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DEVELOPMENTS IN THE TRANSPORTATION AND STORAGE SECTOR

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Roberta Montebello

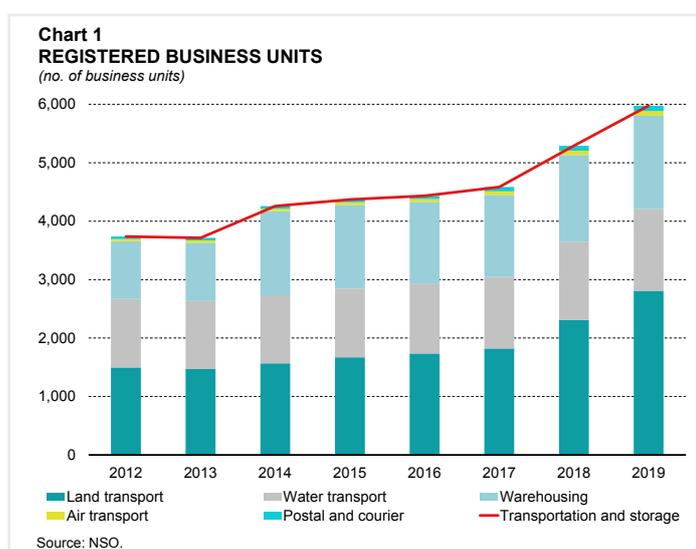
This article looks at developments in the transportation and storage sector, which includes land transport, water transport, air transport, warehousing and support activities for land, water and air transportation as well as postal and courier activities, by using various measures of activity.³ The article also looks into developments in the sentiment indicator published by the European Commission for the warehousing and land transport sub-sectors, which are the key contributors to GVA and employment in the sector as a whole.

Business structure

Business demographics data published by the National Statistics Office (NSO) show that the number of business units registered within the transportation and storage sector (NACE division H) in 2019 stood at 5,977 – equivalent to 4.8% of total registered business units in Malta.⁴ Almost half of these business units (around 2,800) were classified under the sub-sector of land transport and transport via pipelines (H49), which includes taxi and chauffeur services (see Chart 1). This is also the fastest-growing sector since 2012.

The sub-sectors of warehousing and support activities for transportation (H52) and water transport (H50) accounted for around 27.0% and 23.0% of all units within the transportation and storage sector. Less than 3.0% of registered units in NACE Section H were classified either within air transport (H51) or within the sub-sector comprising postal and courier activities (H53), although both NACE categories include a number of entities that render important public services and are important for employment.

In 2019, the transportation and storage sector overall



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² The cut-off date for information in this article is 11 September 2020.

³ The definition of transportation and storage used in this article is based on Eurostat's NACE Rev 2. statistical classification of economic activities. Operation of flying schools, distribution of water by trucks, waste transport and activities of travel agencies and tour operators are excluded from this sector. Further information is available [here](#). Data for the air transport and the postal and courier activities sub-sectors have been merged together for selected charts in this article for confidentiality purposes.

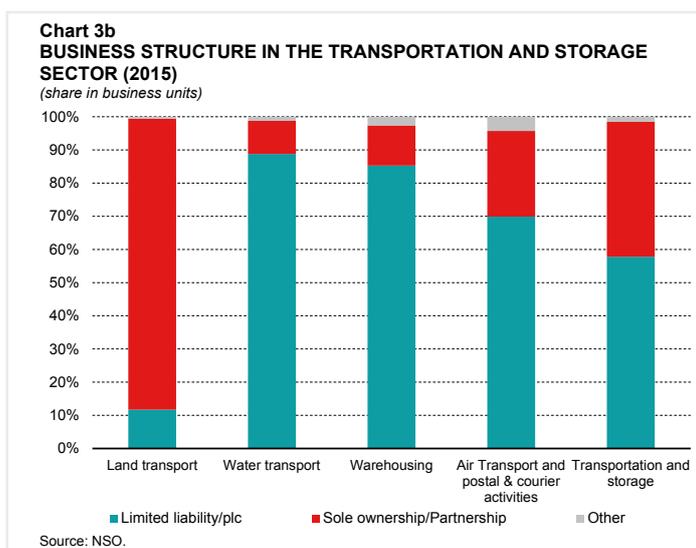
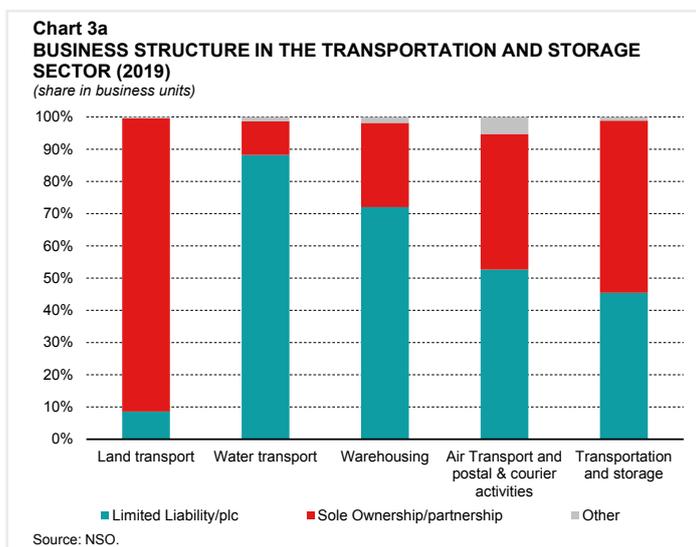
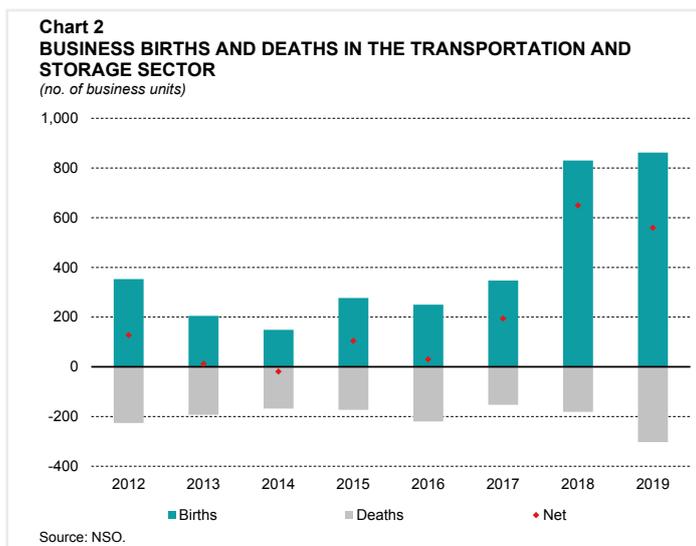
⁴ Business demographic data from 2011 exclude units whose turnover is less than €7,000, in line with Legal Notice 524 of 2010 that came into force on 1 January 2011. However, data from 2015 include new or re-activated registrations below this threshold, as Legal Notice 67 of 2015 revoked the aforementioned legislation. Registered units include the active business population (defined as units with positive turnover or employment during the reference period), as well as other entities such as government units, non-trading units and ship registrations. There is a significant difference between registered units and the active business population in NACE Division H, primarily due to the significance of non-trading units and ship registrations.

