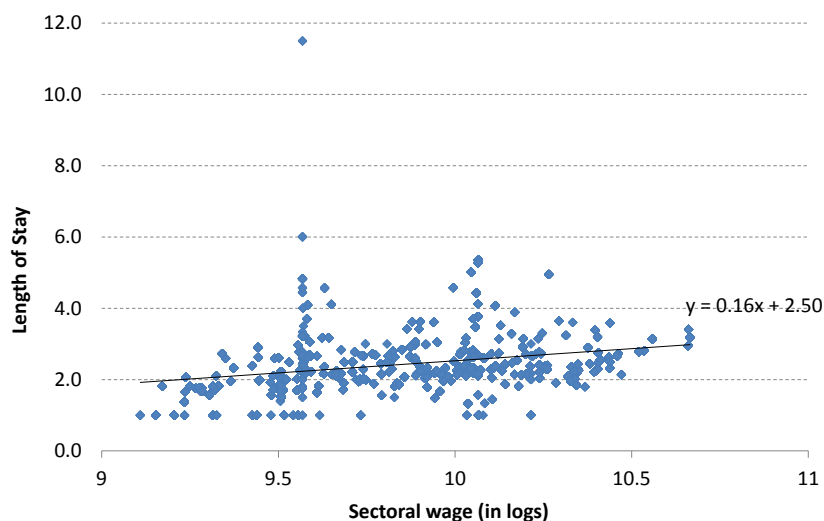
Source: Jobsplus, Own Calculations

Sectoral heterogeneities can be explained either by certain fundamental factors, such as wages, or other more idiosyncratic sectoral factors. Examples of the latter would include the seasonality in the accommodation sector and the project-based work in the construction sector, which might lead to shorter durations.

Since we do not have information regarding the precise wage of the individuals in our dataset, we use sectoral average wages as an indication of the wage a foreign worker might obtain in Malta. Average sectoral wages are obtained using the 2012 labour cost survey, while an index of labour costs for the period pre and post 2012 was used to populate a time series.¹¹ Chart 14 plots the average sectoral length of stay against the average sectoral wages a person would get at the date of termination. There is a positive relationship between average wages and the length of stay, which indicates that individuals that are likely to receive higher earnings are more likely to extend their stay in the Maltese labour market. Moreover, it indicates that sectors that typically pay higher salaries tend to have better retention rates than these lower paying jobs.

¹¹This proxy is quite imperfect for two reasons. Firstly, foreign workers might get a different wage than the native population, and hence, the average sectoral wage could be biased. Secondly, the labour supply effect due to the increase in net migration is likely to have an impact on average wages, and hence, the relationship might be endogenous. However, in absence of micro-level evidence, this measure might be able to give some indication of the relationship between earnings and the length of stay.

Chart 14: Length of stay vis a vis sectoral wage
(Exit as a percentage of new entrants)



Source: Jobsplus Own Calculations

Differences in sectoral exit rates could also reflect the age structure prevailing in each sector, and table B in appendix B indeed shows that the age structure is heterogeneous across sectors. The accommodation and the arts and entertainment sector have the highest percentage of young workers, while construction and manufacturing have the largest share of middle-aged foreign workers. However heterogeneity in the sectoral age structure is unlikely to explain differences in the sectoral exit rates. Indeed, while the accommodation sector has both a high exit rate and a large number of under 25 foreign workers, the arts and entertainment sector has a relatively low exit rate but a high share of under 25 foreign workers. Moreover, the manufacturing sector has a low share of young workers, but the highest exit rate.

In addition, table B in appendix B decomposes employment in the sectors according to region, to give an indication whether this is a possible factor that explains sectoral heterogeneities in the exit rates. Since EU nationals make up around 70% of the number of foreign workers in the Maltese labour market, most sectors are in fact dominated by EU nationals. However, some sectors are either evenly split or primarily dominated by TCNs. EU nationals make up 80% of foreign workers in the arts and entertainment sector. Although EU nationals tend to have higher exit rates than TCNs, the arts and entertainment typically experiences lower than average exit rates. This is similar to the financial and insurance service sector, and information and communication. On the other hand, foreign employment in the construction sector seems to be dominated by TCNs, despite experiencing strong exit rates. Hence, while the regional decomposition could indeed affect the sectoral exit rates, the pattern that emerges is not entirely clear, which implies that sectoral-specific factors could be playing a more dominant role.

