

# Did Malta's Accession to the EU Raise its Potential Growth? : A Focus on the Foreign Workforce

Aaron George Grech  
*Central Bank of Malta, Valletta, Malta*

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## Abstract

This paper evaluates the impact on Malta's potential output growth caused by increased migration. Administrative data show that the proportion of foreign workers has risen from 1.3% of the workforce in 2000 to 10.1% in 2014. While the bulk of these migrants are in managerial, professional, and technical occupations, there are a growing number in blue-collar occupations, along with clerical or auxiliary jobs. Migrant workers is concentrated in certain sectors, with half of them in (1) entertainment and recreation, (2) professional services and administrative support, and (3) hotels and restaurants. The estimates presented here suggest that from 2010 to 2014, foreign workers contributed annually to 0.6 percentage points of potential output growth, helping to boost it to an average of 2.5% per annum, one of the highest in the Euro area, and slightly above the average observed during the years immediately preceding Malta's admission to the European Union.

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\* **Corresponding Author:** Aaron George Grech; *Central Bank of Malta, Valletta, Malta*, Tel: (356)25500000, E-mail:grechga@centralbankmalta.org

## I. Introduction

The expansion of the European Union (EU) in May 2004 anticipated large migration flows from the new member states to existing ones, mainly on account of the large income differentials between the two sets of countries. In fact, D'Auria, McMorrow, and Pichelmann (2008) showed that prior to the financial crisis, the inflow from new member states boosted the EU-15 working age population by 0.37% see Kahanec and Zimmermann (2010) for a comprehensive literature review of post-enlargement migration. The economic downturn led to a significant reversal of this trend, with the most-affected countries, such as Spain and Greece, shifting from positive inward migration to negative flows (Fertig and Kahanec 2015). While these cases have been amply reviewed in the literature, there has been little if any analysis of how migration evolved in the EU's smallest Member State, Malta. Malta's economic performance since its accession with the EU in 2004 has differed significantly from that of its neighboring Mediterranean nations, with economic growth consistently being above the EU average and with the country being one of the few where economic output is significantly higher than its pre-crisis level.

Due to its small size, most of the relevant literature (Barrell, FitzGerlad and Riley 2010) ignores the Maltese case and instead focuses on the larger EU countries. Whenever attention has been paid to Malta in recent years, it has been on the relatively high incidence of asylum seekers and refugees seeking support that reach this island state in the Mediterranean. This paper instead focuses on another important, but until now, rarely discussed trend—the unprecedented rise in the foreign workforce on the islands and its contribution toward the strong performance of the Maltese economy.

Understanding the impact of this increase in immigration is complicated by the fact that most of the rise in the foreign workforce has been by EU nationals, thus making it relatively difficult for the national statistics authorities to capture it. Accordingly, this paper relies on administrative sources—the *National Employment Register* and the income tax database—to better assess this trend. The results emerging from these databases are described in the first section. The second part seeks to estimate the contribution of this augmentation on the potential output growth of the Maltese economy, using a standard production function approach, together with some indicators of possible fiscal impacts due to the significant influx of foreign workers.

## II. Foreign Workforce in Malta

Between the late 1940s and the beginning of the 1980s, a substantial part of the Maltese population emigrated.<sup>1</sup> In fact, a United Nations (UN) study prepared around the time of Malta's independence had recommended mass emigration as the only feasible solution for the long-run economic development of Malta (Commissioner for Technical Assistance 1964).<sup>2</sup> The subsequent rapid expansion of the Maltese economy<sup>3</sup> led to a growing demand for labor, which dampened the incentives for Maltese to emigrate and led many former emigrants to return. Thus, the Maltese islands became recipients of net immigration. The amount of non-Maltese inward migration remained quite low and a significant number of these immigrants were people who came to retire in Malta, thus bringing limited economic activity to the islands.