experienced a 13.0% increase in the number of registered business units, compared to a 5.8% increase in the whole economy. Nevertheless, the land transportation sub-sector accounted for around 73.0% of the overall increase in the transportation and storage sector. Although increases were also recorded in each of the other sub-sectors within NACE division H, these were mostly concentrated in NACE sectors 50 and 52.

Data on the number of births and deaths within the transportation and storage sector show that the number of newly-registered businesses exceeded the number of deregistered businesses in most years, especially in 2018 and 2019. In 2019, there were 862 new units in this sector – mainly due to a surge in new units in land transport – while 303 units were deregistered, giving a net increase of 559 units (see Chart 2).

In 2019, 53.4% of all entities in transportation and storage operated as sole proprietors or were in a partnership agreement, whereas 45.5% were limited liability companies or public limited companies (see Chart 3a). A further 1% of units operated under a different legal structure, such as corporation, cooperative or joint venture.

These averages mask significant heterogeneity across sub-sectors, with limited liability companies or public limited companies being a more

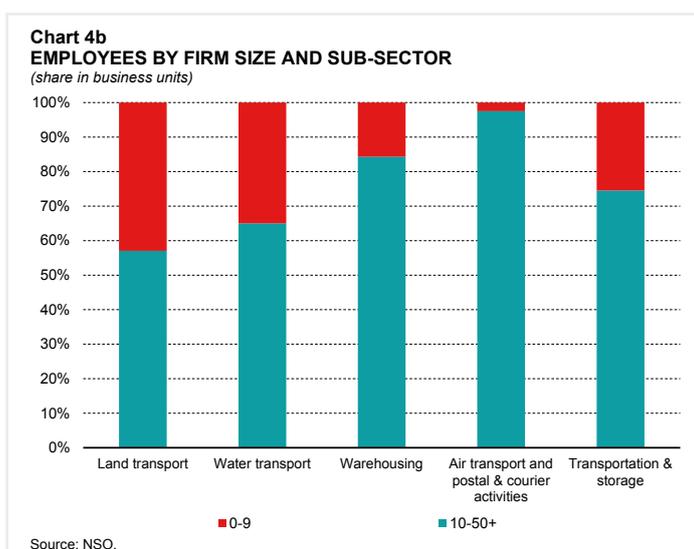
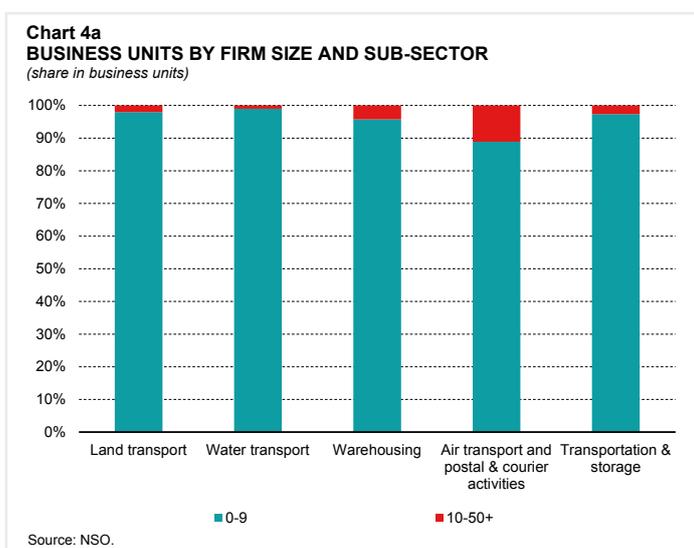


dominant model among firms providing water transport services or warehousing services. In contrast, sole proprietorships and partnership agreements prevail in land transport.

This contrasts with the situation in 2015, when just under 58.0% of all units in NACE Division H operated as limited liability companies or public limited companies (see Chart 3b). This partly reflects the fact that the aforementioned surge in the number of entities registered in the sub-sector of land transport in the last two years mostly reflected an increase in sole traders or partnerships. This organisational setup also increased in the sectors of air transport and postal and courier services.