3.5 Empirical investigation

The analysis so far has focused on estimating exit rates conditional on whether an individual fits a single criteria or not. Although this descriptive approach allows us to get an understanding of the correlation between certain characteristics and the length of stay of foreign workers in Malta, it is hard to control for confounding effects. Therefore, to better understand the length of stay of foreign workers in Malta, we utilise an empirical strategy to estimate whether these determinants in conjunction increase or decrease the probability of exit. Similar to Gundel and Peters (2008) we employ a cox-proportional hazard regression model which allows us to estimate the impact of individual characteristics on the exit rate.¹²

The empirical results are reported in tables C1, C2, and C3 in appendix C. In each regression we regress the exit rate against region, sector, size of employer, age, and employment status.¹³ In most instances we regress against dummy variables, and hence results should be interpreted against a benchmark. For example: the coefficient on EU should be interpreted as how much the length of stay would increase/decrease if the country of origin of the individual is an EU country, as against a non-EU country. Moreover, we choose the public administration, health, and education sector as a benchmark for economic sectors. In regression ‘a’ in table C1 we also use an age variable, which takes values between 1 and 6, where 1 is the youngest and 6 is the oldest. Similarly, the variable for the size of the employer takes values between 1 and 4, where 1 is the smallest and 4 is the largest. And finally, the variable for the workers skill takes values between 1 and 4, where 1 is the lowest skilled, and 4 is the highest.

Regression ‘a’ in table C1 confirms the general picture that emerges from the analysis above. The exit rate is positively related to the EU dummy, which implies that the probability to exit the Maltese labour market increases if the individual originates from an EU country, when compared with individuals that originate from a non-EU country. In addition, the coefficient on age is negative, which implies that older cohorts have typically longer lengths of stay than the younger cohorts. Another important result is that size matters, and that larger firms have typically higher exit rates than smaller firms, all other things kept constant. Furthermore, the coefficient on skill in regression ‘a’ is negative and statistically significant, which implies that higher skilled foreign workers tend to stay for longer.

Even after controlling for individual characteristics, sectoral heterogeneity remains an important feature of the length of stay of foreign workers in Malta. In particular, most sectors tend to have higher exit rates than the public administration, health, and education sector, even after controlling for differences in age,

¹²The cox proportional hazard regression model is used in analysing time-to-event data. It allows us to compute the likelihood of exit for each year in Malta conditional on the individual characteristics.

¹³The empirical findings should be interpreted within the context of the available data. The presence of omitted variables such as life-cycle variables, education, and social and economic integration, might bias the coefficients.

skill, region, and the size of the employer. The manufacturing, water and electricity sector maintains the highest exit rates, followed by the information and communication sector. On the other hand, the financial and insurance sector, and the arts and entertainment sector do not have statistically different results to the public administration, health, and education sector.

In order to control better for individual characteristics, we decompose age, size, and skill, into the different categories, in regression ‘b’. With regards to size, the benchmark category is micro companies, while that for age is the youngest cohort, that is the under 25 cohort. Moreover, managers are utilised as the benchmark category for the skill variable. In general, we get very similar results to regression ‘a’. The older cohorts, when compared with the youngest cohort, tend to have a negative impact on the exit rate, which implies that they tend to stay longer. What is interesting however is that those who are aged between 45 and 54 years have the lowest exit rates, while older cohorts have higher exit rates. In addition, medium sized companies have lower length of stay when compared with micro companies, while the large category have slightly better retention rates when compared with medium-size companies.

