
ITALIAN CENTRE OF EXCELLENCE ON LOGISTICS
TRANSPORT AND INFRASTRUCTURE

UNIVERSITY OF GENOA



PhD in Transport and Logistics
XXXV series

**THE INTERNATIONALIZATION
PROCESS IN THE CONTAINER PORT
INDUSTRY**

A panel-data analysis.

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This PhD thesis is the result of investigations and research conduct within the PhD course of Maritime and Science Technologies, Curriculum of Logistic and Transport between years 2019 - 2022.

The research grant related to this PhD scholarship is co-financed by Italian Centre of Excellence on Logistics Transport and Infrastructure (CIELI) at University of Genoa and by PSA GENOVA PRA' S.p.A. (PSA GP), part of PSA International, leading World terminal operator.

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ABSTRACT

Over the last decades, the container port industry has experienced unprecedented transformations, which have profoundly re-designed its structure and competitive boundaries. Port reform and liberalization process in many countries have opened unprecedented business opportunities for private port operators. Moreover, the globalization process has favored the expansion of international trades with a relentless two-digits growth rate of container ports' volumes for several years.

These drivers have triggered the emergence of internationalization strategies pursued by terminal operators and the raise of the industry-specific Multinational Enterprises (MNEs), namely the Global/ International Terminal Operators (GTOs/ITOs). Against a world containerized throughput of about 802 million TEUs (2019), the twenty-one companies classified by Drewry Shipping Consultants (2020) as ITOs handled about 66% (about 530 million TEUs). Such proportion demonstrates ITOs' relevance in the industry thus suggesting that their strategic behavior affect industry trends worldwide.

The PhD thesis inserts in International Business (IB) research field aiming to respond, through Research Objective 1, to the prominent call made by Vahlne and Johanson (2020) for the collection of longitudinal data so as to conduct quantitative time-series analyses and apply main IB theoretical constructs of firms' internationalization process to specific sectorial cases, like the global container port industry.

In the last twenty years, ITOs have performed both horizontal and vertical integration strategies to keep pace with global and regional demand expansion as well as to diversify corporate risk across various geographic regions.

In this perspective, the PhD thesis inserts in the Strategic Management research field aiming to investigate, through Research Objective 2, key-drivers of the implementation strategy of ITOs' internationalization process, like the location (i.e., regional expansion versus "semi-globalization" versus global presence strategy) and entry mode options (e.g., M&As activity / concessions or leases; the wholly-owned subsidiary / joint venture dilemma, etc.) choices, focusing on the significance of firm an country-specific factors (e.g., the shareholding and governance structure of ITOs: the nature and the entrepreneurial orientation of their "ultimate" ownership).

Furthermore, the PhD thesis intends to investigate, through Research Objective 3, the strategic behavior of ITOs (i.e., competition versus co-operation and the concept of "co-petition") in the global playfield, with a particular emphasis to the formation, the widening and the strengthening of equity joint-ventures among ITOs at the highest level of the corporate hierarchy, the "ultimate" ownership one.

Under this perspective, it is detected the increasing role in and financial commitment to the container port industry of State-owned enterprises (SOEs), of State-holding companies and of Sovereign Wealth Funds (SWFs).

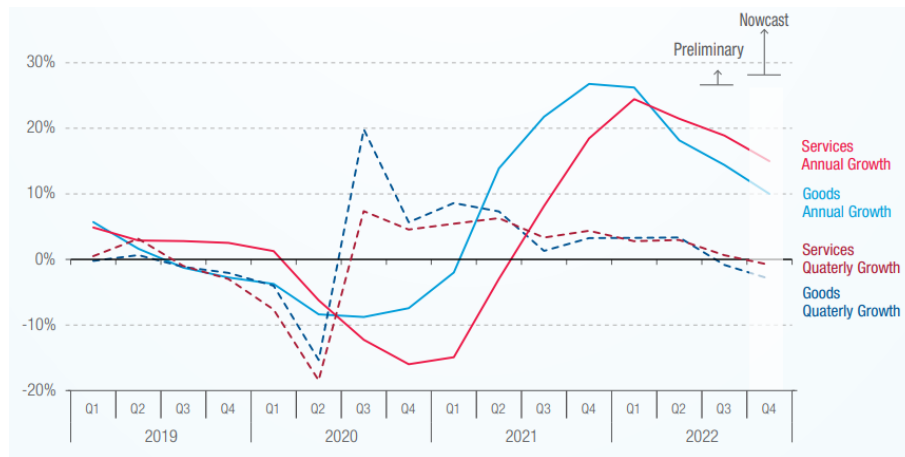
I. THE CONTAINER PORT INDUSTRY OVER THE LAST FOUR DECADES: EVOLUTION AND TRENDS (SINCE THE 1980s TO DATE).

I.1 A macro-economic perspective.

Global trade reached a record level (in values) of about US\$ 32 trillion for year 2022. Trade in goods is expected to total almost US\$ 25 trillion (an increase of about +10% from year 2021); trade in services is expected to total almost US\$ 7 trillion (an increase of about +15% from year 2021). Those record levels are largely due to robust growth in the first half of year 2022. Conversely, trade's growth has been subdued during the second half of the year.

In year 2020, because of the fallout from the COVID-19 pandemic, the international maritime trade contracted by nearly four per cent, but in year 2021 there was a rebound as the global economy started to recover¹ and continued consumers spending, along with an easing in pandemic-related restrictions: international maritime trade grew by +3.2% up to a total of about 11 billion of tons, only slightly below the pre-pandemic level.

Figure 1 Global trade's trends (in US\$ values), years 2019-2022.



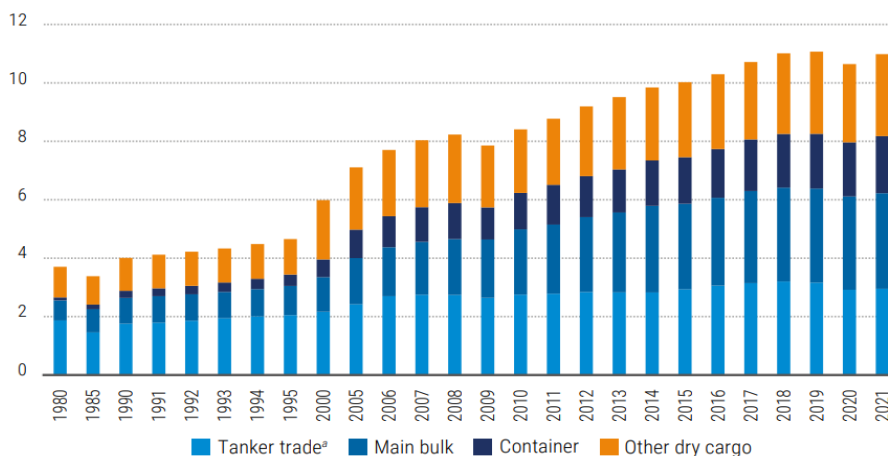
Source: UNCTAD's calculations based on national statistics.²

¹ After contracting by -3.4% in year 2020, world's GDP increased by +5.8% in year 2021, the fastest annual growth since year 1973.

² Quarterly growth is the quarter over quarter growth rate of seasonally adjusted values. Annual growth refers to the last four quarters. UNCTAD's nowcasts are data and model-based predictions of global trade and GDP period over period growth. The latest data available and data revisions are fed into models on a weekly basis to update and revise the nowcasts and provide insight on current economic and trade conditions well before final figures are published with several months delay.

Nevertheless, the recovery of types of cargo was uneven: the shipping of containerized cargo, gas and dry bulk expanded, while shipments of crude oil declined from representing the 16.0% to the 15.5% of international maritime trade. In year 2021, indeed, there was steady growth for containerized trade, gas shipments and for dry bulk commodities (iron ore, grains, and coal); on the other hand, crude oil’s shipments declined, constrained by high oil’s inventories, oil’s production’s cut and lower demand for transport fuel as a result of the COVID-19 pandemic and the slowing demand in China.

Figure 2 International maritime trade by cargo type (billions of tons loaded), years 1980-2021.



Source: UNCTAD’s calculations³ based on data from Clarksons Research.

Deteriorating economic conditions and rising uncertainties have resulted in a global trade’s slow-down during the second half of year 2022. However, the decline in global trade has been nominal, as the volume of trade continued to increase throughout year 2022, a signal of resilient global demand. Part of the decline in the value of international trade during the second half of year 2022 is due to a decrease in the prices of primary products, especially of energy. By contrast, the prices of internationally traded intermediate inputs and consumer goods have continued to increase during the same period, raising additional concerns about the persisting global inflation. The decline in

³ 1980-2005 period figures for “Main bulk” include iron ore, grain, coal, bauxite/alumina, and phosphate. Starting in year 2006, “Main bulk” includes iron ore, grain, and coal only. Data relating to bauxite/alumina and phosphate are included under “Other dry cargo”. “Tanker trade” includes crude oil, refined petroleum products, gas, and chemicals.

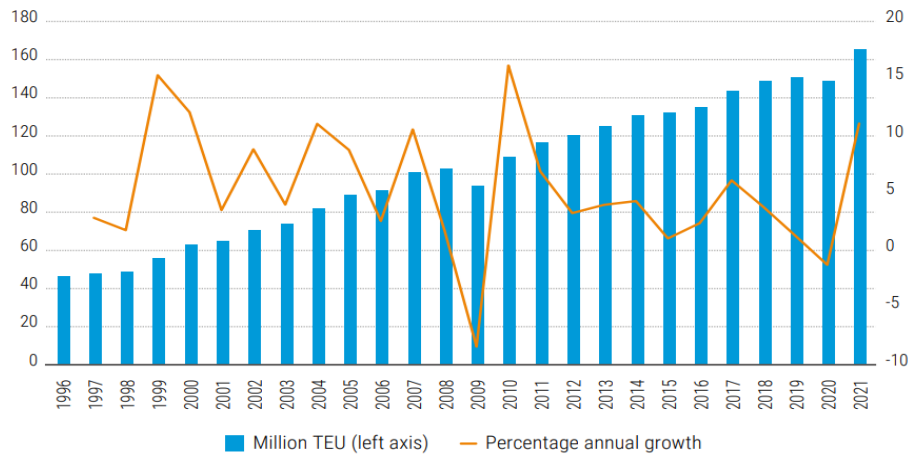
the value of global trade has been so far limited to goods. Trade in services has been more resilient, with its value continuing to rise during the second half of year 2022.

For year 2023, import demand is expected to soften as the economic growth slows in major economies for different reasons. In Europe, high energy's prices stemming from the war in Ukraine is attended to squeeze households' spending and raise manufacturing costs. In the U.S.A., monetary policy tightening is expected to hit interest rates-sensitive spending areas such as housing, motor vehicles and fixed investment. China continues to grapple with COVID-19 pandemic outbreaks and production disruptions paired with weak external demand. In addition, increasing import bills for fuels, food and fertilizers could lead to food supply insecurity and debt distress in developing countries.

International containerized trade performed well in year 2021, boosted by the pandemic-led demand for consumer goods, particularly from East Asia region. Volumes, which had declined by -1.3% in year 2020, rebounded in year 2021, reaching up to 165 million 20-foot equivalent units (TEUs hereinafter).

The widespread containerized cargo trade recovery in the wake of the COVID-19 pandemic has boosted the global container terminal capacity outlook, supported by global terminal operators' increased appetite for higher-risk greenfield projects to deliver long-term growth. According to Drewry Shipping Consultant (September 2022), global container ports capacity is projected to increase by an average annual rate of +2.4% to reach 1.38 billion TEUs by year 2026. However, the worsening economic and geopolitical situation in year 2022 has led to a downgrading of the cargo demand outlook and as a result container ports utilization is now projected to moderate in year 2025. Overall, while the majority (about 70%) of global terminal operators' investment plans remain focused on existing assets, there has been a notable increase in the number of greenfield projects.

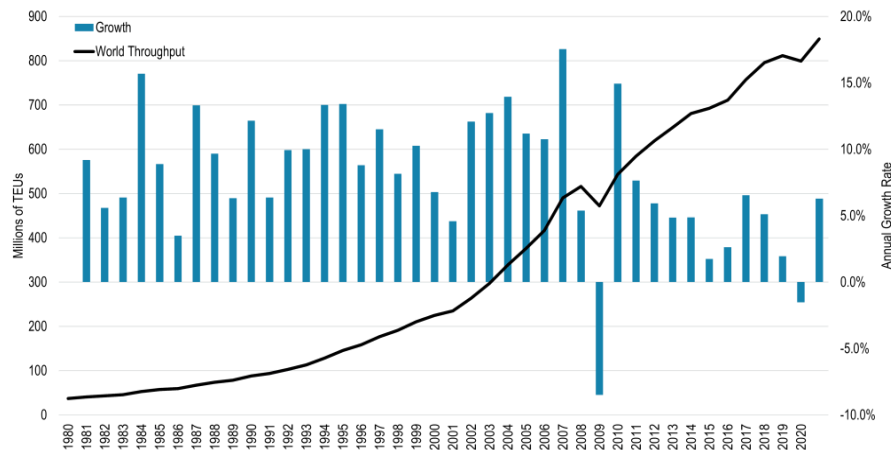
Figure 3 Global containerized trade (million TEUs and percentage annual change), years 1996-2021.



Source: UNCTAD's elaboration based on data from MDS Transmodal, World Cargo Database (September 2022).