Migration of working-age people to Malta became noticeable only in the 2000s. Administrative data compiled by the Jobplus agency (the national employment agency) indicate that, in 2000, there were close to 900 EU citizens working full- or part-time in Malta (Figure 1). This figure was significantly smaller than the number of third country nationals working in Malta at that time. By the time of Malta's accession with the EU in 2004, the number of third country nationals had risen by 35.8% and still eclipsed the number of workers from the EU. Just three years later, this trend had changed, with workers from EU countries beginning to overshadow those from third countries. The number of foreign workers declined slightly in 2009 as a result of the economic downturn, just like it had done in the two years before EU accession when the Maltese economy was restructuring. After this short interlude, the size of the foreign workforce showed an ever-increasing annual rate of growth, principally fueled by EU citizens, whose number more than tripled (exceeding 15,500) by 2014. Even though the number of third country nationals doubled over this period, by 2014, they numbered 6,190 or about 28% of the foreign workforce in Malta. Just before EU accession, their share had peaked at 63%.

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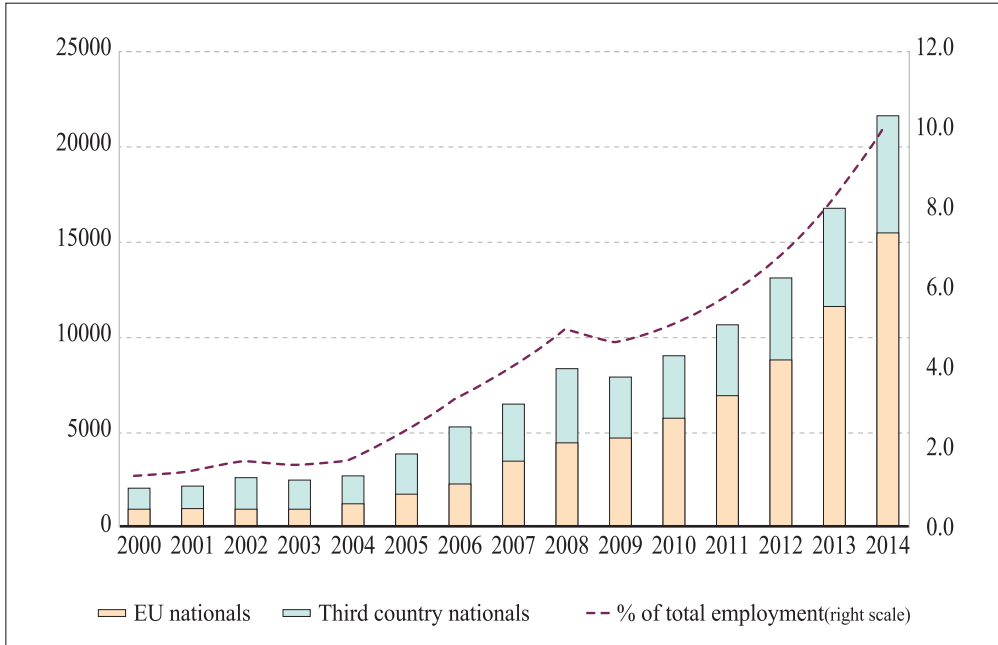
<sup>1</sup> The UN's Population Prospects database suggests that the net migration rate averaged 17.8 per 1,000 each year between 1950 and 1965, or the sixth highest net emigration rate in the world, before dropping to 7.3 between 1965 and 1975.

<sup>2</sup> Several economic studies of Maltese emigration are listed in Delia (2006).

<sup>3</sup> Grech (2015) indicates that Malta's real Gross Domestic Product (GDP) per capita rose eleven-fold, from €1,600 in 1964 to €17,300 in 2014. Alesina and Spolaore (2003) note that Malta was among only six countries in the world (the others being the so-called Asian tigers and Botswana) to achieve an annual average growth rate higher than 5% over successive decades.

**Figure 1. Size of the foreign workforce in Malta**

(Number of persons, % of total employment)



(Source) Author’s calculations using administrative data provided by Jobsplus.

