**Scientific Journal of Silesian University of Technology. Series Transport**
Zeszyty Naukowe Politechniki Śląskiej. Seria Transport

**Volume 127** **2025**

p-ISSN: 0209-3324

e-ISSN: 2450-1549

DOI: https://doi.org/10.20858/sjsutst.2025.127.13

Journal homepage: http://sjsutst.polsl.pl

**Article citation information:**
Olejniczak, K., Dębicka, A. The impact of the EU mobility package on SMES in the Polish road transport sector: an empirical analysis. *Scientific Journal of Silesian University of Technology. Series Transport*. 2025, **127**, 223-236. ISSN: 0209-3324.
DOI: https://doi.org/10.20858/sjsutst.2025.127.13

**Karolina OLEJNICZAK[1], Anna DĘBICKA[2]**

# THE IMPACT OF THE EU MOBILITY PACKAGE ON SMES IN THE POLISH ROAD TRANSPORT SECTOR: AN EMPIRICAL ANALYSIS

**Summary.** In the European Union (EU), the issues of the development of transport infrastructure, forwarding, and logistics services, as well as regulations regarding the rules of functioning on the market, are included in the common transport and logistics policy. Despite many actions taken, transport policy so far has not been rigorous enough to meet the targets needed to combat climate change and the sustainable development goals set. One such measure in the transport sector is the 'Mobility Package', which aims to regulate international road transport services provided in the EU market by EU-based carriers. This includes, among other things, improving working conditions for professional drivers and reducing the risk of unfair competition. The paper addresses the following research questions: what are the main assumptions of EU transport policy, what are the characteristics of road transport enterprises in Poland, and how do SMEs in Poland evaluate the changes resulting from the Mobility Package. To achieve our goals, we first rely on open-access data from various sources, and then we use the snowball sampling survey. We indicate the main assumptions of the EU transport policy, e.g., intensification of regulation of the common transport market at

[1] Faculty of Engineering Management, Poznan University of Technology, 2 J. Rychlewski street, 60-965 Poznan, Poland. Email: karolina.olejniczak@put.poznan.pl. ORCID: https://orcid.org/0000-0003-3563-8015
[2] Faculty of Engineering Management, Poznan University of Technology, 2 J. Rychlewski street, 60-965 Poznan, Poland. Email: anna.debicka@put.poznan.pl. ORCID: https://orcid.org/0000-0001-9885-0799

the level of EU authorities and integration of transport organizations with sustainable development rules, and then identify the main characteristics of Polish road transport enterprises. Our research results also show that the impact of the mobility package on the operations of Polish road transport companies depends significantly on the size of the company. The assessment of the impact of the mobility package may depend on whether or not enterprises have a development strategy. The consequences of implementing the package are not mentioned as the main challenge for businesses.

**Keywords:** mobility package, EU transport policy, sustainable development, climate change goals, transport enterprises, business operation

## 1. INTRODUCTION

The continuous growth of world trade requires actions in the area of sustainable development of logistics, which should assume not only economic and social benefits but also minimize negative environmental effects. Logistics services provide sectoral connections within the local economy and connect the national and international economies [17]. Activities related to these processes should comply with the legal requirements applicable in a given economic area. In the European Union (EU), the issues of the development of transport infrastructure, forwarding, and logistics services, as well as regulations regarding the rules of functioning on the market, are included in the common transport and logistics policy. The European Union, like other supranational organizations, has set ambitious plans to achieve the Sustainable Development and Climate Change Goals. Implementing these plans will require changes in all sectors of the economy and at different levels of government [30].

Transport is one of the key sectors of the economy of the EU. However, achieving the goal of climate neutrality by 2050 requires a reduction of emissions from it by 90% [9]. In addition, the EU has established in the European Green Deal [15] and other recent documents to achieve climate neutrality by 2050, also an intermediate target of reducing greenhouse gas (GHG) emissions by 55% by 2030 compared to 1990 [37].

However, despite many actions taken, transport policy so far has not been rigorous enough to meet the targets needed to combat climate change and the sustainable development goals set. This lack of rigor was particularly true for road transport, where greenhouse gas emissions continue to rise [2]. Land transport is dominated by cars with combustion engines, which means a widespread dependence on coal [21]. Radical or so-called "destructive" political measures designed to overthrow existing structures, practices, behaviors, and cultural models become necessary [35].

One such measure in the transport sector is the 'Mobility Package' [11], which aims to regulate international road transport services provided in the EU market by EU-based carriers. This includes, among other things, improving working conditions for professional drivers and reducing the risk of unfair competition.

The purpose of this study is to present assumptions of the European contemporary transport policy, to collect the characteristics of road transport enterprises in Poland against the background of selected UE countries, and then to capture the perception of the impact of the mobility package on the business operation of road transport SMEs in Poland. To achieve these goals, we first rely on open-access data from various sources, and then we use the snowball sampling method. The paper addresses the following research questions: (1) what are the main assumptions of EU transport policy; (2) what are the characteristics of road transport enterprises in Poland; (3) and how SMEs in Poland evaluate the changes resulting from the mobility package. The paper is structured as follows: section 2 provides an overview of the research process and data collection, and section 3 refers to desk research results and snowball sampling findings. Finally, we discuss our achievements.

