Methodologies for Sustainable Development of TEN-T/RFC Corridors and Core Ports: Estimation of Time-Series Economic Impact

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Abstract. The container revolution in the last decades of the 20th century determined the arise of container ports. They further evolved in the so-called third-generation ports, becoming generators of value added due to the manipulation of goods in transit. The increase of value added in third-generation ports is amplified in core ports connected to TEN-T/RFC corridors, where Special Economic Zones (SEZs) and the three pillars of smartness (ICT, Transport and Energy) are present. The paper deals with time-series models for the estimation of economic impact of a SEZ in an underdeveloped region of EU. The test case is the Calabria region (Italy). SEZ in Calabria has its fulcrum in the industrial area close to the transhipment hub port of Gioia Tauro. The economic impacts of the SEZ were quantified through two variables: exports and employment of industrial firms settled in Calabria. The comparison of two scenarios (Do-Nothing scenario and SEZ) shows relevant positive impacts in the SEZ one. Future developments concern the calibration and validation of multi-variate time-series models from observations provided by worldwide SEZs.

Keywords: sustainable ports · smart ports · TEN-T corridors · RFC corridors · special economic zone · time-series · economic impact · port of Gioia Tauro

1 Introduction

Commercial ports may be classified according to the generation criterion (see [1–3]; and the references included). According to the literature, a third-generation port is a container port, where added value of the goods in transit may be incremented due to the manipulations of freight. Therefore, given a port a and a port b, a port b is more competitive than a port a, if it is verified the following equation:

$$added\ \ value\ in\ port\ b\ >\ \ added\ value\ in\ porta$$

Third-generation ports have been studied in the scientific literature, both in terms of physical components, such as transport and logistic infrastructures [4]; and in terms of intangible components, such as the research infrastructures of firms, universities and

© The Author(s) 2023
O. Gervasi et al. (Eds.): ICCSA 2023 Workshops, LNCS 14110, pp. 551–562, 2023.
https://doi.org/10.1007/978-3-031-37123-3_38

research centres [5]. A large container hub port belonging to the third-generation and located in an underdeveloped EU region was extensively studied by identifying the limits, the weaknesses and the measures to be implemented to increase value added in a third-generation port [6, 7]. The relationship with the hinterland and, in particular, with the research centres were studied in [8]. The main industrial sectors, such as logistics, mechanics and agri-food, connected to a third-generation port were analysed respectively in [9–11].

Special Economic Zones (SEZs) are one of the measures able to allow the increasing of added value in a third-generation port. In particular, recent studies analysed the effects of the activation of a SEZ in terms of territorial attractiveness [12], aggregate and disaggregate economic impacts [13, 14]. The role of higher education and research and the effects of administrative simplifications for SEZ development are analysed respectively in [15] and [16]. The generation of added value may be further amplified in core ports which are connected to a TEN-T and RFC corridor and where the three pillars of smartness, ICT, Transport and Energy, are present [17].

A recent study [18] reports a comparison of export-import times of goods in countries having similar technical-administrative structures and belonging to the EU area. These countries present high variances in export times of freight in relation to an average value of ten days. After the publication of [18], the Italian Government released an analysis of times components connected to export operations, such as documentation, custom, handling and transport [19]. It emerged that custom times were similar in all countries, while documentation and handling times were considerably different. The documentation and custom times depended on the administration of the country, not on the ports, and they influenced in the export capacities.

The paper deals with time-series models able to estimate the economic impact generated by a place-based measure (as SEZ) in a region, where a European core port connected with a TEN-T corridor is present. The test case concerns a planned SEZ in Calabria region. The main objective of Regional Government of Calabria, defined in the strategic development plan of SEZ of 2018, was to facilitate the settlement of industrial firms in port-related areas of Gioia Tauro in order to increase the added value, according to the paradigm of the third-generation port [3, 20].

The following part of the paper is articulated into three sections. Section 2 sketches the current situation of container traffic in Euro-Mediterranean area in relation to the growth rates of economy of the different regions. Section 3 presents the time-series estimation of export and employment of firms settled in Calabria generated by the implementation of a SEZ. The last section concerns the conclusions and the research perspectives.

The model presented in the paper, in the context of a more general modelling framework, could support planners at national and regional level and for port authorities. The model is also useful for researchers in field related to the sustainable development of ports (see [21–23], and references included).