A large majority (97.4%) of enterprises within the transportation and storage sector are classified as microenterprises with fewer than ten employees.⁵ The large share of micro enterprises is not only a feature of the transportation and storage sector overall, but also characterises its sub-sectors (see Chart 4a). A further 2.2% were classified as small enterprises in 2019, with only 0.45% classified as medium or large enterprises. The vast majority of medium and large enterprises registered in the sector in turn operate in the land transport sub-sector and in warehousing and related activities.

Microenterprises generated around a quarter of employment in the transportation and storage sector, with small enterprises accounting for a further 17.8% of jobs. This implies that a relatively small number of firms generated the remaining 56.8% of jobs in the sector. As is the case with the legal structure, the distribution of employment by firm size also exhibits significant variation across sub-sectors. For example, microfirms account for a very small share of employment among firms providing air transport and postal and courier services (see Chart 4b).⁶ On the other hand, in the subsector comprising land transport, micro-firms generate almost 43.0% of



⁵ According to the NSO *News Release* 072/2020 on registered business units, microenterprises are ones which employ up to nine employees. Small enterprises employ between ten and 49 employees, while medium enterprises engage between 50 and 249 employees. Units employing 250 or more employees are considered as large businesses.

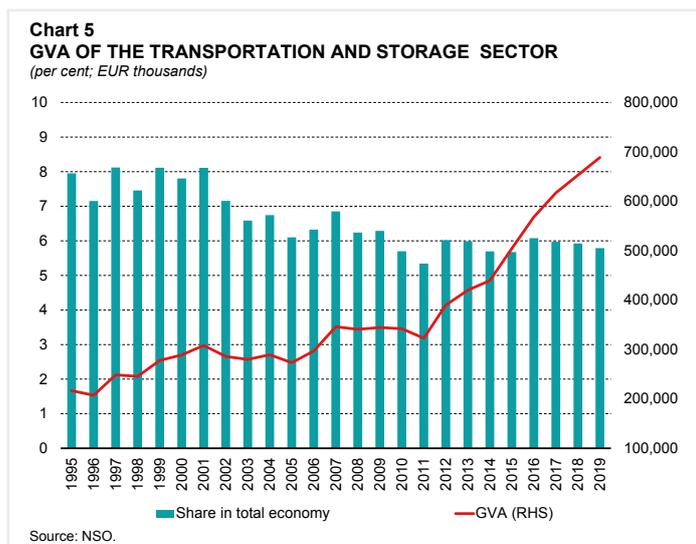
⁶ In Charts 4a and 4b, data for small firms have been merged with data for medium and large enterprises to preserve the confidentiality of data for some of the sub-sectors assessed in this article.

employment, with medium and large firms accounting for only 40.4% of jobs in this sub-sector. On balance, the land and water sub-sectors show a greater dependence on microfirms than the other sub-sectors.

Activity indicators

According to national accounts data, nominal GVA in the transportation and storage sector in 2019 amounted to approximately €688.7 million – which is more than double that recorded in 2010, when the sector’s GVA

stood at €342.3 million – and more than triple the amount recorded in 1995 (€216.6 million). Growth has picked up significantly since 2012 (see Chart 5). This increase was mostly driven by the expansion of warehousing and support services and, to a lesser extent, by the expansion of air transport services. Notwithstanding the rapid expansion in recent years, the sector’s share in the economy has diminished over time. In 2019, the transportation and storage sector accounted for 5.8% of the GVA of the whole economy, lower than the 6.9% recorded in 2007 and the 7.9% registered in 1995.



Disaggregated national accounts data show that the sub-sector comprising warehousing and support activities is the largest in terms of GVA, accounting for more than half of the sector’s GVA. Firms operating in the sub-sectors of air transport and land transport also play a significant role, whereas water transport and postal and courier services are relatively small.

Taking a longer-term perspective, warehousing and support activities and, to a lesser extent, water transport and postal and courier activities assumed greater importance over time. By contrast, the share of land transport almost halved over this period.

Despite its modest share in the overall economy GVA, the transportation and storage sector has important linkages with other sectors of the economy as can be seen from the latest input-output tables, which refer to 2010 (see Table 1). To generate output worth €981 million, the transportation and storage sector imported intermediate inputs of €220 million, but utilised €399 million in domestic production, suggesting that around 60% of its inputs were sourced locally. The latter consisted mainly of services, particularly those services related to transport itself and also financial and insurance services. In 2010, services accounted for almost 90% of domestically-sourced inputs. The construction sector supplied €19 million (4.9%), with a further €17 million of domestic inputs (4.2%) sourced from the quarrying and utility sectors. A further €14 million (representing 3.5% of locally-sourced inputs) were supplied by the manufacturing sector. The import content of the transportation and storage sector was 35% of intermediate consumption in 2010.

Table 2 shows that over 53% of the output generated by the transportation and storage sector was used as final demand. Almost 80% of this was in the form of exports, with final consumption

accounting for most of the remaining part and a very small element of gross capital formation. However, in 2010, 47% of the transportation and storage output was utilised as intermediate demand in the economy, the largest share of which went to the transportation and storage sector itself.