## 2. OVERVIEW OF THE RESEARCH PROCESS

To achieve our goals, we use several methods. In Table 1, we present the data collection process, including data types, sample, and research subjects.

Tab. 1

Overview of data collection

| Data types | Research subject |
|---|---|
| **Secondary data**<br>GUS, Eurostat,<br>Business institutions<br>Public institutions | analysis of EU transport policy assumptions<br>analysis of enterprises' characteristics |
| **Primary data**<br>Own qualitative research:<br>the survey among entrepreneurs from the transport sector | evaluation of the Mobile Package by enterprises (n=94) |

In the first step to collect the assumptions of EU transport policy and characteristics of enterprises, we used the research material consisting of statistical data from the Central Statistical Office in Poland and Eurostat, as well as documents and industry reports of the European Commission. Further, we used elaborations of employee's associations, literature reviews, industry rankings, and reports of businesses and public institutions.

A snowball sampling method was employed to gather data in order to ascertain how the mobility package affects business operations. The survey focused on transport entrepreneurs in the SME sector (Tab.2).

Tab. 2

Size of surveyed companies

| Characteristics | | Number of Firms |
|---|---|---|
| Number of Employees | <10 | 29 |
| | 10-49 | 47 |
| | 50-249 | 18 |
| **Total** | | 94 |

According to Naderifal et al. [25], snowball sampling is a method used particularly when access to a well-defined group of people is required and relevant to the research. In snowball sampling, a small number of people with a particular set of characteristics seek out and recruit other people with similar characteristics to take part in the study. This is done through their network of contacts in the business community. This method has many advantages, such as enabling access to individuals with similar characteristics and utilizing pre-existing networks for additional credibility in the results [39]. The study focused on a group of small and medium-sized enterprises (SMEs) in the transport sector. Thanks to this method, the survey was completed by entrepreneurs or owners with the most comprehensive understanding of the researched area.

## 3. EUROPEAN TRANSPORT POLICY AND THE ROLE OF THE POLISH ROAD TRANSPORT SECTOR IN SUSTAINABLE DEVELOPMENT

The evolution of European transport policy is deeply linked to the principles of sustainable development, to create a competitive, unified, and resource-efficient transport area. This policy framework is essential to address the complex challenges of sustainability, including reliability and the need for a cultural shift towards greener practices. The Polish Road transport sector contributes significantly to both the national economy and the wider EU market. This sector, consisting mainly of micro-enterprises, demonstrates Poland's dominant role in international transport, supported by the liberalization of transport services in the EU. This section presents the assumptions of transport policies in the EU and the key role of Polish road transport in the European context.

### 3.1. Assumptions of EU transport policy

The need to integrate transport with the assumptions of sustainable development and the necessity to create a coherent strategy going beyond the EU was equally important from the perspective of creating a European transport policy. Sustainability challenges are complex and can be considered in terms of cost, reliability, warehousing, as well as mindset, cultural change, and uncertainty [1, 27, 28, 29, 31]. Table 3 summarizes selected documents characterizing the guidelines and changes in the European transport policy in the last two decades.

Tab. 3

The EU transport policy documents

| |
|---|
| An EU Strategy for Sustainable Development 2001 1 |
| Review of the EU Sustainable Development Strategy 2006 |
| Freight Transport Logistics Action Plan 2007 |
| The EU's Freight Transport Agenda 2007 |
| Green Paper: Towards a new culture for urban mobility 2007 |
| Community strategy to reduce $CO_2$ emissions from passenger cars and light vehicles 2007 |
| A sustainable future for transport – Towards an integrated, technology-led and user-friendly system 2009 |
| Action Plan on Urban Mobility 2009 |
| White Paper: Roadmap to a Single European Transport Area 2011 |

| |
|---|
| A call to action on urban logistics 2013 |
| Sustainable Urban Mobility Planning Annex 2013 |
| Together towards competitive and resource-efficient urban mobility 2013 |
| A European strategy for low-emission mobility 2016 |
| A European strategy for low-emission mobility Annex 2016 |
| European Green Deal 2019 |
| Sustainable and Smart Mobility Strategy 2020 including Mobility Package |
| The New EU Urban Mobility Framework 2021 |

Source: own elaboration based on [14]

The main objective of the European logistics policy is to create a competitive, unified, and resource-efficient transport area and independence from oil imports, as well as to reduce carbon dioxide emissions significantly. Specific objectives include the reduction and, consequently, elimination of cars running on conventional fuels, increasing the share of low-emission fuels in aviation, shifting a significant part of road freight transport over distances of up to 300 km to other modes (rail and inland waterways), completing the European high-speed rail network and connecting it to all airports, strengthening the traffic management infrastructure, achieving almost zero road fatalities, and ensuring the financing of future transport investments [7]. Additionally, in response to the effects of the COVID-19 pandemic on transport and logistics, the EC Strategy for Sustainable and Smart Mobility [10] assumes creating a transport system that will be more resilient to possible future crises.

