



## BOX 1: ESTIMATING LABOUR TURNOVER IN THE MALTESE ECONOMY USING ADMINISTRATIVE DATA<sup>1</sup>

Despite labour supply rising sharply in recent decades, Maltese firms have consistently indicated that labour is a major constraining factor for their operations.

Discussions on labour availability issues in Malta have tended to be limited by the fact that they have focused on net changes in labour aggregates.<sup>2</sup> The Organisation for Economic Co-operation and Development (OECD) (1996)<sup>3</sup> suggests that focusing on changes in the employment stock rather than the flows misconstrues the challenge faced by employers, and to demonstrate this, it distinguishes between two indicators: job turnover and labour turnover. Job turnover is “the net change in employment between two points in time – the total number of jobs created less the number of jobs which have disappeared” expressed as a percentage of total employment. On the other hand, labour turnover “is concerned with the movements of individuals into jobs and out of jobs over a particular period”, again expressed as a percentage of the initial amount of employment.

Consider an economy with 100,000 jobs. Assume that 20,000 persons moved into jobs and 10,000 moved out of jobs. As the net increase in jobs was 10,000, the job turnover rate would be 10%. By contrast the labour turnover rate would be 30%, or three times more, as the net increase of 10,000 involved 30,000 moves (20,000 persons into jobs and 10,000 out). If job tenure, or the length of time people work in a particular job, is declining, one could have a rising labour turnover rate even in the context of a declining job turnover rate. If one has a high job turnover rate combined with declining job tenure, finding employees becomes an even bigger issue for employers.

In Malta it is possible to estimate the labour turnover rate using administrative data compiled by the national employment agency, Jobsplus. National legislation stipulates that in every new employment, an engagement form needs to be submitted to Jobsplus. When a contract of employment is terminated, a self-employed person ceases to be self-employed or the status of an employee is changed (e.g., from part-time to full-time, or from definite to indefinite) a termination form needs to be filled in. The sum of these forms therefore may overstate labour movements as an employee may still be working for the same employer but still need a termination and an engagement form due to change in employment status. Moreover, the timing of termination forms may be less accurate than that of engagement forms, as employers face less incentives to send these immediately.

<sup>1</sup> Prepared by Aaron G. Grech, Chief Officer of the Economics Division at the Bank. The analysis presented in this box is based on the author's study: Grech (2023), “The extent of labour turnover in Malta”, Central Bank of Malta *Policy Note* Series, July 2023. Helpful comments by Dorianna Bezzina, Ian Borg and Alexander F. Demarco are gratefully acknowledged. The views expressed are the author's own and do not necessarily reflect those of the Central Bank of Malta.

<sup>2</sup> Notable exceptions are Ellul (2018), “Forecasting unemployment rates in Malta: A labour market flows approach”, Central Bank of Malta *Working Paper* WP/03/2018, and Borg, I. (2019), “The length of stay of foreign workers in Malta”, Central Bank of Malta *Policy Note*.

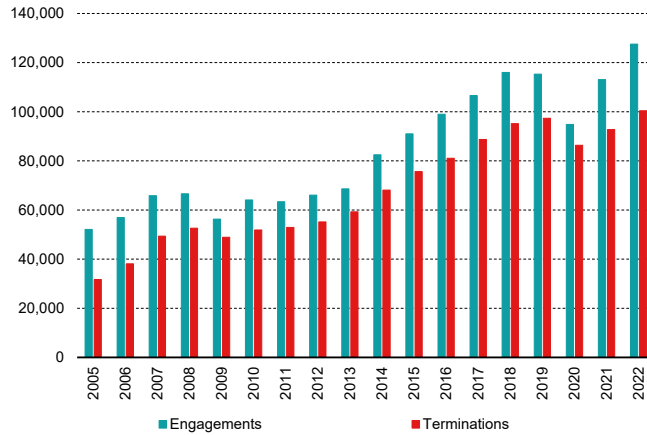
<sup>3</sup> OECD (1996), “Employment adjustment, workers and unemployment”, *Employment Outlook*, Chapter 5 pp.161-184.