Note that EU membership led to significant changes in Malta’s immigration laws. Prior to accession, EU nationals who wanted to work in Malta needed an employment permit. It was granted at the discretion of the national employment agency and was given on a temporary basis (renewable annually). Applicants needed to possess a professional qualification or at least 3 years of related job experience for the position they were applying for to be able to qualify. Together with the employment license application by the prospective employee, employers needed to submit proof of search for suitable Maltese candidates. All these regulations were removed for EU nationals, though Malta was given a seven-year period during which it could apply safeguards that ensured the right of EU workers to seek work in Malta, in urgent and exceptional cases where the inflow was deemed to put a strain on the local labor market. These safeguards were never applied.

Figure 1 shows that the share of foreign full-time workforce has expanded significantly since EU accession. Until then, the increase in the foreign workforce was

relatively moderate, from 1.3% in 2000 to 1.7% in 2004. By 2008, this share had more than doubled to 5%. This share then remained unchanged till 2010, as the economic downturn seemed to have more sharply impacted foreign employees. While the employment of Maltese citizens continued relatively unabated during 2009 (Central Bank of Malta 2010), the employment of foreigners fell by 7%, mostly among third country nationals. The economic recovery led to renewed demand for foreign workers, to the point that by 2014, their share had doubled again to over 10% of the total workforce.

An *ad hoc* module of the *Labor Force Survey* published by Malta's national statistics office (National Statistics Office 2015) suggests a slightly smaller share of economically active migrants (around 8.7% in 2014). However, the module defines migrants as persons who did not reside in Malta for at least one year, thus differing from the administrative data used here, which are based on citizenship. Malta's *Labor Force Survey* data suggest that, in 2014, there were only 8,600 foreign workers, over against the 21,690 found in the *National Employment Register*. The discrepancy in terms of third country nationals is minor, 5,600 in the *Labor Force Survey*, over against 6,190 in the *National Employment Register*. Most of the discrepancy arose when looking at EU nationals, which the *Labor Force Survey* listed as only 3,100 up from around 2,000 reported at the time of Malta's accession with the EU. This sort of discrepancy between administrative and survey data is not uncommon, even in much larger countries (Office for National Statistics 2009).

To benchmark the accuracy of the *National Employment Register* data, administrative data from the income tax department were analyzed to ascertain whether the number of EU nationals did, in fact, remain relatively stable after 2004. The tax database indicates that, in 2000, there were 5,000 foreign taxpayers who had employment income originating in Malta. This rose to 5,500 by 2004, to 13,400 in 2010, and to 25,300 in 2014. While there is a difference in the stock of foreign workers between the *National Employment Register* and the tax database, the change in the number of foreign workers since EU accession in the two sets of data is very similar. Jobsplus data show an increase of close to 19,000, whereas Inland Revenue data suggest a rise of 19,800.

Across the EU in 2014, the share of foreign workers ranged from less than 1% in Poland and Hungary to over 50% in Luxembourg. The estimate provided here puts Malta above the Euro Area (EA) average (8%) and slightly below Italy (10.3%) and Spain (10.6%). The importance of the foreign workforce in Cyprus in relative terms (over 19%) is about double that of Malta, mostly on account of a higher incidence of third country nationals working there. Even in Italy and Spain, the bulk of migrant workers are from

non-EU countries. Such was not the case in Malta, where most migration was from the EU.