Table 1
INTERMEDIATE CONSUMPTION FOR THE TRANSPORTATION AND STORAGE SECTOR (H49-H53), 2010

EUR millions

	2010
Output at basic prices	981
Total Intermediate Consumption	634
of which:	
Domestic Production	399
Agriculture, forestry and fishing	0.3
Mining and quarrying; utilities	17
Manufacturing	14
Construction	19
Services	349
some of which:	
Wholesale and retail trade; repair of motor vehicles	14
Transportation and Storage	214
Financial and insurance activities	58
Professional services	14
Imported Products	220
Taxes less subsidies on products	15
GVA at basic prices	346

Source: NSO.

Table 2
OUTPUT IN THE TRANSPORTATION AND STORAGE SECTOR (H49-H53), 2010

EUR millions

	2010
Intermediate demand	458
Final demand	523
of which:	
Final consumption	112
Gross capital formation	4
Exports	407
Output at basic prices	981

Source: NSO.

Table 3
ACCOUNTING MULTIPLIERS FOR SPECIFIC SECTORS OF THE ECONOMY

Per cent of total

	Accounting multipliers			
	Output	Income	Value added	Employment
Transportation and storage	4.8	5.3	5.1	4.5
Manufacturing	14.9	13.7	14.1	14.2
Wholesale and retail trade, repair of motor vehicles and motorcycles	6.0	8.8	9.3	10.6
Financial services, except insurance and pension funds	24.4	6.4	5.9	4.7
Arts, entertainment and recreation	10.4	4.5	9.6	3.7
Accommodation and food service activities	6.1	7.5	7.0	10.7
Real estate activities	2.6	0.7	5.3	0.7
Public administration and defence	4.2	11.3	7.2	9.1
Education	2.4	10.0	5.7	9.3
Information and communication	3.9	4.0	4.9	3.3

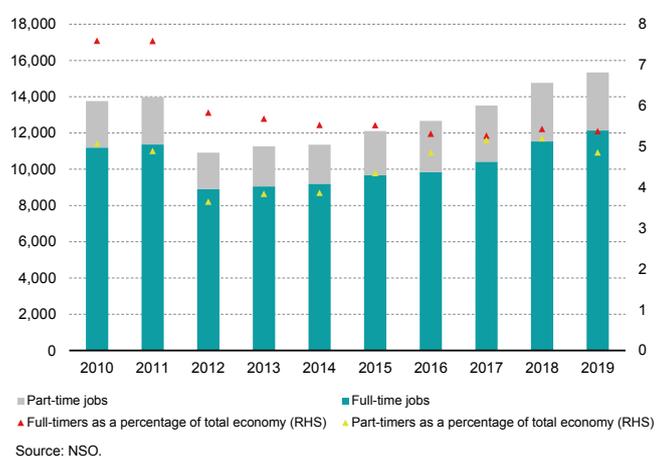
Source: Rapa, N. (2017).

A study by the Central Bank of Malta, using the 2010 input-output framework, puts forward industry-specific accounting multipliers (see Table 3).^{7,8} The transportation and storage sector generated low output and income multipliers relative to other economic sectors. The accounting multipliers for this sector, though, exceeded those generated in the information and communication sector and real estate. The sector also had one of the lowest value added and employment multipliers. However, there are indications that the sector is evolving towards higher value added activities.

Employment and wages in the transportation and storage sector

Administrative data show that in December 2019, there were 15,336 persons employed within the transportation and storage sector, 12,134 of which held full-time jobs and 3,202 held part-time jobs (see Chart 6). The sector accounted for 5.4% and 4.9% of full-time and part-time employment in the economy, respectively. While the sector's share in full-time

Chart 6
FULL-TIME AND PART-TIME GAINFULLY OCCUPIED POPULATION
(end-of-year levels; per cent)



⁷ This study was published in Rapa, N. (2017), "Estimates of industry specific multipliers", *Quarterly Review 2017(2)*, pp. 19-23, Central Bank of Malta.

⁸ Firstly, the study derives Type I and Type II multipliers for the Maltese economy by solving the Leontief demand model. Type I multipliers capture the direct and indirect effects on output, income, value added and employment of an increase in final demand of a particular industry on all the sectors of the economy. The direct effect refers to the increase in output of the particular product following a rise in its final demand. The demand for intermediate inputs will increase for each sector to increase its supply, which in turn would lead to subsequent increased rounds of production of these intermediate inputs. This is referred to as the indirect effect. Type II multipliers capture the direct and indirect effects but also include induced effects which refer to the effect on household's consumption due to a rise in output. Secondly, the study derives a set of accounting multipliers which go one step further than modelling multipliers since they account for the size of the sector generating the final demand.

Table 4
FULL-TIME AND PART-TIME GAINFULLY OCCUPIED POPULATION

Number of persons at the end of the year

	2015	2016	2017	2018	2019	2019 change from 2015
Full-time						
Land transport	3,397	3,458	3,528	4,178	4,554	1,157
Water transport	442	452	459	510	501	59
Air transport	1,392	1,235	1,363	1,590	1,867	475
Warehousing and support activities	3,770	3,992	4,185	4,349	4,247	477
Postal and courier activities	665	712	883	906	965	300
Transportation and storage	9,666	9,849	10,418	11,533	12,134	2,468
Part-time						
Land transport	1,394	1,689	1,939	2,103	2,020	626
Water transport	128	130	148	163	179	51
Air transport	334	452	461	392	422	88
Warehousing and support activities	359	360	397	418	424	65
Postal and courier activities	223	188	148	156	157	-66
Transportation and storage	2,438	2,819	3,093	3,232	3,202	764

Source: NSO.

employment has generally diminished over time, its importance in terms of part-time jobs has increased in the last decade.

