



NATIONAL BANK OF GREECE
Economic Analysis Department

Survey of Greek SMEs

Land Logistics sector

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Key terms used in this survey

- ❑ **Logistics:** Logistics services cover a broad range of activities across the entire spectrum of the supply chain, from the procurement of raw materials to the distribution of the finished products to consumers. Logistics concerns all kinds of transportation: land (road and rail), sea and air.
- ❑ The **business operations** covered by logistics can be divided into:
 - ✓ **core** activities, such as loading/unloading, transportation, storage and distribution, grouping and sorting, inventory and management of information for ensuring the efficiency of these operations.
 - ✓ **complementary** activities, such as packaging (or repackaging), labelling, assembly, and quality control of the goods.
- ❑ The **aim** of logistics is to increase overall efficiency throughout the value chain, through an integrated approach to the above activities. This can be achieved by offering high value-added services at competitive cost and swift turnaround.
- ❑ Logistics services can be carried out:
 - ✓ **either in-house** by the manufacturing or trade enterprise itself
 - ✓ **or by partial or full outsourcing** of the abovementioned operations to a specialized logistics company. In this case, we're talking of **3PL (Third-Party Logistics)**, whereby manufacturers and traders can benefit from know-how and economies of scale, while being able to free up human resources for their main activities.
- ❑ **4PL (Fourth-Party Logistics):** 4PL networks are formed when a logistics company, operating as a network manager, coordinates a number of other (usually smaller) logistics companies with a view to covering more complex needs, as an integrated chain frequently over wide geographical areas.
- ❑ **Trucks** in Greece are divided into two categories of ownership type: (i) public-use trucks, which are used for carrying out road haulage for third parties in exchange for a fee, and (ii) own-account trucks, which are used exclusively for serving the transport needs of the enterprise owning the trucks.

- The land logistics sector has proved resilient during the crisis in Greece, as the growth in freight handling activities (warehousing, packaging, pricing etc.) offset the decline in freight transport. Specifically:

- ✓ Up by 59 per cent in terms of volume during 2008-2016, the Greek freight handling sector has been pursuing a course of gradual convergence with the EU average - with its contribution to GDP reaching 1.1 per cent in 2016 (from 0.5 per cent in 2008) compared with an average of 1.5 per cent in the EU. Besides a quantitative growth, the sector appears to show a qualitative upgrade, as the competitiveness of freight handling in Greece has improved significantly in the past five years: the gap between the Greek and European sector narrowed to 11 per cent in 2016, from 19 per cent in 2012 (according to the Logistics Performance Index of the World Bank). In this light, the contribution of the new institutional framework for the supply chain has been deemed positive. The new framework clarifies logistics activities and simplifies organizational and licensing procedures relating to the operations of warehouse facilities and logistics parks.
- ✓ On the other hand, the Greek freight transport sector has been under pressure from reduced domestic transport (down by 33 per cent in the period 2008-2016), which has been only partly offset by the rise in international transport (up by 16 per cent in 2008-2016). Specifically, the Greek road haulage fleet is comprised of vehicles that are:
 - i. old, with trucks over 15 years old covering 30 per cent of the fleet in 2015, compared with 5 per cent in the EU
 - ii. relatively small, with larger trucks (25.5 tonnes and over) comprising just 10 per cent of the fleet in Greece, compared with 36 per cent in the EU
 - iii. mainly own-account trucks, with Greece standing out as the European country with the lowest penetration of specialized logistics companies in the land freight transport sector (21 per cent of freight compared with 70 per cent in the EU).

Accordingly, the transport sector presents a surplus fleet (of about 25 per cent) of low efficiency trucks. Apart from the specific geographical morphology of Greece, a basic reason for this unusual situation is the legal framework for road transport. The recent legislative reforms have brought about a partial liberalization of the sector - under the pressure of falling demand, and with the main impact of these reforms expected to take effect after 2022, when the special status applying to old license holders of public-use trucks will come to an end.

- As a result of the impacts outlined above, the land logistics sector as a whole increased its market share to 2.9 per cent of GDP in 2016 from 2.5 per cent in 2008, thereby gradually closing the gap with the European average of 3.4 per cent. According to a field survey of a sample of 200 small and medium-sized land logistics companies, technology seems to be the main factor giving momentum to the sector in recent years, as reflected in practically all the key indices (demand, export-orientation, employment). At the same time, the financial picture presented by the sector does not lag significantly behind that of the European average in terms of asset turnover, profitability and leverage.

- ❑ However, the overall positive picture hides certain significant disparities across the different enterprise sizes. Leveraging their comparative advantages in terms of flexibility and competitiveness, medium-sized enterprises stand out in certain key business figures (sales and deleveraging) as well as financial ratios such as asset turnover, ROA and Debt/Ebitda.
- ❑ The outlook for demand in the sector appears positive, as over 10 per cent of manufacturing and trade SMEs state their intention to outsource logistics operations to specialized logistics companies in the following five years. In the case of medium-sized manufacturers and traders this figure reaches 15 per cent. This growth in demand (for logistics companies) could potentially offer profits for both sides: i) sales growth of about 30-40 per cent in the logistics sector over the next five years and ii) enhanced profitability for the customer-enterprises (our survey indicates that manufacturing and trade SMEs that have outsourced their logistics operations perform better than those that have not). To bring this dynamic to fruition, it is important that the lack of awareness in the business sector regarding the potential benefits of specialized logistics providers needs to be addressed.
- ❑ Besides the increased demand from domestic manufacturers and traders, the land logistics sector should also benefit from a series of exogenous factors. While until today technological developments have injected dynamic into the logistics sector, participation in wider 4PL networks and the enhanced presence of Cosco in the port of Piraeus are expected to provide new stimulus over the coming five-year period.
- ❑ Although the contribution of various legislative reforms in recent years has been positive overall, there is still ground to cover. According to our survey, 40 per cent of logistics SMEs state that the institutional framework continues to act as a limitation - while this percentage rises to 59 per cent in the case of medium-sized logistics enterprises. In addition, 11 per cent of the sector views further liberalization of road transport as offering greater opportunities to their business. A key requirement is the simplification of the institutional framework, which needs to be uniform for all licenses (old and new) held by road transport providers (truck owners). It is also important that lawmakers avoid enacting additional legal provisions so as to foster a stable investment climate, while effective supervision of the sector is a sine qua non for ensuring healthy competition. While the latest legislation tends to focus on requiring that new licenses apply to new trucks (in theory this is a step in the right direction), in practice, in the current recessionary environment, it tends to create an obstacle that is hard to surpass, given the existing situation of a surplus fleet comprised primarily of old trucks. The necessary modernization of the fleet could be carried out through participation in EU funding programs focusing on (i) provision of incentives to truck-owners to modernize their (public-use) fleets, and (ii) provision of incentives to manufacturing and trade enterprises to withdraw their old (own-account) vehicles.
- ❑ Medium-sized logistics enterprises appear to be best placed to leverage the new opportunities and legislative reforms, and will likely seize market share from their smaller-sized competitors in the following five-year period.

❑ Logistics sector: State of play

❑ Demand for logistics services

❑ Greek logistics SMEs

❑ Challenges & prospects

❑ Annex

- Land freight transport services
- Land freight handling services
- Institutional framework
- Penetration of logistics in industry and commerce
- Reasons why SMEs resort to logistics services
- Sector identity
- Current state of play
- Strategies & outcomes
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- Mapping the SME sector in Greece
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- Constructing the business confidence Index for SMEs
- Survey ID

The land logistics sector has shown resilience during the crisis in Greece, as the growth in freight handling activities offset the decline in freight transport activities

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**Value added of land logistics sector*:
Greece**



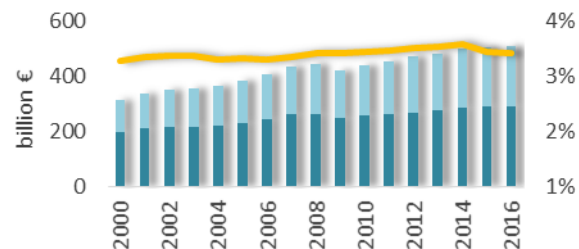
Land freight handling Land freight transport
% of GDP (right axis)

* proxied by Nace49 (transport) and Nace 52 (handling)

Source: Eurostat, NBG estimates (2016 based on Q3 data)

- The land logistics sector has shown resilience during the crisis, compared with the rest of the enterprise sector, increasing its market share to 2.9 per cent of GDP in 2016 from 2.5 per cent in 2008, thereby gradually closing the gap with the European average of 3.4 per cent.
- In addition, the sector covers about 3.7 per cent of total employment (compared with 3.9 per cent on average in the EU), with a gradually widening gap with the EU in terms of labor productivity (value added of €36,000 per employee in 2016 compared with €57,000 per employee in the EU).
- This overall picture of land logistics hides the opposite trends of the two components of the sector - freight transport and freight handling:
 - ✓ The freight handling sector (warehousing, packaging, invoicing etc.), after a period of mild growth during 2000-2008 (29 per cent growth in terms of value added), grew by 63 per cent in the years 2008-2016.
 - ✓ On the other hand, the freight transport sector contracted by 34 per cent in terms of value added during the years 2008-2016 - after a period (2000-2008) when it had more than doubled.

**Value added of land logistics sector*:
Europe**

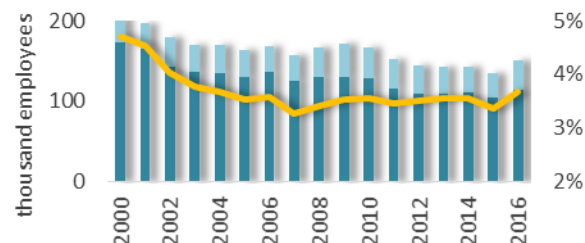


Land freight handling Land freight transport
% of GDP (right axis)

* proxied by Nace49 (transport) and Nace 52 (handling)

Source: Eurostat, NBG estimates (2016 based on Q3 data)

**Employment in land logistics sector*:
Greece**

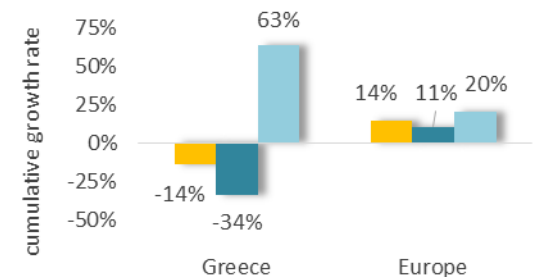


Land freight handling
Land freight transport
% of total employment (right axis)

* proxied by Nace49 (transport) and Nace 52 (handling)

Source: Eurostat, NBG estimates (2016 based on Q3 data)

Value added 2008-2016



Land logistics sector* Land freight transport
Land freight handling

* proxied by Nace49 (transport) and Nace 52 (handling)

Source: Eurostat, NBG estimates

Freight handling in Greece is growing, and gradually converging with the European average

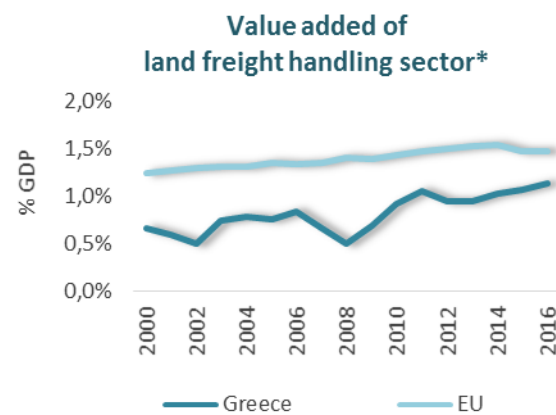
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- To take a closer look at land freight handling, activity volume increased by 59 per cent during the period 2008-2016 - a trend that was reflected in an increase in sales by 56 per cent (due to the marginal fall in prices). It is notable that said increase is three times higher than the European average, since the EU sector grew by 20 per cent in terms of value during the period 2008-2016. Accordingly, the sector's contribution to Greek GDP rose to 1.1 per cent in 2016 (from 0.5 per cent in 2008) on a course of gradual convergence with the European average (1.5 per cent). In this light, the contribution of the new institutional framework for the supply chain (L.4302/2014) has been deemed positive. The new framework clarifies logistics activities and simplifies organizational and licensing procedures relating to the operations of warehouse facilities and supply parks.
- Besides a quantitative upgrade, the sector appears to show a qualitative upgrade, as the competitiveness of freight handling in Greece has improved significantly in the past five years. Specifically, according to the Logistics Performance Index of the World Bank (LPI) the gap between the Greek and European sectors narrowed to 11 per cent in 2016, from 19 per cent in 2012 - while showing significant improvement in all the individual parameters of the index (such as infrastructures, procedures and speed of freight handling). However, note there is significant room for improvement, since Greece still holds one of the last places in the European ranking, at the top of which are countries such as Germany, Luxembourg and Sweden.