In regression ‘b’, we generally see a similar pattern of sectoral heterogeneity, with the exception that the financial and insurance sector, and the arts and entertainment sector now have positive and statistically significant results. Nevertheless, the coefficients are rather small, so the conclusion that their retention rates are comparable to the public administration, health, and education sector can be maintained. Regression ‘b’ however exposes significant heterogeneity with regards to skill. The professional sector and the agricultural sector have the lowest coefficients, which implies that they have the second lowest exit rates after managers. Services and sales have the highest exit rates, followed by plant operators, technicians, and elementary occupations.

Regression ‘c’ controls further for the average sectoral wage. This is time-varying as sectoral wages change over time. The coefficient is negative, meaning that sectors that pay high salaries tend to experience a higher length of stay. The rest of the analysis does not change much however, except that the financial and insurance sector, and the arts and entertainment sector go up the ranking among sectors. This implies that part of the relatively low exit rates when compared with the other sectors can be partly explained by the fact that these sectors tend to pay higher salaries. After controlling for wages and individual characteristics, the retention rates are not markedly better than most sectors, and much worse than the public administration, health, and education sector.

In order to better understand regional differences, we perform two separate regressions for EU and TCN individuals in table C2 in appendix C. The general story for both regions is rather similar with minor differences. With regards to EU nationals, individuals that are engaged in wholesale and retail, financial and insurance services, and arts and entertainment, tend to have similar exit rates when compared with

the public, health, and education sector. Conversely, these sectors tend to experience the lowest retention rates when the individuals are TCNs.

Moreover, we perform separate regressions in table C3 in appendix C for each economic sector to investigate further sectoral heterogeneity. In general, EU nationals experience higher exit rates when compared with TCNs, except in financial and insurance services, and in arts and entertainment. With regards to the size of the employer, the construction and the wholesale and retail sector have opposite results when compared with the other sectors. In both these instances, medium-sized firms tend to have better retention rates than smaller firms.

In addition, there seems to be a U-shaped relationship between age and the exit rate, but there are exceptions. The construction and the wholesale and retail sectors do not have statistically significant results, while age seems to have a positive relationship with the exit rate for those engaged in the information and communication sector. Conversely, the accommodation and financial sector have very large negative coefficients.

With regards to occupation status, the results are quite heterogeneous. In particular, the length of stay of those employed in the public, health, and education sector does not vary too much according to employment status. In the construction industry, clerks experience the shortest length of stay while those in the arts and entertainment sector, services and sales employees tend to have the shortest length of stay.

The contribution of average wages also tends to differ markedly across sectors. In particular, the importance of average wages in explaining exit rates appears strongest in the lowest paying jobs such as in construction and the accommodation sector. Conversely, the importance of average wages in explaining exit rates appears weaker in high-paying jobs such as information and communication, financial services, professional services, and arts and entertainment.

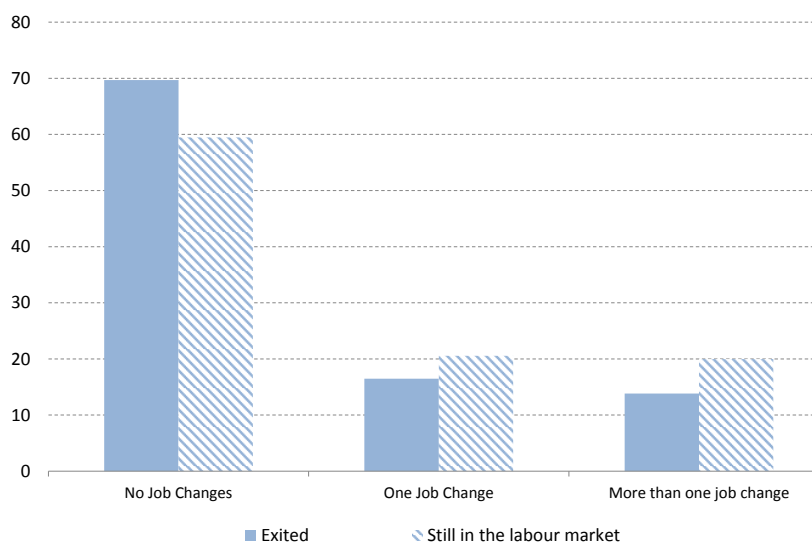
4 What are the economic and policy implications of the estimated length of stay?