The sub-sectors comprising warehousing and land transport account for almost three fourths of full-time employment in the transportation and storage sector. The land transportation sector also has the highest concentration of part-time workers. The number of part-timers in the other sub-sectors is small by comparison (see Table 4).

From 2015 to 2019, part-time and full-time employment increased by approximately 31.3% and 25.5% respectively within the sector overall. The land transport sub-sector generated the majority of new full and part-time positions over this period – 1157 and 626 new positions, respectively. On balance, jobs increased in all other sub-sectors. However, the number of part-time job holders in postal and courier activities decreased since 2015.

The private sector accounts for the larger part of full-time employment overall in the sector (82%). This pattern can be observed for all the sub-sectors apart from the air-transport sub-sector where the majority of full-time employment is within the public sector.

Foreign workers

In line with other sectors in the economy, the transportation and storage sector has become increasingly reliant on foreign workers. In 2019, the number of foreigners employed within the sector more than quadrupled compared with 2014 levels (see Chart 7).

Jobsplus data shows that by December 2019, the number of foreign workers in full-time and part-time jobs in the sector stood at 2,699, equivalent to almost 4% of all the foreigners employed in the economy. Slightly more than half (around 55.0%) of foreign workers employed in this sector

were hired by companies operating in the land transport sub-sector, which also accounted for almost three-fourths of all third country nationals (TCNs) within NACE Division H.

Around 58.0% of foreign workers within the transportation and storage sector were EU nationals, lower than the 75.6% in 2014. While the share of the EU nationals in total foreign employment was on an upward path through 2017 – when it reached 82.4% – this share decreased in 2018 and declined further in 2019, reflecting increased recourse to TCNs. In fact, the share of TCNs rose from slightly less than 25.0% in 2014 to 41.7% by the end of 2019, marginally below the share of TCNs in total foreign employment, which stood at around 46.0%.

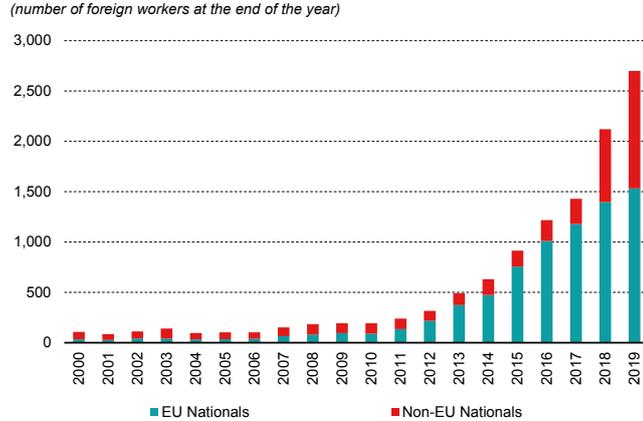
A study by the Central Bank of Malta shows that there are sectoral heterogeneities concerning the exit rates of foreign workers. The exit rates for the transportation and storage sector within the first year of engagement stands at 21.5% (see Chart 8).⁹

This contrasts with the wholesale & retail sector which has the lowest exit rate at 17.5% within the first year and the accommodation sector – which has the highest exit rate at 32.3% for the shortest duration. However, for longer durations, the transportation and storage sector has the third highest exit rate compared with other sectors, with almost 70% of new foreign workers exiting after five years.

Labour costs

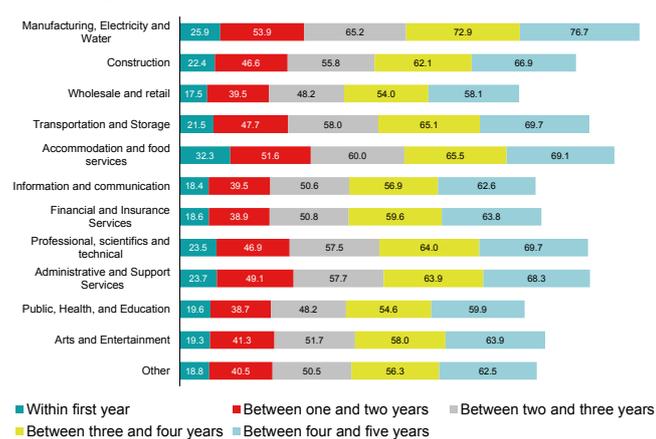
According to the Labour Cost Survey, labour cost per hour in the transportation and storage sector stood at €14.5 in 2019, below comparable costs in sectors such as financial and insurance activities, arts, entertainment and recreation, and professional, scientific and technical activities (see Chart 9). However, the transportation and storage sector had a higher labour cost per hour

Chart 7
FOREIGN WORKERS IN THE TRANSPORTATION AND STORAGE SECTOR⁽¹⁾
(number of foreign workers at the end of the year)



Source: Jobsplus.
⁽¹⁾ EU Nationals includes both EEA and EFTA Nationals.

Chart 8
EXIT RATES OF FOREIGN WORKERS
(as a percentage of new entrants)



Source: Borg, I. (2019).