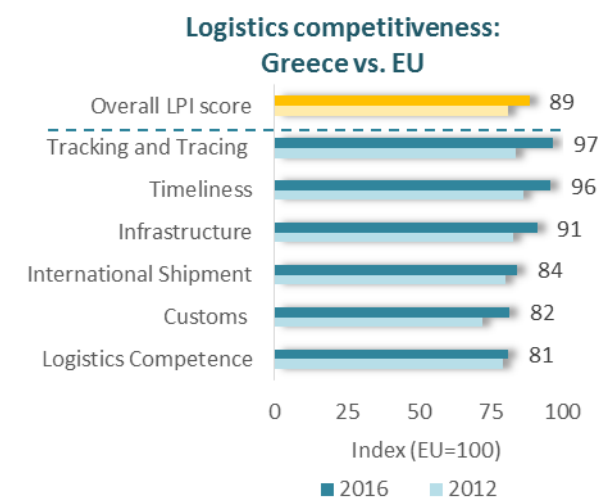
* proxied by Nace 52

Source: Eurostat, NBG estimates



* proxied by nace 52.

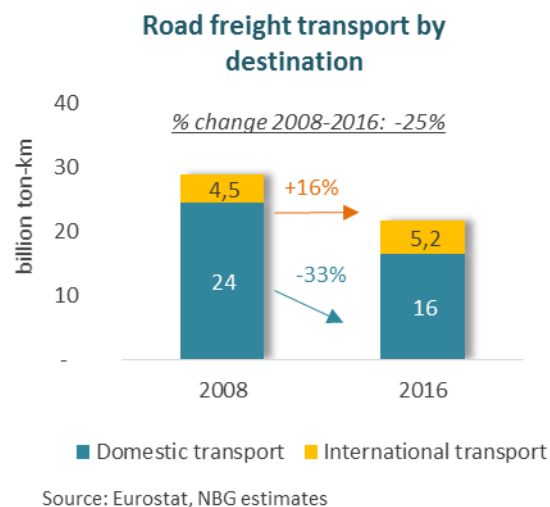
Source: Eurostat, NBG estimate



Source: LPI Index/ Worldbank, NBG estimates

On the other hand, the freight transport sector is under pressure due to lower domestic demand, which is offset only partially by the growth of international activity

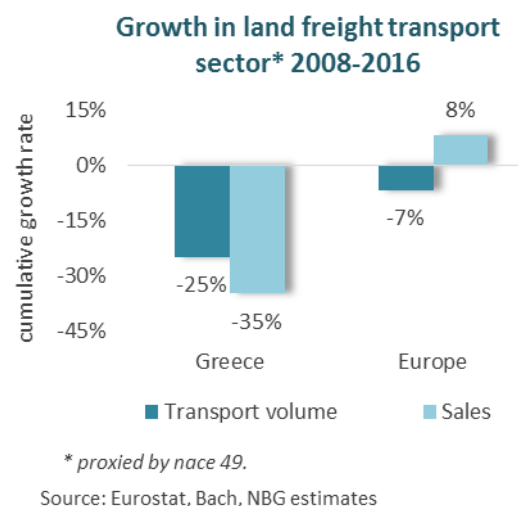
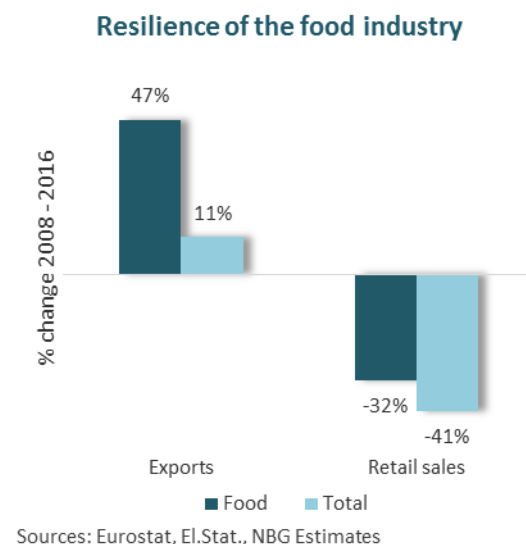
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- Over the period 2008-2016, the volume of freight in Greece contracted by 25 per cent, due to the impact of two parameters:

- Domestic freight transport declined by 33 per cent during 2008-2016, reflecting the downward trend in retail sales (mainly in the food sector, accounting for almost half of the freight transported).
- International transport increased by 16 per cent during 2008-2016, reflecting the rise in exports, mainly of food products. However, due to the low export-orientation of the Greek economy, the impact of international transport on total transport activity is low (25 per cent, compared with the EU average of 35 per cent) and accordingly its rise wasn't enough to offset the reduction in the volume of domestic freight transport.

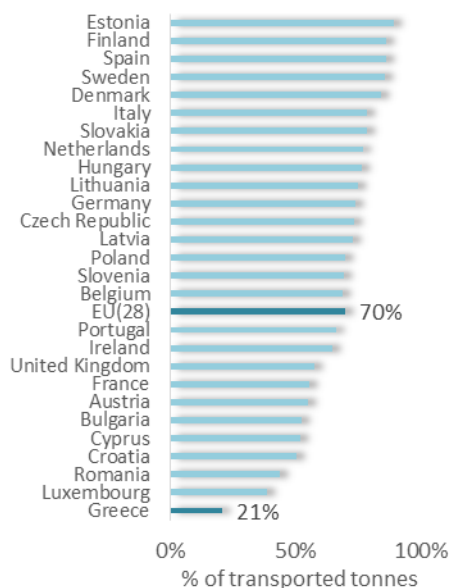
- In addition, the reduced demand put downward pressure on prices, which were down by 10 per cent over the period 2008-2016 (compared with a 15 per cent average rise in the EU). As a result of the lower volumes and reduced prices, turnover was down by 35 per cent over the period 2008-2016 (compared with an 8 per cent average rise in the EU).



The Greek truck fleet consists of vehicles that are (i) old, (ii) relatively small and (iii) mainly own-account trucks ...

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**Penetration of logistics companies
in land freight transport**

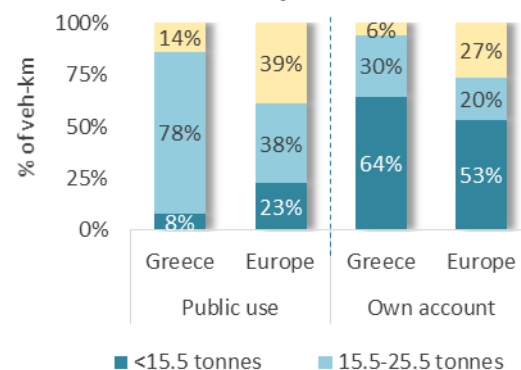


Source: Eurostat, NBG estimates

□ Greece stands out as the European country with the lowest penetration of specialized logistics companies in the sector of land freight transport (21 per cent of freight compared with 70 per cent in the EU or 66 per cent compared with 86 per cent respectively in terms of tonne-kilometers). The high penetration of own-account trucks leads to a variety of peculiarities:

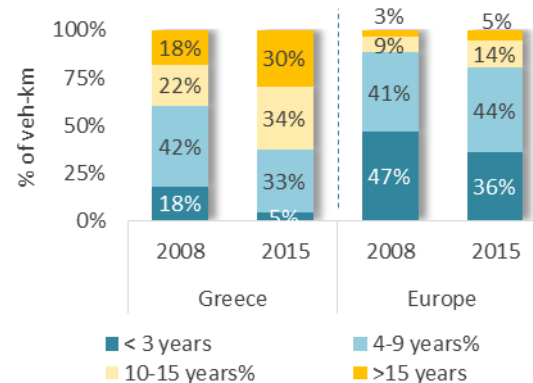
- ✓ Large trucks (25.5 tonnes and over) comprise just 10 per cent of the fleet in Greece, compared with 36 per cent in the EU, as (i) Greece has more own-account trucks, that are generally smaller than public-use trucks in all EU countries and (ii) Greek trucks of both categories (own-account and public-use) are smaller on average than the respective categories in the EU.
- ✓ The percentage of old trucks (15 years old or over) rose to 30 per cent in 2015 from 18 per cent in 2008, (compared with 5 per cent in the EU). This is a result of the age of own-account truck fleet, more than half of which is comprised of old trucks (compared with 8 per cent for public-use trucks).
- ✓ Since the percentage of own-account trucks is related to the high percentage of "empty journeys" i.e. the percentage of kilometers travelled without freight (see chart), Greece has the highest rates of "empty journeys" ($\frac{1}{3}$ of distance travelled compared with 22 per cent in the EU).