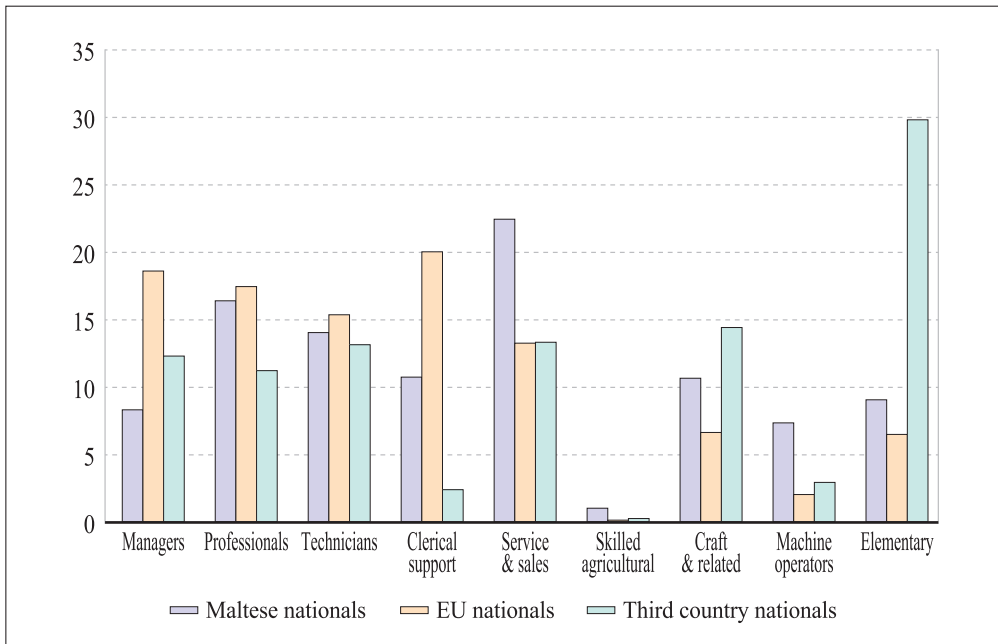
**Table 1. Sources of growth in employment**

	2010~2014	% of total rise
<b>Maltese male employees</b>	2,795	10.9
<b>Maltese female employees</b>	10,036	39.2
<b>Foreign male employees</b>	7,189	28.1
<b>Foreign female employees</b>	5,528	21.6

(Source) Author's estimates using Jobsplus data

**Figure 2. Occupational status by nationality in 2014**

(% of total employment by nationality)



(Source) Author's calculations using administrative data provided by Jobsplus. The occupational status is according to the International Labor Organization's International Standard Classification of Occupations (ISCO).

Immigration has helped accommodate the rising demand for labor in Malta. In the absence of immigration, official population estimates (National Statistics Office 2016) suggest that after EU accession, Malta's working age population would have declined by 1%, instead of rising by 3%. Since the financial crisis, job creation has been nearly equally divided between Maltese and foreign workers. The growth in the foreign workforce, in fact, coincided with a doubling in the rise of the number of employed Maltese after the financial crisis, compared to the preceding years. Rising female participation has more than offset the effects of a smaller working age population of Maltese citizens, with Maltese women making up nearly two-fifths of the increase in jobs seen between 2010 and 2014 (Table 1). Foreign women made up another fifth, while Maltese men accounted for a tenth of the rise against the 30% share propelled by foreign men.

As can be seen in Figure 2, the foreign workforce is quite heterogeneous in terms of its occupational composition. The probability that an EU worker is a manager or a clerical support worker is more than twice the same probability as it would be for a Maltese. At the same time, the odds that a third country national is employed in a blue-collar occupation are four and a half times that for the average Maltese. This is in line with the perception that foreign workers are employed at either end of the labor market ; the higher end, where skills are scarce, and the lower end, where jobs are no longer that attractive for Maltese workers. While some occupations, such as service and sales workers and plant and machine operators, are clearly dominated by native workers, there are others where the relative importance is similar. The composition of the foreign workforce has changed significantly. While nearly 50% of the rise in EU nationals working in Malta involved managers, professionals, and technical staff, less than 30% of the rise in third country nationals came from these categories.<sup>4</sup>

Thus, while in 2000, nearly three quarters of foreign workers were managers, professionals, and technical staff, by 2014, this ratio had fallen to less than half. Conversely, the proportion of the foreign workforce engaged in blue-collar or basic service occupations and in clerical and support duties rose from 7.5% in 2000 to 28.3% in 2014. These two trends, a declining share of higher-end and a rising proportion of lower-end occupations, differ from those observed among Maltese workers. Here, the

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<sup>4</sup> Note that during this period, the number of Maltese engaged in these occupations rose by 34.8%, and these high-end jobs accounted for 85.6% of total employment growth.

proportion of managers, professionals, and technical staff has risen from 32.5% in 2000 to 38.7% in 2014, while those engaged in blue-collar or basic service occupations and in clerical and support jobs have fallen from 24.6% to 19.8%. As a result, while in 2004, only 3.5% of managers, professionals, and technical staff employed in Malta were foreigners, by 2014, this figure had risen to 12.1%. More impressively, dependence on foreign workers in elementary occupations and in clerical and support duties had risen from 0.5% to 14.1%.