Under the major EU logistics policies, the so-called Mobility Package [11] stands out. Its main objective is the regulation of international road transport services provided on the EU market by carriers established in Community countries, including the improvement of working conditions for professional drivers and the reduction of the risk of unfair competition. The package also includes provisions regulating the rules for posting drivers, reducing cabotage, replacing recording equipment with 2nd generation smart tachographs, and enforcing requirements. Posting rules apply to cabotage (transport between two or more places of loading and/or unloading in one country by a hauler from another country) and to international transport operations. The exceptions to the package are international transit and bilateral operations. So far, such extensive changes have never been implemented, and they have introduced an entirely new way of organizing the transport market [32]. The implementation of the provisions of the package is planned in stages in the years 2020-2025. Due to their effects, the provisions of the mobility package may have clear consequences for the business operation of enterprises, in particular, small and medium-sized enterprises, due to their limited resources.

Further results build insight into the characteristics of Polish road transport enterprises compared to other EU countries.

### 3.2 Characteristics of Polish road transport enterprises

Road transport of goods is one of the three most significant sectors of the Polish economy, next to the wholesale and retail trade. The direct share of the transport and storage sector in the Polish GDP is about 6 percent. Transport is also crucial for the functioning of European companies and global supply chains; it contributes to the generation of around 5% of GDP and employs about 10 million people in the EU [12].

Polish companies play an increasingly important role in the EU. This is confirmed by the growing dominance of Polish carriers in European countries. A significant increase could be observed, among others, in the transport of goods transported by the roads of Germany and France – in 2008, Polish carriers transported 8 percent. goods, and in 2020 - already a quarter. Polish carriers also carry over 20% of goods in road transport from Germany to Italy, the Czech Republic, and Great Britain [36].

It is worth noting that in Poland, the majority of companies providing transport and warehouse management services employ up to 9 employees. According to the data of the Central Statistical Office [20], in 2020, out of 281,724 registered enterprises in this industry, almost 98 percent were micro-enterprises. Small (1.72%), medium (0.26%), and large (0.07%) enterprises constitute a definitely smaller percentage of enterprises operating in this sector. These data confirm the specificity of the transport market in Poland indicated in the literature, including [22, 23]: fragmentation (large number of micro-enterprises), liberalism in access to the carrier profession, high sensitivity to the impact of the EU environment.

Liberalization of access to the EU transport services market is one of the effects, apart from the growing trade turnover and high price competitiveness of Polish enterprises, which contribute to Poland's dominant position in EU road transport. In 2018, Poland had the highest share in EU international transport (29.5%). The share of international transport in transport performance in Poland increased from 61.5% in 2014 to 63.7% in 2018 and is much higher than the EU-28 average (Fig. 1). Looking at the breakdown of cross-trade between different Member States in the period 2014-2018, it should be noted that Poland was the leading cross-trade carrier, and its share in 2018 was 32.9% of all cross-trade transport in the EU, followed by Lithuania and Romania (14.0% and 11.5% respectively). All other Member States had shares below 10% [16].

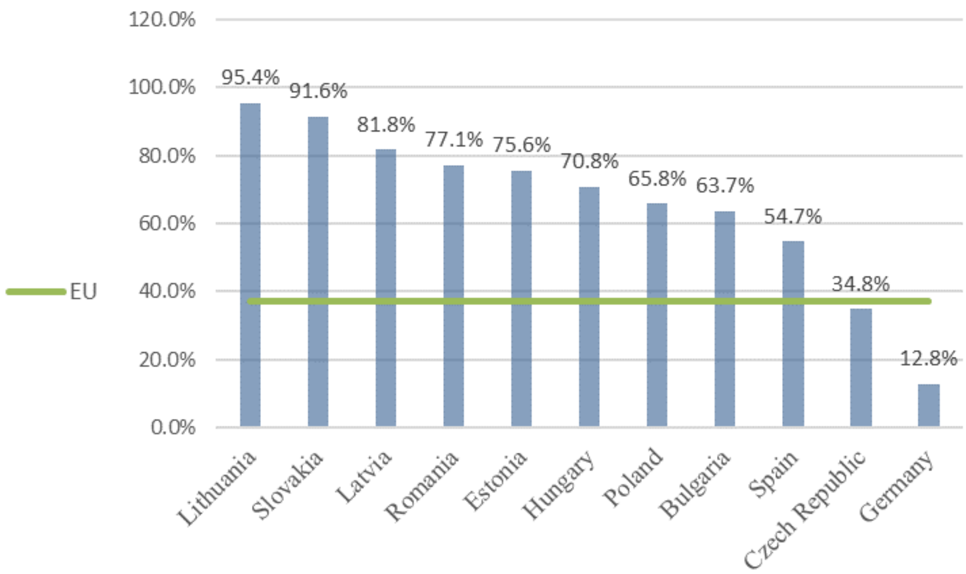


Fig. 1. Share of international transport in the transport performance of selected countries
Source: own elaboration based on Breemersch T. [6]

Referring to the dimensions of the implementation of the European logistics policy described in part 2, it is worth noting that mainly Eastern European countries have a much higher than average share of employees in land transport (Table 4), which may make them more susceptible to policy changes affecting land transport workers [6].