2 Container Traffic in the Euro-Mediterranean Area

The world economy returned to the pre-crisis levels in 2021 with an increase of +6.1% of GDP and of +10.1% of trade volumes respect to 2020 [24]. The Euro-Mediterranean area showed in the period 2018–2021 an increase of +7.7% in GDP and of +11.6% in consumption. By disaggregating the area into four regions (see Table 1), the growth of the Balkans and Turkey in GDP (+19.5%), and in consumption (+40.4%) emerges. North Africa faced smaller growth both in GDP (+13.2%) and in consumption (+17.4%). The values of GDP and consumption were stable in EU-Med and Middle East regions: + 2.2% of GDP and +0.5% of consumption in EU-Med, and +5.0% of GDP and −2.4% of consumption in Middle East [25].

Table 1. GDP and consumption growth in Euro-Mediterranean area during 2018–2022.

Region	Countries	GDP (%)	Consumption (%)
EU-Med	Italy, France, Spain, Portugal, Greece, Malta, Ciprus	+ 2.2	+ 0.5
Balkans and Turkey	Albania, Bosnia, Croatia, Montenegro, Slovenia, Turkey	+ 19.5	+ 40.4
Middle East	Israel, Lebanon, Syria, Palestine	+ 5.0	−2.4
North Africa	Algeria, Egypt, Lybia, Morocco, Tunisia	+ 13.2	+ 17.4

(source: [25])

The total amount of investments in the Euro-Mediterranean area was 531 billion of US$, equal to the 7.9% of the global investments in the period 2018–2022. As a matter of fact, while the main investors in 2018 in Merger & Acquisition were USA (20% of total operations) and China (11% of total operations), the main investors in 2021 were France, Italy and Spain with the 39% of total operations [25].

Global container throughput reached 802 million TEU in 2019. Similar to the financial crisis of 2008–09, the Covid-19 pandemic caused a negative growth; however, container throughput has exceeded in 2021 pre-pandemic levels, reaching 849 million TEUs.

The centrality of the Mediterranean Sea in the global traffic was still confirmed after the pandemic, as it accounted for 20% of global maritime traffic and for 27% of container traffic in 2021. Several transhipment hub ports operate in the Mediterranean area, some of them handle a throughput greater than 3 million of TEUs/year in the last three years (see Table 2).

The forecasts show that Euro-Mediterranean ports will in general increase their container traffic by 2025, with an expected annual average increase of +4.3%. Despite the Ukraine conflict, the East-Mediterranean ports (in Balkans, Turkey and Middle east areas), mainly due to the performance of ports such as Piraeus, will perform an increment of +4.5% of traffic. Ports of North Africa will perform a traffic increment of +5.4%; while West Mediterranean ports will perform +3.8% of traffic [26].

The container ports generate a relevant economic impact when they are able to fully develop their third-generation nature [3, 4], also due to the development of closer SEZs. The three more dynamic SEZs of the Mediterranean Sea are: Suez Canal (Egypt), Tanger-Med (Morocco), Mersin (Turkey). The SEZ of Suez Canal has four industrial zones and six ports including Port Said. The SEZ generated 100,000 direct jobs and the investments allocated over the last seven years were approximately 18 billion US$. The SEZ of Tanger-Med generated 8.8 billion euro of exports and hosted about 1,000 export-oriented firms, employing some 90,000 people. The SEZ of Mersin employed 9,600 people, with a trade value of 3.8 billion US$ [24].

Table 2. Main transhipment hub ports in Euro-Mediterranean area (period 2020–2022).

Port	2020 [TEUx10^6]	2021 [TEUx10^6]	2022 [TEUx10^6]	Δ20–21 [%]	Δ21–22 [%]
Tanger Med	5.77	7.17	7,59	+24.0	+7,3
Valencia	5.41	5.63	5,05	+4.0	−10,7
Piraeus	5.44	5.32	--	−2.0	--
Algeciras	5.10	4.78	4.80	−6.0	+0,4
Port Said	4.01	3.86	--	−3.6	---
Barcelona	2.96	3.51	3.52	+19.0	+0,3
Gioia Tauro	3.19	3.14	3.47	−1.5	+10,3
Marsaxlokk	2.44	2.97	2.88	+21.7	-3,7
Ambarli	2.88	2.93	--	+2.0	---
Genoa	2.35	2.57	--	+9.0	---

(elaboration from [24])

3 Time-Series Economic Impact of SEZ: Test Case for Calabria

3.1 Time-Series Models

Time-series models are founded on stochastic processes theory, according to which a time-series can be defined as a finite part of a single realization of a stochastic process [27]. Time-series, therefore, is a non-exhaustive partial realization of a stochastic process. Starting from the observed time-series, a stochastic model is assumed in order to determine the process generating the observed data.