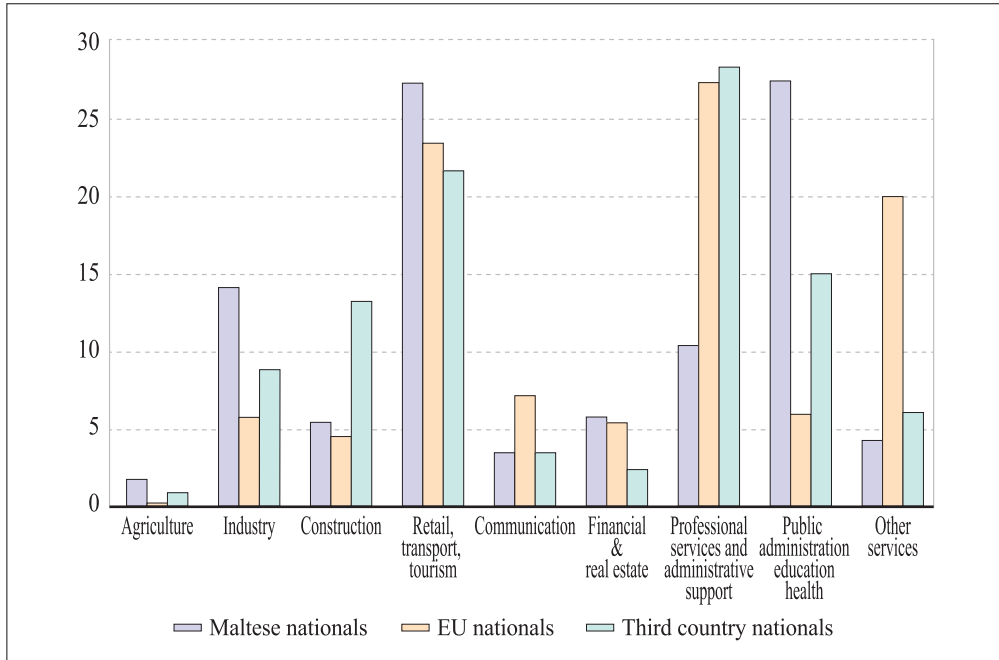
Industry and the public sector are dominated by the Maltese, whereas foreign workers are more likely to be employed in other services (mainly remote gaming), professional services and administrative support, and in tourism (Figure 3). Taken together, three sectors, namely other services, tourism, and professional services and administrative support, accounted for nearly half of all foreign employees in 2014. Dependence on migrant workers amounts to nearly 29% of the entire workforce in other services, 23% in professional services and administrative support, 21% in tourism, 18% in real estate, 16% in information and communication, and 13% in construction. Note that the fact that a sector is heavily dependent on foreign workers should not be misconstrued as evidence that these have elbowed out Maltese employees. For instance, the rise in migrant workers amounted to half of the increase in the full-time workforce in entertainment and recreation during the decade to 2014. In professional services and administrative support, the growth of the Maltese workforce constituted nearly two-thirds of the total increase. In contrast, in sectors such as tourism, construction, and industry, there is evidence that the growth in employment since the downturn of 2009 was mainly taken up by migrant workers.

About 37% of the rise in third country nationals working in Malta observed between 2009 and 2014 was in the administrative support sector. The second-largest contributor was the health and social care sector, at 13% of the total increase, while another 11% was generated by retail trade. With respect to EU nationals, the growth in employment was less concentrated, with the three top sectors amounting to just 44% of the entire increase (against 61% for third country nationals). Administrative support services accounted for 18% of the post-recession increase, while the other services sector constituted 15%. Both the professional services and tourism sector have each made up 11% of the rise in the EU workforce since 2009.