Tab. 4

The importance of the road transport industry of selected countries

| Country | GDP [%] | Population [%] | Carriage tkm [%] | Road transport workers [%] |
|---|---|---|---|---|
| EU-28 | 100.00% | 100.00% | 100.00% | 100.00% |
| Germany | 21.30% | 16.30% | 16.70% | 8.80% |
| **Poland** | **3.00%** | **7.70%** | **16.60%** | **11.20%** |
| Spain | 7.60% | 9.30% | 11.40% | 9.60% |
| France | 14.90% | 12.60% | 8.80% | 13.30% |
| United Kingdom | 15.20% | 12.80% | 8.40% | 11.60% |
| Italy | 11.20% | 11.70% | 5.90% | 9.10% |
| Romania | 1.20% | 3.90% | 3.10% | 6.90% |
| Czech Republic | 1.20% | 2.10% | 2.60% | 3.40% |
| Lithuania | 0.30% | 0.60% | 2.30% | 1.10% |
| Hungary | 0.80% | 2.00% | 2.00% | 2.90% |
| Bulgaria | 0.30% | 1.40% | 1.90% | 2.40% |
| Slovakia | 0.60% | 1.10% | 1.90% | 1.90% |
| Belgium | 2.90% | 2.20% | 1.70% | 2.10% |
| Portugal | 1.30% | 2.00% | 1.70% | 1.80% |
| Greece | 1.20% | 2.10% | 1.50% | 1.50% |
| Austria | 2.40% | 1.80% | 1.40% | 1.60% |
| Slovenia | 0.30% | 0.40% | 1.20% | 0.60% |
| Latvia | 0.20% | 0.40% | 0.80% | 0.70% |
| Croatia | 0.30% | 0.80% | 0.70% | 0.80% |
| Estonia | 0.20% | 0.30% | 0.30% | 0.40% |

Source: own study based on Breemersch T. [6]

Although the market of transport and forwarding services in terms of revenue is dominated by large enterprises [38], due to the growing demand for various logistics services, their standardization, and the specificity of the SME sector (e.g., flexibility of operation), they successfully compete on the European market with larger entities. As indicated by the TSL ranking [24], the revenues of listed companies in 2019 increased by 8.8% y/y, and the companies whose revenues were below PLN 1 billion increased their turnover the fastest.

## 4. RESULTS AND FINDINGS

The assessment of the impact of the mobility package on the operation of the business differed between the entrepreneurs surveyed. A positive effect was noticed mainly by medium-sized enterprises (56%). Only 11% of enterprises of this size pointed to the package's negative impact. On the other hand, micro and small enterprises were either unable to assess the impact of the mobility package (approximately 40%) or pointed to its negative and neutral nature

(Fig. 2). Among micro-enterprises, no response indicated a positive impact of the package on business.

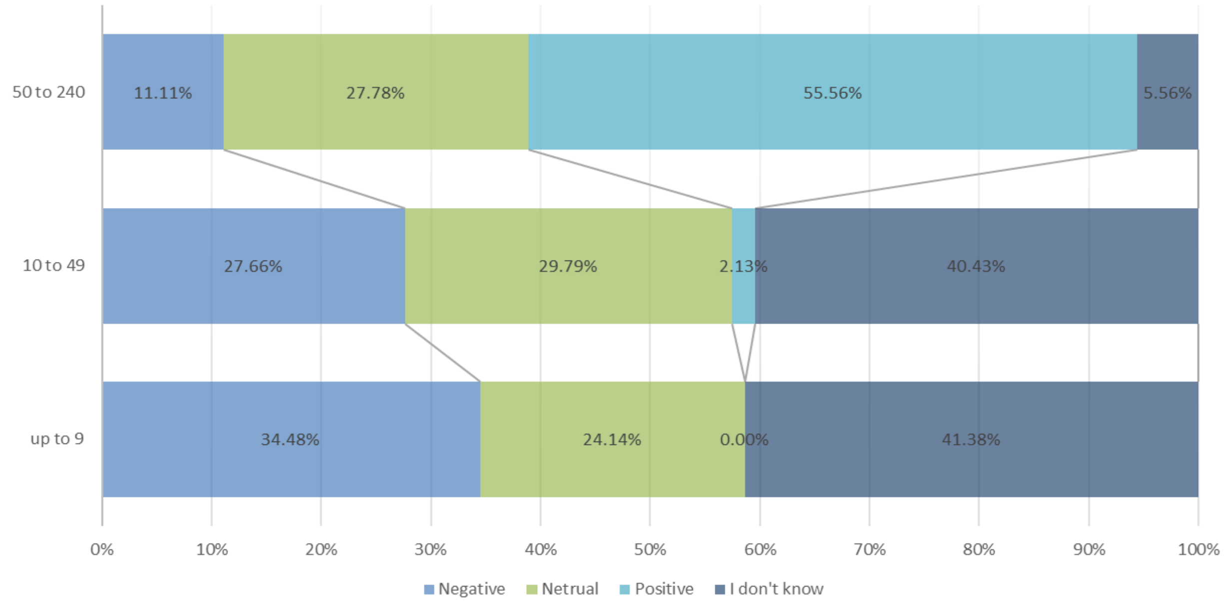


Fig. 2. Impact of the mobility package on business activity by size of enterprise [n=94]