A time-series, $\{x_t\}$, with $t = 1, 2, \ldots, n$, is an ordered sequence of n real numbers that measures a given phenomenon x_t, observed with regard to its evolution with respect to the time t.

Several types of time-series models have been proposed in the literature. Their classification can be made on the basis of different criteria:

- univariate and multivariate models, according to whether the evolution of time-series is justified in itself or with reference to the evolution of other series;
- models that explicitly or implicitly show the presence of components of the time series.

An elementary time-series model is given by the following equation:

$$x_t = f(t) + \varepsilon_t, \qquad \text{with } t = 1, 2, \ldots, n \tag{1}$$

where:

$f(t)$ is an (explicit) mathematical function of t;

ε_t, residual term.

3.2 Scenarios Definition

The economic impact of SEZ in Calabria, that has the hinterland of Gioia Tauro port as place where the highest concentration of industrial activities is expected, is linked to the growth of export and employment. The industrial settlements inside SEZ will therefore be oriented towards the export of goods on international markets, thus maximizing the benefits of the locating the SEZ close to the port of Gioia Tauro.

Two variables are considered in the estimation of economic impacts of the SEZ:

- *export* of goods and services of industrial firms located in Calabria;
- *employment* of industrial firms located in Calabria with (total or partial) foreign and domestic capital.

Two scenarios have been compared:

- *Do-Nothing*, where export and employment are estimated over a period of seven years ($\Delta Y = 7$) from a starting year ($Y = 1$), with no SEZ and with the current economic policies;
- *SEZ*, where export and employment are estimated over a period of seven years ($\Delta Y = 7$) from a starting year ($Y = 1$), with the activation of SEZ by assuming the complete availability of financial resources and decrees for simplification at the starting year.

Two categories of firms are considered in the analysis:

- *firms inside SEZ*, or industrial firms settled in SEZ areas;
- *firms outside SEZ*, or industrial firms settled out of SEZ areas.

The two scenarios and the two categories of firms generate four combinations of growth forecasts concerning export and employment:

- firms inside SEZ in Do-nothing scenario;
- firms outside SEZ in Do-nothing scenario;
- firms inside SEZ in SEZ scenario;
- firms inside SEZ in SEZ scenario.

3.3 Results

The following part of the section reports the yearly growth of export and employment of firms in presence of SEZ activation over a period of seven years ($\Delta Y = 7$) from a starting year ($Y = 1$).

Since the results of the evaluation depend on the starting values of export and employment, the values of a year ($Y = 0$) of firm inside and outside the SEZ were assumed as reference values (see more details in [13]).

The historical time-series of export and employment of industrial firms located in Calabria for a previous period (e.g. the decade 2008–2017) were provided by the Italian Institute of Statistics [38]. The following growth rates have been assumed as average values observed in historical time-series related to a previous period (e.g. the decade 2008–2017) (see Tables 3 and 4):

- Do-Nothing scenario
  - export of Calabria will grow according to a constant growth rate equal to +2.0%;
  - employment of Calabria will grow according to a negative growth rate of −1.2% in foreign-capital firms and a positive growth rate of +2.0% in domestic-capital firms.
- SEZ scenario
  - export of firms outside SEZ will grow assuming a constant growth rate: +2.0%:
  - export of firms inside SEZ and employment (both of domestic and foreign capital firms) have been estimated assuming a variable growth rate equal to the growth rates observed in international SEZs during the six years after their full activation (see [28, 29]).

Table 3. Growth rates of export after the full activation of the SEZ.