**Figure 3. Employment by sector and by nationality in 2014**

(% of total employment by nationality)



(Source) Author's calculations using administrative data provided by Jobsplus.

### III. Impact of the Foreign Workforce

Economic theory suggests that immigrants increase the supply of labor and lower wage growth, and that since the capital stock cannot adjust in the short run, a rise in labor supply is accompanied by a fall in labor productivity (Dustmann, Glitz and Frattini 2008). Recent Maltese economic data exemplify these developments. The capital-output ratio fell from 1.9 in 2010 to 1.8 in 2014, whereas in the previous four years, it had remained stable. Real labor productivity declined by 2.9% between 2010 and 2014, against a 1.7% rise in the previous four years. Average wage growth slowed to 8.8% between 2010 and 2014, against 16.2% for the previous four years. However, during those four years, there was also a noteworthy, substantial rise in foreign workers in

Malta—an increase that, in relative terms, has been as important as during the previous four years. This fact suggests that one must interpret such trends with caution.

Moreover, there are a number of ways in which foreign workers might raise productivity in Malta (Rolfe *et al.* 2013). These workers can enhance the human capital stock by bringing with them new skills and knowledge that may be shared with the local workforce. They may also increase the incentive for local workers to acquire new skills, in order to compete with them. The availability of skilled foreign workers enables the development of new industries, which otherwise would be bottlenecked by skill shortages. The development of these new sectors, in turn, creates incentives for native workers to acquire the required skills and leads to a more diversified and skilled economy. This appears to have been the case in Malta, where a number of sectors such as pharmaceutical manufacturing and electronic gaming emerged rapidly after EU accession—even though there were very few skilled workers in those fields available locally. The latter industry, facing the absence of foreign skilled workers who were willing to migrate to Malta, would have faced significantly higher costs, and thus, dissuaded employers from relocating to Malta. The absence of successful employers in this sector, in turn, would have limited the numbers of Maltese who would want to specialize in these skills. The availability of foreign skilled workers resolved this chicken and egg conundrum.

For the purposes of this study, however, we adopted the conservative assumption that migrants have the same skills and labor productivity as Maltese workers. On this basis, we computed what the gross value added in each economic sector would have been in the absence of any foreign worker in these sectors from 2000 onwards. Using these estimates of GDP growth, we studied the impact of rise in economic migration on potential output, using a constant-returns-to-scale Cobb-Douglas production function (in line with Grech and Micallef 2014).

$$Y_t = TFP_t * K_t^\alpha * L_t^{1-\alpha} \quad (1)$$

where  $Y_t$  denotes output at time  $t$ ,  $L_t$  the labor input,  $K_t$  the capital stock, and  $TFP_t$  the total factor productivity.  $TFP$  is derived by applying the Hodrick Prescott (HP) filter (Hodrick and Prescott 1997) on the Solow residual, using the standard smoothing parameter of 1600 for quarterly data. The Solow residual is that part of economic growth that cannot be explained through growth in capital stock or labor supply and is a proxy for productivity gains.

In the Maltese case, the share of labor income is calibrated at 0.58, based on the share of compensation of employees in gross value added, adjusted for the proportion of the labor force that consists of self-employed people. The stock of capital is calculated using the perpetual inventory method.<sup>5</sup> Housing investment is excluded from the measurement of the capital stock. The capital stock thus includes both public investment and non-housing investment by the private sector.

In more detail, labor input comprises several key variables of the labor market:

$$L_t = WAP_t * \overline{PR}_t * (1 - \overline{UNR}_t) * \overline{HRS}_t \quad (2)$$

where  $WAP_t$  denotes the working-age population,  $\overline{PR}_t$  the trend participation rate,  $\overline{UNR}_t$  the non-accelerating inflation rate of unemployment (NAIRU), and  $\overline{HRS}_t$  the trend hours worked. To help derive potential labor utilization, the trend participation rate and hours worked are obtained using the HP filter. NAIRU is computed from a multivariate filter, which is based on well-established relationships in economic theory, such as the Phillips Curve and Okun's Law (Benes *et al.* 2010).