Moreover, it is worth noting that companies without a formal strategy more frequently reported negative effects of the mobility package on their businesses (31%). On the other hand, over half (53.3%) of companies with a formal business strategy reported that the package had a positive impact. Furthermore, companies with a business strategy demonstrated better comprehension of the effects of implementing the mobility package. Conversely, more doubts about the impact of the package on their business appeared among companies that did not have a strategy (52,4%) or operated with an informal strategy (27%).

Among the most important consequences of the implementation of the mobility package (Fig. 3), entrepreneurs indicated an increase in the cost of employee wages (57.44%), more administrative duties (53.2%), restricted access to the international transport market (41.49%), and difficulties in being technologically equal to foreign competitors (34.04%).

According to the companies surveyed, the mobility package is not a key challenge for the transport industry (Fig. 4) in the next few years (indicated only by 19.1% of respondents). Entrepreneurs were more concerned about 1) high financial penalties during roadside checks (51.1%), 2) lack of employees with appropriate qualifications (48.9%), and 3) the economic slowdown in the European Union (42.6%). Among the challenges for the industry in which entrepreneurs operated, competition from the East (35.1%) and domestic competition (23.4%) were often indicated. Entrepreneurs were also concerned about challenges regarding the understanding of Polish law.

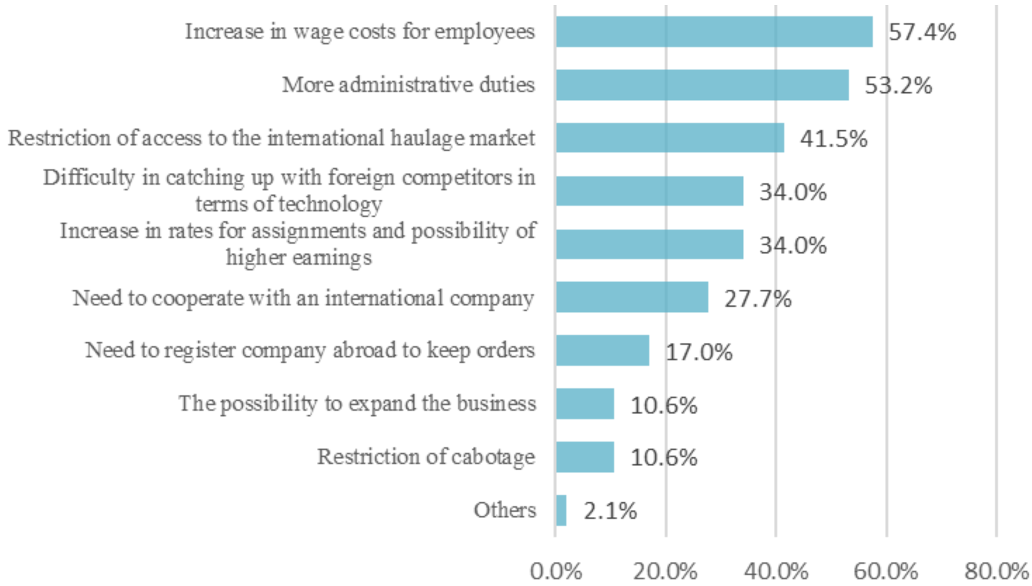


Fig. 3. The most important consequences of the implementation of the mobility package in the opinion of the surveyed [n=94]