	Scenario	Inside SEZ	Outside SEZ	Calabria
Growth rate	Do-nothing	0,02	0,02	0,02
	SEZ	(*)	0,02	(*)

(*) variable growth rate (see [28, 29])

Table 4. Growth rates of employment after the full activation of the SEZ.

	Scenario	Foreign-capital firms	Domestic-capital firms	Firms in Calabria
Growth Rate	Do-nothing	−0,012	0,02	0,005
	ZES	(*)	(*)	(*)

(*) variable growth rate (see [28, 29])

Table 5 presents the time-series of export values of firms operating in Calabria in the Do-nothing and SEZ scenarios. The estimated pattern shows that the increase of export

Table 5. Estimated export yearly values [MEuros] of export inside and outside SEZ.

	Scenario	Do-Noth	Do-Noth	SEZ	SEZ
	Firms	Inside SEZ	Outside SEZ	Inside SEZ	Outside SEZ
Year	1	236	193	503	193
	2	242	198	545	198
	3	248	203	588	203
	4	254	207	646	207
	5	260	213	658	213
	6	266	218	725	218
	7	273	223	929	223

is evident in the firms located inside the SEZ areas where the SEZ measures are effective (SEZ scenario), as expected, rather than the other areas of Calabria.

Table 6 presents the time-series of employment values of domestic and foreign firms in Calabria in the Do-nothing and SEZ scenarios. The pattern that could be observed is the following. The increase of employment is present in in the both domestic and foreign firms, as expected. In the case of foreign firms, the growth changes form a negative rate in the Do-Nothing scenario to a positive rate in the SEZ scenario.

Table 6. Estimated employment yearly values of employment for domestic and foreign firms**.**

	Scenario	Do-Noth	Do-Noth	SEZ	SEZ
	Firms	Domestic	Foreign	Domestic	Foreign
Year	1	8974	1302	9329	2716
	2	9154	1289	9892	3051
	3	9337	1276	10488	3122
	4	9524	1263	11121	3249
	5	9714	1250	11791	3344
	6	9908	1238	12502	3502
	7	10106	1225	13256	4095

Figure 1 shows the time-series of export of firms in Calabria in the Do-nothing and SEZ scenarios. The pattern that could be observed in the picture is the following. The increase of export after the first year of activation of SEZ measures (Y = 1) is already consistent. The export increases with lower rates in the next five years (from years Y = 2 to Y = 6). The seventh year after the activation (Y = 7) it could be observed an increase with a n higher rate similar to the one of the first year.

Figure 2 shows the time-series of employment of firms in Calabria in the Do-nothing and SEZ scenarios. The pattern that could be observed in the picture is similar to the

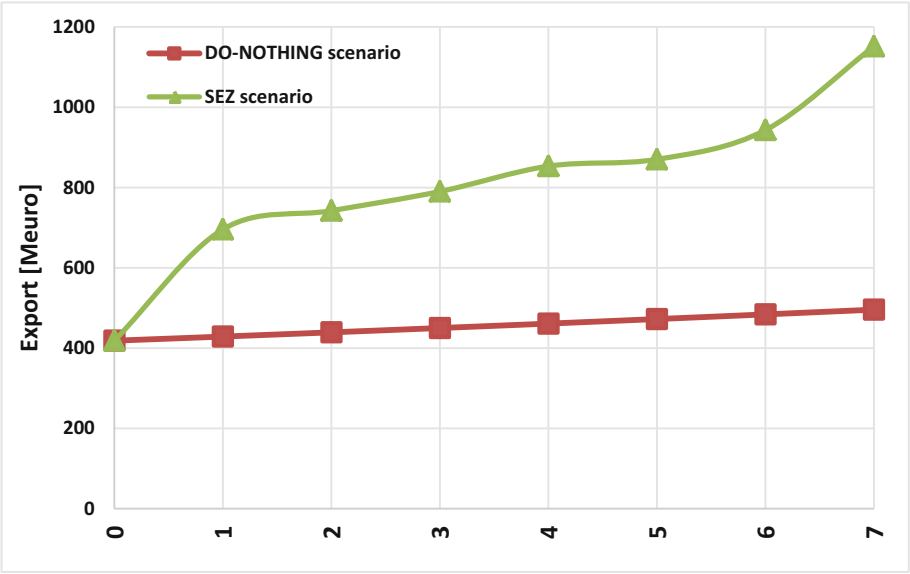


Fig. 1. Time-series of export of firms in Calabria: Do-nothing and SEZ scenarios.