### Labour market turnover: absolute versus relative trends

Chart 1 shows the overall amount of engagement and terminations forms that have been submitted between 2005 and 2022. In absolute terms, engagements and terminations have soared over time. In 2005, the total number of engagement and termination forms stood at 83,808. By 2008, it had risen to 119,206, an increase of 42%. After

falling in 2009, the total of forms remained below the 2008 level till 2012. In subsequent years, both engagements and terminations embarked on very rapid upward paths, such that by 2019, their total stood at 212,681. The pandemic brought the total back to its 2016 level, but by 2022 the sum of engagement and termination forms had reached a new record level of 227,955, or 7% higher than the pre-pandemic record, and nearly double the amount observed a decade earlier.

**Chart 1**  
**ENGAGEMENTS AND TERMINATIONS**  
(number of engagements and terminations)

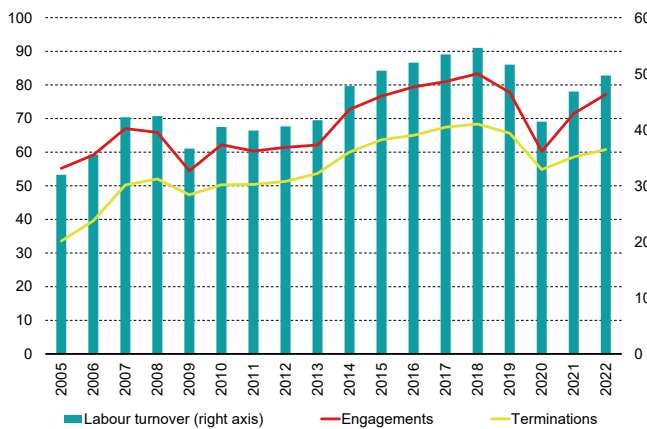


Source: Jobsplus.

To understand better the implications of these trends, Chart 2 represents the absolute number of engagement and termination forms as a percentage of the overall number of employed. This indicates that the amount of engagement forms was equivalent to 33.1% of the total number of employed in 2005, while the amount of termination forms represented 20.1% of the total employed. By 2018, engagements had risen to 50.0% of the total number of employed, while terminations were up to 41.0%. Using the OECD definition of labour turnover, this would imply that turnover had risen from 53.3% in 2005 to 91.0% in 2018, or by some 71%.

In 2019, relative to the size of the overall workforce, turnover decreased to 86.0%, and then in 2020 to 69.1%, a ratio

**Chart 2**  
**LABOUR TURNOVER**  
(percentage of employed persons)



Source: Author's calculations using Jobsplus data.

**Table 1****TERMINATIONS DUE TO CHANGES WITHIN THE SAME ORGANISATION OR TRANSFER OF BUSINESS***Number of terminations; percentages*

	2010	2015	2019	2022
<b>Total terminations</b>	51,849	75,630	97,346	100,406
Of which due to:				
Changes within organisation or transfer of business	3,961	8,549	13,523	12,366
% of total terminations	7.6	11.3	13.9	12.3

Source: Author's estimates using Jobsplus data.

previously seen in 2013. By 2022 the labour turnover ratio was back to 82.8%, or close to the levels observed between 2014 and 2015.

So one can have two different readings of the situation. On the one hand, in absolute numbers, 2022 was a record year in terms of overall engagements and terminations, while on the other hand, when seen in relation to the size of the overall workforce, turnover in 2022 was still below the record seen in pre-pandemic years. Also, while in absolute terms there was a drop in turnover in two years (2009 and 2020), in relative terms there was a drop in four years (2009, 2011, 2019 and 2020).