The relatively short length of stay of foreign workers in Malta brings about some economic challenges. In particular, it is quite difficult for foreign workers to experience economic assimilation, that is, the convergence of their wage levels to the native population. Our empirical findings suggest that wage levels have some effect on the length of stay. Since we are unable to compare between wage levels for Maltese nationals and foreign workers using administrative data this effect might be underestimated in our analysis. Nevertheless, it is likely that since foreign workers tend to be relatively young and stay for a short period of time, the rate of economic assimilation in Malta is rather low.

The opportunity for economic assimilation might be fundamental to ensuring that new inflows of foreign workers stay in the Maltese labour market for extended periods of time. Indeed, US literature finds that although immigrants in the US initially earn less than the native population, their earnings rise significantly as they obtain experience in the US labour market (see for example Chiswick, 1978; Borjas, 1985, 1995).

Another economic challenge is that the relatively short length of stay does not allow foreign workers to improve their careers and skills set and apply them to the Maltese economy. If we focus on labour mobility we find that foreign workers rarely change their jobs while in Malta, and they very rarely change their employment status. Chart 15 depicts the number of times foreign workers change jobs during their stay in Malta. Given that the length of stay in Malta is rather short, it is not surprising that the number of job changes is also low. Indeed, more than three quarters of foreign workers that had already exited the Maltese labour market by 2017, never changed their jobs while in Malta, and 14% changed their jobs only once. Those who are still in the Maltese labour market by the end of 2017 are slightly more mobile. Indeed, 20% of these individuals change their jobs at least once, while another 20% changed jobs more than once. Still, 59% of these individuals have never changed their jobs, which implies that their labour mobility is still rather restricted. In contrast, using tax data for the period 1998-2015, Knoppe (2018) finds that the probability to change employers in Malta has increased over time. This implies that there are significant labour mobility differences between Maltese and foreign nationals.

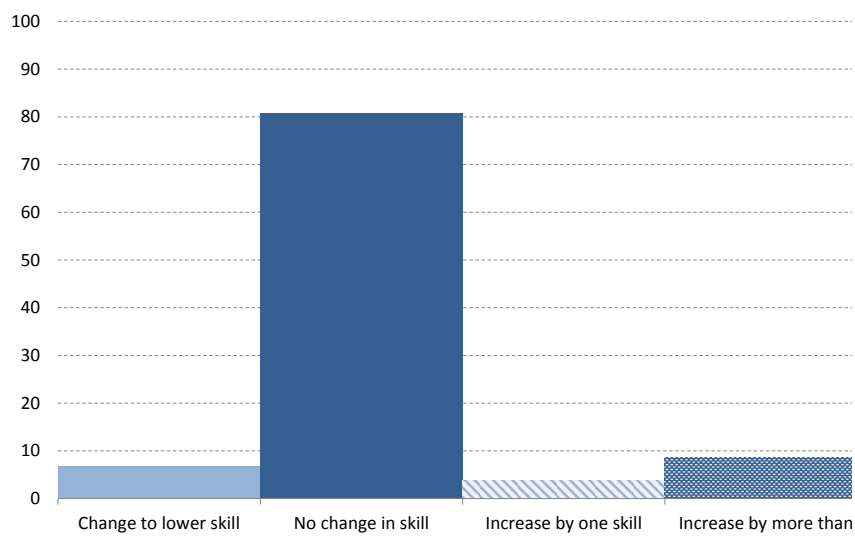
Chart 15: Job Changes



Source: Jobsplus, Own Calculations

Moreover, we compute the changes in employment status per individual to assess the percentage of foreign workers that change their occupation status. Chart 16 shows that 80% never change their employment status. Moreover, 3.7% improve their employment status only once and 8.7% improve it more than once. Around 6.8% of foreign workers experienced changes to lower-skilled jobs.