As regards container ports activity, over the last four decades it has experienced an ongoing growth from 36 million TEUs in year 1980 to 237 million TEUs in year 2000; then it accelerated such growth path from 545 million TEUs in year 2010 to 857 million TEUs in year 2021 (UNCTAD, 2022). In year 2021 the world container ports traffic increased by +6.8% with respect to year 2020, when the world container ports' throughput declined by -1.0% (798.9 million TEUs in year 2020 versus approximately 802 million TEUs in year in 2019). Therefore, since the 1980s the global container port activity has experienced positive annual growth rates, with only two negative records in years 2009 and 2020, respectively associated to shock-events such as the financial crisis and the COVID-19 pandemic, registering in the period 1980-2021 a compound annual growth rate (CAGR hereinafter) of +8.038%. In both cases, the decline in world container port throughput was associated with a drop in discretionary spending, which was more lasting and significant during the 2008 and 2009 financial crisis.

Figure 4 World container ports' throughput (millions of TEUs), years 1980-2021.



Source: Notteboom, Pallis and Rodrigue (2022).

The impact of the COVID-19 pandemic on global trade and maritime business has demonstrated once more, if any were needed, how the demand for maritime (container) transport (and thus the one for container port activity) is properly considered by economist a derived demand. Nevertheless, Ferrari and Tei (2020) argued that shipping lines could adapt to the COVID-19 pandemic better than in other demand-related crises (e.g., the financial crisis in year 2009), by adopting novel and partially collaborative approaches (e.g., massive use of the so-called “blank sailings” practice).

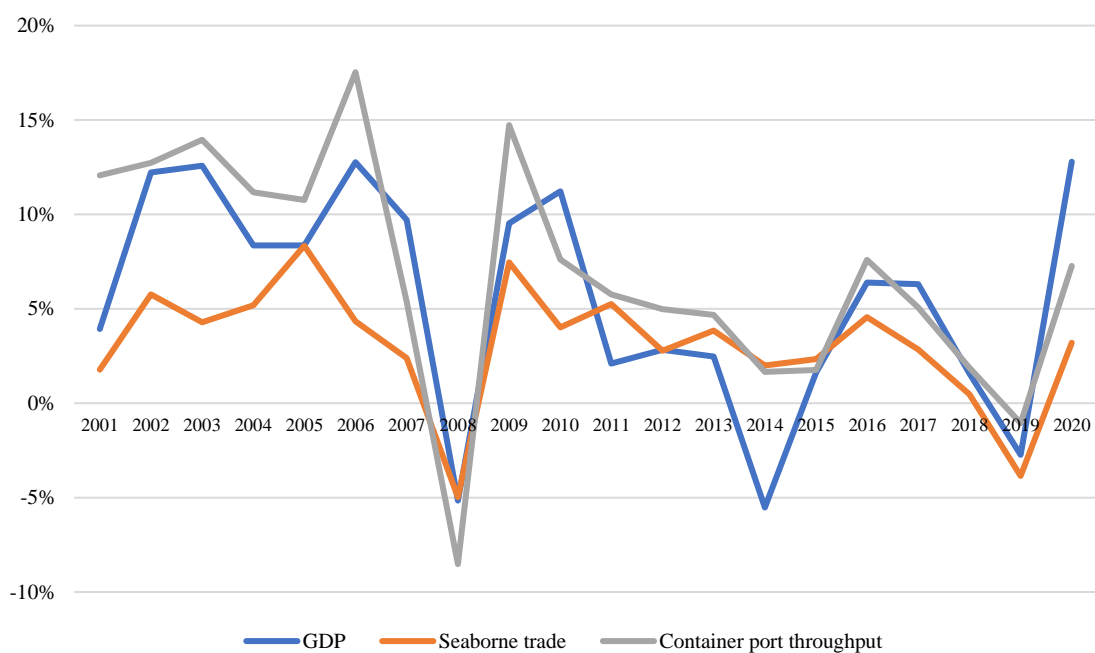
At this point, it is worth noting a significant difference among the (container) shipping and port industry more evident on the occasion of the COVID-19 pandemic: the former’s easier adaption capability to demand shocks, at least in the short run, through the adoption of temporary initiatives (e.g., the aforementioned massive use of blank sailings). While (ocean) carriers managed to adjust their own supplied capacity to the ongoing crisis due to the COVID-19 pandemic, the port sector has been greatly impacted by the fall in transport demand, not being able to counteract the demand shortages as effectively as the carriers (Crotti, Ferrari and Tei, 2022).

Scholars have also paid attention to the TEUs to GDP ratio in order to either detect the multiplier effect of the container port industry on the economic growth, at least at national or regional level, and attempt to forecast national container port traffic (Rodrigue, 2022). In the 1990s, the TEUs to GDP multiplier hovered around the +3.4 mark and began to decline at the turn of the century (in year 2000 World GDP grew by around +5% while container port volumes grew by +12.5%). From then until the financial

crisis in year 2008, the TEUs to GDP multiplier averaged +2.6, and then fell further to +1.4 between year 2010 and year 2019.

Nowadays, about 70% of international trade involves Global Value Chains (hereinafter GVCs), as services, raw materials, parts, and components cross borders often numerous times (OECD, 2021) and, once incorporated into final products, they are shipped to consumers all over the world. Therefore, i) the increasing integration of national economies (i.e., the so-called globalization process) combined with ii) the ever fragmentation of GVCs suggest, both for academics and forecasting purposes, to rather look at the TEUs to alternative measures of the economic importance of international trade, like trade in value added (hereinafter TiVA⁴) indicators elaborated and published by the OECD.

Figure 5 Annual growth rate of World GDP, seaborne trade and container port throughput, years 2000-2020.



Source: Author's elaboration on UNCTAD (2022), World Bank (2022) and Drewry Shipping Consultant (2022) data.

⁴ In order to begin providing the evidence needed to respond to policy questions raised by the growing importance of GVCs for trade and investment, the OECD launched an initiative to measure TiVA terms. TiVA indicators are estimated from the OECD Inter-Country Input-Output (ICIO) tables which are based on statistics compiled according to the 2008 System of National Accounts (SNA 2008) from national, regional, and international sources and use an industry list compatible with the International Standard Industrial Classification (ISIC) Revision 4.

Under a macro-economic perspective, the international maritime trade development path, the growth dynamic of the containerized cargo type and the related steady annual increase of world container port throughput show, in few words, what is recognized as the globalization process. The sheer scale of shipping and port companies' specific global networks and the assets size contributed to the realization of operational economies of scale and scope, resulting in a gradual decrease in transport and logistics costs for international business. Nevertheless, adopting an industry specific point of view, over the last four decades which had been the evolution process (i.e., drivers and criticisms) and trends of the industry (the port and maritime logistic one, especially container port and shipping sectors) which, alongside with the openness of financial markets, underpinned the ongoing growth of global (seaborne) trade and integration of national economies?

I.2 The (container port) industry specific point of view.

The port sector has radically changed over the past two centuries. During the 19th century and the first half of the 20th century, ports tended to be state instruments or colonial powers and port access and egress was regarded as a mean to control national and/or colonial production and consumption markets. Competition between ports was minimal and port-related costs were relatively insignificant in comparison to the high cost of ocean transport and inland transport. As a result, there was little incentive to improve port efficiency.

In the second half of the 20th century, in particular starting in the 1980s, a wave of port reforms had been observed taking place around the globe. Such reforms were the result of a process that started at least two centuries earlier in the context of a contraction of space-time and the emergence of capitalism (Braudel, 1979).

Although these port reforms were eclectic in both their objectives and the forms they took, they did share a common context in terms of a dynamic world economy characterized by a revitalized globalization process of production and consumption markets, a consequent burgeoning growth in international maritime trade and, more specifically, a booming demand for container cargo type transport and its supporting infrastructure provided by container ports and terminal operators. For instance, the footprint of container terminals increased dramatically, with some of the newest facilities in largest hub ports having an annual handling capacity of over 5 million TEUs and for a

single large-scale project, the total investment cost related to the infrastructure (quay walls, land reclamation, dredging works, preparation of terminal surface, etc.) and equipment (ship-to-shore cranes, yard equipment, etc.) reaching several billion of US dollars.

In such a context, GVCs established themselves as the dominant paradigm in the internationalization process of production sites and the containerized traffic sector, alongside the progressive opening of consumers markets worldwide, has appeared to be among the most “dynamic” (in terms of annual growth rate) establishing itself as the real "vascular system" of the modern economy.

The above-mentioned port reforms have mainly assumed a form ranging, at the two extremes, from the liberalization of certain port activities previously reserved exclusively for the public sector (i.e., public monopoly) to the privatization (either comprehensive or partial) of terminal operations and/or of Port Authorities. As a result, there have been three major changes of public action in the port domain as well as in transport in general: i) a change in objectives, ii) a change in instruments and iii) a change in institutional framework (Hall, 1993).

According to the World Bank’s (2007) taxonomy, after the completion of the wave of port reforms, in the port domain governance models can be brought back to four forms of port organization, which are distinguishable by the relative levels of private and public participation in ports ownership and operation. At the two extremes are the public service port and the wholly private port, both characterized by very little sharing of responsibility between public and private actors. In the third category, the tool port, the public sector is dominant as it owns the land, the infrastructure and the equipment, and private sector activity is limited to some operations, most commonly cargo handling performed using equipment owned by the public authority. The fourth category, the landlord port, is one in which the public authority owns the land and the infrastructure and leases these to private operators as a concession, with equipment and operations in the hands of the private sector.

However, while the division between public and private spheres is the core of the World Bank’s port governance models to provide some insights and guidance for port organization, recent national comparisons of actual port reform processes raise questions about the differentiated transposition of homogenous port governance schemes in various

institutional contexts (Brooks, 2007; Ng and Pallis, 2010) calling for a deeper contextualization of port governance schemes and addressing the port governance reform process as a dynamic one (Debie, Lavaud-Letilleul and Parola, 2013).

Main theoretical contributions on port reform processes reveals that the assumption of “global institutional convergence” must be questioned. The apparently standardized global reform process has to be unpacked in order to fully understand the multitude of country-specific reform processes (Debie, Lavaud-Letilleul and Parola, 2013).

In this regard, the epistemological bridge connecting port reform and port governance has revealed itself as needing for further investigation and clarification. Port management governance is, indeed, continuously challenged to adapt to a “fast changing port ecosystem” (Notteboom and Haralambides, 2020).

A vast amount of literature has focused on port governance “devolution” but also on “re-centralization” of decision-making processes, port management efficiency as well as on effectiveness of port operations. Brooks (2004) claims that it is difficult to use the World Bank framework of the Port Reform Toolkit or others (such as in Baird, 2000) in order to understand the governance scheme and the management approach to port activities. Subsequent empirical studies have clearly demonstrated that, notwithstanding the long and interesting academic discourses, there is no empirical evidence of “adoption of a specific governance model” (Notteboom and Haralambides, 2020).

Similarities between the instances of port reform which took place during the first wave of port reforms in the 1990s appear to be far greater than the cases of reform observed over past decade. In the 1990s, the first wave of port reforms was marked by “devolution” and/or “de-centralization” and transformation of mostly public port authorities to corporate entities with full or, at least, substantial management and financial autonomy (Brooks, Cullinane, Pallis, 2017). Over the past decade, however, legislative adjustments have been of a more complex nature and of a wider variability; there has no longer been a single theme, such as “devolution” or the “opening of the market to private terminal operators”; changes to port governance models have not always been guided by large-scale port reform programs. Small and subtle changes have rather occurred over the last decade with port actors opting for an approach of “institutional plasticity” (Strambach, 2010). Port governance has evolved without breaking out of the existing

governance mould (Brooks, Cullinane, Pallis, 2017) and port management schemes are ever subjected to a series of smaller (or bigger) legislative alterations over time.

The series of port reforms started worldwide at the end of the 20th century can be considered as a “regulatory innovation”, borrowing the concept from Black, Thatcher and Lodge (2005), “introduced” in the (global) port and maritime logistic industry which has favored and prompted both the internationalization of firms involved in container terminal operations and the attraction in the container port industry of capital either from abroad, especially but not only in developing countries, as well as investments from companies even "far away" from the logistics and (maritime) transport businesses. Corporatization, which refers to the re-organization of a government-owned entity into a commercial entity (Notteboom and Rodrigue, 2022), of container terminals and ports has been substantially investigated in literature (the process of “devolution” by Brooks, 2004; the process of “privatization” by Cullinane and Song, 2002 and by Baird, 2000; the “landlord transition” by Comtois and Slack, 2003, by Notteboom and Winkelmanns, 2001 and by Brooks and Pallis, 2008) and it is widely recognized to have favored the emergence of so-called global or international terminal operators (hereinafter GTOs or ITOs) defined as privately owned or state-controlled firms operating/holding container terminals even outside the home country and across various regions or continents.

Liberalization schemes of container terminal operations under various guises have translated into a variety of entry opportunities for once local terminal operators wishing to expand their geographic scope (Olivier, 2005).