**Truck fleet segmentation
by size**



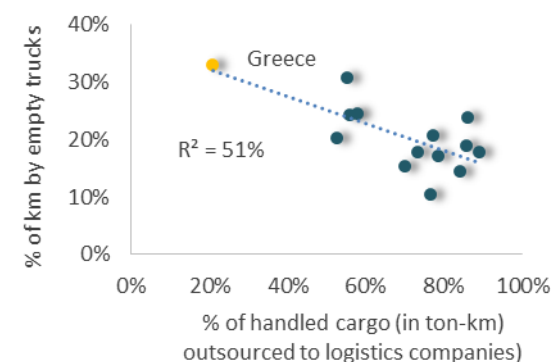
Source: Eurostat, NBG estimates

**Truck fleet segmentation
by age**



Source: Eurostat, NBG estimates

**Penetration of logistics companies
and efficiency**

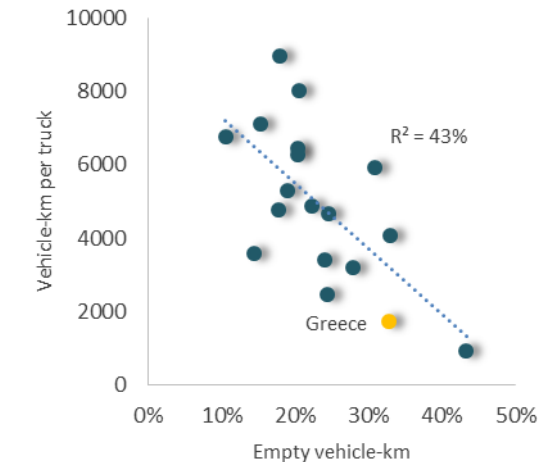


Source: Eurostat, NBG estimates

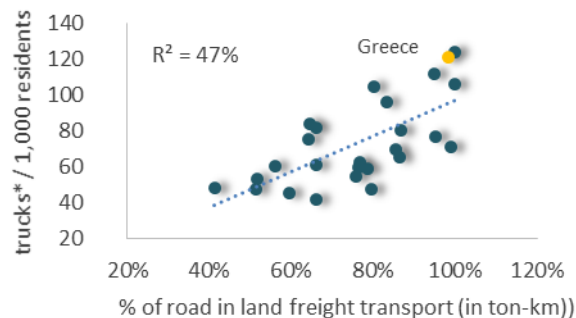
... and as a result road freight transport in Greece presents low efficiency

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Efficient use of trucks



Road freight transport penetration

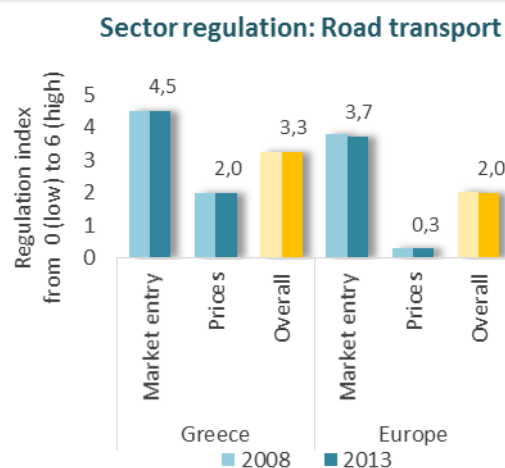


- ❑ As a result of the low penetration of specialized logistics enterprises in Greece, the use of available trucks is inefficient. Specifically, the high percentage of distances travelled without freight in the case of Greek trucks is reflected in a low truck utilization rate, with the tonne-kilometres performed per truck annually in Greece being lower than the European average (15,000 ton-km per truck, compared with 47,000 in the EU).
- ❑ Apart from the specific geographical peculiarities of Greece, a basic reason for this low penetration of logistics companies is the legal framework for road transport. Specifically, since the 1970s and up until 2010, the number of licences of public-use trucks was legally set at about 30,000, and as a result:
 - ✓ upward pressure was put on prices and downward pressure on the quality of the fleet
 - ✓ while at the same time a secondary market for truck licenses was created, with the price per license approaching €300,000.
- ❑ Since the public-use truck fleet was not enough to cover the needs for land freight transport, a significant number of enterprises were compelled to acquire their own trucks. Furthermore, since the appropriate legislative framework for own-account truck leasing did not exist, every manufacturer/trader could only use their trucks for the transport of their own products, thus creating further upward pressure in terms of fleet size and thus leading Greece to exceptionally high rates of own-account trucks (79 per cent of the fleet compared with 30 per cent in the EU).
- ❑ Since land freight transport in Greece is almost exclusively road haulage (98 per cent of tonne-kilometres compared with 75 per cent in the EU), partly due to the country's terrain and the inadequate railway infrastructure, it is unsurprising that Greece has a high number of trucks per capita. However, the current ratio of trucks per 1,000 residents (120) is considered high even after taking into account these special characteristics – revealing a surplus of 25 per cent in the current fleet.

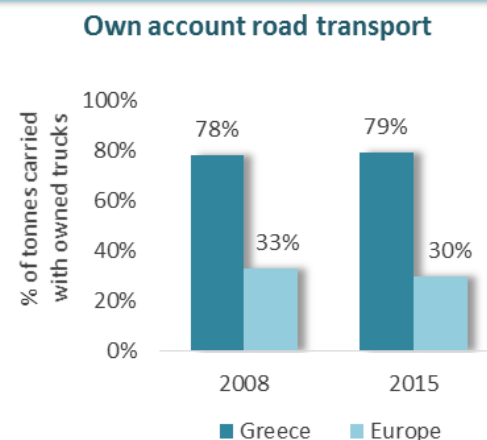
The recent legislative reforms have brought about a partial liberalization of the sector - with the main impact of these reforms taking effect after 2022

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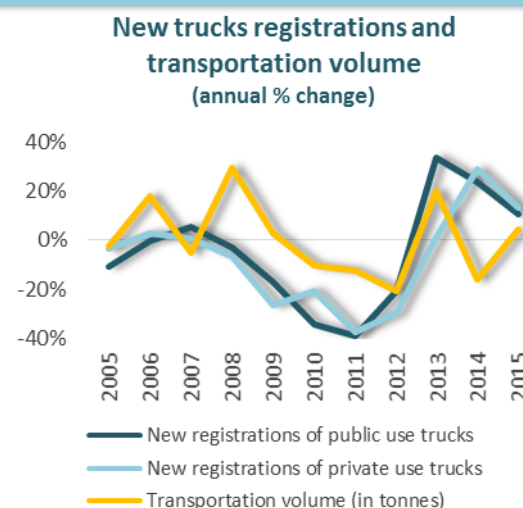
- ❑ Law 3887 of 2010 aimed at liberalizing road transport. However, although this was a step in the right direction, the law continued (mainly via accompanying provisions) to maintain the "special status applying to old license holders" who will enjoy more favorable terms of operation up until 2022 (mainly as regards the vehicles' age and letters of guarantee), thus limiting the law's effectiveness:
 - ✓ The road transport regulation index (as estimated by the OECD) remains higher than the European average.
 - ✓ The market share of own-account trucks remains consistently high (close to 80 per cent in terms of tonnes transported).
 - ✓ The number of new public-use truck licenses has remained low over the past six years (close to 100-200 according to market estimates), while at the same time the old licenses continue to maintain part of their intangible value (about €15,000 today from €300,000 before 2010).
- ❑ The said legislative measures proved to be insufficient for the following reasons:
 - ✓ The current state of low demand and high uncertainty (both as regards the institutional framework and the tax regime) tends to deter new investments and the entrance of new big players in the sector.
 - ✓ In an environment of excess supply (mainly due to own-account trucks) the prospects for profitability are limited, while for a state of balance to be reached, the following are required: (i) manufacturers and traders need to be better informed about more profitable transport alternatives and sell their trucks, and (ii) some of the own-account trucks need to become public-use trucks (a move that cannot yet be made since the current framework excludes the old trucks which make up the majority of own-account trucks).



Source: OECD (Product Market Regulation Index), NBG estimates



Source: Eurostat, NBG estimates



Sources: Eurostat, El.Stat., NBG Estimates

- ❑ Logistics sector: State of play

- ❑ Demand for logistics services

- ❑ Greek logistics SMEs

- ❑ Challenges & prospects

- ❑ Annex

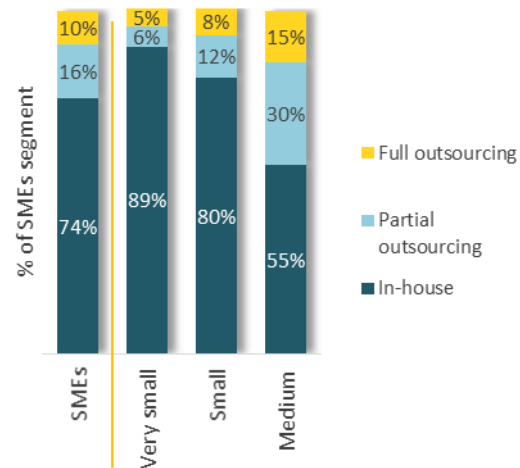
- Land freight transport services
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About ¼ of SMEs outsource logistics operations to a specialized logistics provider (mainly Greek)

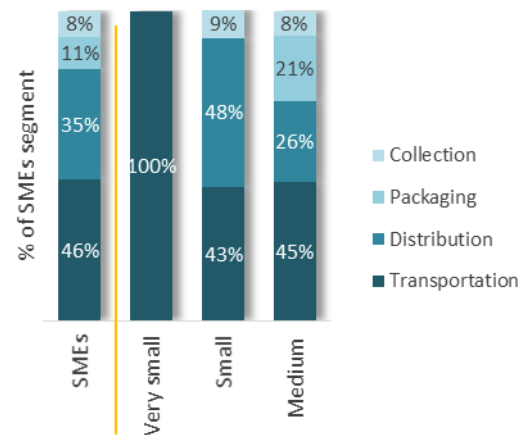
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- ❑ The low penetration of specialized logistics enterprises in Greece is confirmed by the answers to our questionnaire, completed by 540 small and medium manufacturing and trade enterprises, indicating that the majority (74 per cent) continue to perform their logistics operations in-house. However, an encouraging sign is the fact that Greek logistics providers are the preferred choice of the majority of SMEs that have moved to outsourcing (95 per cent).
- ❑ We note that the behavior of SMEs regarding this parameter changes significantly depending on the size of their enterprise – with medium-sized enterprises (i.e. companies reporting turnover of between €5 million and €10 million) outsourcing 45 per cent of their logistics activities compared with only 11 per cent for very small enterprises (i.e. enterprises reporting turnover of up to €100,000).
- ❑ The most popular logistics activities that are outsourced are mainly the more "traditional" ones - with 46 per cent of SMEs stating transportation and 35 per cent distribution as the main outsourced activity.
 - ✓ However, the trend to discover the more "advanced" services offered by specialized logistics providers is obvious - with medium-sized enterprises leading the way, as 29 per cent single out packaging and collection of goods as the main outsourced activity.

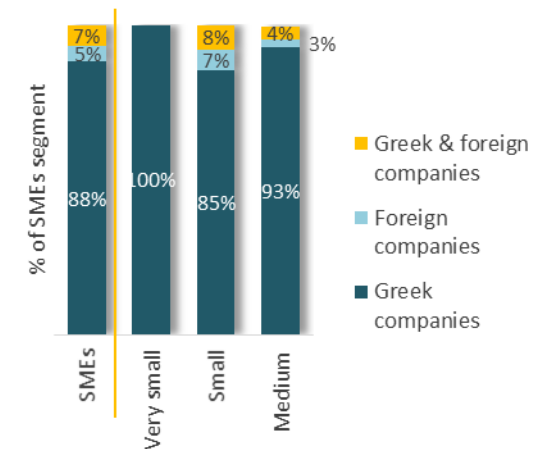
SMEs: Logistics services management



Logistics outsourcing: outsourced activities



Logistics outsourcing: Greek vs foreign companies

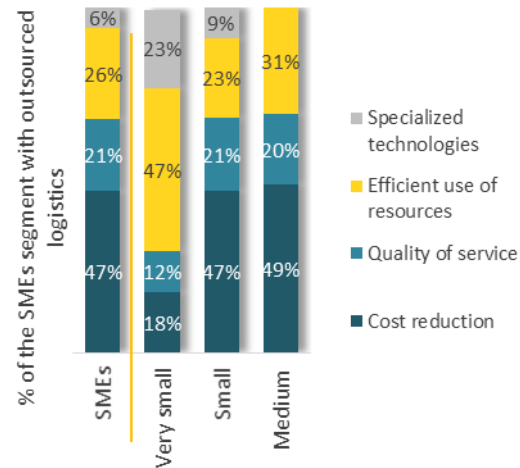


*The classification of enterprises is made on the basis of scale of turnover. Specifically (in € millions): very small = (0-0.1], small = (0.1-5], medium = (5-10], large = (over 10).