Chart 16: Change in employment occupation
(percentage to total)



Source: Jobsplus, Own Calculations

While the availability of foreign labour may be dampening pressure on wages, firms might be facing a different source of costs. The high level of labour turnover puts great pressure on the human resource departments of firms. Given that most Maltese firms are small and do not have standalone human

resource departments, most probably the process of constant selecting and hiring workers is taking up an increasing proportion of the time of senior management. This could impact on the operations of SMEs, where owners and senior management are particularly important in the running of the firm. The ability of SMEs to handle high levels of turnover is questionable in this regard.

One of the main determinants of labour productivity growth is the accumulation of human capital. In part, the accumulation of human capital depends on learning-by-doing that is the on-the-job training and experience gained by an organisation and its employees. Lucas (1988), and many others, have stressed that learning-by-doing has a central role in determining total factor productivity. The charts above show that the share of foreign workers that utilise any gains in skills and experience in the Maltese labour market is low. Firms are hence unable to hire foreign workers who have already obtained experience in the Maltese job market, and are instead constrained to consistently hire workers who are not already resident in Malta.

Moreover, Chiang (2004) finds that firms that experience relatively high worker turnover find it more difficult to “learn by doing”. Since foreign workers tend to exit the labour market very rapidly, it poses substantial limitations on learning-by-doing in Malta. This in turn acts as a drag on future labour productivity growth.

From a macroeconomic perspective, the increasing reliance on a segment of the labour market force that tends to exit rather quickly can impact the cyclicity of the supply side of the economy. In general we can think of the supply-side of the economy as being a function of capital and labour. The latter is determined by the working age population and the participation rate. Typically these tend to be relatively well-behaved variables since the working age population primarily depends on the birth rate and the death rate in a country. However, as the working age population becomes more reliant on migrant flows, any cyclicity in migration will affect that of potential output.

For example: a negative shock to foreign demand might put the economy into recession, thereby increasing unemployment. Foreign workers might decide to exit the Maltese labour market and search for opportunities elsewhere, thereby reducing the labour supply and the working age population. This could have effects on potential output that are more long-lasting.

Spain has indeed experienced this after the 2008 financial crises. Cuadrado and Moral-Benito (2016) have shown that the Spanish working age population increased robustly before 2008, due to intense migratory inflows. In response to the 2008 financial crisis migrant inflows declined substantially, which were then followed by migrant outflows. As a result, the labour contribution to potential output contracted sharply and has remained low since then. Of course, the shock to the Spanish economy was of a permanent nature due to problems in the financial and housing sector, and foreign workers might have exited due to their

realisation that work opportunities in Spain will be low for a very long time.

While not having to face higher unemployment during crisis may be seen as positive, there could be a price to be paid. This because once activity recovers, firms will have to resort to search for relatively inexperienced workers rather than accessing the pool of already trained but temporarily unemployed workers. This may dampen the pace of economic recovery.

There are also broader implications for the Maltese economy such as the nature of housing that is demanded. If a larger proportion of the workforce is transient, the demand for smaller properties available for rent will increase. Given that the bulk of properties in Malta were not built for such demand, this may create housing shortages and raise rents. Irrespective of the type of properties available, having a large transient component of residents has implications on the supply required, with a significant number of properties not being in constant occupation. Similarly if most workers are not intending to build a career in the country, this has implications on their relative consumption of goods and services, their demand for saving products and also for the ability of firms to motivate them. In an environment where staff tends to leave after a year or two, the incentives for employers to train and promote employees inevitably decline.

Yet, this negative externality needs to be tackled, as it could cause reduced investment in staff, which in turn could create substantial problems for the continued evolution of the Maltese economic growth model. While some of the new industries that are being attracted to Malta are projects-based in nature and so could operate with transient labour, most other sectors require ever more trained staff to continue to boost their value added. The upskilling of the local labour force would reduce skills shortages, and reduce the reliance of certain fast growing sectors on volatile foreign labour. Moreover, there needs to be a concerted approach to help lengthen the stay of foreign workers in the Maltese labour force. Policymakers need to look at ways of how to reduce the costs of training borne by individual employers, while one could assess whether retention policies, particularly for certain categories of workers, could command certain incentives. Examples are the presence of retirement income schemes, private health insurance or assistance with transport and accommodation. The presence of large flows of foreign workers has implications for certain sectors where traditionally demand evolved rather slowly, notably public transport, private education and the rental market. Enhancing these sectors both in terms of supply and their responsiveness to demand could play a role in lengthening the stay of foreign workers in Malta.