However, taking into consideration in a more detailed manner the above-mentioned wave of port reforms started in the 1980s, it can be split in three sub-waves characterized by different private investors’/operators’ commitment (in terms of US dollars invested) and geographic diffusion (in terms of number of countries allowing private container terminal operations):

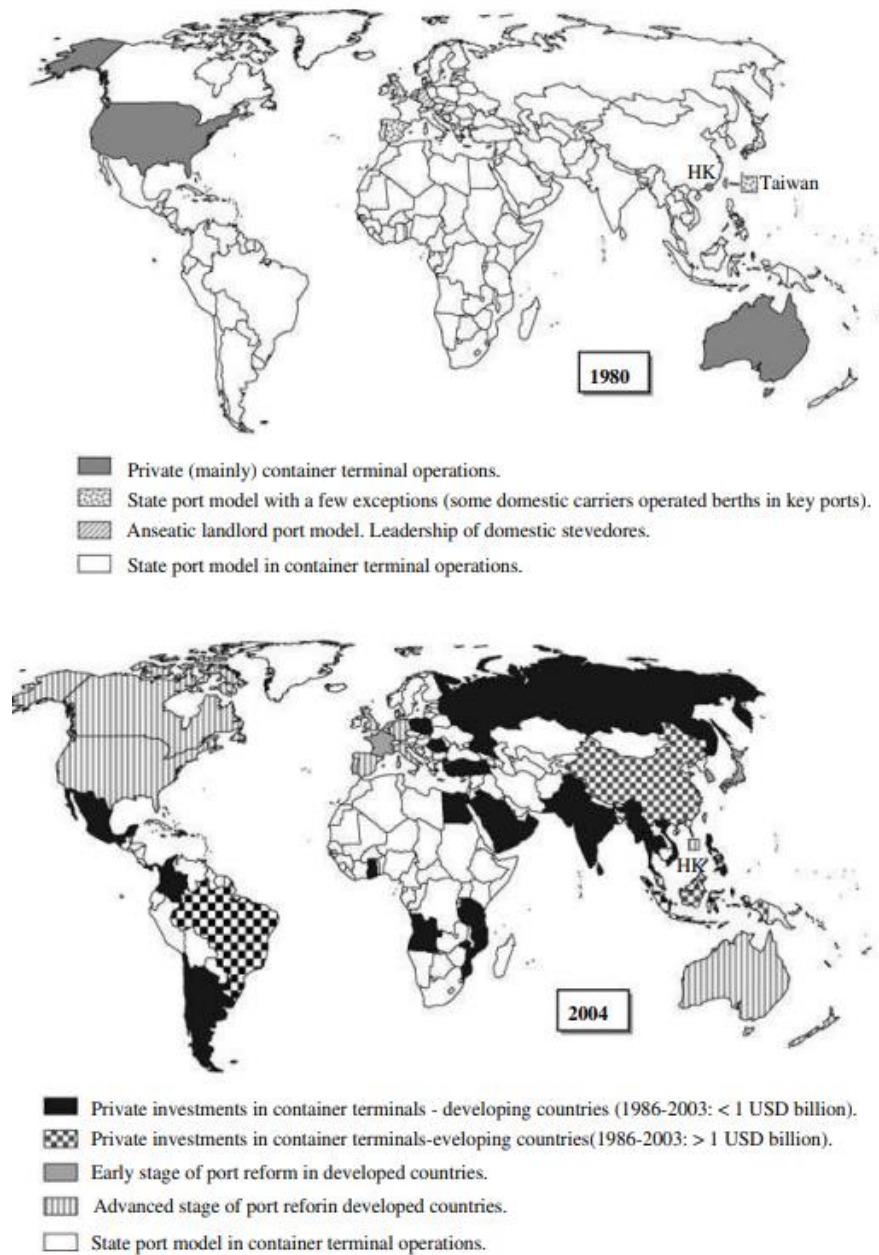
- i. the early 1980s wave of port reforms.
- ii. the late 1980s - early 2000s wave of port reforms and
- iii. the mid-2000s - year 2019 wave of port reforms and legislative alteration of previous ones.

Before year 1980, only in a few countries, such as the U.S.A. and Hong Kong, it was possible for private companies to invest in port facilities. In the early 1980s, the British Government created the State-owned company Associated British Ports (hereinafter ABP) and started to sell its shares to private investors/operators. Later on, other countries such as Malaysia, Philippines, Italy, Thailand, People's Republic of China, New Zealand and many others followed this example and started to lease out their port assets.

In the 1990s, the explosion of the globalization process strongly enhanced ports liberalization and privatization reforms. Most of academic contributions have focused on the creation of global and/or regional maritime centers in Asia and Europe: the aforementioned privatization of United Kingdom's ports, the structural changes in Italian and Greek port systems, the de-centralization of port management in the People's Republic of China, the major privatization processes in France, in Spain and in the German-Dutch-Belgian port system have been long studied and debated (Dombois and Koutsoutos 2007).

Empirical evidence shows that the latest wave of port reforms does not present geographical uniformity: reform efforts have been fiercest among developing countries (at least until the year 2007) seeing their booming economies facing severe port capacity constraints and as such these countries have been most successful in attracting the lion share of foreign direct investments (hereinafter FDIs) (Olivier, Parola, Slack and Wang, 2007). While, since year 2010, a large number of African and even Latin-American countries (see, for instance, the case of Brazil, Galvao, Robles and Guerise, 2017; Doctor M., 2020) has remained quite "stuck" in the existing port governance models, with some notable exceptions like the case of Nigeria (Akinyemi, 2016), of South Africa (Havenga, Simpson and Goedhals-Gerber, 2017), of Ghana (Andersen, Aryee, Acheampong, and Skovsted Hansen, 2023) and of Mexico (Villa, 2017),

Figure 6 Global waves of port reforms, early 1980s – late 2000s.



Source: Olivier, Parola, Slack, Wang, 2007.

Furthermore, at the time of writing the trend of “devolution” in port governance settings seems to be starting to reverse, with decision-making powers returning to the “center”, a trend apparent not solely in port sector. It seems to many scholars that concentration and “re-centralization” of decision-making processes, at least at regional level, in the economic activity might be the answer to criticalities and challenges prompted by last stages of the globalization process. Finally, in addition to the much-

acclaimed regionalization of GVCs, port systems are ever requested to confront with territorial specific challenges and opportunities in terms of economic and social development priorities, port–city relations, land scarcity and environmental sustainability items. Such a regional embeddedness implies that ports may adopt a different management approach in terms of tasks, roles and activities they assume and develop.

This is the case, for instance, of the “Yesterday once more” strategy of cooperation between central SOEs and local government in order to revitalizes Liaoning Ports.

Financial constraint on local and national government budgets has, also, induced transferring part of port investments and operating costs to the private sector, and, in some cases, government raised new monetary entrances from port asset divestitures (World Bank, 2007).

At the turn of early 1990s as well as on the financial crisis (years 2008-2011) ever increasing budgetary requirements for port investments could not be financed by sources of public finance alone and, thus, it has been widely recognized a significant port infrastructure financing gap and the need to greater recourse to private sector financial resources (OECD, 2011).

Internationalization strategies pursued by once local terminal operators were, initially, set to search for investment opportunities abroad (Peters, 2001). This is the case of pure stevedores (such as EUROKAI into Lisbon (Portugal) in year 1984, P&O Ports in Kelang (Malaysia) in year 1986, HPH in Felixstowe (U.K.) in years 1991 and 1992, in Zhuhai and Shanghai (China) both in years 1992 and 1993 and SSA in New Zealand and in South Africa in year 1993) that expanded abroad their container terminal operations when port privatization schemes began to be implemented in the early 1990s.

To be fair, it has to be mentioned that since the late 1960s a number of major shipping companies (such as SeaLand⁵ in Port Elisabeth in year 1962 and, abroad, in Yokohama (Japan) in year 1968; NYK Line in the port of Yokohama in year 1969 and, abroad, in Seattle (U.S.A.) in year 1986; Mitsui O.S.K. Lines (MOL) and “K”-Line jointly in the port of Osaka in year 1969 and “K”-Line, abroad, in Long Beach (U.S.A.) in year 1971; Maersk Line abroad in Newark’s port (U.S.A.) in year 1975, etc.) have experienced a process of vertical integration and business-diversification into inland

⁵ SeaLand has been the first ocean carrier to operate its own container facility, in Port Elisabeth (New York, U.S.A.), in year 1962.

transport, container terminal operations, warehousing and distribution activities (Parola, Satta and Caschili, 2015) thus acquiring, among others, equity stakes in container terminal operating companies or directly managing “single-user” container terminal facilities in order to exploit “dedicated” services (Slack, 1993; Haralambides et al., 2002; Soppé et al., 2009). Still, from the late 1960s to early 1980s SeaLand and American President Lines (APL) did invest in container terminal operations, but at a lower scale and in a much more closed context as public ownership and operation still dominated (Olivier, Parola, Slack and Wang, 2007).

The participation of private operators in the container port industry peaked in the mid-to-late 1990s. On one hand, ITOs recognizable as pure stevedores had to confront with ever larger and fewer ocean carriers, thus having ever more bargaining power due to the container shipping market consolidation⁶ occurring through various forms of operational cooperation agreements between shipping companies and through the M&As activity and demanding higher specialized services at a lower cost (Notteboom, 2002). On the other hand, ocean carriers had been also pursuing a second wave of vertical integration in the container port industry, this once securing “semi-dedicated” terminals in locations considered at that time “strategic”, in order to better control operative costs⁷ associated to operational performance and as a measure to improve the vessels’ schedule integrity and reliability. Therefore, ITOs recognizable as pure stevedores had been pursuing the horizontal integration strategy and in part counterbalanced the ever-higher market concentration trend taking place in the container shipping industry.

Most representative M&A deals of this consolidation phase of the container port industry are, for instance, the acquisition of CSX World Terminals LLC and the much debated one of P&O (Ports) by DP World (respectively, in year 2005 for about 1.1 billion of US\$ and in year 2006 for about 4.4 billion of US\$) as well as, in the same year, the minority participation (20%) assumed by PSA International in Hutchison Port Holdings (HPH hereinafter). By converse, most significant M&A deals of the second wave of

⁶ Trade agreements in the form of liner conferences were very common till this type of cooperation was outlawed by the European Commission in October 2008. The first strategic alliances among shipping lines date back to the mid-1990s. At present, the horizontal integration dynamic in the container shipping industry is based both on M&As activity and operational cooperation in many forms ranging from slot-chartering and vessel-sharing agreements to strategic alliances.

⁷ «Such strategies can emanate in a less efficient (container) terminal use which is largely compensated by associated (cost) savings in vessels operations. » (Notteboom, Rodrigue, 2012).

vertical integration in the container port industry pursued by ocean carriers had been: the acquisition of American President Lines (APL) and its terminals portfolio by Neptune Orient Lines⁸ (NOL) in year 1997 (about 1.5 billion US\$); the acquisition by A.P. Møller - Mærsk of Sea-Land Service (International Liner Business, CSX Corporation retained Sea-Land's US domestic operations.) in year 1999 (about 0.8 billion US\$); the acquisition of Ceres Terminals by NYK Line in years 2002 and 2006 (respectively, the US activities as first and then the Europe's business).

Furthermore, in year 2000 MSC established the subsidiary Terminal Investment Limited (TiL) in order to secure container terminals' capacity in the major ports called by the (parent) shipping company itself; then again, in year 2001 APM Terminals brand⁹ came into existence and Terminal Link was created by CMA CGM as a subsidiary dedicated to international container terminal operations. This new approach to the container terminal activities adopted by some major container shipping companies since the early 2000s represented a significant change in their corporate / group strategy: they started to manage container terminals as "multi-users" facilities by attracting third-party carriers and thus generating profits (i.e., they started to manage them as "profit centers"). Thus, other than pure stevedores and ocean carriers, since the early 2000s a new typology of ITO emerged, the "hybrid operators" according to the ITOs' categorization proposed by Drewry Shipping Consultant (2003, 2020).

The ongoing globalization process, the steady increase of seaborne containerized cargo trade and the related vessel upsizing have pushed terminal operators and Port Authorities into making significant investments in port equipment and nautical accessibility in view of adapting the capacity of ports and container-terminals (Tran and Haasis, 2015; Notteboom, 2016). The development of container ports' infrastructure and the procurement of container terminals' superstructures and info-structures requested for ever larger amounts of financial resources and the increasing competition¹⁰ both "within" and "for" the container port industry requested for advanced managerial skills.

⁸ Temasek Holdings, Singaporean State-owned holding company, owns a 49% equity's stakes in Neptune Orient Lines (NOL) starting from year 1988. In year 2004 Temasek Holdings' equity's stakes in NOL raises to 79%.

⁹ Since year 2008 APM Terminals began reporting financially as a separate business entity.

¹⁰ The competitions "within" the container port industry arises since the combination of fewer liner services and larger ships has led to increased competition among container ports to act as a port of call; the competition "for" the container port industry arises since, simultaneously, both pure stevedores pursue

Taking into consideration in a more detailed manner the entrance of private operators in the global container port industry, it is possible to adopt the distinction proposed by Parola, Notteboom, Satta and Rodrigue (2013) between:

- i. the “direct PPP” entry strategy, based on the building of a new PPP arrangements and
- ii. the “indirect PPP¹¹” entry strategy, focused on entering in an existing PPP initiative resorting to financial transactions to handover an equity share within the existing PPP arrangement.

Empirical evidence underlines the prevailing role worldwide of “direct” PPP entry strategy in the container terminal operations business until the late 1990s, following the early phases of port liberalization and privatization. Subsequently, since the early 2000s financial transactions became the preferred entry mode in the global container terminal business, either in response to the fierce competition both “within” and “for” the container port industry and the progressive scarcity of available port spaces for greenfield projects, especially in developed countries, and in order to leapfrog entry barriers and capture market opportunities (De Langen and Pallis, 2007; Olivier, Parola, Slack and Wang, 2007).