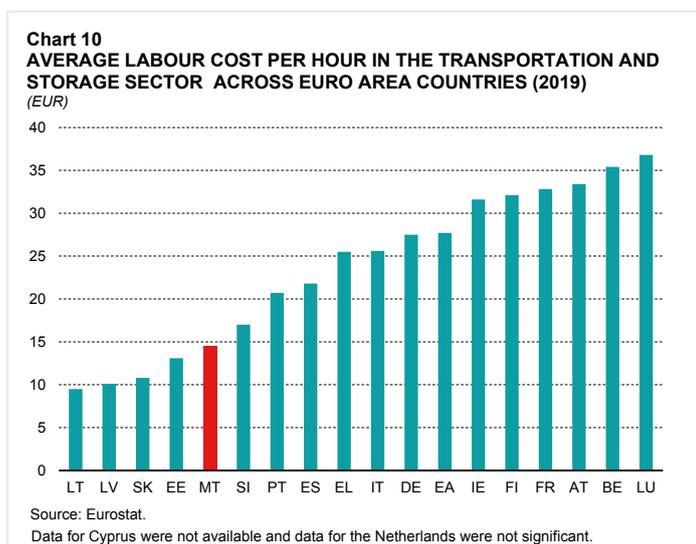
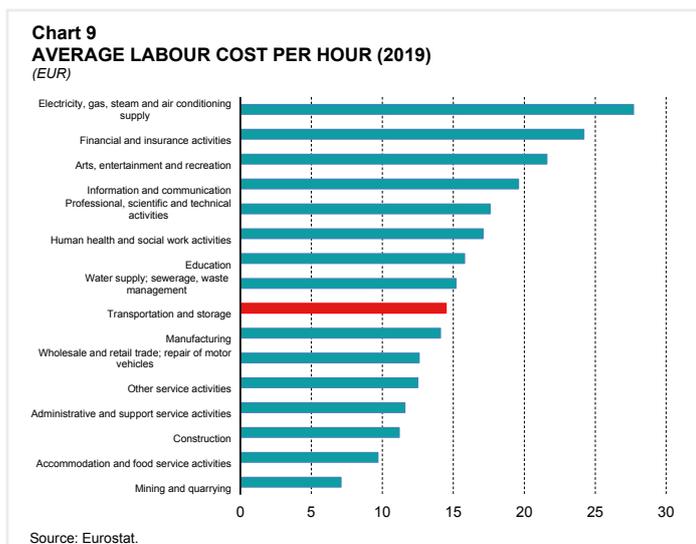
⁹ This study was published in Borg, I. (2019), "The Length of Stay of Foreign Workers in Malta", Policy Note January 2019, Central Bank of Malta.

than manufacturing, wholesale and retail, construction as well as accommodation and food service activities.

Labour costs of firms operating within the transportation and storage sector locally were on the lower end of the spectrum for the euro area. In 2019, the average labour cost per hour in the euro area stood at €27.7 which was 91% higher than the labour cost in Malta (see Chart 10).

Confidence indicator and factors limiting businesses

Given that the largest sub-sector in terms of GVA in the transportation and storage sector is warehousing and support activities for transportation, this section takes a closer look at sentiment in this sub-sector. Furthermore, since the sub-sector of land transport accounts for 38% of full-time employment in NACE Division H and it has the highest share of part-time workers, attention is also given to the confidence indicator in this sub-sector.¹⁰



The business confidence survey carried out by the European Commission shows that, since May 2007, when the first observation for Malta was recorded, confidence in the warehousing sub-sector was positive in most years and also exceeded the euro area average.¹¹ Nevertheless, in light of the COVID-19 pandemic, the confidence indicator turned negative in March 2020 and only turned positive again in August. The decrease in sentiment in March and in the second quarter of the year pushed the average for the first eight months of the year below its long-term average. The index also stood slightly below the euro area average. All sub-components have supported the index in recent years. At the same time, all sub-components contributed to the negative sentiment in 2020, although the largest negative contribution came from firms' assessment of past demand (see Chart 11).¹² Additional survey information reveals that both employment and price

¹⁰ Data is not available for the transportation and storage sector overall, hence the need to focus on particular sub-sectors.

¹¹ A monthly qualitative survey is administered by the European Commission to get information about managers' assessment of their recent business situation, of the past and future changes in their company's demand and employment and of their expected selling prices. Further information about this survey is available on 'The joint harmonised EU programme of business and consumer surveys – User Guide', March 2016, European Commission.