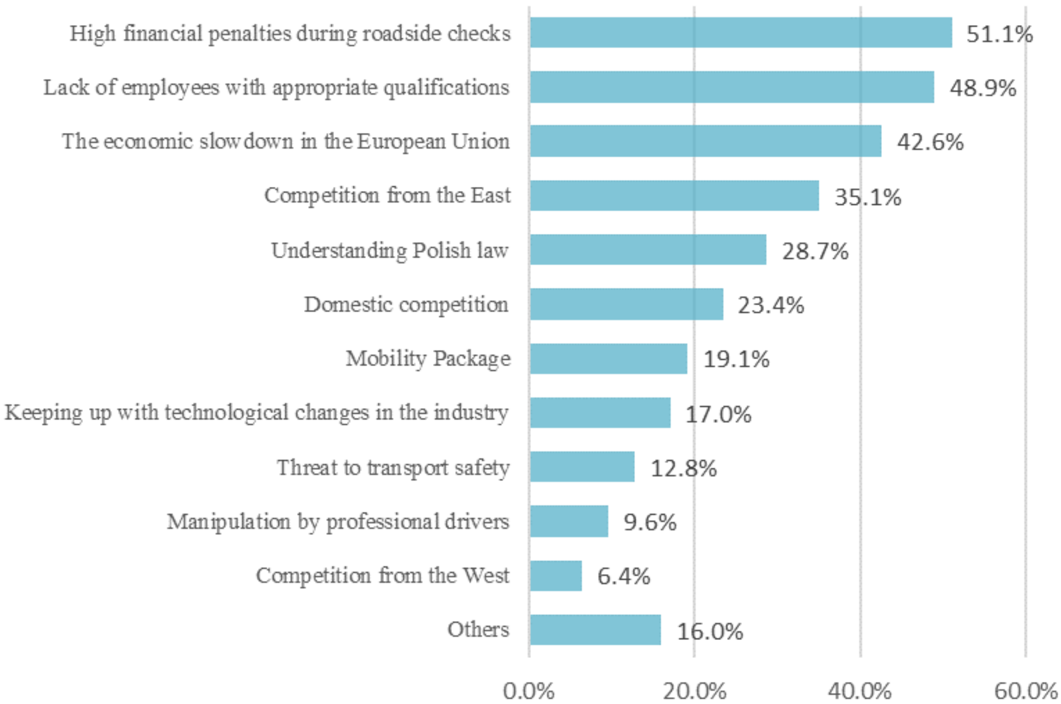


Fig. 4. Key challenges for the transport industry in the opinion of the surveyed entrepreneurs [n=94]

## 5. DISCUSSION

Taking into account the above considerations, we can indicate the following main assumptions of EU transport policy: (1) intensification of regulation of the common transport market at the level of EU authorities; (2) integration of transport organizations with sustainable development rules; (3) making further economic development in the EU independent of the transport intensity of its economy; (4) creating a unified and resource-efficient transport area; (5) making transport independent of oil imports; (6) reducing road transport traffic; (7) building the sector's resilience to future crises. All these assumptions and the resulting specific provisions, including those of the mobility package, have a certain impact on the day-to-day operations of companies. Given the importance of Polish transport companies in the organization of the entire European market, it is worth highlighting their main characteristics, which are summarized in Table 5.

Tab. 5

Characteristics of transport enterprises in Poland

| |
|---|
| Significant quantitative dominance of micro-enterprises |
| Relatively easy access to the carrier profession |
| Sensitivity to changes in European politics |
| Price competitiveness |
| Dominant position in EU road transport |
| Highest share in EU international transport |
| Highest share in EU cross-trade transport |
| Much higher than the European average share of employees in road transport |
| Competitiveness of SMEs against large ones |
| Achieving the fastest growth in turnover by SMEs |

In terms of the impact of the Mobility Package on the market, the opinions of scientists and experts are diverse. According to Waśkiewicz et al. [40] the mobility package will have a negative impact on the unit costs of Polish companies, i.e., also on their competitiveness in the common European market. Borkowski and Bąk [4] additionally indicate that the provisions of the mobility package will limit competition in transport, contributing to an increase in the cost of transport services. Navickas et al. [0] point out that the requirement to periodically return the vehicle to the country of registration will contribute to significant $CO_2$ emissions, which is contrary to the European Green Deal. Next, Bąk et al. [3] estimate that the mobility package will be particularly severe for small enterprises from peripheral EU countries.

Załoga [41] indicates that road cabotage has a positive impact on the transport market. However, this is associated with the dissatisfaction of local companies in some countries. Under pressure from industry trade unions, these countries are taking steps to protect their markets. When analyzing publications on cabotage, one can also notice various opinions. Some researchers and institutions like Gis and Waśkiewicz [40], Ślęzak et al. [34], and the European Commission [8] consider deregulation in the transport market to be a positive phenomenon that can be used by companies from Central and Eastern Europe. However, other researchers, such as Sternberg and Hofman [33], point to the numerous adverse effects of deregulation on transport companies in Western European countries.

According to the research presented, the impact of the mobility package on the operations of Polish road transport companies depends significantly on the size of the company. Medium-sized enterprises are more aware of the implications of the mobility package's main assumptions, much more often indicating its positive consequences for their business. Micro and small enterprises, on the other hand, were more often unable to identify the impact of the mobility package or indicated a negative outcome. It is noteworthy that among the micro-enterprises, which according to our characteristics are the most numerous, none of them indicated a positive impact of the changes introduced. The assessment of the impact of the mobility package may depend on whether or not they have a development strategy. Our research shows that enterprises that do not have such a document, which again is most common among micro-enterprises, are much more likely to report negative effects of the mobility package. Among the most important consequences identified by the enterprises surveyed were the challenges associated with the package, often of a negative nature, such as an increase in employee wage costs and increased administrative duties. Less frequently, companies indicated opportunities for increased profits or business growth and expansion as a result of the implementation of the mobility package. However, the consequences of implementing the package are not at all mentioned as the most important challenge for businesses. Entrepreneurs are more concerned about high penalties, lack of employees, economic slowdown, or inability to understand Polish regulations. This may be due to the fact that, as we have shown in our research, the companies surveyed were often not even able to estimate the impact of the Mobility Package on their business.