In such a context, investment banks assumed a key role in orchestrating, in quality of sell-side or buy-side advisors, big M&A deals in port and maritime logistics industry and in the associated provision of necessary financial resources. At the beginning investment banks entered this market seeking both new customers to be assisted in the listing process on the equity capital market (hereinafter ECM) and investment opportunities, at an initial stage with reference to the debt capital market (DCM hereinafter) or the bonds private placement market. However, at least since the early 2000s, investment banks and private-equity (hereinafter PE) funds, triggered by steadily increasing market growth rates and high profitability experienced by firms operating in

horizontal integration strategy and ocean carriers pursue a new wave of vertical integration strategy in the container port industry and related inland transport businesses.

¹¹«While the “indirect PPP” foreign entry strategy refers to a terminal operator entering an existing PPP arrangement, it does not imply that the details of the PPP arrangement or contract remain unchanged» (Parola, Notteboom, Satta and Rodrigue, 2013) after the conclusion of the financial transaction (acquisition of) regarding the so-called “PPP company” or Special-purpose vehicle (hereinafter SPV).

the container port industry (as well as in other port-related businesses like cruises terminals, etc.) started to, directly or through their dedicated infrastructures investment arms, invest in the equity of companies involved in container terminal operations as well as in other port-related businesses.

Since year 2011 (and at least until the early 2020) this trend of various typologies of financial operators populating the global container port industry continued although it has been characterized by a distinctive investment approach adopted by financial actors. While previously financial companies, in particular investment banks and PE firms, entered the container port industry, seeking for benefits from a sector characterized by a double-digit CAGR, of about +10.15% over the period 1980-2007, according to an aggressive and speculative investment strategy, since year 2011 it has taken place a “substitution” in the typology of financial operators investing in the container port industry: resulting in the increasing presence of public and private pension funds and infrastructure-assets specialized investment companies instead of investment banks and “generalist” PE funds. Such substitution in the typology of financial operators investing in the container port industry has led to a change also in the adopted investment approach to the industry: establishing long term (growth) relationships with target companies and greater involvement in public-private partnership initiatives (PPPIs hereinafter).

In the same timeframe (since year 2011 to date), equity partnerships among ITOs have been observed as strengthening and widening, being the global container port industry ever more complex, riskier, and requiring ever larger capital outlays, especially for greenfield projects in developing countries.

In such a context, the role of multinational industrial conglomerate and of main vertically integrated logistic operators, which are able to better face the enforcing competitive and technical complexity of the sector has been increasing, while it has emerged also the dominant role of State-owned enterprises (SOEs hereinafter), of Sovereign wealth funds (SWFs hereinafter) and, at a lesser extent, public pension funds (the former especially from Asian countries, the latter from Anglo-Saxon countries) which dispose of significant amount of financial resources and are able to better manage risks (at least the financial and political ones).

While maritime shipping lines are mainly private entities, most ports were publicly owned and operated until liberalization and privatization reforms were set in the 1990s

(Brooks, Cullinane, Pallis, 2017). Ports became more market oriented as inter-port competition intensified in line with the emergence of contestable hinterlands and more complex supply chains. Since ports are considered merely as nodes in global supply chains, the real benefits of port productivity gains and lower costs accrue to the producers and the consumers of products shipped through the ports because they enjoy the benefits of “low-cost” seaborne trade.

Therefore, the last four decades have witnessed profound transformations in the field of port and maritime logistics as well as more recently, in the last decade, in the related rail and air (freight) transportation industries. Ports, as known, have undergone strong pushes towards their restructuring and reorganization, along the "chain" of a transport network that no longer wants them to be simple places for loading and unloading goods from a transport's mode to another but integrated nodes in a complex system of logistic, business and institutional relationships, pushed by constant technological innovation, where it is possible to provide also value-added services (VAS hereinafter) to goods.

I.3 External shocks and (global) supply-chains' disruptions over last three years.

At the onset of the COVID-19 pandemic, the combination of supply-side shocks and demand-side shocks caused by lockdown policies across the world initially resulted in lower international (seaborne) trades and port volumes. However, the situation started to reverse rapidly in the second half of year 2020, fueled by a shift in consumer spending from services to products, in such a context e-commerce registered a sharp growth, and by a rather unexpected fast recovery of global economy supported by extensive and widespread government financial stimulus packages.

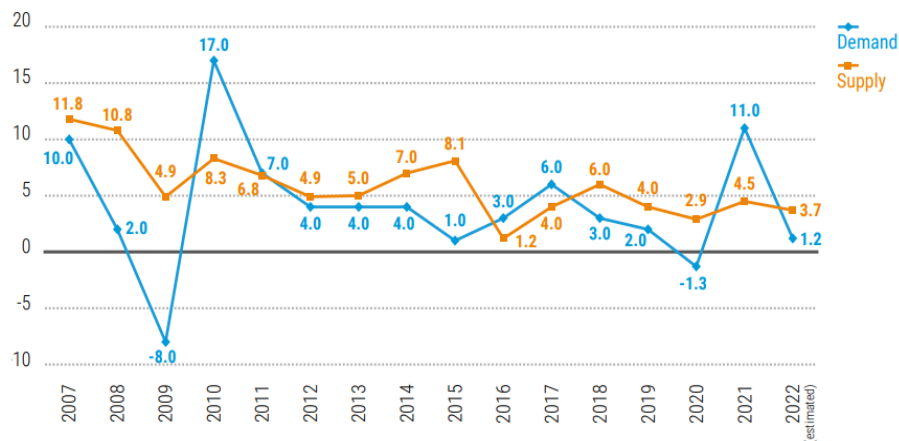
Strong demand growth (particularly for durable goods such as office equipment, electronics, and furniture) and large-scale restocking by importers and retailers began to pressure supply chains. At the same time, the supply-side has had to struggle with port closures, workforce shortages and constraints in hinterland transport, due to quarantines and lockdowns policies, as well as shortages of empty containers (also chassis, rail wagons, etc.) and of storage and warehousing spaces. This supply–demand imbalance gave rise to two unprecedented situations in the international maritime industry:

- i. the congestion in ports;
- ii. the highest spot freight rates ever.

Throughout year 2021, demand and supply conditions in the container shipping market were unusual. On the one hand, there was an +11% increase in global containerized trade volumes, a rebound that put additional pressures on carriers and ports. At the same time there was an increase in spot container freight rates as consequence of low growth in fleet supply and disruptions in supply chains, caused mainly by COVID-19 pandemic, associated with greater port congestion and landside problems that globally reduced container terminals’ capacity.

Global container fleet capacity expanded by only +4.5%, much less than the growth in demand. Nevertheless, due to the various disruptions the effective capacity decreased significantly by more than -15% at some times (UNCTAD, 2022).

Figure 7 Annual growth rate of demand and supply in container shipping, years 2007–2022.

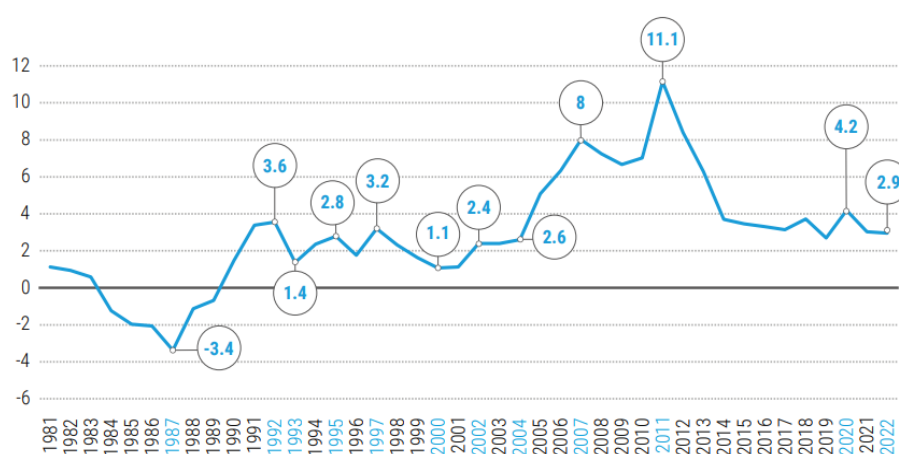


Source: UNCTAD’s calculations¹² based on national statistics and data from Clarksons Research.

In year 2021, the global commercial fleet grew by under three per cent (+2.9%), the second lowest rate since year 2005. The fastest growth, driven by global gas demand concerned liquefied gas carriers followed by containerships and bulk carriers (UNCTAD, 2022).

¹² Supply data refer to total capacity of the container-carrying fleet, including multipurpose and other vessels with some container-carrying capacity.

Figure 8 Annual growth rate (percentage of the DWT) of commercial fleet, years 1981–2022.



Source: UNCTAD’s calculations based on data from Clarksons Research.

The increasing demand alongside with the supply constrained by workforces reduced to limit social contact, spillovers from disruptions in hinterland transport and some temporary port closures, as in China, implied that between year 2020 and year 2021, there was a +13.7% increase in median vessels turnaround time for container ships (UNCTAD, 2022).

Table 1 World median time in port, average vessels’ age and size by vessels’ type, year 2021.

Vessel type	Median time in port (days)	Median time in port, annual change (%)	Average age of vessels	Average size (GT) of vessels	Maximum size (GT) of vessels	Average cargo carrying capacity (dwt) per vessel	Maximum cargo carrying capacity (dwt) of vessels	Average container carrying capacity (TEU) per container ship
Container ships	0.80	13.7	14	37 223	237 200			3 431
Dry breakbulk carriers	1.17	2.1	21	5 463	91 784	7 427	116 173	
Dry bulk carriers	2.11	2.3	14	32 011	204 014	57 268	404 389	
LNG carriers	1.13	0.9	11	95 356	168 189	74 522	155 159	
LPG carriers	1.03	-1.5	15	10 541	61 000	11 799	64 220	
Liquid bulk carriers	0.98	1.3	14	15 739	170 618	27 275	323 183	
All ships	1.05	4.8	16	21 732	237 200	26 997	404 389	3 431

Source: UNCTAD’s calculations on data provided by MarineTraffic.

The resulting ports congestion reduced global container shipping capacity, which between December 2021 and September 2020 fell by -16% (UNCTAD, 2022).

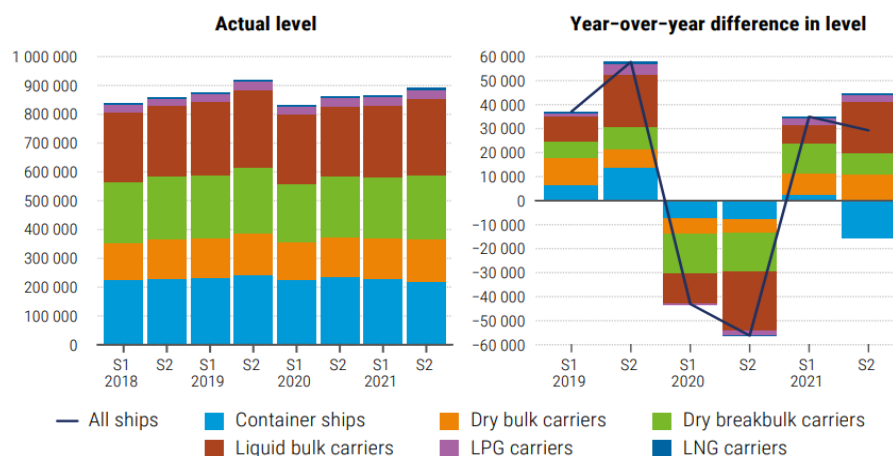
Delays were longer and more persistent in some parts of the world than others. Chinese export hubs such as Shanghai, Qingdao and Tianjin were exceptionally congested, mainly due to China’s “zero-COVID” policy. Port congestion was also particularly high at main U.S.A. import hubs, at Los Angeles and Long Beach, which are

major gateways on the west coast trade lane and cannot be circumvented, unlike it occurs in Asia or in Europe, where ocean carriers can skip congested ports.

Therefore, services and schedules became less reliable. More ships had been needed in order to maintain schedules and shippers, who wanted to ensure their cargo was loaded on time, had to pay surcharges. In July 2021, the capacity on the two main East-West trade lanes represented 41.4% of global annual (container) fleet deployment compared to 34.6% in the previous year. Between July 2020 and July 2021, the capacity on Far East to North America trade grew by +31% and on the Far East to Europe trade by +20% (UNCTAD, 2022). The add-on of ships, in turn, implied increased port congestion since terminals and storages, along with the hinterland connections (i.e., trucks and trains connections) could not adapt to the traffic increase. To address criticalities in the more profitable lanes, ocean carriers withdrew capacity and empty containers from the smaller trade routes, with corresponding knock-on effects.

Chronic port congestion, between September and December 2021, is estimated to have removed around 16% of global container ship sailing capacity (Dierker et al., 2022). Between the January 2016 - February 2020 and March - July 2022 periods, the proportion of containerships' capacity waiting in ports rose by +5% to +37% (UNCTAD, 2022). In addition, carriers seeking greater profitability changed their shipping patterns, stopping calls at certain ports (the so-called “blank sailings” practice).

Figure 9 World port calls per half year, years 2018-2021.



Source: UNCTAD's calculations on data¹³ provided by MarineTraffic.