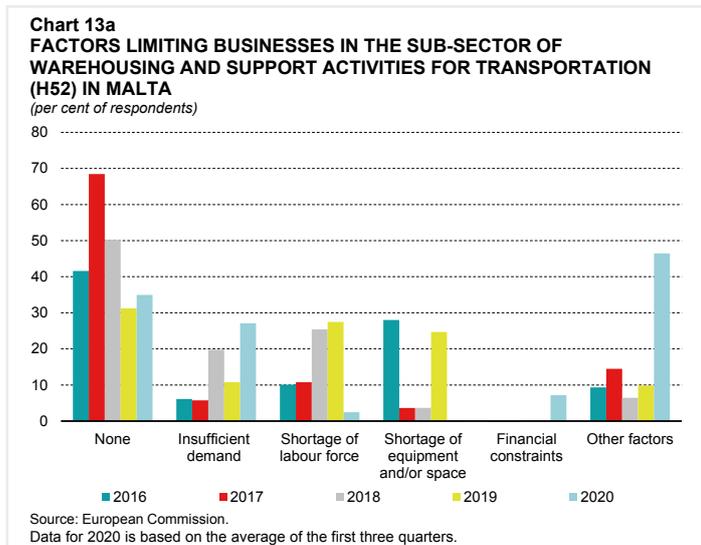
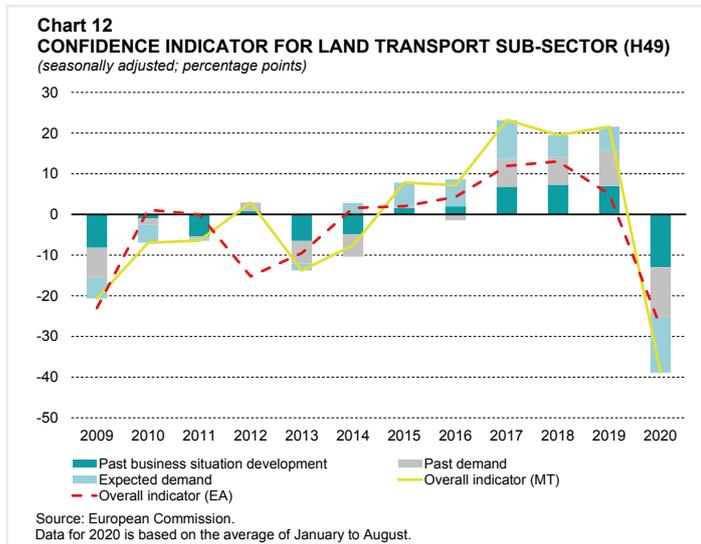
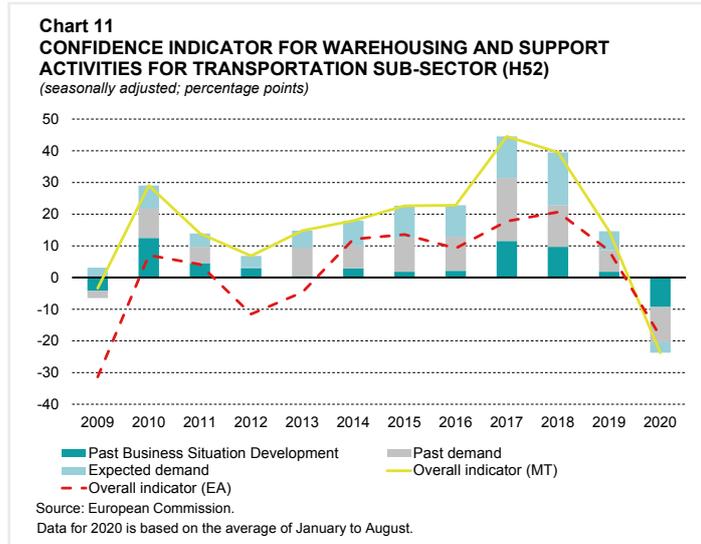
¹² The confidence indicator is the arithmetic average of the balances (in percentage points) of the answers to the questions on business climate and on recent and expected evolution of demand.

expectations became negative, on average, during the first eight months of 2020.

Confidence in the land transport sector was negative initially but turned positive in 2015 and peaked in 2017 (see Chart 12). Although confidence decreased slightly in 2018 and 2019, it remained high from a historic perspective and, in line with developments in the last few years, exceeded that in the euro area. Developments in 2020 broadly mirrored those in the warehousing sub-sector: the overall confidence indicator turned negative in the second quarter of 2020 due to a fall in all of the sub-components. However, the deterioration in the land transport sector was more significant than that in warehousing.

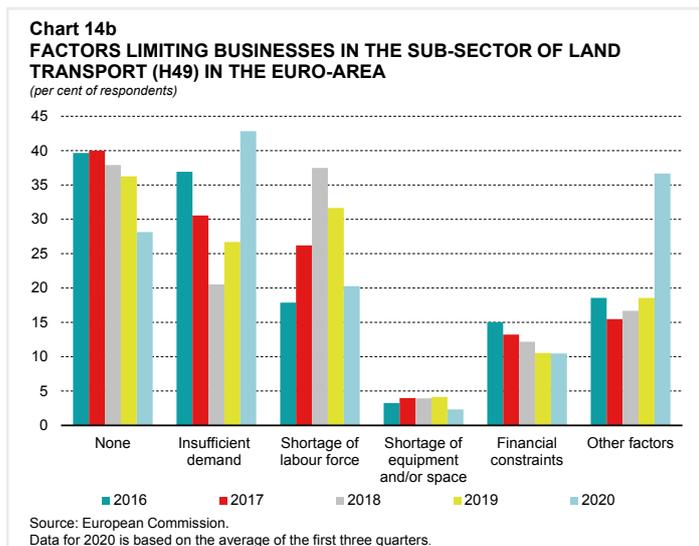
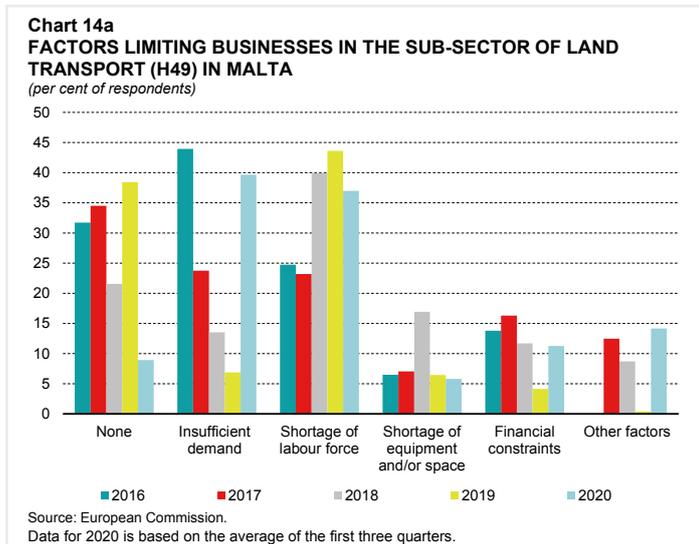
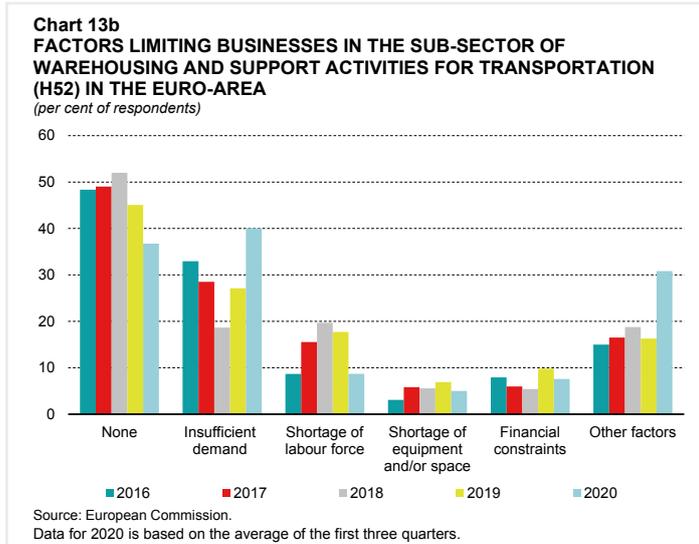
In 2019, the main limiting factors for firms active locally in the sub-sector of warehousing and supporting activities were labour shortages and shortages of equipment and space. In 2020, however, these factors were mentioned by very few firms. Labour shortages were gaining importance until 2019, but in 2020 these were only mentioned by 2.5% of respondents (see Chart 13a). This share was also below the 8.7% of the euro area (see Chart 13b).