To summarize, transport policy in the EU is based on the assumption that the sector will be increasingly regulated at the EU level, which is also a result of the need for a green transformation of both the transport sector and the EU economy as a whole. Polish transport companies play a very important role in the organization of international transport in the common European market and have a very strong position in terms of volume, so any legislative changes, including the mobility package, must have an impact on their operations. The long-term consequences of these changes will require further research, but our results already tentatively indicate, in particular, an increase in operating costs, which will consequently lead to a decrease in the competitiveness of these companies. It is likely that micro-enterprises will be most affected by this phenomenon. However, our results also show that some companies, mostly those with between 50 and 250 employees, are positive about the impact of the package on their business. This means that, with appropriate measures, it is possible to take advantage of the changes in the market organization. However, again, this is more likely to be observed in larger companies, probably as a result of greater resources.

## References


1. Abbasi M., F. Nilsson. 2016. „Developing environmentally sustainable logistics". *Transportation Research Part D: Transport and Environment* 46: 273-283. DOI: https://doi.org/10.1016/j.trd.2016.04.004.
2. Axsen J., P. Plötz, M. Wolinetz. 2020. „Crafting strong, integrated policy mixes for deep $CO_2$ mitigation in road transport". *Nature Climate Change* 10(9): 809-818. DOI: https://doi.org/10.1038/s41558-020-0877.
3. Bąk M., P. Borkowski, T. Czuba, A. Koźlak, A. Zamojska. 2017. *Wpływ rewizji przepisów UE w zakresie międzynarodowego transportu drogowego na przedsiębiorstwa transportowe w Polsce*. [In Polish: *The impact of the revision of EU regulations on international road transport on transport companies in Poland*]. Warsaw: Ministry of Infrastructure and Construction.
4. Borkowski P., M. Bąk. 2018. „Short and long-term consequences of further regulation of the European Union Road Haulage Market". *Journal of Management and Financial Sciences* 11: 9-23.

5. Brand C., T. Götschi, E. Dons, R. Gerike, E. Anaya-Boig, I. Avila-Palencia, A. Nazelle, M. Gascon, M. Gaupp-Berghausen, F. Iacorossi, S. Kahlmeier, L. Int Panis, F. Racioppi, D. Rojas-Rueda, A. Standaert, E. Stigell, S. Sulikova, S. Wegener, M.J. Nieuwenhuijsen. 2021. „The climate change mitigation impacts of active travel: Evidence from a longitudinal panel study in seven European cities". *Global Environmental Change* 67: 102224-15. DOI: https://doi.org/10.1016/j.gloenvcha.2021.102224.
6. Breemersch T. 2019. „Impact of the mobility package on European Road Freight Transport". Transport & Mobility Leuven. Available at: https://www.tmleuven.be/en/project/Impact-of-Mobility-Package-I-on-European-road-freight-transport/pdf.
7. EC. 2011. *The white paper*.
8. EC. 2017. *An overview of the EU road transport market in 2015*.
9. EC. 2019. *The European green deal. European Commission*.
10. EC. 2020. *Sustainable and Smart Mobility Strategy.*
11. EC. 2020. *Mobility package*.
12. EC. 2020. *The transport and mobility sector*.
13. EC. 2021. *European green deal*.
14. EC. 2023. An official website of the European Union.
15. European Parliament, 2019/2956. Resolution of the European Green Deal. p. RSP.
16. EUROSTAT. 2019. *Road freight transport by journey characteristics*.
17. Gani A. 2017. „The Logistics Performance Effect in International Trade". *The Asian Journal of Shipping and Logistics* 33(4): 279-288. DOI: https://doi.org/10.1016/j.ajsl.2017.12.012.
18. General Assembly. Resolution adopted by the General Assembly on 25 September 2015, A/RES/70/1.
19. Gis W., J. Waśkiewicz. 2017. „Development of the international freight transport sector in Poland against the background of the EU market". *Combustion Engines* 4: 181-184.
20. GUS. 2021. *Działalność przedsiębiorstw niefinansowych w 2019 roku*. [In Polish: *Activities of non-financial enterprises in 2019*]. Available at: https://stat.gov.pl/download/gfx/portalinformacyjny/pl/defaultaktualnosci/5502/2/16/1/dzialalnosc_przedsiebiorstw_niefinansowych_w_2019.pdf.
21. Ivanova D., G. Vita, R. Wood, C. Lausselet, A. Dumitru, K. Krause, I. Macsinga, E.G. Hertwich. 2018. „Carbon mitigation in domains of high consumer lock-in". *Global Environmental Change* 52: 117-130. DOI: https://doi.org/10.1016/j.gloenvcha.2018.06.006.
22. Janczewski J. 2012. „Problematyka zarządzania mikroprzedsiębiorstwem na rynku usług transportowych". [In Polish: „The issue of managing a micro-enterprise in the transport services market"]. *Zeszyty Naukowe Wyższej Szkoły Humanitas. Zarządzanie* 1: 74-88.
23. Kordel Z. 2011. „Problemy funkcjonowania transportu samochodowego w Polsce". [In Polish: „Problems with the functioning of road transport in Poland"]. *Logistyka* 6: 9.
24. Logistyka. 2020. *TSL Ranking*. Available at: https://logistyka.rp.pl/logistyka-kontraktowa/8311-ranking-tsl-2020.
25. Naderifar M., H. Goli, F. Ghaljaie. 2017. „Snowball Sampling: A Purposeful Method of Sampling in Qualitative Research". *Strides in Development of Medical Education* 14: e67670. DOI: https://doi.org/10.5812/sdme.67670.