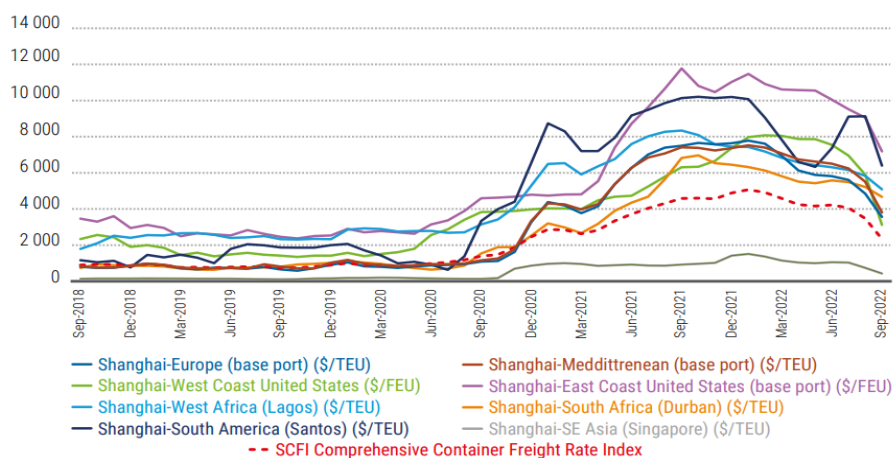
¹³ Ships of 1,000GT and above. Not including passenger ships and Ro/Ro vessels.

In line with the broader upturn in the global economy, the world cargo-carrying ships made more port calls during the first six months of year 2021 compared with the corresponding period in year 2020. The second half of year 2021 saw a rebound in port calls, which continued in the first nine months of 2022 in all segments except containerhips which faced continuing port congestion (Clarkson Research, 2022). According to Clarksons Research (2022), the proportion of containerhips in port, taken as a proxy of port congestion, increased from +31.7% in year 2019 to +34.2% in year 2020, +34.9% in year 2021 until +35.7% in the first nine months of year 2022. Calls were mainly reduced by lockdowns in major Chinese cities and the impact of the war in Ukraine which entailed increased customs checks.

From late 2020, spot container freight rates started to rise spectacularly, reaching new highs at the at the end of year 2021. This was reflected in the Shanghai containerized freight index (SCFI), which tracks rates on the major trade routes from Shanghai. In December 2019, the SCFI stood at 898 points but by December 2020 it was 2.455 points and in December 2021 it was nearly 5.000 points. In year 2021, i) the shortage of container shipping capacity and ii) continued supply-chains' disruptions caused by COVID-19 pandemic, combined with iii) a rebound in trade's volumes boosted spot container freight rates to record levels. By mid-2021, rates had peaked at four times their pre-pandemic levels. Container carriers also faced extra expenses, but they were able to post record profits.

At the start of year 2022, container freight rates remained high and volatile, though they started to drop in the second quarter of the year as capacity constraints were easing, spot freight rates moderating (but still above the pre-pandemic levels) and volumes were not increasing too fast. Over four weeks between August and September 2022, there was a double-digit fall. By the third week of September 2022, the SCFI had dropped by nearly -60%.

Figure 10 Shanghai Containerized Freight Index (SCFI) monthly spot rates (selected routes), Sep. 2018 – 2022.



Source: UNCTAD's calculations based on data from Clarksons Research.

The war in Ukraine has dented (international) business confidence and heightened (global) geopolitical uncertainty, as its impacts ripple across (hard) commodities and financial markets as well as across GVCs.

For consumers, the main implication has been the raising inflation since the Russia-Ukraine war has reduced food and energy security and increased their prices. Ukraine and the Russian Federation are among the world breadbaskets. They provide around 30% of the world wheat and barley, one-fifth of its maize and over half of its sunflower oil. The Russian Federation is also world leading natural gas exporter and the second-largest oil exporter (UNCTAD, 2022). Furthermore, together Belarus and the Russian Federation export around a fifth of the World fertilizers (Clarkson Research, 2022).

At the outbreak of war, there has been an immediate impact on commodities prices. By March 2022, Brent crude oil prices surged by more than +40% reaching US\$ 114 per barrel, up from US\$ 79 per barrel on 3 January 2022 (Trading Economics, 2022) and gas prices surged to over US\$ 50 per million British thermal units (hereinafter MMBtu) in the first half of March 2022 (UNCTAD, 2022).

Meanwhile, grain prices also jumped and pushed up inflation, while rising fertilizers prices drove up the costs of agricultural production. Over the period 2010-2020 inflation had averaged +2.9%, but in year 2021 it had risen to +5.2% and it is projected to reach +6.7% (UNDESA, 2022). For instance, in March 2022 inflation in the U.S.A.

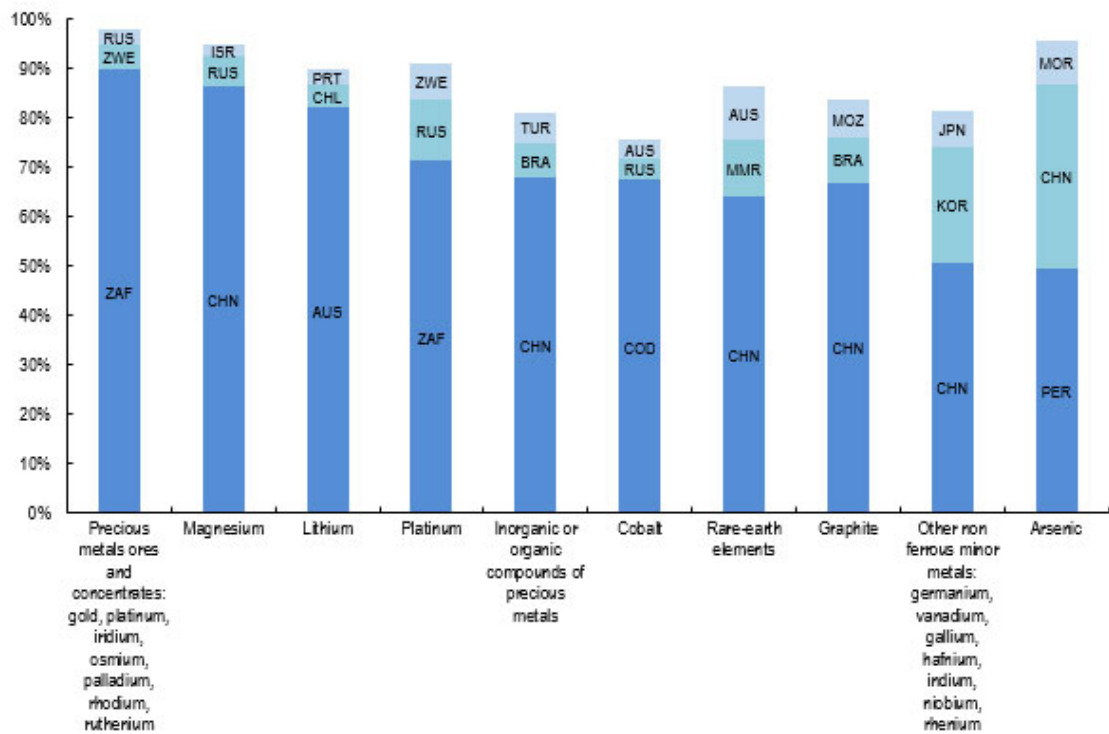
reached its highest level in 40 years. By mid-2022, there were fears of potential stagflation and the world economy slipping into recession.

The Russia-Ukraine war has, also, affected inputs to global manufacturing. The Russian Federation accounts for 40% of the world palladium production (Transport Intelligence, 2022), while Ukraine supplies 90% of the U.S.A. requirements for neon and 70% of the global supply (Sandler Adam, 2022). All these elements are used as inputs in the production of high-tech products such as semi-conductors and ion batteries.

Finally, the war in Ukraine and its impacts could push decarbonization further down the priority list. Supply of critical raw materials risks “jeopardizing” the green transition. According to the OECD Secretary-General Mathias Cormann (April 2023) *«The challenge of achieving net zero CO2 emissions will require a significant scaling up of production and international trade in critical raw materials»* and *«Policy makers must closely scrutinize how the concentration of production and trade coupled with the increasing use of export restrictions are affecting international markets for critical raw materials. We must ensure that materials shortfalls do not prevent us from meeting our climate change commitments»*.

Production of critical raw materials has become ever more concentrated amongst countries, with China, Russia, Australia, South Africa and Zimbabwe among the top producers and reserve holders (OECD, 2023).

Figure 11 Top 3 producers of top 10 most production-concentrated critical raw-materials, share in global production (%).



Source: OECD calculations on United States Geological Survey data.

If natural gas is replaced by coal or if biofuel usage declines, greenhouse gases (GHGs hereinafter) emissions could increase (Cassidy William B., 2022). In year 2021, the European Union (EU hereinafter) imported from the Russian Federation more than 40% of its total gas consumption, 27% of oil imports and 46% of coal imports (Barns-Graham William, 2022). Many countries in Europe are seeking alternatives to the Russian Federation and are importing from more distant locations. To do so, however, they will need to address infrastructure bottlenecks in pipelines, storage terminals and tankers. Imports of natural gas could also partly be replaced by oil, coal and nuclear energy.

The war in Ukraine has also shaken global markets for metals such as nickel that are used for the production of clean-energy products. In the short-term, this could make the clean-energy transition more difficult. However, in the long-term investments in energy-efficiency measures, renewable-energy alternatives and low-carbon technologies should ease the transition to low-carbon and cleaner energy paths (Kearney, 2021).

With reference to the global maritime industry, the war in Ukraine has had a limited impact on container shipping. Nevertheless, nine of first ten global container lines have

suspended their operations in the region and other logistics businesses have exited the Russian market. In addition, to undermining connectivity in the Black Sea ports, the war in Ukraine has amplified port congestion in Europe and caused longer custom controls. Cargo destined to the Russian Federation required transshipment in Northern European ports, which were already congested.

In addition, the war in Ukraine and the related economic restrictions have affected the rail route between China and Europe. In year 2021, as shippers were forced out of heavily congested ports and severely constrained air cargo, they turned to the China-Europe rail network where demand jumped more than +30% to nearly 1.5 million TEUs (Jabil, 2022). Cargo from China, Japan and the Republic of Korea that uses the trans-Siberian route is impeded. Meanwhile, new routes are emerging such as the Middle East corridor of the Trans-Caspian International Transport Route (Barns-Graham William, 2022).

I.4 Next major challenges for existing GVCs.

In year 2020 the COVID-19 pandemic induced an initial backlash against the globalization process. Subsequently, GVCs adjusted to the disruption, although most recent data (WTO, June 2021) show that the initial gains in market share for “Factory Asia” and the initial losses in market share for “Factory Europe” were both pared back during the fast recovery phase, suggesting that the change in market shares may be temporary.

Nevertheless, the COVID-19 pandemic exposed the limitations of the “just-in-time” model whose weaknesses had also been tested by other disruptors such as earthquakes, floods, blockages of canals, trade tensions and restrictive trade measures. Brexit, trade tensions between U.S.A. and China, and Russia’s invasion of Ukraine have posed a challenge to international relations and could lead to policy-driven reversal of global economic integration, a process referred to as “geo-economic fragmentation” (IMF, 2023).

In year 2022, the deteriorating geopolitical environment further exposed the risk associated with heavy reliance on one single or a few suppliers (whether for food, energy or parts and components for strategic manufacturing). For instance, over 90% of the world manufacturing capacity for semiconductors is concentrated in Taiwan and in China

(Cheng, 2022) and developing alternative sources for chips manufacturing is difficult, capital intensive and time-consuming. The crisis in Ukraine has also shaken the food, energy, automobiles, and chip-making sectors. These disruptions have reignited the debate over the future of globalization and the continued relevance of the lean supply chain model, when considering self-reliance and national security.

A survey (jointly conducted in June 2022 by Ti Insight and the Foundation for Future Supply Chain, FFSC) found that most senior logistics and supply chain executives believed that a major transformation of supply chains was underway. Less than 20% agreed that globalization will lead to new supply chain configurations based on “ally-sourcing”. Nearly half of sampled managers thought that protectionism and “re-shoring¹⁴” would make supply chains more fragmented and localized. Nevertheless, there is no evidence of outright re-shoring or of a mass exodus from manufacturing in distant locations. A survey by the American Chamber of Commerce in China (2021) found that only 14% of respondents were interested in relocating and only half of these had acted. Only 3% of companies planned to move activity to the U.S.A., while they were likely to adopt a “China plus one” strategy.

In many cases, re-shoring may not be feasible, particularly if domestic suppliers lack the expertise and the capacity to rapidly scale up operations. In U.S.A., in year 2021, despite attempts to sources diversification, imports of containerized goods from China hit a record high, with 42% of all imports sourced from China, same share as in year 2008 (Barns-Graham William, 2022). China maintained a 56% share of U.S.A. households’ goods imports. In year 2021, imports from China increased by +25% while shipments from Viet Nam grew by +19%. Volumes from other countries such as Cambodia also increased, but from much smaller bases (Cassidy William, 2022). While there is a long-term goal pursued by west economies to move more production out of China and into countries like Brazil and Mexico, the year 2021 re-shoring index has shown a greater reliance on imports from other countries in Asia (Kearney, 2021).

¹⁴ Re-shoring is the opposite of off-shoring, indicating the return of the industry transferred out of the national borders, especially in Asian countries, such as China or Viet Nam and Eastern Europe, such as Romania or Serbia. The phenomenon mainly affects the “long” supply chains, which are very distant from the re-locating companies and not the short ones, which are deployed in neighboring countries. The “short” supply chains, in contrast, are being strengthened, as it is happening in several European countries: companies previously re-located abroad, back down to their home country (back-shoring) or neighboring countries (near-shoring).