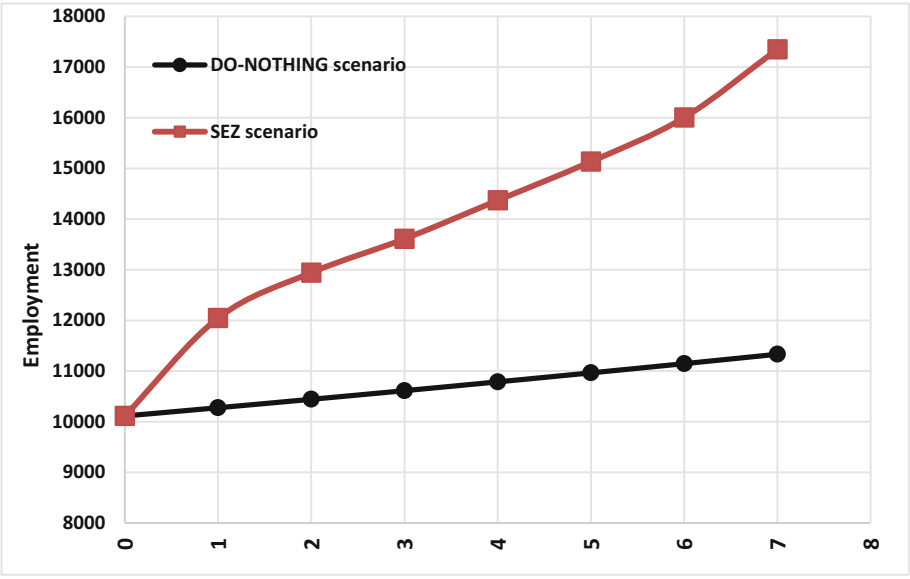


Fig. 2. Time-series of employment of firms in Calabria: Do-nothing and SEZ scenarios.

one observed for the export, as the rates of increase are higher in the first (Y = 0) and in the seventh (Y = 7) years after the activation of SEZ measures.

4 Conclusions

The paper presents a time-series analysis of economic impact generated by a SEZ in the Calabria (Italy). It is expected that the hinterland of the port of Gioia Tauro was the area where the greatest amount of industrial activities should be concentrated. The economic impacts of the SEZ was calculated taking into considerations the yearly growth of export and employment of industrial firms of Calabria. Two scenarios were compared: Do-Nothing, assuming the absence of SEZ; and SEZ, assuming that SEZ fully operates at a starting year (e.g. 2018).

The following final considerations may be reported according to the evaluation reported in the previous section (see Table 7). The export of firms inside SEZ should reach the value of 273 million of Euro after six years after the starting year (e.g. at year 2024) in the Do-nothing scenario; while their export should be equal to 929 million of Euro in the SEZ scenario. The export of firms outside SEZ should be equal to 223 million of Euro after ten years from the starting year (e.g. at year 2024), whatever the scenario will be (Do-nothing or SEZ). The employment of firms inside SEZ should be 1225 in Do-nothing scenario and 4095 in SEZ scenario after six years from the starting year (e.g. at year 2024). The employment of firms outside SEZ should be 10106 after six years from the starting year (e.g. at year 2024) in the Do-nothing scenario and 3256 in the SEZ scenario.

Table 7. Estimated export and employment for each scenario and category of firms.

	Year	Scenario	Firms inside SEZ	Firms outside SEZ	Firms in Calabria
Export [M€]	0(*)	Current	209	209	418
	7(**)	Do-nothing	273	223	496
		SEZ	929	223	1152
Employment	0(*)	Current	1315	8798	10113
	7(**)	Do-nothing	1225	10106	11332
		SEZ	4095	13256	17351

(source: [13]) (*) full activation of SEZ measures; (**) full deployment of SEZ measures

Synthetically, the export should be equal to 496 million of Euro and the employment equal to 11332 workers in Calabria in the Do-nothing scenario; while the export should be equal to 1152 million of Euro and the employment equal to 17332 workers in Calabria in the SEZ scenario. The above values are assumed as reference values of direct impact generated by SEZ in Calabria used for the estimation of indirect and induced impacts.