Two sets of potential output growth estimates were derived. In the first, foreign workers were included within the labor input, and in the second, they were removed from the working-age population and the participation rate was adjusted to reflect its level in the absence of foreign workers. Total factor productivity and capital were assumed to be unaffected by the absence of foreign workers, which were therefore seen as perfect complements to the local workforce and not substitutable by capital. This approach was taken in view of the fact that most foreign workers are employed in sectors with very low capital intensity, mostly services, and appear to mostly service those ends of the labor market where there would be few possible Maltese substitutes.<sup>6</sup>

<sup>5</sup> The perpetual inventory method is based on the following formula:  $K_t = (1 - \delta) K_{t-1} + I_t$ , where  $K_t$  is level of the capital stock,  $I_t$  is real investment and  $\delta$  represents the depreciation rate.

<sup>6</sup> This approach is similar to that taken in large part of the literature in this area (Card 2001, Borjas 2003, Dustmann and Glitz 2005, Ottaviano and Peri 2012, Kangasniemi *et al.* 2012).

**Table 2. Impact on potential output growth, wage growth, and tax revenue**

	2001~2004	2005~2009	2010~2014
<b>Potential output annual average growth</b>			
Contribution of foreign workers	0.2 p.p.	0.5 p.p.	0.6 p.p.
<b>Per capita emoluments annual average growth</b>			
Maltese employees	3.6%	4.1%	3.3%
Foreign employees	5.7%	3.6%	2.1%
<b>Direct tax revenue</b>			
Rise in share of direct taxes paid by foreign workers	0.1 p.p.	4.1 p.p.	3.4 p.p.

(Source) Author’s estimates using Jobsplus and Inland Revenue Department data.

The contribution to potential growth of foreign workers under these assumptions (Table 2) is increasing over time, from 0.2 percentage points in the pre-accession period to 0.5 percentage points in the post-accession period till the economic downturn. In the following five years (2010 to 2014), the doubling of the relative share of foreign workers in total employment is estimated to have increased their relative contribution to potential growth to just over 0.6 percentage points.<sup>7</sup> In the absence of an increased supply of foreign workers, Malta’s potential output growth would have fallen in the immediate post-accession period and remained pretty much unchanged thereafter, with only a slight pick-up in the post-financial crisis period. Instead, it rose to an average of 2.5% per annum from 2010 to 2014, one of the highest in the Euro area, and slightly above the average observed in the years immediately preceding EU accession (Grech and Micallef 2014). Moreover, the positive impact of foreign workers appears to be accelerating over time, possibly reflecting the increasing importance of export-oriented services in Malta, for which the country would have been very hard-pressed to find adequate supplies of labor in a transitional population that was already facing significant aging.

The contribution of increased numbers of migrant workers to Malta’s potential output is slightly below that of 0.8 percentage points, which Micallef (2015) has attributed to

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<sup>7</sup> If one assumes that foreign workers are, on average, 10% more productive than other workers, their relative contribution to potential output growth would be closer to 0.7 percentage points. The choice of 10% reflects the fact that foreign workers are 18% more likely to be engaged in managerial and professional jobs and *Labour Force Survey* data indicate that these jobs are paid, on average, 66% more than other jobs.

the rise in female participation during the same period. These two factors, (1) increased female participation and (2) the rise in foreign workforce, explain nearly the whole of the contribution to potential growth attributed to the labor input during this period. While the increase in female participation in Malta has been relatively costly, with the state introducing free childcare provision and significant tax reductions for women who opt to stay in (or return) to the workforce, the contribution of foreign workers has not required any such outlays.

Besides the supply-side impact of foreign workers, another important consideration is their effect on wages and the demand for labor. While the rise in the share of foreign workers between 2010 and 2014 coincided with a decline in wage growth, the latter is similar to that experienced between 2002 and 2006, when the rise in foreign workers was much more muted. Administrative data on emoluments declared for tax purposes suggest that growth in per capita emoluments of foreign workers declined significantly over the period 2000~2014. In the period prior to EU accession, there was on average a 5.7% rise in per capita emoluments of foreign workers, against 3.6% for Maltese employees. In the following five years, the annual average growth observed among Maltese workers exceeded that of foreign employees. While the annual average growth in per capita emoluments declined from 2010 to 2014 for Maltese employees, the decline was much more pronounced among foreign workers.