A slowdown in the globalization process (often referred to as “slowbalization”) is not a new fascination for scholars. For most developed countries it dates to the aftermath of the global financial crisis (Antràs 2021; Baldwin, 2022): a decrease in FDIs has been particularly visible, with global FDIs declining from 3.3% of GDP in the 2000s to 1.3% between years 2018 and 2022 (UNCTAD, 2022; IMF, 2023).

While a range of factors have contributed to such a protracted phase of “slowbalization”, the fragmentation of capital flows along geopolitical fault lines and the potential emergence of regional geopolitical blocks (IMF, 2023) are novel elements that could imply spillovers whose effects on the global economy are uncertain and complex to detect.

Complete deglobalization is unlikely, though further supply chains disruptions and geopolitical concerns will probably accelerate efforts to promote resilience, security and predictability. Gradual shifts in sourcing are more likely to occur: the most suitable future strategy seems being instead of seeking the “lowest cost”, pursuing the “best cost” weighing both manufacturing and transportation’s costs against key-factors like supply chains’ resilience and environmental sustainability.

For years 2023 and 2024, two “gradual” shift strategies in order to adapt GVCs to a “fast changing world” (i.e., unprecedented shock-events inducing frequent supply chains’ disruptions and geopolitical risks) could be:

- i. Diversification of sources of goods and services (allowing markets to adjust), while balancing the objectives of efficiency and security. Many firms are now dual-sourcing or multi-sourcing. In addition, some industries in Europe and India, supported by governmental efforts in order to achieve strategic autonomy, are already reinventing their business models (The Economist, 2022).
- ii. Retaining “safety stocks” of inputs and commodities considered strategic, both at governmental and firm levels, in order to increase stockholding (Knut et al., 2022), even if this is not a price-less strategy for firms (i.e., it implies higher inventory costs).

Such strategies may be combined with some more orthodox ones like the vertical integration and the practice of establishing longer-terms relationships with suppliers, manufacturers and other service providers.

This reconfiguration of supply chains could potentially strengthen domestic security and help maintain a technological advantage. It may also increase diversification of inputs sources, provided the existing supply of inputs is concentrated in a single or a small number of foreign suppliers, such that domestic and close-country sourcing would increase the number of available options. However, as most countries exhibit a marked degree of home bias in sourcing of inputs (IMF, 2022), in most cases re-shoring or friend-shoring to existing partners will likely reduce diversification and make countries more vulnerable to macro-economic shocks.

II. THE INTERNATIONALIZATION STRATEGY IN THE INTERNATIONAL BUSINESS THEORY.

II.1 Historical review of the Internationalization issue in the International Business literature, from the origin of Internationalization theories to date.

II.1.1 Main academic contributions.

The interest of scholars as regard the internationalization of companies, in the origin of this wide research field (late 1950s and 1960s), namely the International Business (hereinafter IB) theory, focused on the behavior of (large) multinational enterprises (hereinafter MNEs) and on the management and the development of their international activities, resulting in a vast body of theoretical frameworks and empirical data. Early studies on firms' internationalization have been called the "Economic approach".

In following decades, in the period 1970s - 1990s, the IB research field has been populated by numerous academic contributions. Among them, the most relevant ones (i.e., most cited and most critiqued) include:

- the "Monopolistic advantage theory" (Hymer, 1976; McDougall et al., 1994),
- the application of "Transaction's costs theory" (hereinafter TCT) to the internationalization issue (Hennart, 1977, 1982; Teece, 1981; Anderson and Gatignon, 1986),
- the "Behavioral theory" and Managerial Decision-Making theories (Cyert and March, 1963; Aharoni, 1966),
- the "Internalization theory" (Buckley and Casson, 1976; Rugman, 1981),
- the "Eclectic paradigm" also known as the "Ownership, location and internalization (OLI) framework" (Dunning, 1973, 1977) and
- the "Uppsala model" of internationalization considered as a process (Johanson and Vahlne, 1977).

Subsequently, in the period mid 1980s - 2000, new research approaches to the IB came out in order to explain the evolution from business internationalization to globalization and the international behavior of small-medium enterprises (hereinafter

SMEs): some investigating the firms' internationalization in an innovative manner (under new perspectives such as the "International entrepreneurship theory"), some others extending and/or revisiting earlier main studies (such as the "Network approach" to firms internationalization).

Since mid-2000s to date the IB literature paid attention to explain internationalization strategies of Emerging Economies Multinational Enterprises (hereinafter EMNEs), the growth, causes and consequences of "off-shoring" and the disaggregation of GVCs and, more recently, the occurrence of re-shoring trends.

Rugman and Verbeke (2004) demonstrate that economic integration occurs mainly within each region of the broad-triad Europe, North America, Asia (versus the conventional core-triad EU, USA, Japan), suggesting that there must be barriers to inter-regional integration. In other words, they indicate that pure global economic integration is not being achieved; instead, regionalization exists. Rugman and Verbeke (2004) have been confirmed in a set of related papers some of which have been summarized in a book on regional multinationals (Rugman, 2005).

Even though the evidence for a re-shoring trend is limited, the topic has provoked debates in several countries (Bailey and De Propris, 2014). Scientists, drawing from different existing theories (TCT, "Resource-based view" and the "OLI framework"), attempt to present a theoretical foundation of re-shoring (Bailey and De Propris, 2014).

At least since year 2010 to date, climate change and the fight against (social and economic) inequalities issues obtained the rank of priorities in the agenda of policy makers and have been considered unavoidable items in the academic debate. In this context, MNEs, given their global influence and the wide range of activities they are involved in, both in home and host countries, are regarded not only as part of the problem, but also as part of the solution (Kolk, 2010, 2016). Thus, a significant sub-research field has established in IB in order to understand how MNEs respond to pressures for social responsibility and sustainability.

At present, since mid-2020 to date, IB researchers, in order to explore MNEs' reactions to shock-events such as COVID-19 pandemic and the war in Ukraine, started to study internationalization and long-term impact of the COVID-19 pandemic as well as the need for re-thinking the GVCs.

Table 2 Historical evolution of Research agenda in IB.

Time	Research fields	Specific topics	Geographic spread
Late 1950s and 1960s	Explaining flows of FDIs.	US FDIs in Europe.	<ul style="list-style-type: none"> Europe. North America.
1970 -1990s	Explanation of the existence, strategies and organizational structures of MNEs.	<ul style="list-style-type: none"> Concentration of FDIs in knowledge-intensive industries. Managerial issues of investing abroad. Theories of MNEs. Foreign markets entry's strategies. Smaller firms in IB. 	<ul style="list-style-type: none"> Europe and North America. Less Developed Countries Japan. Four Little Dragons.
Mid 1980s - early 2000s	"New forms" of IB: from internationalization to globalization.	<ul style="list-style-type: none"> International economic integration. Joint ventures & Alliances. Mergers & Acquisitions (M&As). International competitiveness. "Born globals". 	<ul style="list-style-type: none"> World economy. Asia. Eastern Europe.
Mid 2000s - date	Explaining internationalization strategies of Multinationals from Emerging countries (EMNEs).	<ul style="list-style-type: none"> Chinese inward and outward FDIs. R&D and market entry by EMNEs. New Global Competition. 	<ul style="list-style-type: none"> World economy. Asia. Eastern Europe. Other Emerging countries.
Mid 2000s - date	<ul style="list-style-type: none"> Explaining the growth, causes and consequences of off-shoring. The disaggregation of global value chains (GVCs). Re-shoring trends. 	<ul style="list-style-type: none"> Control and coordination of GVCs. Regional versus GVCs. 	World economy by Regions.
2010 - date	Understanding how MNEs respond to pressures for social responsibility and sustainability.	<ul style="list-style-type: none"> Climate change and MNEs' response. Corporate social responsibility (CSR). Environmental and social sustainability. 	Western economies.
2020 - date	Exploring MNEs' reactions to shock-events such as COVID-19 pandemic and Ukraine War.	<ul style="list-style-type: none"> Firms' internationalization and long-term impact of the COVID-19 pandemic. The impact of COVID-19 pandemic on the GVCs. 	World economy

Source: Author's elaboration on (Buckley P.J. and Casson M., 2021)

II.1.1.1 The “Monopolistic advantage theory”.

The “Monopolistic advantage theory” explains the reason why MNEs exist. It suggests that if a firm has a unique resource of superiority/advantage over firms competing in a foreign market, then the firm enters such foreign market (Hymer, 1976; McDougall et al., 1994). The uniqueness of the resource of its competitive advantage, called the “Monopolistic advantage”, lets the firm to overcome the liability of foreignness in the target market. According to the Theory, the monopolistic advantage of the MNEs consists of a superior knowledge, which can be intended as the quality of its manufacturing processes, its brand awareness, the product-mix, the organizational talent or the disposal of a patented technology, exploitable overseas at, virtually, no additional cost over that of exploiting such advantage in the home-market (Caves, 1971; McDougall et al., 1994).

II.1.1.2 The “Transaction costs theory”.

The first application of TCT to MNEs was made by Hennart (PhD thesis, 1977; book’s form, 1982) whose work was inspired by Williamson (1975), McManus (1972) and by “Property rights” and “Agency” theories (Cheung 1969; Alchian and Demsetz 1972; Arrow 1974).

Hennart’s contribution, Buckley’s and Casson’s, Rugman’s ones, along with the work of Teece (1981) and the incorporation of this thinking in the Dunning’s “Electic Paradigm” (1973, 1977) combined to persuade the field of IB that MNEs could be explained by looking at the comparative efficiency of firms (and markets) in conducting international transactions. Subsequently, scholars and researchers referred to TCT in order to explain modes chosen by firms to enter foreign markets, that is the choice between greenfield investments and the M&As activity and the grade of participation in the foreign venture: for instance, wholly-owned subsidiary (WOS hereinafter) or minority interest or equity joint venture (JV hereinafter) (Anderson and Gatignon, 1986, 1988; Gomes and Casseres, 1989; Hennart, 1982, 1988, 1991, 2009; Hennart and Park, 1993).

II.1.1.3 The “Behavioral theory” and “Managerial decision-making” theories.

The basis of internationalization studies can also be found in the “Behavioral theory” of the firm proposed by Cyert and March (1963) as well as in different “Managerial decision-making” theories.

Behavioral explanations of FDI appeared relatively early in IB studies. The “Foreign Investment Decision Process”, published in 1966, outlined a model of firms’ internationalization focusing on the role of managerial decision-making (Aharoni, 1966). It outlined a perspective that sought to explain:

- i. reasons why managers take a foreign investment decision and
- ii. how do MNEs’ managers make foreign investment decisions under environmental uncertainty.

In order to accomplish this aim, foreign investments decisions were examined at a group level, but with greater emphasis on individual members responsible for decision-making. The Publication discussed two key-elements in the decision-making process: i) uncertainty and ii) the social environment decisions are taken in. First, decision makers vary in regard to how comfortable they are in facing uncertainty in terms, for instance, of experience, propensity to risk and cognitive constraints. Second, the social element regards decision makers’ relations with individuals within the firm and outside it such as customers, suppliers and competitors.

II.1.1.4 The “Internalization theory”.

The “Internalization theory” was developed in the 1970s to explain the growth of MNEs and the spread of FDI (Buckley and Casson, 2009). It provides an explanation of why multinational business activity is concentrated in innovative and knowledge-intensive industries as well as in industries where the quality of components and raw materials is difficult to measure and control. Before the emerging of the “Internalization theory”, it was widely believed that multinational firms transferred capital to a foreign country (Penrose, 1956; MacDougall, 1960; Kemp, 1961), while afterwards, it was recognized that it is mainly knowledge that is transferred. Capital is transferred, if at all, mainly to protect the knowledge and to appropriate profit from its exploitation abroad (Casson, 1979).

“Internalization theory” focuses on imperfections in intermediate product markets (Rugman, 1981). Two main kinds of intermediate product are distinguished:

- i. knowledge flows linking research and development (hereinafter R&D) to production;
- ii. flows of components and raw materials from an upstream production facility to a downstream one.

Most applications of the theory focus on knowledge flows (Dunning and Lundan, 2008). Proprietary knowledge is easy to copy when intellectual property rights, such as patents and trademarks, are weak. Firms, therefore, protect their knowledge through secrecy. Instead of licensing their knowledge to independent local producers, firms exploit it themselves in their own production facilities. Doing so, they internalize the market in knowledge within the firm: development of a new technology is concentrated in a single R&D facility and the knowledge is transferred to subsidiaries abroad. Therefore, the firm becomes the owner of production plants in different countries and therefore (by definition) a multinational enterprise.

However, firms do not always internalize markets: internalization occurs only when the benefits perceived by the firm exceed the costs. When internalization leads to foreign investment, the firm may incur political and commercial risks because of its unfamiliarity with the foreign environment. These are known as “costs of doing business abroad” (Hymer, 1976) arising from the “liability of foreignness” (Zaheer, 1995). When the costs of doing business abroad are high, a firm may license or subcontract production to an independent foreign firm or it may produce at home and export to the country instead. Firms not accessing to special knowledge may become multinational if they need to internalize supplies of components or raw materials in order to guarantee quality or continuity of their supply chain or in presence of tax advantages from transfer pricing practices.