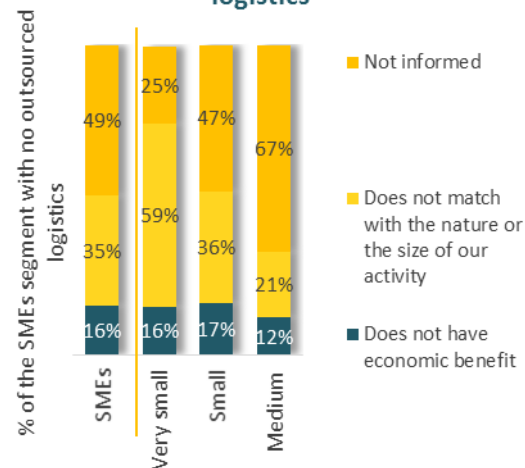
There is a significant lack of awareness among manufacturing and trade SMEs regarding specialized logistics providers

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Benefits from logistics outsourcing



Reasons for not outsourcing logistics



- The reasons why SMEs assign their logistics services to specialized logistics providers differ significantly depending on their size:

- ✓ Very small enterprises - by definition dealing with a very limited number of human resources - choose, in large part (47 per cent), to outsource all logistics operations, so as to be able to focus all their human resources on their main activity, and thus leverage their potential more effectively. In addition, 23 per cent of very small enterprises state that the main reason why they outsource their logistics operations is the fact that logistics providers have access to specialized technology, and thus they can close the technology gap with their larger competitors.
- ✓ The motives are different for the medium-sized enterprises, with almost half of them stating that they choose to outsource their logistics activities so as to reduce their operating costs.

- When we look at the SMEs that carry out their logistics activities in-house, we see that there are three categories:

- ✓ Half of them state that they continue to carry out said activities in-house, without having weighed the potential gain that would result from outsourcing them to a specialized logistics provider - revealing a significant lack of awareness in the market. It is notable that the percentage of those who keep their logistics in-house simply because they haven't thought that there is an alternative way of doing things (who are the most likely potential customers of specialized logistics providers) is exceptionally high among small and medium manufacturers and traders (67 per cent compared with 25 per cent for the very small enterprises).
- ✓ 35 per cent of SMEs state that outsourcing doesn't match the nature or the volume of their activities - indicating yet again that there is a lack of awareness regarding the potential, flexibility and options offered by specialized logistics providers.
- ✓ 16 per cent of SMEs consciously chose, for reasons of cost-effectiveness, to carry out their logistics activities in-house.

❑ Logistics sector: State of play

- Land freight transport services
- Land freight handling services
- Institutional framework

❑ Demand for logistics services

- Penetration of logistics in industry and commerce
- Reasons why SMEs resort to logistics services

❑ Greek logistics SMEs

- Sector identity
- Current state of play
- Strategies & outcomes

❑ Challenges & prospects

- Impact of external environment
- Future opportunities

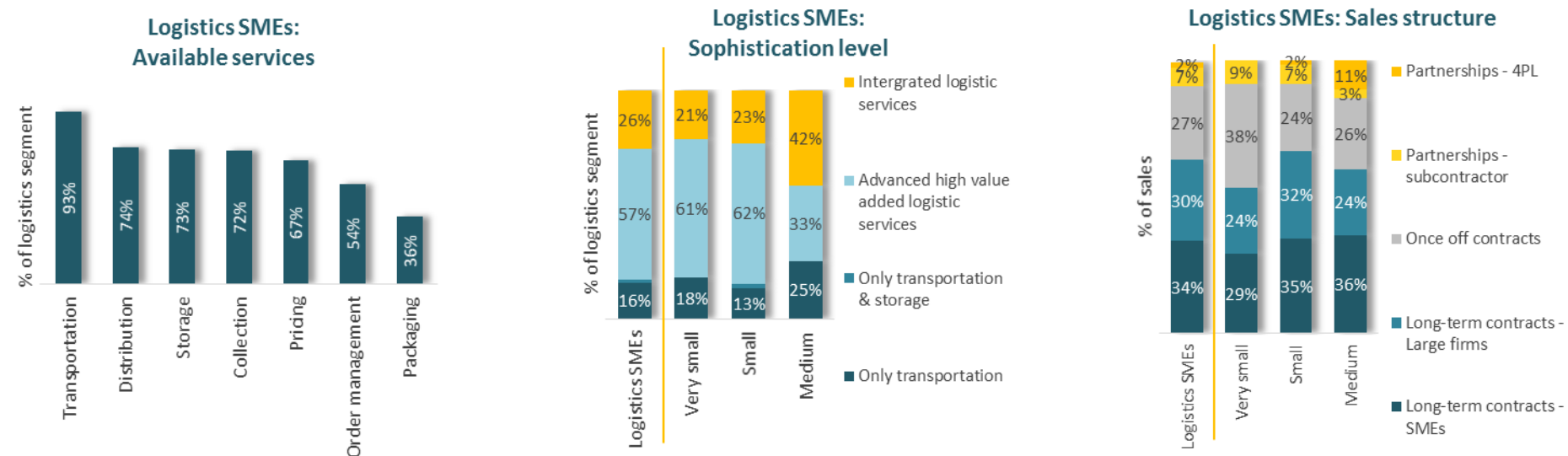
❑ Annex

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The provision of integrated logistics services and the participation in broader 4PL networks are reshaping and revamping the sector...

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- According to a questionnaire submitted to a sample of 200 small and medium land logistics providers, the spectrum of services provided by them is broad, including traditional services (such as transportation, storage, distribution and collection of products) and high value added activities (such as pricing, management of orders and packaging).
- More specifically, only 16 per cent of the sector provides solely transportation, while over ½ offers at least one more high value added service, and 26 per cent an integrated package that covers a company's entire logistics requirements. Note that integrated logistics services are offered by 42 per cent of medium-sized companies.
- As regards the sales structure of the logistics sector, long-term agreements (whether with small or large enterprises) seem to be the key source of income, as they represent 64 per cent of sales, thus ensuring relative stability in revenue that impacts positively the medium-term investment strategy of the sector.
- ✓ Notable is also the participation of medium-sized companies in broader logistics networks (4PL), covering 11 per cent of total sales, a point that indicates strong capability to make use of future structural realignments and internationalization of the sector.



*The classification of enterprises is made on the basis of scale of turnover. Specifically (in € millions): very small = (0-0.1], small = (0.1-5], medium = (5-10], large = (over 10).

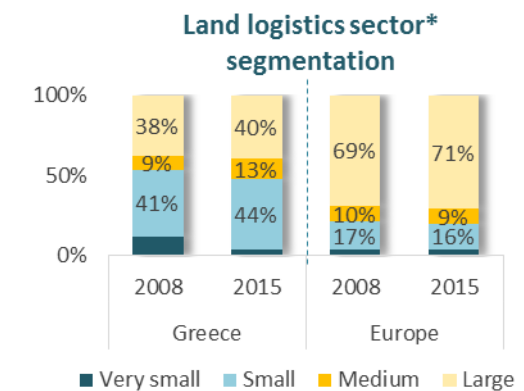
... with medium-sized enterprises standing out in terms of competitiveness and flexibility

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- ❑ The average Greek small or medium land logistics provider uses 11 trucks (mostly in its ownership, rather than rented or leased) and one to two warehouses (mainly rented) - with differences being more or less marked depending on the size of the company.
- ❑ In the case of trucks, their number fluctuates between 3 for very small enterprises and 28 for medium-sized companies. While small and very small enterprises are similar, the picture is quite different among medium-sized players in the sector, whose trucks have the following features:
 - ✓ smaller average size - indicating the combination of smaller and larger trucks that enable the provision of more cost-effective services,
 - ✓ lower age - more than half of the vehicles comply with EURO 5 & 6* standards, and
 - ✓ lower ownership rate - this increases flexibility in the event of negative economic developments.
- ❑ Although the average number of warehouses does not vary significantly across the various company sizes, the difference in surface area is plain to see with medium-sized companies' premises being threefold that of very small enterprises; evidently, the surface area influences both the range of services that can be provided and the scale of customers that can be attracted.
- ❑ This difference in flexibility led during the crisis to a restructuring of the domestic sector, with the contribution of very small enterprises declining significantly from 12 per cent in 2008 to 4 per cent in 2015 (close to the European average).

	Trucks				
	Number	Average size (in tonnes)	Average age	Owned	EURO 5/6* technology
Logistics SMEs	11	18	9	60%	36%
Very small	3	19	10	57%	29%
Small	10	19	10	64%	34%
Medium	28	13	6	45%	53%

	Warehouses		
	Number	Average area (in sq.m.)	Owned
Logistics SMEs	1,5	3.200	35%
Very small	1,3	1.458	36%
Small	1,5	3.141	37%
Medium	2,1	5.025	23%



* proxied by Nace49 (transport) and Nace 52 (handling)

Source: Eurostat, NBG estimates

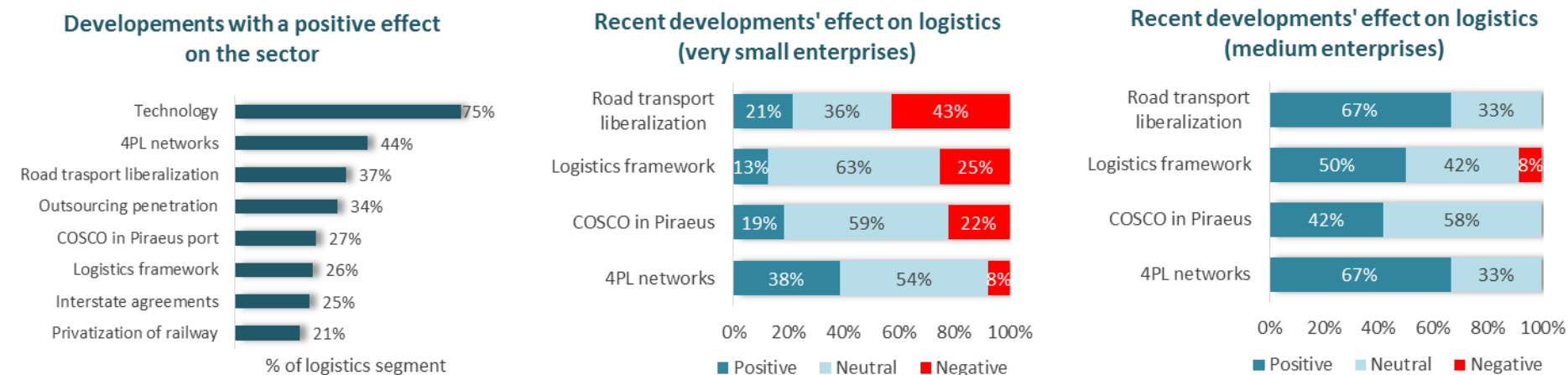
* the maximum age of EURO 5/6 vehicles is approximately 10 years.

**The classification of enterprises is made on the basis of scale of turnover. Specifically (in € millions): very small = (0-0.1), small = (0.1-5), medium = (5-10), large = (over 10).