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Appendix A

Table A: Exit rates 2002-2017
(Exit as a percentage of new entrants)

	Within first year	Between one and two years	Between two and three years	Between three and four years	Between four and five years	Between five and six years
2002	17.5	39.2	49.7	55.2	59.8	68.0
2003	20.5	38.2	48.7	54.5	63.0	66.2
2004	17.8	35.0	45.1	53.8	58.8	61.4
2005	19.1	44.1	55.1	61.7	66.9	70.0
2006	18.2	49.6	59.2	66.1	70.4	72.1
2007	24.2	54.2	64.4	70.1	73.8	76.1
2008	24.3	54.6	62.4	67.8	70.9	73.3
2009	27.4	52.3	60.6	64.8	68.1	71.0
2010	28.5	51.8	59.7	64.9	68.2	71.1
2011	24.7	44.4	54.2	60.6	64.2	68.8
2012	23.3	43.0	52.2	58.2	62.9	68.8
2013	23.1	42.8	53.7	62.0	68.5	
2014	21.9	43.5	53.5	62.5		
2015	20.4	42.7	55.9			
2016	22.5	46.5				
2017	23.9					

Source: Jobsplus Own Calculations

Appendix B

Table B: Selected Descriptive Statistics
(Percent)

	Regional		Economic Sector												
	Total	EU	TCN	Manf. Electric-ity and Water	Construc-tion	Wholesale and re-tail	Transp and Storage	Accom.and food ser-vices	Infor. and commu-nication	Fin. and Ins. Ser-vices	Prof., scient. and tech.	Admin. and Supp. Services	Public, Health, Educa-tion	Arts and Enter.	Other
<u>AGE</u>	26.8	28.5	23.5	19.5	17.4	23.9	13.8	39.6	20	15.7	27.2	28.8	21.8	34.8	18.8
	42.6	40.1	46.9	29.2	40.9	41.5	36.1	40.1	51	44	44.6	41.8	40.6	49.5	40.5
	18.6	17.7	20.1	24.5	25	20	26.5	12.9	19.2	23.1	16.6	18.5	20.7	12.2	24.5
	9.0	9.9	7.4	13.1	12.9	10.8	17.4	5.6	7.8	12.6	8.3	8.3	11.5	2.9	11.3
	2.7	3.3	1.7	12.3	3.4	3.4	5.6	1.6	1.8	4.1	3.0	2.3	4.9	0.5	4.4
	0.3	0.3	0.2	1.4	0.4	0.4	0.6	0.2	0.2	0.5	0.3	0.3	0.5	0.1	0.5
<u>EMPL. OCCUPATION</u>															
	8.8	9.8	6.9	4.5	2.6	16.7	9.7	3.5	15.9	29.3	15.8	7.0	4.2	10.7	9.5
	12.7	14.6	9.3	6.2	2.8	7.3	7.8	3.2	40.4	21.6	28.7	6.6	36.0	14.7	10.4
	12.1	12.8	10.8	13.3	7.1	9.9	15.8	11.7	13.2	20.4	17.5	8.5	12.8	11.6	18.5
	14.1	18.9	5.5	2.8	1.1	7.5	9.4	6.5	19.1	21.2	11.1	21.6	4.6	48.5	3.2
	19.8	22.7	14.6	3.5	0.7	33.4	7.52	45.2	6.20	3.66	12.6	10.4	34.5	9.6	32.1
	0.2	0.2	0.3	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	4.8
	9.9	7.0	15.2	33.5	58.9	8.3	4.2	2.3	2.7	0.6	3.8	4.8	1.2	1.2	4.9
	3.2	2.8	4.0	17.1	1.8	1.0	36.4	0.2	0.2	0.1	1.9	0.8	0.1	0.2	2.6
	18.7	10.8	33.0	18.5	24.5	15.0	8.7	27.0	2.0	2.8	7.9	39.8	6.0	2.8	13.8
<u>REGIONAL</u>															
	70			53.7	34.3	64.3	78.7	69.3	74.7	74.6	76.5	56.1	56.9	81.3	49.3
	30			46.2	65.6	35.6	21.2	30.6	25.2	25.3	23.4	43.8	43.0	18.6	50.7