Other variants of the “Internalization theory” have emerged. The “Appropriability theory” of Magee (1977) is similar to Buckley’s and Casson’s one in some respects and like Rugman (1981) it emphasizes applications to trade policy. Hennart (1982), meanwhile, emphasized the role of authority relations within the firm and subsequently extended his approach to analyze “headquarters–subsidiary” relations. As the research field of IB has matured, there have been shifts in the core unit of analysis.

First, there was analysis at country-level, using national statistics on trade and FDIs. Next, the focus shifted to the MNEs and the parent firm-specific advantages (hereinafter FSAs). Eventually MNEs were analyzed as a network and the subsidiary became a unit of analysis.

Finally, a classification it has been proposed, combining these three units of analysis: the country-specific advantages (hereinafter CSAs) and FSAs matrix, hereinafter CSAs/FSAs matrix (Rugman, 1981).

Figure 12 CSAs/FSAs matrix.

		Firm-specific advantages (FSAs)	
		Weak	Strong
Country-specific advantages (CSAs)	Strong	1	3
	Weak	2	4

Source: Rugman (2009).

II.1.1.5 The “Eclectic Paradigm”.

The “Eclectic Paradigm”, also known as the “OLI framework”, is based on the “Internalization theory” and aims to explain the different forms of international production as well as the selection of a country for FDIs. The intention of the Author was to offer a holistic framework by which to identify and evaluate the significance of factors influencing both the initial act of foreign production by enterprises and the subsequent growth of such production. According to Dunning (1976, 1981, 1983 and 1986), the internationalization of an economic activity is determined by the realization of three types of advantages.

First, so called “Ownership advantages” which are company-specific and consist of the accumulation of intangible assets, technological capacities and/or product innovations.

Second, “Location advantages” refer to institutional peculiarities and productive factors’ characteristics of the foreign market of entrance. This kind of advantages arise when it is more convenient for the firm to combine spatially transferable intermediate products produced in the home-country, with at least some immobile factor endowments or other intermediate products in another country.

Third, “Internalization advantages” which occur when it is the best interest of enterprises possessing “Ownership advantages” to transfer them across national boundaries within their own organizations rather than to sell them, or their right of use to foreign-based enterprises. In other words, this kind of advantages emerges when MNEs perceive that the international market-place is not the best modality for transacting intermediate goods or services due to the occurring of market failures (for example those arising from risk and uncertainty (Vernon, 1983); those stemming from the ability of firms to exploit the economies of large-scale production and those that occur when the transaction of a particular good or service yields costs and benefits external to the deal which are not reflected in the terms agreed to by transacting parties.

The greater perceived costs of transactional market failure are, the more MNEs are likely to exploit their competitive advantages through international production rather than by contractual agreements with foreign firms. By contrast, the higher the administrative costs of hierarchies and/or the external diseconomies (or disbenefits) of operating a foreign venture are, the more probable the latter vehicle (or at least a jointly shared equity’s stake) will be preferred.

In such cases, where there is no external market for the competitive advantages of MNEs, the distinction between “Ownership” and “Internalization” advantages may seem irrelevant. Indeed, Buckley and Casson (1985) and Casson (1987) have argued that the failure of international intermediate products markets is both a necessary and sufficient condition to explain the existence of MNEs. Yet Dunning (2015) asserts that it is useful and logically correct to distinguish between the “capability” of MNEs to internalize markets and their “willingness” to do so.

Empirically testing the “Eclectic Paradigm” to a case-by-case analysis, the identification and value of specific “OLI” parameters influencing individual MNEs in any production decision will vary according to the motives underlying such production.

However, the Paradigm does allow to go a step further by relating the “OLI” configuration to a number of structural or contextual variables (more important ones are country, industry and firm-specific) (Dunning, 1981).

II.1.1.6 The “Uppsala model”.

The Johanson and Vahlne (1977) publication was the culmination of a decade of intensive research, relying predominantly on Penrose (1959) and on Cyert and March (1963), such as the work of Carlson (1966, 1975), the impressive scope of which has not been sufficiently appreciated by scholars.

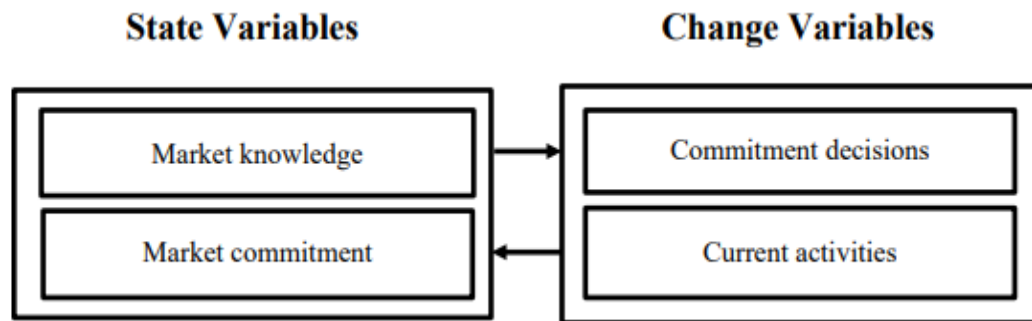
The Authors consider the internationalization of firms as a “process” and the “Uppsala model” investigates it as an incremental pattern, based on two dimensions:

- i. a progressive establishment chain of operation modes;
- ii. market selection based on the “psychic distance” from the home-market.

It should be mentioned that a “process” perspective was applied in the “Product life-cycle model” (Gruber, Mehta and Vernon, 1967), while Aharoni (1966) thought, adopting a behavioral approach, affected the theoretical background of the “Uppsala Model”.

According to the Model, the state of internationalization, intended as a firm’s knowledge of opportunities and challenges in foreign markets (market knowledge) and the amount and transferability of firm’s resources committed to a particular market (market commitment), affects perceived opportunities and risks of new foreign ventures which in turn influence commitment decisions and current activities. Moreover, the present state of a firm’s internationalization process is a product of the firm’s past activities in foreign markets and its prior decisions to commit resources to foreign operations. This process often has an “emergent” character (Mintzberg and Waters, 1985) as decision makers successively make decisions based on a mix of rational analysis, decisions under high uncertainty and opportunistic reaction to new events (Santangelo and Meyer, 2011). The shift from conceiving firms’ internationalization as a state to a change process is the basis for the Model’s contribution to the research field.

Figure 13 “Uppsala Model” (1977 version).



Source: Johanson and Vahlne (1977).

Subsequent extensions of the Model have incorporated the importance of network relationships in firms’ internationalization process (Johanson and Vahlne, 2009) and the concept of “evolution” (Vahlne and Johanson, 2017) as the last stage of the process encompassing firms’ internationalization and globalization.

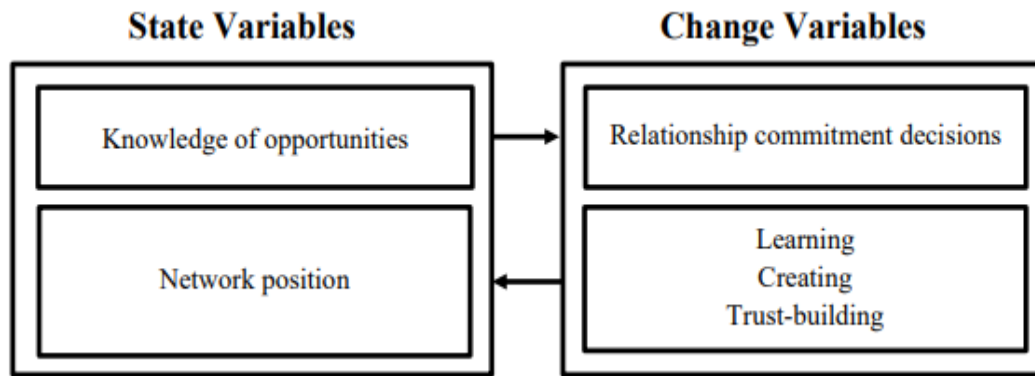
The core concept in this theoretical model is the “experiential learning”, intended as the experiences accumulated through firms’ on-going and continuing activities.

The lack of local knowledge and resources is possibly the biggest obstacle to successful international business. Yet, local knowledge is to a large extent tacit and hence hard to acquire other than through direct engagement in the local environment. Hence, the internationalization of firms is a dynamic process of learning where decisions over each next step are based on what decision makers know at the time.

A popular application of the “Uppsala Model” are “Stages Models” stipulating that firms “normally” go through specific stages both in terms of the sequence of countries entered and of the operation modes used in those countries, for example, from exports to WOS (Bilkey and Tesar, 1977; Czinkota, 1982).

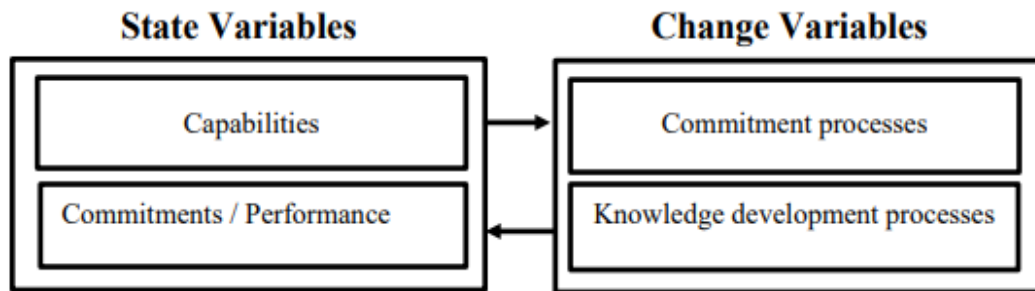
While Johanson and Vahlne (1990, 2009) have distanced themselves from reductions of their Model to a stages-model, these models have been influential in both Marketing and IB research fields. It has to be mentioned that “Stages Models” are highly specific to an industry and to its institutional and historic context, as it has been demonstrated in particular by contributions focusing on service industries (Malhotra and Hinings, 2010; Sacramento et al., 2002).

Figure 14 Adjusted “Uppsala Model” (2009).



Source: Johanson and Vahlne (2009).

Figure 15 “Uppsala Model” (2017 version).



Source: Johanson and Vahlne (2017).

II.1.1.7 The “Network approach”.

Relying on the “Uppsala model”, as stated above, Johanson and Vahlne (1990) continued an examination of the internationalization process by applying a “Network perspective”. Integration can be understood as the coordination of different national business relationships networks. Thus, it can be argued that firms internationalize because other firms in their national or international network are doing so (Andersen, 1993; Ruzzier et al., 2006).

The model of Johanson and Mattson (1993) emphasized on gradual learning and development of market knowledge through interaction within networks of business relations. A firm’s positioning within a network can be considered both from a micro (“firm-to-firm”) or a macro (“firm-to-network”) perspective.

From the micro-perspective, complementary as well as competitive relationships are crucial elements of the internationalization process. In order to adopt the macro-

perspective, both direct (involving partners in the network) and indirect (involving firms that are not partners in the network) business relationships within networks need to be taken into account (Ruzzier, Hisrich and Antoncic, 2006). Johanson and Mattsson (1993) identified four stages of internationalization by combining macro and micro viewpoints: i) the early starter, ii) the late starter, iii) the lonely international, and iv) the international among others.

According to the Model, business internationalization means the firm establishes and develops complementary or competitive relationships versus counterparts (other firms, institutions, customers, etc.) in a foreign network. The process is achieved through the establishment of relationships in foreign networks based in countries new to the firm (“international extension”), through the development of relationships within those networks (“penetration”) and through connecting networks in different countries (“international integration”). Therefore, the strength of the “Network approach” to firms’ internationalization lies in explaining the process rather than the reason why multinational or international firms exist (Ruzzier, Hisrich and Antoncic, 2006).

What seems to be neglected in most “process-oriented” research and especially by the “Network approach” is the strategic positioning and influencing of individuals, especially entrepreneurs, in the MNEs’ internationalization process.

Knowledge embedded in long-term relationships is often concentrated in one person within the firm, who will have a substantial impact on its internationalization through close social relationships with other individuals. Such social relationships are extremely important for entrepreneurs and their business (Davidsson and Honig, 2003; Hoang and Antoncic, 2003; Ruzzier et al., 2006).

This “social network” is a sub-network within the business relationships network, effecting and being affected by the gained resources and the chosen operational mode (Holmlund and Kock, 1998; Ruzzier et al., 2006). Jaklic (1998) suggested that social networks can be especially useful for SMEs in catching-up economies since it is possible to overcome some of the problems of knowledge and technology as well as capital accumulation. Bonaccorsi (1992) illustrated that small firms trade and acquire information from one another through their social network, within which they imitate each other and speed up international activities (Ruzzier, Hisrich and Antoncic, 2006). Firms, like people, can learn by observing the practices of peers and by selectively

imitating them (Bruneel, Yli-Renko and Clarysse, 2010). In particular, the imitation of market's leaders provides a source for learning, for reducing uncertainty and for gaining legitimacy (Guillén, 2002; Lu, 2002).

The importance of networks for firms' internationalization has been emphasized especially for SMEs (Chetty and Blankenburg-Holm, 2000; Coviello and Martin, 1999), and even more so for SMEs from Emerging Economies (EEs hereinafter), including East European (Manolova, Manev and Gyoshev, 2010; Musteen et al., 2010), Indian (Elango and Pattnaik, 2007; Prashantham and Dhanaraj, 2010) and Chinese firms (Zhou, Barnes and Lu, 2010; Zhou et al., 2007).

Hence, benefits of networks for firms' internationalization and the reciprocal relationship between networks' growth and international growth are widely acknowledged. However, the processes of learning and knowledge transfer in business networks remain a challenging research area.