Technology has given a boost to the sector, while legislative reforms have resulted in internal restructuring

18

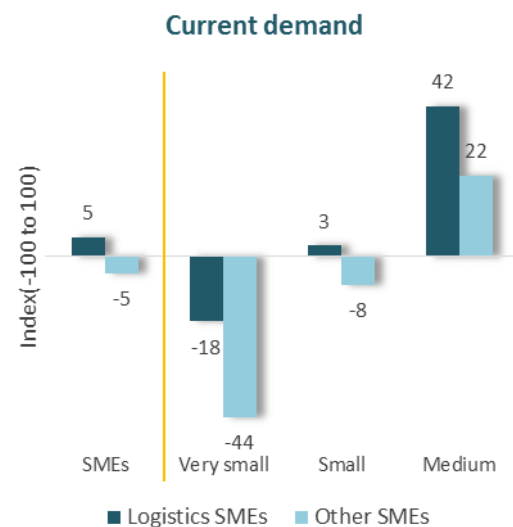
- ❑ In recent years a number of external factors have generated a positive framework for growth in the land logistics sector. Technological developments comprise the key parameter that has affected positively the vast majority of the sector (75 per cent).
- ❑ Likewise, recent legislative reforms have been generally welcomed by the sector as being for the most part positive - although the sector's perception of these reforms varies considerably depending on the size of the enterprise. Specifically:
 - ✓ Legislative reforms regarding liberalization of road transport so far have positively impacted 67 per cent of medium-sized enterprises. On the other hand, almost ½ of very small enterprises state that they have been impacted negatively (and only a small share -21 per cent- report a positive impact).
 - ✓ Likewise, the legislation on the logistics framework had a positive impact on ½ of medium-sized companies and just 13 per cent of very small enterprises (¼ of which state a negative impact).
- ❑ In addition, two external factors seem to further widen the gap between medium and very small enterprises:
 - ✓ 42 per cent of SMEs view themselves as benefiting from the COSCO investment in Piraeus, compared with just 19 per cent of very small enterprises, 22 per cent of which state that they have been damaged by the said investment.
 - ✓ 67 per cent of SMEs have benefited from participation in 4PL networks, compared with 38 per cent of very small enterprises (a small percentage -8 per cent- state that they have been damaged by the growth of 4PL networks).



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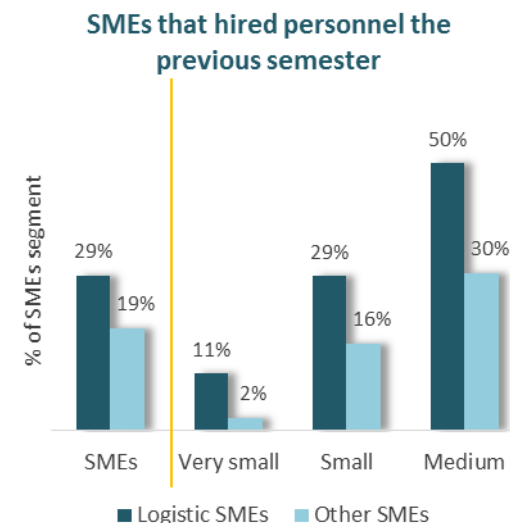
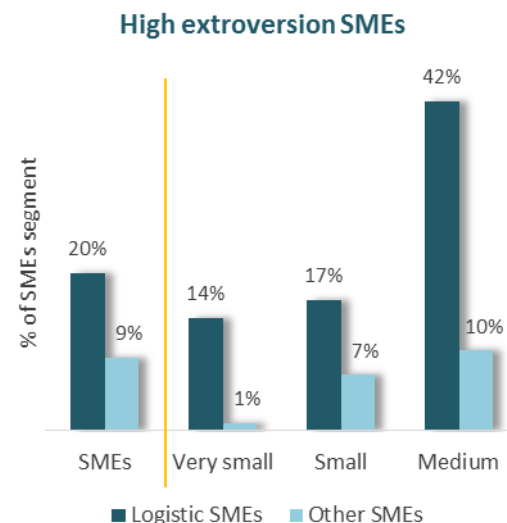
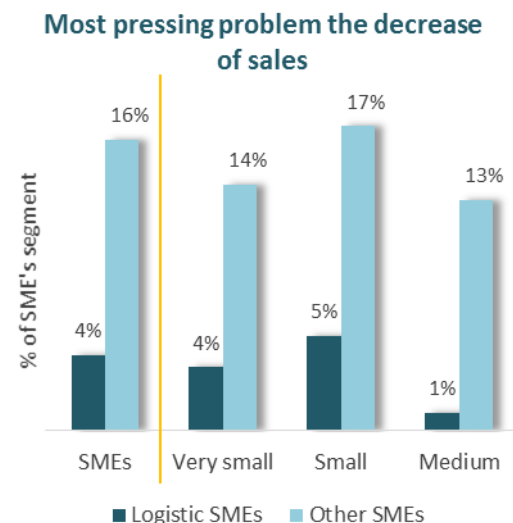
The stronger traction of reform momentum in the logistics sector is reflected in its greater resilience compared with the rest of Greek SMEs

19



□ In practically all the key indicators and among enterprises of any size, logistics companies have been outperforming other SMEs. For example:

- ✓ Overall they have a more optimistic view of the current course of demand, and accordingly only a small proportion of them suffers from a serious drop in turnover (4 per cent of logistics SMEs compared with 16 per cent of other SMEs).
- ✓ One parameter that seems to make a difference is the relatively high presence of enterprises with high export-orientation, i.e. firms that export over ½ of their turnover (20 per cent of the sector compared with 9 per cent of other SMEs).
- ✓ The above dynamic is reflected in operating ratios as well, above all increased hirings. Specifically, 29 per cent of the sector stated increased employment during the last six months (compared with 19 per cent for the other SMEs).

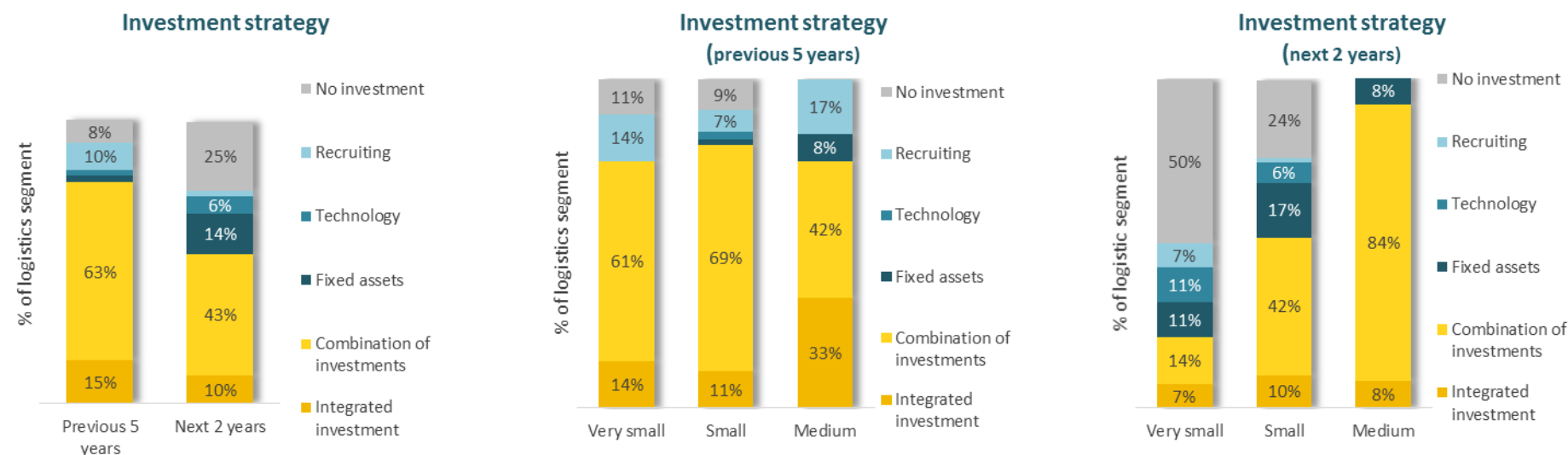


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The enterprises of the sector have continued to invest over the last five years, while in the years to come the gap between medium and smaller firms is expected to become wider

20

- ❑ The overwhelming majority of the sector (92 per cent) states that they made investments over the last five years, while 15 per cent carried out “integrated investments” (i.e. in all 3 key parameters of natural and human resources: fixed equipment, technological equipment, staff) and 63 per cent “combined investments” (i.e. in two of the above categories). As regards the future, their investment strategy remains aggressive, with ¾ of the sector stating their intention to invest in the next two years - a very high percentage.
- ❑ When we take a look at various company sizes, the differentiations are significant, as:
 - ✓ Medium-sized enterprises stand out because of their consistently high investment activity, as they all state that they will continue to invest over the next two years, opting mainly for “combined investments” (84 per cent) and “integrated investments” (8 per cent).
 - ✓ As regards small and very small enterprises, while over the past five years they tried to remain competitive (with 90 per cent of them making investments), the gap between medium and small companies – in terms of technology, infrastructure and human resources – is expected to widen over the coming years (as ½ of very small and ¼ of small companies state that they will not carry out any type of investment during the next two years).

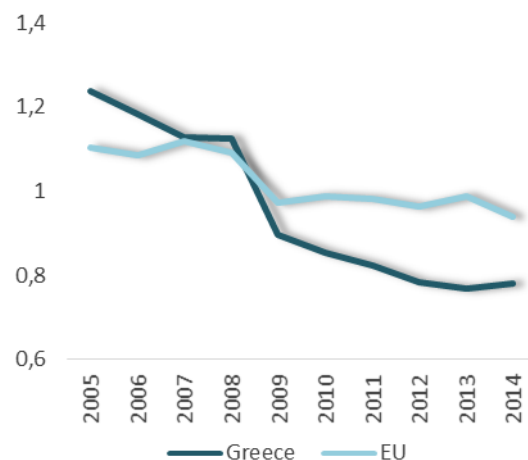


*The classification of enterprises is made on the basis of scale of turnover. Specifically (in € millions): very small = (0-0.1], small = (0.1-5], medium = (5-10], large = (over 10).

The sound strategy of the sector is reflected in its financial performance which does not lag significantly behind the European average

21

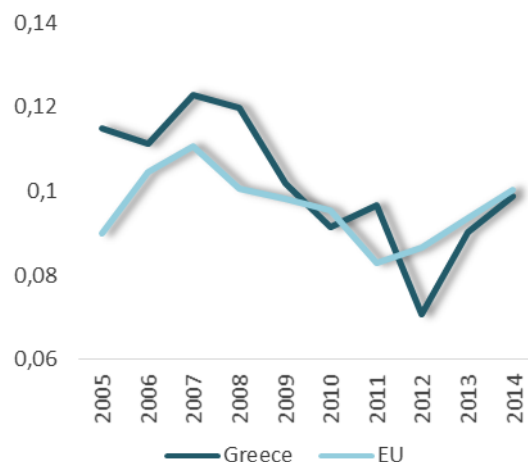
Asset turnover ratio



Sources: ICAP, BACH, NBG Estimates

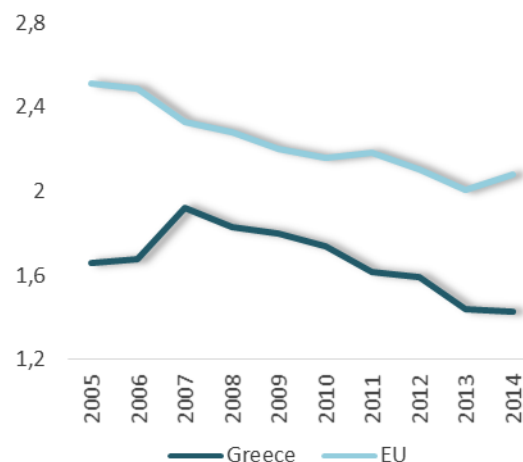
- The slowdown in sales by Greek logistics SMEs during the last seven years (-21 per cent compared with relative stability in the EU) has unsurprisingly impacted the sector's performance ratios. Thus, while until 2008 asset turnover in the sector in Greece was near the European level, the gap between Greece and Europe has widened over the past years (generating an performance deficit of 10 percentage points). However, it is notable that Greek enterprises have managed during the crisis to maintain their operating profit margin near the European level (circa 10 per cent).
- Throughout the crisis, Greek and European logistics SMEs pursued a de-leveraging strategy, supported by a rapid increase in equity (by 29 per cent in Greece and 24 per cent in the EU over the past seven years). In this light, the lower ROA of Greek enterprises was offset by reduced borrowing (with the debt-to-equity ratio at 1.4 for Greece, compared with an average of 2.1 for the EU), leading the Debt/EBITDA ratio to sound - lower than the European - levels (2.7 compared with 3.5).