These trends need to be interpreted with caution. In the preceding section, we noted how although the majority of foreigners are engaged in managerial, professional, and technical occupations, there has been a steady increase in the number engaged in elementary jobs since 2004. This tendency implies that a significant component in the slowdown in the growth of per capita emoluments can reflect a growing share of lower-paid occupations. Similarly, the slowdown in per capita emoluments of Maltese workers can reflect the increasing proportion of part-time employment, particularly among women.

Sectoral developments in wages are also difficult to interpret. In certain sectors, such as financial services, information and communication, real estate and professional, and administrative support services, a large net inflow of foreigners between 2010 and 2014 has coincided with a significant rise in wage growth. Conversely, there is evidence that in some sectors that faced less buoyant conditions, and where most growth in employment was among foreigners (*viz.* in construction and tourism), wage developments were quite muted.

A much more tractable question is the extent of the contribution of foreign workers to public finances. Inland Revenue administrative data indicate that, while in 2000, revenue from foreign workers accounted for just 2.4% of personal income tax and national insurance contributions, by 2014, this share had risen to 10.1% (Central Bank of Malta 2016). The amount of direct tax revenue collected from foreign workers increased by nine times during the period 2000 to 2014, whereas that from Maltese workers merely doubled. Information given in parliament on the use of the main public hospital by foreigners (including tourists) shows that their use has risen from approximately 1,500 patients in 2008 to just under 2,300 in 2012—less than the growth in the foreign workforce during the time. Similarly, data on student enrollments show that during the same period, the number of foreign students (excluding those in tertiary education) rose from around 1,650 to just under 2,000—again significantly below the growth in direct tax revenue paid by foreign workers. Migrants also do not appear to be weighing down on the social benefit budget (with just 130 on unemployment benefits, for instance). This fact suggests that in addition to their significant contribution toward economic growth, foreign workers have also contributed significantly to improve the state of public finance in Malta.<sup>8</sup>

## IV. Conclusion

Malta's accession to the EU generated markedly divided opinions among the country's electorate. A substantial proportion of the population, over 46%, voted against EU membership in a pre-accession referendum, mostly due to concerns that it would result in a strong influx of workers from EU countries. The data published in this paper confirm that Malta's EU accession did in fact result in a significant influx of foreign workers, with the latter's share in total employment rising from under 2% to over 10% in just a decade. However, rather than reducing employment opportunities for local workers, the estimates presented in this paper indicate that this influx appears to have

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<sup>8</sup> This impact appears to be even stronger than those found in other EU countries that have experienced a sharp rise in EU immigrants, e.g., the UK (Dustmann and Frattini 2014).

helped accelerate potential economic growth. The expansion of the size of the foreign workforce, as a result, coincided with a rise in the labor force participation rate from 57.6% to 66.3%, while the unemployment rate fell from 7.2% to 5.3%.

The strong increase in the number of foreign workers in Malta, in fact, has served to alleviate skill shortages at the top end of the labor market, helping to accelerate the development of new sectors attracted to Malta after EU accession, such as online gaming, aviation services, and digital technologies. It has also helped to address the shortage of Maltese willing to work in certain industries such as construction and tourism. The evidence presented in this paper shows that migration has provided a significant positive boost to the Maltese economy, raising potential output by 0.6 percentage points, and has contributed to improve government revenue. Access to the EU's labor market appears to have enabled the Maltese economy to take better advantage of the opportunities arising in the EU's goods and services markets. It has also added to the flexibility and dynamism of this small open economy, which previously was constrained by the limited base of skilled workers. This positive supply shock has undoubtedly helped the Maltese economy, which by 2015, was nearly a third larger than it was before the financial crisis, the second largest improvement in real GDP across the EU.

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