Given that a lot of the engagement and termination forms reflect changes in employment status rather than actual movements of persons between employers, one needs to interpret these numbers with care. Active employment numbers are based on single individuals, while engagement/termination forms may involve the same individual more than once. Table 1 presents data on terminations that were due to changes within the same organisation or transfer of business. This includes changes from definite to indefinite employment, or from part-time to full-time contracts and viceversa. These changes have more than tripled since 2010, and accounted for one-eighth of all terminations in 2022. If one excludes these terminations, the labour turnover rate was 61.7% in 2010, rising to 72.0% in 2015, before falling to 70.8% in 2019, and to 68.7% in 2022.

Using this more restricted definition of terminations, the labour turnover rate remains high, but is much smaller. The trend in the labour turnover rate is somewhat different, though when using either definition, in recent years they both show a decline. If one looks at labour turnover in absolute terms, using either definition, the number of overall engagements and terminations in 2022 was higher than in 2019. Taking a different perspective, using this definition of terminations, the proportion of employees who stayed with the same employer they had a year earlier, moved from 72.4% in 2010 to 69.2% by 2022, as shown in Table 2.

Another way to try to arrive at a better understanding of labour turnover, is to focus on engagement and termination forms submitted just for those in full-time employment, as many part-time contracts tend to be limited in duration. The labour turnover rate for those in full-time employment are consistently smaller than the rate shown for all employment, though it is gradually converging. From 31.8% in 2005, it rose to 49.4% in 2008, falling in

**Table 2**  
**EMPLOYEES STAYING WITH THE SAME EMPLOYER THEY HAD A YEAR EARLIER**

*Percentages*

	2010	2015	2019	2022
% staying with same employer	72.4	66.9	67.1	69.2

Source: Author's estimates using Jobsplus data.

2009, and remaining below the 2008-level till 2014, when it reached 54.3%. By 2018 the labour turnover rate among full-time workers had risen to 67.2%, but then it fell to 56.2% by 2020 and stood at 64.2% in 2022, just below the 2017 level. Similar to overall engagements, the data for full-time engagements and terminations suggests that in absolute numbers 2022 was a record, but in relation to the overall amount of employed, it was below the peak year.

### Drivers of labour turnover

The development in labour turnover over recent decades of course reflects the large underlying changes experienced in the Maltese labour market during this period. These are, in turn, the larger presence of foreign workers, higher female participation, the age structure of the workforce and the increased share of service activities.

The number of foreign workers has risen from 5,231 in 2005 to 96,970 in 2022. The bulk of the increase was among third-country nationals (TCNs).<sup>4</sup> Table 3 shows that labour turnover among foreign workers is much more pronounced than amongst Maltese ones. In 2022, the sum of engagements and terminations of TCNs was one and a half times the amount of TCNs employed the previous year, more than double the rate seen for Maltese nationals.

Jobsplus data suggest that about 70% of termination forms submitted for TCNs are for persons who have been employed for less than 12 months. In fact, 29% of all terminations are for TCNs who have been in that employment for less than three months. Back in 2015 this proportion stood at just 15%, with the bulk of terminations clustering near the 12-month period.

**Table 3**  
**LABOUR TURNOVER RATE BY NATIONALITY**

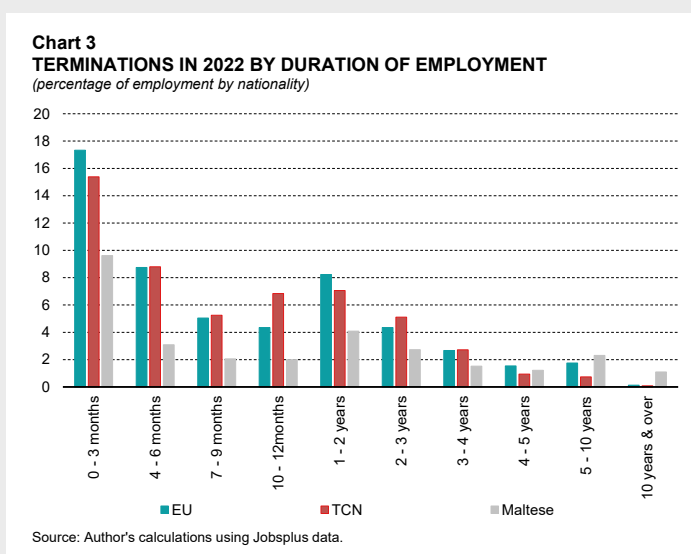
*Percentages*

Nationality	2005	2010	2015	2019	2022
Maltese	52	62	71	67	63
EU citizens	135	196	190	132	114
TCNs	85	84	108	167	149

Source: Author's estimates using Jobsplus data.