Ebitda margin



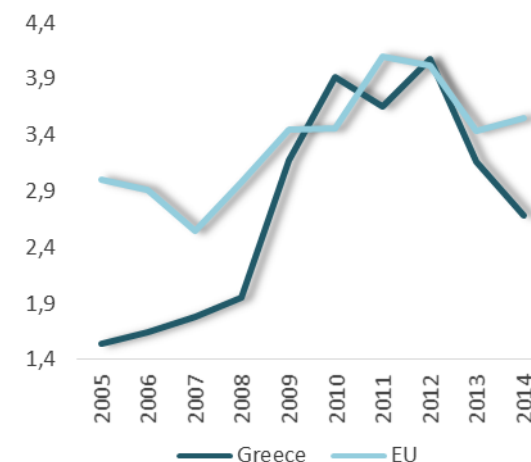
Sources: ICAP, BACH, NBG Estimates

Liabilities to equity ratio



Sources: ICAP, BACH, NBG Estimates

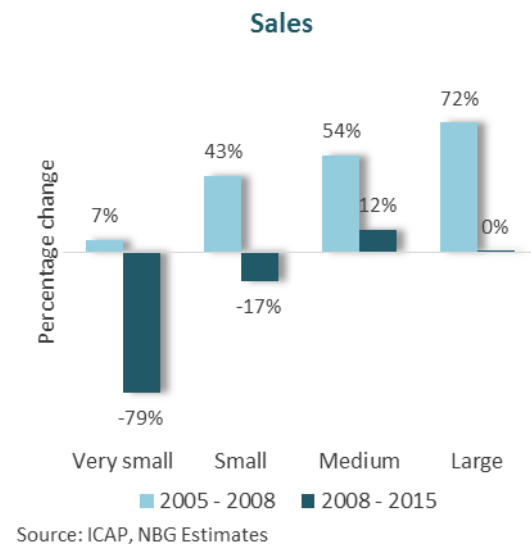
Debt to ebitda ratio



Sources: ICAP, BACH, NBG Estimates

However, the overall positive picture hides certain significant disparities, with medium-sized enterprises standing out – even compared with large ones – concerning the trend in key business indicators ...

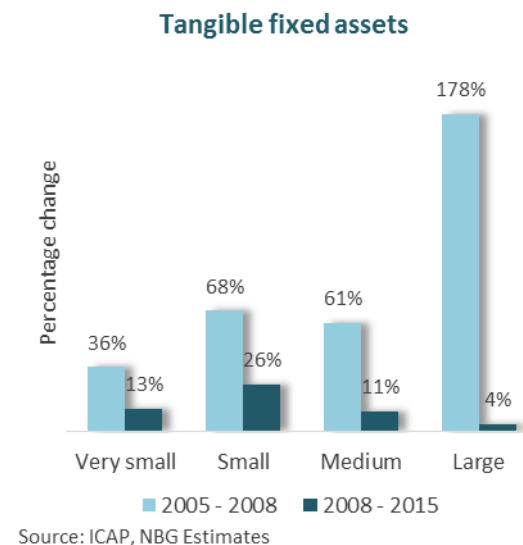
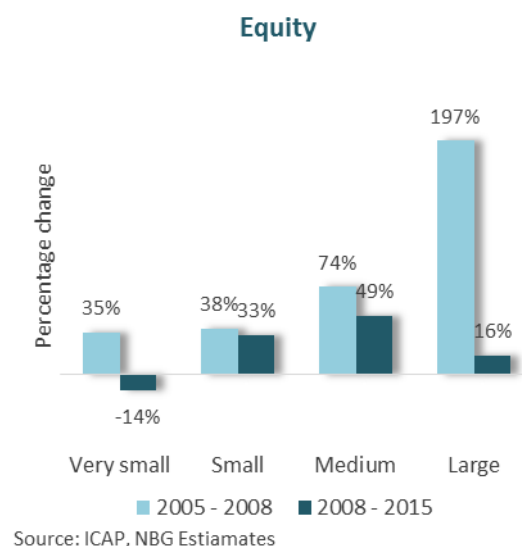
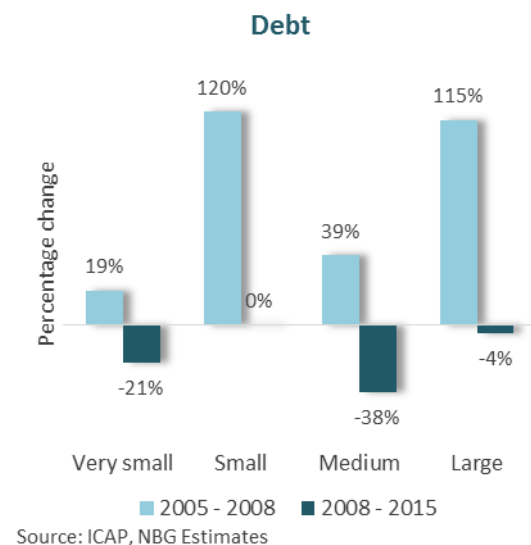
22



□ When we look at company size, medium companies stand out overall, as:

- ✓ They have managed to increase their sales during the crisis (+12 per cent compared with -79 per cent for very small , -17 per cent for small , and same level for large enterprises).
- ✓ They have gone ahead with substantial de-leveraging, reducing borrowing by 38 per cent, practically reversing the burden of the previous period, plus
- ✓ They have steadily strengthened their capital position with equity, a policy pursued - though to a smaller extent - during the crisis by the other enterprises of the sector.

□ Overall, the sector has displayed notable persistence during the last seven years in carrying out necessary investments in fixed assets, following a period of intense investment activity (2005-2008) and in the midst of adverse circumstances.

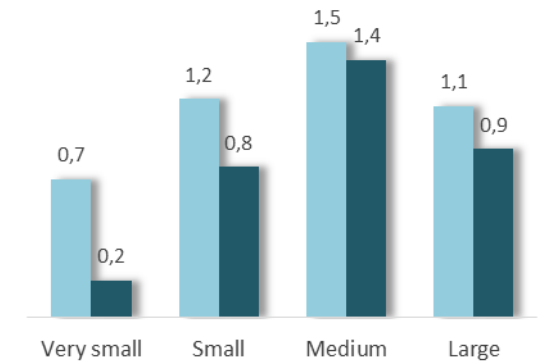


*The classification of enterprises is made on the basis of scale of turnover. Specifically (in € millions): very small = (0-0.1], small = (0.1-5], medium = (5-10], large = (over 10).

... and financial ratios

23

Asset turnover ratio

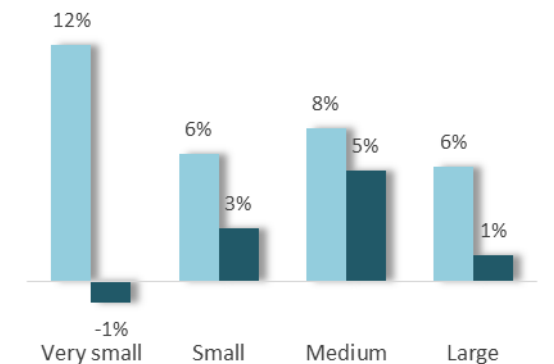


■ before economic recession* ■ after economic recession**
 *before economic recession: aver. '05 - '08,
 **after economic recession: aver. '09 - '15
 Source: ICAP, NBG Estimates

□ Medium-sized logistics companies also stand out positively in respect of key financial ratios. For example:

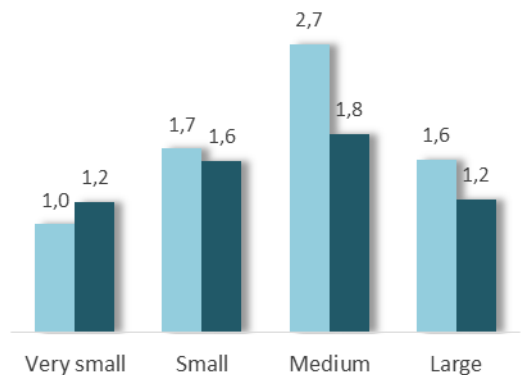
- ✓ Sustaining positive sales performance during the crisis contributed to only a marginal decline in asset turnover (1.4 from 1.5), this being the best performance in the sector.
- ✓ As a result, medium-sized companies have attained higher ROA than all other business sizes of the sector over the last seven years (5 per cent compared with -1 per cent for very small, 3 per cent for small and 1 per cent for large companies of the sector).
- ✓ Despite the fact that they are the most heavily leveraged business size of the sector, they nevertheless managed during the last seven years to reduce significantly, by almost one point, their debt-to-equity ratio (from 2.7 to 1.8). The better progress of sales and reduced borrowing had a positive impact on Debt/EBITDA, resulting in a marginal decline of the ratio (from 2.5 to 2.2), and moreover the best performance in the sector.

ROA before taxes



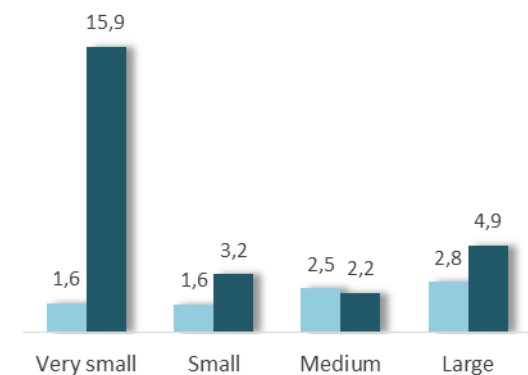
■ before economic recession* ■ after economic recession**
 *before economic recession: aver. '05 - '08,
 **after economic recession: aver. '09 - '15
 Source: ICAP, NBG Estimates

Liabilities to equity ratio



■ before economic recession* ■ after economic recession**
 *before economic recession: aver. '05 - '08,
 **after economic recession: aver. '09 - '15
 Source: ICAP, NBG Estimates

Debt to ebitda ratio



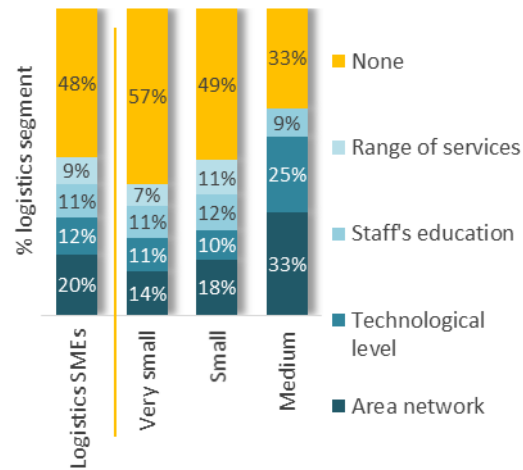
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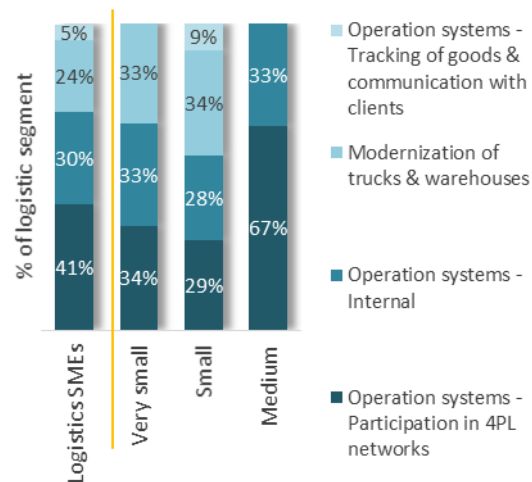
Expansion of the geographic reach of their network (and only secondarily technological upgrade) is singled out by SMEs in the sector as being of strategic importance for the future

24

Main internal growth obstacles



Main technological obstacles



- When considering their weak points, small and medium-sized land logistics SMEs singled out the following parameters as needing improvement, on the basis of the potential dynamic they could unlock:

- ✓ The geographical reach of the network of services provided is a parameter that according to most enterprises (20 per cent) could make a difference.
- ✓ Technological upgrade (internal organization systems, participation in 4PL, product tracking and tracing, customer communication etc.) is the strategic priority for 12 per cent of the sector - 25 per cent of medium-sized enterprises and almost 10 per cent of small and very small enterprises.
- ✓ Approximately 10 per cent of the sector stated as a strategic priority the enhancement of human resources (through training or hiring), while another 10 per cent stated the expansion of the range of services they provide.