Firms, however, highlighted insufficient demand and other factors as their main concerns. These were mentioned by 27.1% and 46.5% of respondents respectively, significantly higher than 10.8% and 9.9% of respondents in 2019. Locally,



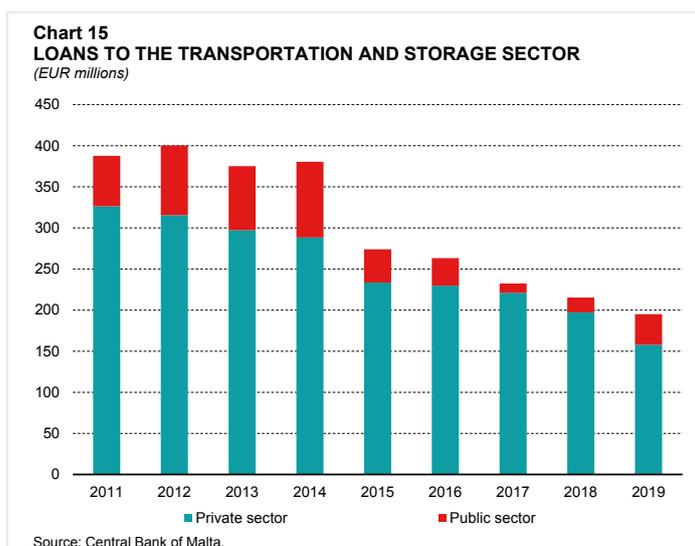
financial constraints in the warehousing sub-sector were less of a limiting factor relative to the euro area before 2020. Nevertheless, in the first three quarters of 2020, the share of respondents citing financial constraints locally stood at 7.2%, roughly equating the euro area average.

In the first three quarters of 2020, the main factor limiting activity in firms that provide land transport services was insufficient demand. This was cited by 39.7% of respondents, significantly above the previous year's 6.9% and close to the share of respondents that mentioned this factor in the euro area. Another limiting factor for this sub-sector relates to labour shortages, mentioned by 37.0% of respondents. Although this share was lower than in 2019, it was still one of the highest values recorded in recent years and well above the corresponding figure of around 20.3% in the euro area. This may reflect the increased demand for delivery services since the onset of COVID-19. The concern about labour shortages observed in both sub-sectors may also explain the surge in the number of foreign workers in past years, especially the greater recourse to TCNs. Furthermore, the share of respondents that mentioned financial constraints and other factors also rose significantly compared with 2019, though it remained within the range of values recorded in recent years. While the share of respondents citing financial concerns was close to that in the euro area, other factors were mentioned much less frequently by Maltese respondents (see Charts 14a and 14b).



Loans to the transportation and storage sector

Data shown in Chart 15 can provide some insight into the access to finance of the transportation and storage sector. Lending to both public and private entities within this sector has declined over recent years. This decline may represent the repayment of outstanding loans but it may also reflect the use of alternative sources of finance given that the survey administered by the European Commission showed that financial constraints were not a main limiting factor for Maltese firms until 2019. Data for July 2020, though, show that credit to this sector rose by 5.7% in annual terms, reflecting developments in private sector corporations.



Conclusion

The transportation and storage sector has grown considerably over the past few years, with the sub-sector of warehousing emerging as the largest sub-sector in terms of GVA. The increased activity has been reflected in employment growth in all sub-sectors in NACE Division H, although a significant proportion of new jobs created in recent years is attributable to firms offering land transport services.

Labour costs remain competitive when compared to other euro area countries. However, labour shortages have been a key factor hindering the land transport and warehousing sub-sector. This could explain the surge in foreign workers in recent years, particularly the sharp increase in TCNs in the sub-sector of land transport after 2017. COVID-19 appears to have reduced the importance of labour shortages in warehousing, but this remains a prevalent issue in land transport. The pandemic has also brought new challenges to the fore. While labour shortages and shortages of equipment appear to have diminished (though to varying extents across sub-sectors), insufficient demand and financial constraints have gained in importance this year. This may reflect the fact that several operators in this sector were hit directly by the containment measures introduced to fight the spread of the virus as well as the sector's dependence on international trade and tourism.