Source: Jobsplus Own Calculations

Appendix C

Table C1: Cox-proportional hazards results - Total

	a	b	c
<u>NATIONALITY</u>			
TCN (Reference category)			
EU	0.24***	0.22***	0.23***
<u>PERSONAL CHARACTERISTICS</u>			
<u>AGE</u>			
Under 25 (Reference category)	-0.05***		
25-34		-0.11***	-0.11***
35-44		-0.15***	-0.16***
45-54		-0.16***	-0.18***
55-64		-0.11***	-0.13***
65plus		0.03	0.00
<u>SKILL</u>			
Managers (Reference category)	-0.03***		
Professionals		0.07***	0.08***
Technicians		0.13***	0.13***
Clerks		0.08***	0.08***
Services		0.23***	0.24***
Agricultural		0.07*	0.11***
Craft		0.10***	0.10***
Operator		0.15***	0.15***
Elementary		0.12***	0.14***
<u>SECTORAL CHARACTERISTICS</u>			
<u>SIZE OF INDUSTRY</u>			
micro (Reference category)	0.05***		
small		0.06***	0.07***
medium		0.16***	0.16***
large		0.12***	0.12***
<u>ECONOMIC SECTOR</u>			
Public, Health, and Education (Reference category)			
Manufacturing Water and Electricity	0.14***	0.18***	0.19***
Construction	0.07***	0.12***	0.12***
Wholesale and retail	0.06***	0.08***	0.08***
Transport and Storage	0.07***	0.09***	0.15***
Accommodation and food services	0.17***	0.17***	0.14***
Information and communication	0.08***	0.13***	0.19***
Financial and Insurance services	-0.00	0.04**	0.13***
Professional, scientific and technical	0.11***	0.14***	0.17***
Administrative and Support Services	0.11***	0.15***	0.15***
Arts and Entertainment	-0.00	0.05***	0.10***
Other	0.08***	0.09***	0.07***
Average Sectoral Wage			-0.05***

* significant at the 10% level
 ** significant at the 5% level
 *** significant at the 1% level

Table C2: Cox-proportional hazards results - EU vs TCN

	EU	TCN
<u>PERSONAL CHARACTERISTICS</u>		
<u>AGE</u>		
Under 25 (Reference category)		
25-34	-0.13***	-0.07***
35-44	-0.20***	-0.08**
45-54	-0.22***	-0.09***
55-64	-0.19***	-0.00
65plus	-0.08	0.11***
<u>SKILL</u>		
Managers (Reference category)		
Professionals	0.10***	0.04**
Technicians	0.17***	0.05***
Clerks	0.12***	0.05***
Services	0.26***	0.19**
Agricultural	0.12*	0.12***
Craft	0.15***	0.01
Operator	0.26***	0.06***
Elementary	0.20***	0.07***
<u>SECTORAL CHARACTERISTICS</u>		
<u>SIZE OF INDUSTRY</u>		
micro (reference category)		
small	0.09***	0.04**
medium	0.18***	0.16***
large	0.15***	0.12***
<u>ECONOMIC SECTOR</u>		
Public, Health, and Education (Reference category)		
Manufacturing Water and Electricity	0.20***	0.23***
Construction	0.16***	0.16***
Wholesale and retail	0.03	0.17***
Transport and Storage	0.10***	0.20***
Accommodation and food services	0.14***	0.13***
Information and communication	0.09***	0.39***
Financial and Insurance services	0.02	0.39***
Professional, scientifics and technical	0.12***	0.27***
Administrative and Support Services	0.09***	0.26***
Arts and Entertainment	-0.01	0.43***
Other	0.09***	0.07**
Average Sectoral Wage	-0.03***	-0.07***