Note that ½ of the sector presents a passive stance, as they deem that no change within their firm could enhance their current dynamic - with the figure standing at 57 per cent for very small enterprises and just 33 per cent for medium-sized enterprises.

- Specifically regarding technology, 41 per cent of the logistics SMEs (2/3 of medium and 1/3 of small and very small enterprises) consider it a priority to acquire systems that enable participation in wider 4PL networks. On a second level, 1/3 of the sector state that they want to invest in systems that enable better internal organization of activities, i.e. ERP (Enterprise Resource Planning) and WMS (Warehouse Management System) systems.

❑ Logistics sector: State of play

- Land freight transport services
- Land freight handling services
- Institutional framework

❑ Demand for logistics services

- Penetration of logistics in industry and commerce
- Reasons why SMEs resort to logistics services

❑ Greek logistics SMEs

- Sector identity
- Current state of play
- Strategies & outcomes

❑ Challenges & prospects

- Impact of external environment
- Future opportunities

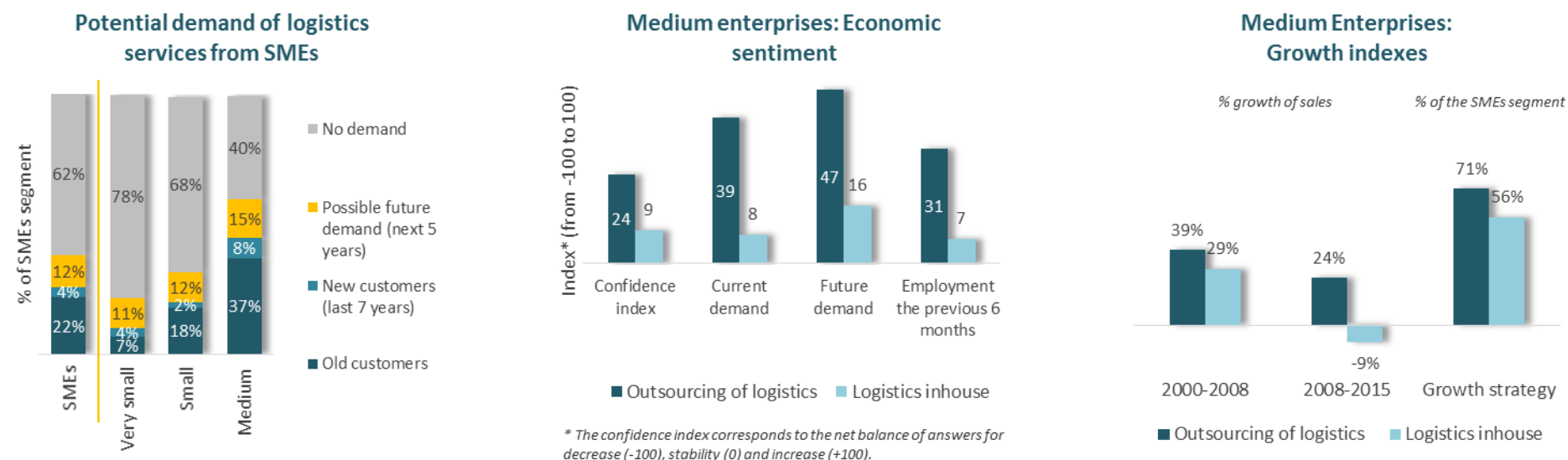
❑ Annex

- Mapping the SME sector in Greece
- Sample Description
- Constructing the business confidence Index for SMEs
- Survey ID

Significant potential of new customers for specialized logistics companies is anticipated over the next five years

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- ❑ Over 10 per cent of manufacturers and traders state their intention to assign logistics operations to specialized providers over the course of the next five years – in the case of medium-sized companies this figure reaches 15 per cent – thus creating a positive outlook for demand. In particular, depending on the intensity of demand from larger manufacturers and traders*, the demand for land freight handling services is expected to rise by 30 per cent-40 per cent over the next five years.
- ❑ This growth in demand could potentially offer profits for both sides: i) on the one hand, sales growth of about 30-40 per cent in the logistics sector over the next five years, and ii) on the other hand, enhanced profitability for the customer-enterprises that have chosen to outsource their logistics services. The data collected from our survey questionnaire supports this outlook. Specifically, when we look at medium sized enterprises (which are divided equally into enterprises that outsource their logistics operations and enterprises that carry them out in-house), we conclude that the outsourcing of logistics operations to specialized companies is linked with better performance in a number of competitiveness indicators:
 - ✓ Higher confidence index (24 compared with 9 units), which results from the similarly better assessment of current and future demand and has at the same time positive impact on employment.
 - ✓ Faster growth both in the booming period 2008-2008 and during the crisis 2008-2015, while at the same time they remain more optimistic for the future with 71 per cent stating a growth target compared with 56 per cent for enterprises with in-house logistics operations.

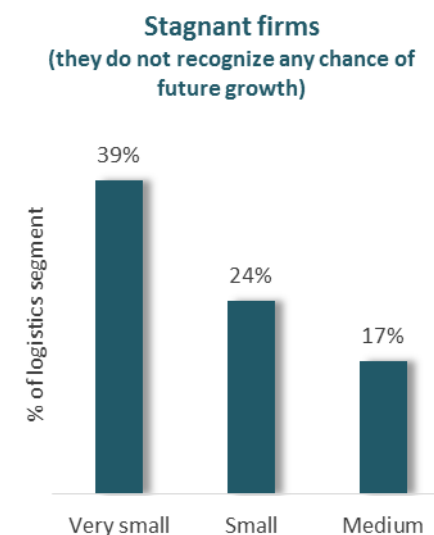
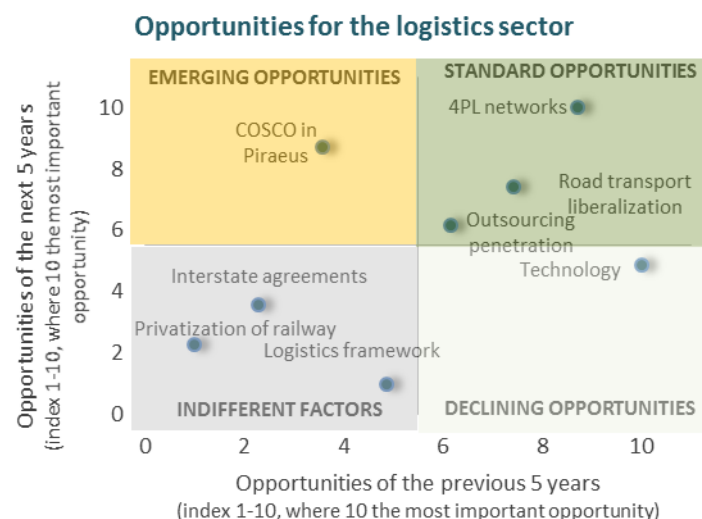


*The demand for land freight handling services by large enterprises is expected to range between the minimum of 10 per cent and the 40 per cent increase of medium enterprises.

Following the boost given by the technological developments of the past, the participation in 4PL networks and the enhanced presence of Cosco in Piraeus are expected to provide new stimulus to the sector in future...

27

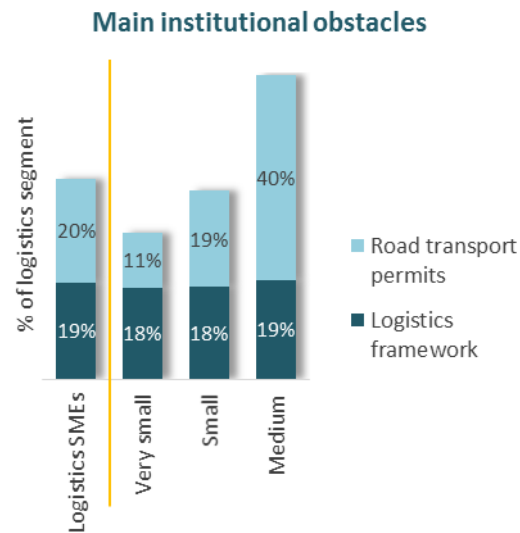
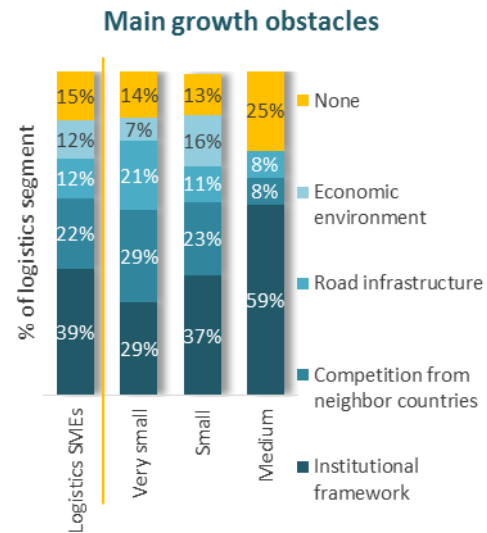
- ❑ As for the next five years, the factors that will provide further stimulus differ significantly from the ones that drove the growth over the last years. Specifically, even though technological developments lose their momentum as a driving force, the enhanced presence of COSCO at the port of Piraeus and its expansion in logistics operations reveal an emerging opportunity (mainly with regard to the Thriasio project).
- ❑ At the same time, the participation in wider 4PL networks remains among the most important factors that may stimulate logistics enterprises.
- ❑ It is notable that despite the positive impact that SMEs declare to have experienced up to date by the liberalization efforts of road transport, a substantial percentage of SMEs believe that further legislative actions are required to achieve full liberalization of the market. Specifically, 11 per cent of SMEs classifies this as the most important opportunity for future growth.
- ❑ Last, note that some SMEs – up to 26 per cent – do not anticipate any dynamic growth in future. Given that these “stagnant” SMEs reach account for about 40 per cent of the segment in the case of very small enterprises and just 17 per cent in the case of medium sized enterprises, the gap between the two sizes is expected to widen over the next years.