<sup>4</sup> As from 2020 UK citizens started to be classified as TCNs. In 2022 there were 5,167 such individuals.

As a result of this trend, by 2022, the length of time by when TCNs' employment is terminated has broadly converged to that of EU citizens, as can be seen in Chart 3. Among Maltese workers, terminations are much less prevalent, though interestingly, the equivalent of 10% of all Maltese workers are subject to a termination notice within three months of them being first engaged. The proportion then drops



much strongly, and in relative terms TCNs are twice as likely as a Maltese worker to face a termination notice within a year of being employed. While in 2022 the equivalent of about 30% of all employed Maltese either changed their jobs or experienced a change in their employment status, the proportion for foreign workers was above 50%.

Maltese workers accounted for about a third of the rise in labour turnover in absolute terms between 2005 and 2022. That said, the total of engagements and terminations of Maltese workers in 2022 stood at its 2015 level and was 6% lower than its 2016 peak. Maltese persons accounted for 55% of all terminations and engagements in 2022, down from 94% in 2005. By contrast TCNs now account for 25.8% of all labour turnover, up from 2.2% in 2005. Increased dependence on foreign workers appears to have been the main driver behind the rise in labour turnover. Initially this reflected very high dependence on flows of very transient EU citizens, with nearly half of them being subject to a termination notice within six months of being engaged. In recent years EU citizens working in Malta appear to be lengthening somewhat their stays.<sup>5</sup> While EU nationals in Malta are still increasing in absolute numbers, in recent years their increase is being surpassed greatly by that observed in TCNs, who in turn, appear to be more transient than they used to be. As a result of the fact that both TCNs and EU nationals are much less likely than Maltese citizens to stay with the same employer for more than a year, the greater reliance on foreign workers is leading to higher labour turnover.

Another major change in the Maltese labour market was the rise in female participation. The number of women working in 2022 was 223% that in 2005, while that of men was 165%. Women still constitute less than half of total employment, but their share has grown from less than 34% of total employment in 2005, to close to 41% in 2022. Before the sharp acceleration in foreign labour flows from 2015 onwards, in absolute terms, the increase in employment was mostly of women. This had an impact on labour turnover

<sup>5</sup> In 2015 the equivalent of 83% of all EU citizens working in Malta were subject of a termination notice, while in 2022 this has fallen to 54%.

**Table 4**  
**LABOUR TURNOVER RATE BY GENDER**

*Percentages*

Gender	2005	2010	2015	2019	2022
Men	45	59	77	82	82
Women	69	79	95	92	84

Source: Author's estimates using Jobsplus data.

rates, as administrative data indicate that women tend to be more subject to engagement and termination forms than men. Table 4 shows that over time the gender difference in turnover has narrowed very rapidly.

Before the introduction of free childcare in 2014, many women tended to drop out from the labour force to take care of their children, which explains the large gender gap in the decade to 2015. Initially most women joining the labour force tended to be from younger cohorts, and younger individuals tend to be more prone to move jobs. Women also tended to mostly work part-time, and contracts in this type of employment tend to be of shorter duration. Furthermore, the introduction of make work pay labour policies meant that many relatively unskilled women joined the labour market, many for the first time or after long career breaks. This was also bound to raise labour turnover rates. However, after the peak in 2015, labour turnover rates for women declined to those observed for men, reflecting the fact that most of the growth in female employment was in full-time employment, which tends to be more stable.