Future developments are expected as far as concerns the calibration and validation of further specifications of multi-variate time-series models from a more extended set of observed data provided from worldwide SEZ experiences.

Acknowledgements. This study was carried out within the MOST – Sustainable Mobility National Research Center and received funding from the European Union Next-Generation EU (PIANO NAZIONALE DI RIPRESA E RESILIENZA (PNRR) – MISSIONE 4 COMPONENTE 2, INVESTIMENTO 1.4 – D.D. 1033 17/06/2022, CN00000023). This manuscript reflects only the authors' views and opinions, neither the European Union nor the European Commission can be considered responsible for them.

References

1. UNCTAD Port Marketing and the Challenge of the Third Generation Port (1994)
2. UNCTAD Fourth-Generation Port: Technical Note (1999)
3. Russo, F., Musolino, G.: Quantitative characteristics for port generations: the Italian case study. Int. J. TDI **4**, 103–112 (2020). https://doi.org/10.2495/TDI-V4-N2-103-112
4. Musolino, G., Cartisano, A., Chilà, G., Fortugno, G., Trecozzi, M.R.: Evaluation of structural factors in a third-generation port: methods and applications. Int. J. Transp. Dev. Integr. 347–362 (2022)
5. Russo, F., Rindone, C., Panuccio, P.: External interactions for a third generation port: urban and research developments. Int. J. Transp. Dev. Integr. 253–270 (2022)
6. Russo, F., Chilà, G.: Structural factors for a third-generation port: current state, limits and weaknesses of Gioia Tauro, Italy, in The Regional Transport Plan. In: Proceedings of the Urban and Maritime Transport 2021, WIT Transactions on the Built Environment, vol. 204, 16 June 2021, pp. 3–15 (2021)
7. Russo, F., Chilà, G.: Structural factors for a third-generation port: actions and measures for Gioia Tauro, Italy, in The Regional Transport Plan. In: Proceedings of the Urban and Maritime Transport 2021, WIT Transactions on the Built Environment, vol. 204, 16 June 2021, pp. 17–30. WIT Press (2021)
8. Russo, F., Panuccio, P., Rindone, C.: Structural factors for a third-generation port: between hinterland regeneration and smart town in Gioia Tauro, Italy. In: Proceedings of the Urban and Maritime Transport 2021, WIT Transactions on the Built Environment, vol. 204, 16 June 2021, pp. 79–90 (2021)
9. Musolino, G., Chilà, G.: Structural factors for a third-generation port: planning transport interventions in Gioia Tauro, Italy. In: Proceedings of the Urban and Maritime Transport 2021, WIT Transactions on the Built Environment, vol. 204, 16 June 2021, pp. 31–42 (2021)
10. Musolino, G., Rosaria Trecozzi, M.: Structural factors for a third-generation port: planning interventions for agri-food logistics in Gioia Tauro, Italy. In: Proceedings of the Urban and Maritime Transport 2021, WIT Transactions on the Built Environment, vol. 204, 16 June 2021, pp. 43–54 (2021)
11. Musolino, G., Cartisano, A., Fortugno, G.: Structural factors for a third-generation port: planning interventions for mechanical logistics in Gioia Tauro, Italy. In: Proceedings of the Urban and Maritime Transport 2021, WIT Transactions on the Built Environment, vol. 204, 16 June 2021, pp. 55–66 (2021)
12. Musolino, D.A., Panuccio, P.: Special economic zones planning for sustainable ports: the test case of territorial attractiveness and urban planning in Calabria Region. In: Gervasi, O., Murgante, B., Misra, S., Rocha, A.M.A.C., Garau, C. (eds.) Computational Science and Its Applications – ICCSA 2022 Workshops. LNCS, vol. 13381, pp. 72–84. Springer, Cham (2022). https://doi.org/10.1007/978-3-031-10548-7_6. ISBN 978-3-031-10547-0