*The classification of enterprises is made on the basis of scale of turnover. Specifically (in € millions): very small = (0-0.1], small = (0.1-5], medium = (5-10], large = (over 10).

... whereas further liberalization of road transport may introduce a new dynamic, especially for medium logistics SMEs

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- The significance of a restructured institutional framework (standing out as a great chance for SMEs, as shown in the previous slide) is confirmed by the fact that the institutional framework is considered the greatest obstacle to SMEs growth, as it outweighs (i) the competition from neighbouring countries and (ii) infrastructure. Specifically, 40 per cent of logistics SMEs state that - despite the positive legislative measures taken in the last years - the institutional framework governing the operations of the sector continues to act as a brake - while this percentage rises to 59 per cent in the case of medium-sized logistics providers.
- Focusing in the special features of the institutional framework, we observe that the legislation on the supply chain is considered the greatest obstacle for nearly 18 per cent-19 per cent of all SME sizes - with special emphasis on speeding-up licensing procedures, simplifying the framework on the land use and supporting actions to enhance synergies and extroversion.
- With regard to the institutional framework on road transport, it seems to hinder medium enterprises to a larger extent, since 40 per cent of them name it the greatest obstacle in their growth (compared with just 11 per cent of very small enterprises). A key demand is the simplification and clarification of the institutional framework, which needs to be uniform for all licenses (old and new) held by road transport providers. It is also important that lawmakers avoid enacting additional legal provisions so as to foster a stable investment climate, while effective supervision of the sector is a prerequisite for ensuring competition. While the latest legislation tends to focus on new licenses applying to new trucks (in theory this is a step in the right direction), in practice, in the current recessionary environment, it tends to create an obstacle that is hard to surpass, given the existing situation of a surplus fleet comprised primarily of old trucks. The necessary modernization of the fleet could be carried out through participation in EU funding programs focusing on (i) provision of incentives to logistics providers to modernize their truck fleets, and (ii) provision of incentives to manufacturing and trade enterprises to withdraw their old vehicles. In addition, the connection of road tolls and fees to the age of the vehicles could support the creation of a more effective and less polluting fleet.

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❑ Greek logistics SMEs

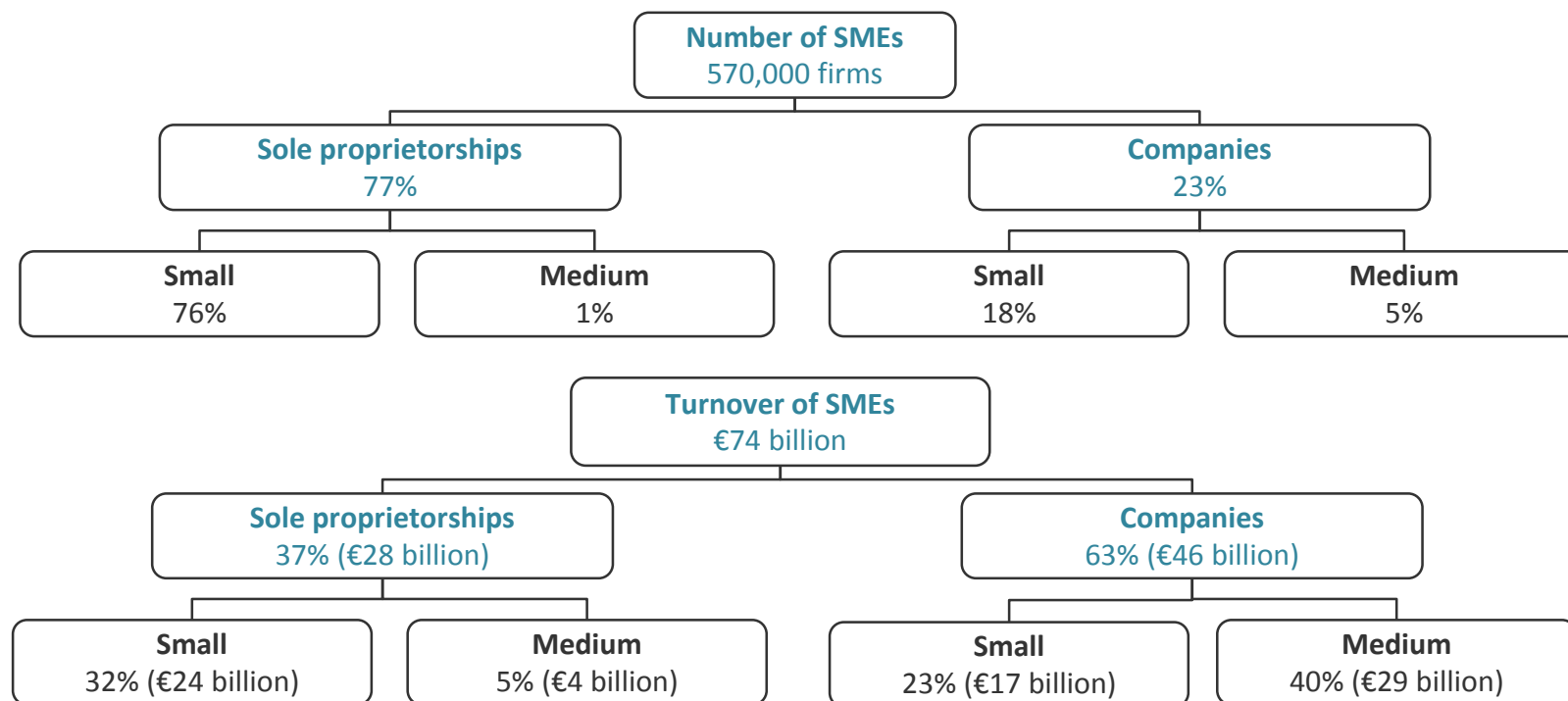
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** For the purposes of the survey, **small** enterprises are those reporting turnover of less than €1 million and **medium-sized** enterprises are those reporting turnover of between €1 million and €10 million.*

Source: SBA Factsheet 2015, Eurostat, EL.STAT Company Register, NBG Estimates

- ❑ The circa 570,000 SMEs in Greece generate turnover of around €74 billion.
- ❑ 4/5 of SMEs are sole proprietorships, which account for a corresponding share of the total domestic business sector (compared with just ½ of the business sector in Europe).
- ❑ Although sole proprietorships comprise the majority of SMEs, the greater share of turnover (over 60%) is generated by companies of various legal status (SA, limited partnership, limited liability, etc.).

Sample Structure* (number of companies)						Greek SMEs Segment Structure* (based on turnover)					
Turnover (in millions €)	Manufacturing	Services	Trade	Construction	Total SMEs	Turnover (in millions €)	Manufacturing	Services	Trade	Construction	Total SMEs
1: (0 - 0,1]	45	73	45	30	193	1: (0 - 0,1]	1%	5%	2%	1%	9%
2: (0.1 - 0,5]	45	73	45	30	193	2: (0.1 - 0,5]	3%	6%	12%	1%	22%
3: (0.5 - 1]	45	74	45	30	194	3: (0.5 - 1]	2%	3%	9%	1%	15%
4: (1 - 2,5]	45	74	45	30	194	4: (1 - 2,5]	3%	3%	11%	1%	18%
5: (2,5 - 5]	45	73	45	30	193	5: (2,5 - 5]	4%	4%	8%	1%	17%
6: (5 - 10]	45	73	45	30	193	6: (5 - 10]	4%	4%	9%	2%	19%
Total SMEs	270	440	270	180	1160	Total SMEs	17%	25%	51%	7%	100%

* Depending on data availability, there is possible deviation of 10%

* Weighted average of the past decade

Source: EL.STAT. Company Register (2007), ICAP Data, Eurostat, NBG Estimates

- Our survey examines a sample of enterprises with a turnover of below €10 million, which, for the purposes of the analysis, we define as small and medium-size enterprises (SMEs).
- Enterprises were selected using a stratified sampling method, in line with the standards of similar surveys carried out by international organizations. Specifically, a total of 1,164 enterprises were selected in such a way as to enable even distribution of the sample on the basis of two key factors: scale of turnover (6 scales) and sector of activity (Manufacturing, Trade, Services, Construction).
- In order to draw conclusions that are representative of the SME segment, answers were weighted according to the participation of each sub-set in the total turnover of the segment. Thus, findings were arranged (i) by size, (ii) by sector, and (iii) for the entire SME business sector. In line with the methodology, the segments are weighted on the basis of their shares in total turnover and not the number of enterprises.

- ❑ In order to construct a confidence index for SMEs, we included a number of basic questions regarding the level of business activity in the previous and in the coming half year. The model for the questions is based on the harmonized questionnaire recommended by the OECD and the European Commission, thereby enhancing the comparability of the index.
- ❑ The Index questions offer 3 alternative answers: increase (+), no change (=), decrease (-), or above normal (+), normal (=), below normal (-). To begin with, we convert the number of answers per category (+,=,-) to percentages and then we calculate the net result by subtracting the (-) from the (+) percentage. Last, the confidence index for each sector is the average of the net results for the following questions:
 - ✓ For **manufacturing**: The level of orders, inventories, and future production trend.
 - ✓ For **services**: The business situation of the firm in the previous half year, past and future demand trend.
 - ✓ For **trade**: Level of inventories, past and future demand.
 - ✓ For **construction**: Level of backlog, and future employment trend.
- ❑ For the SME sector, the business confidence index has been estimated as a weighted average of its subsectors (the weights being the shares of the sectors' turnover in the economy).
- ❑ By carrying out the survey on a regular 6-month basis we should be able to form a picture of SMEs' course over time, as reflected in the index. To draw reliable conclusions, comparison will be made between the current index level and its long-term average (so as to correct possible over-optimism or over-pessimism bias).
- ❑ The evolution of the confidence index (and any other reviews over the course of time) does not take into account the closing of companies, just the developments regarding enterprises operating during the period this survey is carried out.

- ❑ Company: TNS
- ❑ Methodology: Quantitative research in the form of Computer Aided Telephone Interviewing - C.A.T.I., using a 20-minute structured questionnaire.
- ❑ Sample: A total of 1160 interviews were conducted (960 within the context of the current assessment plus 200 booster interviews with SME logistic firms):
 - ✓ 480 enterprises with annual turnover up to EUR 1 million (freelancers, sole proprietorships, unlimited partnerships, limited partnerships, limited liability companies, SAs) - 100 of which are vehicle logistics companies
 - ✓ 480 enterprises with annual turnover between EUR 1 million and 10 million (unlimited partnerships, limited partnerships, SAs, limited liability companies) - 100 of which are vehicle logistics companies
- ❑ Geographical coverage:
 - ✓ Athens, Thessaloniki, Heraklion, Ioannina, Kavala, Larissa, Patras
- ❑ Sampling: multi-stage, stratified, non-proportional sampling for sector, turnover size & geographical area in each of the two sets of samples. Quotas relating to turnover and for the booster sample.
- ❑ Statistical error: in each of the two sets of samples of 480 enterprises the maximum statistical error is estimated at +/- 4.15% at a 95% confidence level.
- ❑ Period of survey: 03/10/2016 - 03/11/2016
- ❑ Survey framework: The survey was carried out in line with ESOMAR and SEDEA (Association of Greek Market and Opinion Research Companies) codes of conduct and the quality control requirements set by PESS (Quality Control in Data Collection). A total of 39 researchers and 2 reviewers with experience and know-how in business surveys participated in the field research.



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Survey of Greek SMEs

Land Logistics sector

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