* significant at the 10% level
** significant at the 5% level
*** significant at the 1% level

Table C3: Cox-proportional hazards results - sectors

	Manuf. Electric- ity and Water	Constru- ction	Wholesale and re- tail	Transp and Storage	Accom. and food ser- vices	Infor. and commu- nication	Fin. and Ins. Ser- vices	Prof., scient. and tech.	Admin. and Supp. Services	Public, Health, Educa- tion	Arts and Enter.	Other
<u>NATIONALITY</u>												
EU	0.36***	0.34***	0.19***	0.23***	0.29***	0.07**	-0.05	0.19***	0.15***	0.26***	-0.07***	0.34***
<u>PERSONAL CHARACTERISTICS</u>												
<u>AGE</u>												
Under 25 (reference category)												
25-34	-0.03*	0.02*	-0.03	-0.14**	-0.12***	-0.07**	-0.17***	-0.15***	-0.11***	-0.20***	-0.09***	-0.04
35-44	-0.08***	0.00***	-0.04	-0.06	-0.18***	0.02	-0.24***	-0.18***	-0.19***	-0.34***	-0.10***	-0.11**
45-54	-0.06**	0.04**	-0.10**	-0.21***	-0.23**	0.15**	-0.29***	-0.14***	-0.24***	-0.45***	-0.13**	-0.14**
55-64	0.1	0.08	0.04	-0.20**	-0.21***	0.27**	-0.19**	-0.05	-0.21***	-0.41***	-0.17**	-0.12**
65plus	0.18*	0.32*	0.08	-0.2	-0.09	0.67**	0.08	0.12	-0.10	-0.4**	0.71***	0.25***
<u>EMPL. OCCUPATION</u>												
Managers (reference category)												
Professionals	0.20***	0.21***	-0.13***	0.22***	0.12***	0.20***	0.24***	0.13***	-0.11***	-0.07**	0.15***	-0.03
Technicians	0.32***	0.27***	-0.05	0.35***	0.14***	0.16**	0.16***	0.24***	0.05**	-0.00	0.16***	0.23***
Clerks	0.28***	0.40***	-0.04	0.18***	0.17***	0.02	0.26***	0.08***	0.11***	-0.03	0.15***	-0.15*
Services and Sales	0.33***	0.04	0.107***	0.37***	0.34***	0.14**	-0.01	0.17***	0.16***	0.01	0.48***	0.03
Agricultural	0.46**	0.01	-0.13	-0.74***	-0.02	-0.64***	-0.73**	0.62***	0.04	-0.64**	0.15	0.18**
Craft and trade	0.28***	0.21***	-0.06**	-0.04	0.19***	0.07	0.01	0.11**	0.04	-0.22**	0.24***	0.17**
Operators	0.36***	0.23***	-0.11	0.23***	0.04	0.51*	1.57***	0.35***	-0.05	0.15	0.18	0.17**
Elementary	0.34***	0.29***	-0.01	0.15**	0.24***	0.26**	0.00	0.13***	0.09***	-0.07	0.31***	0.19***
<u>SECTORAL CHARACTERISTICS</u>												
<u>SIZE OF INDUSTRY</u>												
micro (reference category)												
small	0.08**	0.00	0.04**	0.01	0.09***	0.16**	0.04	-0.02	0.06***	0.07**	0.11***	0.04
medium	0.14***	-0.16***	-0.16***	0.52***	0.12***	0.08	0.22***	0.26***	0.12***	0.09***	0.28***	-0.48***
large	0.08**	0.04**	0.03	0.06	0.15***	0.18***	0.03	0.10***	0.11***	0.15***	0.12***	0.05
Average Sectoral Wage	-0.09***	-0.38***	-0.11***	-0.10**	-0.19***	0.01	-0.00	-0.02***	-0.14***	-0.12***	-0.05***	-0.04***

* significant at the 10% level
 ** significant at the 5% level
 *** significant at the 1% level