13. Musolino, G., Cartisano, A., Fortugno, G.: Special economic zones planning for sustainable ports: aggregate economic impact of port of Gioia Tauro. In: Gervasi, O., Murgante, B., Misra, S., Rocha, A.M.A.C., Garau, C. (eds.) Computational Science and Its Applications – ICCSA 2022 Workshops. LNCS, vol. 13381, pp. 60–71. Springer, Cham (2022). https://doi.org/10.1007/978-3-031-10548-7_5. ISBN 978-3-031-10547-0
14. Russo, F., Chilà, G., Zito, C.: Strategic planning for special economic zones to ports of the future: system of models and test case. In: Gervasi, O., Murgante, B., Misra, S., Rocha, A.M.A.C., Garau, C. (eds.) Computational Science and Its Applications – ICCSA 2022 Workshops. LNCS, vol. 13381, pp. 173–184. Springer, Cham (2022). https://doi.org/10.1007/978-3-031-10548-7_13. ISBN 978-3-031-10547-0
15. Rindone, C., Cirianni, F.M.M., Delfino, G., Croce, A.I.: Special economic zones planning for sustainable ports: the role of research and training in the Calabria Region. In: Gervasi, O., Murgante, B., Misra, S., Rocha, A.M.A.C., Garau, C. (eds.) Computational Science and Its Applications – ICCSA 2022 Workshops. LNCS, vol. 13381, pp. 85–97. Springer, Cham (2022). https://doi.org/10.1007/978-3-031-10548-7_7. ISBN 978-3-031-10547-0
16. Pellicanò, D.S., Trecozzi, M.R.: Special economic zones planning for sustainable ports: general approach for administrative simplifications and a test case. In: Gervasi, O., Murgante, B., Misra, S., Rocha, A.M.A.C., Garau, C. (eds.) Computational Science and Its Applications – ICCSA 2022 Workshops. LNCS, vol. 13381, pp. 47–59. Springer, Cham (2022). https://doi.org/10.1007/978-3-031-10548-7_4. ISBN 978-3-031-10547-0
17. Russo, F., Rindone, C.: Smart city for sustainable development: applied processes from SUMP to MaaS at European level. Appl. Sci. **13**, 1773 (2023). https://doi.org/10.3390/app13031773
18. International Finance Corporation Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises (2013)
19. Presidenza del Consiglio dei Ministri Iniziativa Di Studio Sulla Portualità Italiana (2014)
20. Cascetta, E., Nuzzolo, A., Biggiero, L., Russo, F.: Passenger and freight demand models for the italian transportation system. In: Proceedings of the 7th World Conference on Transport Research, vol. II
21. Ignaccolo, M., Inturri, G., Giuffrida, N., Torrisi, V.: A sustainable framework for the analysis of port systems. European Transport \ Trasporti Europei (2020). Issue 78, Paper n° 7,
22. Giuffrida, N., Ignaccolo, M., Inturri, G., Torrisi, V.: Port-city shared areas to improve freight transport sustainability. In: Gervasi, O., et al. (eds.) ICCSA 2020. LNCS, vol. 12255, pp. 67–82. Springer, Cham (2020). https://doi.org/10.1007/978-3-030-58820-5_6
23. Ignaccolo, M., Inturri, G., Giuffrida, N., Torrisi, V., Cocuzza, E.: Sustainability of freight transport through an integrated approach: the case of the Eastern Sicily port system. Transp. Res. Procedia **45**, 177–184 (2020). https://doi.org/10.1016/j.trpro.2020.03.005
24. Deandreis, M., Ferrara, O., Panaro, A.: Maritime Scenario in the Mediterranean: Analysis of the Competitiveness and In-Vestments of the Major Logistics Players (2022)
25. Iacovone, D.: Nuova stagione di crescita per la zona Euro-Mediterranena (2023)
26. Panaro, A.: The New Challenges of Logistics and Maritime Economy. Presented at the Annual meeting GSTTA
27. Box, G.E.P., Jenkins, G.M.: Time Series Analysis: Forecasting and Control. In: Revised ed. Holden-Day Series in Time Series Analysis and Digital Processing. Holden-Day, San Francisco (1976). ISBN 978-0-8162-1104-3
28. Wang, J.: The economic impact of special economic zones: evidence from Chinese municipalities. J. Dev. Econ. **101**, 133–147 (2013). https://doi.org/10.1016/j.jdeveco.2012.10.009
29. Leong, C.K.: Special economic zones and growth in China and India: an empirical investigation. IEEP **10**(4), 549–567 (2012). https://doi.org/10.1007/s10368-012-0223-6

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