The age structure is another important determinant of labour turnover. Older workers tend to stay longer in jobs and are less likely to be fired. This emerges very clearly in Table 5, which shows that while engagements and terminations of those aged 25 to 34 in 2022 were equivalent to the entire workforce of that age, those for those aged 65 and over were less than 22% of that cohort of workers. An ageing workforce should therefore lead to a more stable workforce. In the case of Malta, this may have been the case between 2005 and 2010, but subsequently, thanks to the combination of foreign worker inflows and the

**Table 5**  
**LABOUR TURNOVER RATE BY AGE**

*Percentages*

Age bracket	2005	2010	2015	2019	2022
20-24	107	142	180	176	181
25-34	45	67	95	102	101
35-44	32	46	60	67	66
45-54	22	36	45	49	48
55-59	14	24	33	35	33
60-64	29	39	44	41	39
65 & over	23	22	24	24	22

Source: Author's estimates using Jobsplus data.

surge in female participation, the workforce became younger. Considering the much larger labour turnover rates observed among younger workers, this inevitably led to higher overall labour turnover. Moreover, in many age brackets, there appears to have been an increase in labour turnover rates, especially between 2005 and 2015. In more recent years, apart from the 25 to 54 cohorts (possibly due to higher shares of foreign workers), there have been some declines in labour turnover.

Changes in economic sector shares also lead to changes in labour turnover. Certain services sectors, as discussed previously, are well known to be characterised by more labour churn. Table 6, in fact, shows that the accommodation and food services sector in Malta faces labour turnover rates that are nearly three times those of the public sector dominated sectors of administration, health and education. That said, accommodation and food services do not explain the trend in labour turnover observed in Malta. The rise in the total of engagements and terminations in this sector between 2005 and 2022 accounted for less than 6% of the overall increase in labour turnover. The largest contributor was the administrative support sector, which accounted for a fifth of the entire increase in turnover. Wholesale and retail, transport and construction together accounted for another quarter of the increase, while on the other end of the value-added spectrum, arts & recreation and professional services contributed another quarter of the rise.

Labour turnover rates appear to have risen in all sectors compared to 2005, but they fell after the pandemic, except for transport and administrative support. The latter two sectors are, in turn, increasingly dominated by TNCs with a much shorter length of stay than in previous years.

The declining relative importance of manufacturing and public services also explains the rise in turnover, as employees in these sectors tend to have longer job tenure.

**Table 6**  
**LABOUR TURNOVER RATE BY ECONOMIC SECTOR (SELECTED)**

*Percentages*

Sector	2005	2010	2015	2019	2022
Agriculture & fisheries	21	25	27	38	34
Manufacturing	41	58	60	62	57
Construction	43	48	60	82	69
Wholesale & retail	49	57	77	83	79
Transport & storage	26	37	90	78	89
Accommodation & food	151	142	159	145	144
Financial services	23	51	64	69	66
Professional services	124	105	125	109	86
Administrative support	123	149	149	134	141
Arts & recreation	95	139	141	121	116
Public administration/health/education	29	42	52	53	52

Source: Author's estimates using Jobsplus data.



## Conclusions

Administrative data suggest that while there has been a very significant increase in the labour turnover rate over time, it is still not at its pre-pandemic peak. In terms of absolute numbers, the situation is different in that the churn in employment is now at an all-time high. That said, the effectiveness of the labour market to match employment demand and supply appears to be improving. While in 2015 the number of engagement and termination forms per net increase in employment stood at 17, this had fallen to 14 by 2019, and to 11 by 2022. The job turnover and labour turnover rate are, in fact, getting closer to each other.

While the labour turnover rate for TCNs has increased, that for EU workers has fallen, but job tenure among foreign workers remains much shorter than that among Maltese ones. At the same time, the gender gap in turnover appears to have disappeared, while job tenure among all age categories, apart from the very young cohorts, is above pre-pandemic levels. Increased reliance on high value-added services is also likely to reduce turnover, as employees in these sectors appear to lengthening their tenure.