26. Navickas G., R. Varnauskaitė, J. Tamelis, S. Jankauskaitė. 2023. „Mobility package in Lithuanian logistics”. *Individual. Society. State. Proceedings of the International Student and Teacher Scientific and Practical Conference*. DOI: https://doi.org/10.17770/iss2023.7395.
27. Nilsson F., M. Göransson, K. Båth. 2019. „Models and technologies for the enhancement of transparency and visibility in food supply chains”. *Sustainable Food Supply Chains*: 219-236. Academic Press.
28. Rodrigue J.P., B. Slack, C. Comtois. 2001. „The paradoxes of green logistics”. In: *World Conference on Transport Research WCTR*. Seoul.
29. Russel D.M., D. Swanson, M. Blinge. 2018. „Sustainable logistics and supply chain management: a holistic view through the lens of the wicked problem”. *World Review of Intermodal Transportation Research* 7(1): 36-56.
30. Shrestha S., H. Håvard. 2023. „Do EU goals matter? Assessing the localisation of sustainable urban logistics governance goals in Norwegian cities”. *Cities* 137: 1-12. DOI: https://doi.org/10.1016/j.cities.2023.104317.
31. Sosnowski P.C., P. Cyplik. 2022. „Closed loop supply chains and circular economy – the possibilities of interplay”. *LogForum* 18(4): 413-420. DOI: http://doi.org/10.17270/J.LOG.2022.784.
32. Suproń B. 2020. „Influence of the Mobility Package on the functioning of the polish road transport of goods sector”. *Research Papers of Wrocław University of Economics and Business* 64(3): 92-106.
33. Sternberg H., E. Hofman. 2018. „Deregulation: the case of cabotage in Germany”. In: *International Symposium of Logistics*.
34. Ślęzak M., Z. Kordel, J. Waśkiewicz. 2019. „Problemy funkcjonowania polskiego transportu drogowego w przewozach ładunków”. [In Polish: „Problems with the functioning of Polish road transport in cargo transport”]. *Studia i Prace Kolegium Zarządzania i Finansów SGH* 172: 89-99.
35. Thaller A., M. Wicki, E. Fleiß, R. Maiercand, A. Posch. 2023. „Pushing low-carbon mobility: a survey experiment on the public acceptance of disruptive policy packages”. *Climate Policy* 23(7): 1-13. DOI: https://doi.org/10.1080/14693062.2023.2182755.
36. Transport i Logistyka Polska. 2022. „Transport drogowy w Polsce 2021+”. [In Polish: „Road transport in Poland 2021+”]. *Report*. Available at: https://tlp.org.pl/raport-transport-drogowy-w-polsce-2021/.
37. Tsemekidi Tzeiranaki S., M. Economidou, P. Bertoldi, C. Thiel, G. Fontaras, E.L. Clementi, C.F. De Los Rios. 2023. „The impact of energy efficiency and decarbonisation policies on the European road transport sector”. *Transportation Research Part A* 170: 1-25. DOI: https://doi.org/10.1016/j.tra.2023.103623.
38. TSL Ranking. 2020. Available at: https://g.gazetaprawna.pl/p/_wspolne/pliki/4552000/4552633-tabeletsl-2020.pdf.
39. Valerio M.A., N. Rodriguez, P. Winkler, J. Lopez, M. Dennison, Y. Liang, B.J. Turner. 2016. „Comparing two sampling methods to engage hard-to-reach communities in research priority setting”. *BMC Medical Research Methodology* 16(146): 2-11. DOI: https://doi.org/10.1186/s12874-016-0242-z.
40. Waśkiewicz J., M. Menes, W. Gis. 2018. „Eksperckie oszacowanie skali zaangażowania krajowych przedsiębiorstw międzynarodowego transportu ciężarowego w przewozach na obszarze Niemiec”. [In Polish: „Expert assessment of the scale of involvement of domestic international truck transport companies in transport within Germany”]. *Transport Samochodowy* 1: 7-23.

41. Załoga E. 2017. „Kabotaż drogowy a reguły rynku wewnętrznego Unii Europejskiej”. [In Polish: „Road cabotage and the rules of the European Union's internal market”]. *Zeszyty Naukowe Uniwersytetu Gdańskiego. Ekonomika Transportu i Logistyka* 64: 201-211.

Received 07.10.2024; accepted in revised form 17.01.2025

Scientific Journal of Silesian University of Technology. Series Transport is licensed under a Creative Commons Attribution 4.0 International License