II.1.1.8 “International Entrepreneurship”.

The last approach to (SMEs') internationalization is a new emerging research area, at the interface of entrepreneurship and IB research fields, called “International Entrepreneurship” (McDougall and Oviatt, 2000; Antoncic and Hisrich, 2000; Ruzzier et al., 2006).

This newly created research field is still searching for the right definition of the intersection of the two above mentioned research paths. The most recent proposed definition specifies “International Entrepreneurship” as a «*combination of innovative, risk-seeking behavior that crosses national borders and is intended to create value in the organization*» (McDougall and Oviatt, p. 903, 2000).

Alvarez and Busenitz (2001) and Rangone (1999) built a bridge between the “Resource-based view” and “International Entrepreneurship”, implicitly proposing entrepreneurs as the source of sustained competitive advantage and slightly moving the focus of analysis of the “Resource-based view” from the firm-level (Foss et al., 1995) to the individual-level. Authors suggest entrepreneurs have individuals' specific resources facilitating the recognition of new opportunities for foreign venture (Schumpeter, 1950; Penrose, 1959; Alvarez and Busenitz, 2001; Ruzzier et al., 2006).

II.1.2 The “Internalization theory” and the “Uppsala model” at comparison: reviews and extensions.

At the present, the “Internalization theory” and the “Uppsala Model” are not only the most cited and most critiqued theoretical frameworks within the IB research field, but over the past forty years the two theories, through innovative reviews and extensions, have been able to prove their explanatory power respectively of the existence, the development and the organizational structures of MNEs and, on the other hand, of firms’ internationalization process and behavior.

This contribution is going to adopt the “evolutionary” perspective and the “Network approach” proposed by reviews and most recent extensions of the “Uppsala model” in order to conduct a quantitative time-series analysis.

On one hand, the “evolutionary” perspective is assumed to better reflect the dynamic state of the internationalization process of firms (Olivier., Parola, Slack and Wang, 2007), and, on the other hand, the “Network approach” rather captures the organizational specificities of the (container) port industry.

The usefulness of the “Uppsala Model” lies not in the “stages”, but in the underlying processes of organizational learning that are the core to explaining the evolution of MNEs over time, which is what this contribution wants to investigate.

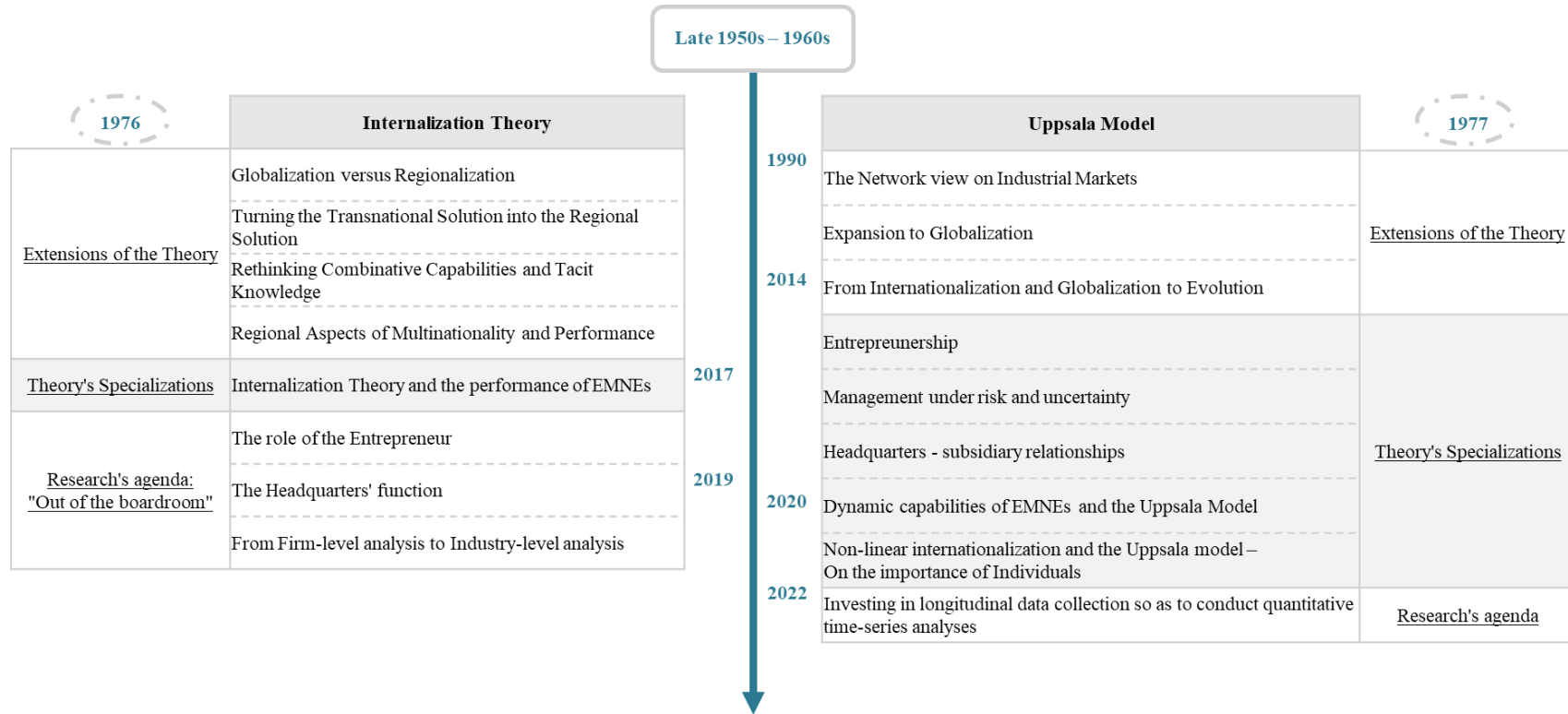
Table 3 Elements of the Internationalization process according to the "Uppsala Model".

The Internationalization process in the "Uppsala Model" extended and reviewed.	
Why?	Saturation of the domestic market Integration of national economies Increasing (inward and/or outward) FDIs
Where?	<u>Foreign market selection</u> : countries with "psychic distance" relative to the smaller domestic market at first, and then gradually increasing <u>Regional MNE</u> / " <u>Semi-globalization</u> " / <u>Global MNE</u> .
What?	No restrictions in terms of products, services, technologies or activities (implicit).
When?	<u>Time-window opportunity</u> / " <u>Born global</u> " firms <u>Expansion</u> : as knowledge is gradually gained through international experience <u>Speed of internationalization</u>
How?	<u>Entry mode option</u> : Greenfield investment vs M&A activity. <u>Gradual commitment of resources</u> : first export, then sales office until production in the new market. <u>JV vs WOS dilemma</u> .

Source: Author's adaption from Carneiro and Dib, 2007.

By converse, the focus of the original "Uppsala Model" on internal and gradual learning has been challenged by several scholars. At the present, IB researchers generally concur that learning processes can occur through a wider range of mechanisms and at a faster pace than the one suggested in the original work of Johanson and Vahlne. Although the limitation of the original Model is acknowledged also by the Authors, they argue that, despite the time-compression of learning due to globalization, the essence of the underlying process remains the same (Johanson and Vahlne, 2006, 2009). Hence, the main focus of research as regards the "Uppsala Model" has shifted to the mechanisms by which firms acquire knowledge of international business.

Figure 16 The “Internalization theory” and the “Uppsala model” at comparison, reviews and extensions.



Source: Author's elaboration.

II.2 Besides IB general theories, specific issues of (MNEs') analysis.

From its inception, IB research has been concerned with and developed theories for the traditional, large western MNEs. It is increasingly evident that firms differ in their ability to internationalize relying on diverse internationalization motives and strategies (Awate, Larsen and Mudambi, 2012; Li and Fleury, 2020; Narula, 2012; Sutherland, Anderson and Hu, 2020).

The idea that internationalization is driven by firm-specific resources and capabilities that constitute an advantage in international markets often limits the understanding of internationalization to certain types of MNEs (i.e., the older western MNEs) which have accumulated significant stocks of knowledge and experience over time and developed routines that often shape their internationalization process. Firms with deeply embedded organizational routines are expected to absorb new knowledge accrued from experience, learn, upgrade their firm-specific advantages, and make superior internationalization choices (Kogut and Zander, 1992; Narula and Verbeke, 2015; Santangelo and Meyer, 2011, 2017).

Whilst the principles behind becoming an MNE (i.e., ability to compete internationally) may not have drastically changed (Narula, 2012), the international success or failure of firms does not always rest in their routines and pre-existing firms' specific advantages. Nascent MNEs, such as "Born globals", especially ones from EEs, cannot rely on their international legacy or draw from a rich pool of knowledge acquired through international experience (Knight and Liesch, 2016).

II.2.1 "Born global" firms.

"Born global" firms, which internationalize fast, generally within three years after inception (Knight and Cavusgil, 2004), are relatively young and thus are unlikely to possess an organizational history or memory or to have deeply embedded routines that can be used to reduce the costs and uncertainty associated with internationalization (Mathews and Zander, 2007).

Adopting a behavioral perspective, the lack of international experience and foreign market knowledge generally drawn on to develop routines does not necessarily put born global firms at a competitive disadvantage. Nascent firms likely possess other advantages, such as more flexible routines (Kumar, Singh, Purkayastha, Popli and Gaur, 2020)

allowing them to learn and repeat appropriate behaviors, whilst at the same time being able to unlearn and disregard less appropriate behaviors.

Firm strategic flexibility is particularly relevant in the occurrence of specific shock-events, such as the COVID-19 pandemic or the war in Ukraine, and more in general in the context of constantly changing environmental demand.

In such context, nascent firms will seek to grow internationally faster and catch up with global competitors and are thus faced with a multitude of diverse demands and opportunities to learn in each market entered (Li and Fleury, 2020).

Knowledge and experience accumulated in the past may not always provide useful routines that can aid in future internationalization endeavors such as deciding which market to expand into and the timing of doing it (“where” and “when”) and which modes of operation to opt for (“how”, for instance WOS or JV).

Changes in the host-market environment may mean that firms have to disregard current knowledge and make room for new learning. Nascent MNEs are less likely to suffer from “learning myopia” (Levinthal and March, 1993) and thus, may be more willing and able to make changes to their organizational practices and strategies to realign them with environmental demands. Firms that are able to weave new knowledge into their organizational routines, whether this knowledge comes from own experience or the experience of others, may be able to internationalize faster, be willing to enter and re-enter riskier markets, as well as engage in a rapid adjustment of their initial entry decisions.

By incorporating new constraints such as lack of resources, young age and “learning myopia”, and the factors needed to manage them, especially strategic flexibility, and experience with trial-and-error learning, the “Behavioral theory” could broaden the applicability of traditional models such as the “Uppsala model” and “Internalization” theories to these nascent firms.

II.2.2 International experience of MNEs.

A MNE’s international experience has often been studied as the “pattern of its internationalization” (Chang, 1995; Eriksson et al., 1997; Eriksson, Johanson, Majkgård and Sharma, 2000; Henisz and Delios, 2001). However, unique types of international

experiences need to be differentiated due to the dissimilar nature of the knowledge accumulated (Delios and Henisz, 2003; Eriksson et al., 1997).

As first, it has to be distinguished the i) general international experience, which consists of broad knowledge about internationalization from the ii) country-specific experience (Dow and Larimo, 2011; Eriksson et al., 1997).

A MNE's prior general international experience positively influences its international expansion by reducing the knowledge and skill-related barriers to foreign investments along with the corresponding transaction costs (Chang, 1995; Delios and Beamish, 1999; Dow and Larimo, 2011; Eriksson et al., 1997; Johanson and Vahlne, 2009). The accumulation of general international experience also increases an MNE's absorptive capacity and helps it develop methods for collecting and analyzing relevant information, building heuristics for making foreign investments and improving projections regarding associated risk and returns (Eriksson and Chetty, 2003; Gatignon and Anderson, 1988; Maekelburger, Schwens and Kabst, 2012). Furthermore, the "institutionalization" of international experience (i.e., when an organization encounters the same type of situation several times) enables MNEs to establish institutionalized practices that can be retained for future internationalization decisions (Tsang, 2002), therefore bridging the "psychic distance" (Child, Ng and Wong, 2002). Yet, a MNE's general international experience facilitates the transfer of tacit knowledge over (long) distances: it enables a MNE to better absorb and use lessons learned from foreign ventures within the organization, contributing to a competitive advantage based on knowledge sharing (Tsang, 2002).

Firms' age is recognized as an important factor in determining speed of learning (and unlearning): although concerns such as data availability have led to overreliance on older firms as a research context, younger firms are more flexible (Barnett and Pontikes, 2008; Vermeulen and Barkema, 2001). When data limitations prevent theoretically important comparisons, such as the differences in learning behavior due to firms' age and experience, and the resulting differences in internationalization behaviors and outcomes, it is time to look for IB research to invest in longitudinal data collection so as to conduct quantitative time-series analyses (Vahlne and Johanson, 2020).

II.2.3 Multinational enterprises from emerging economies.

In the last decade, the “Upssala model” has been applied to EEs as host economies, where it was found to be particularly useful because the Model deals with the longitudinal nature of foreign entry and with the high uncertainty of the host context (Jansson and Sandberg, 2008; Johanson, 2008; Meyer and Gelbuda, 2006; Meyer and Skak, 2002; Santangelo and Meyer, 2011).

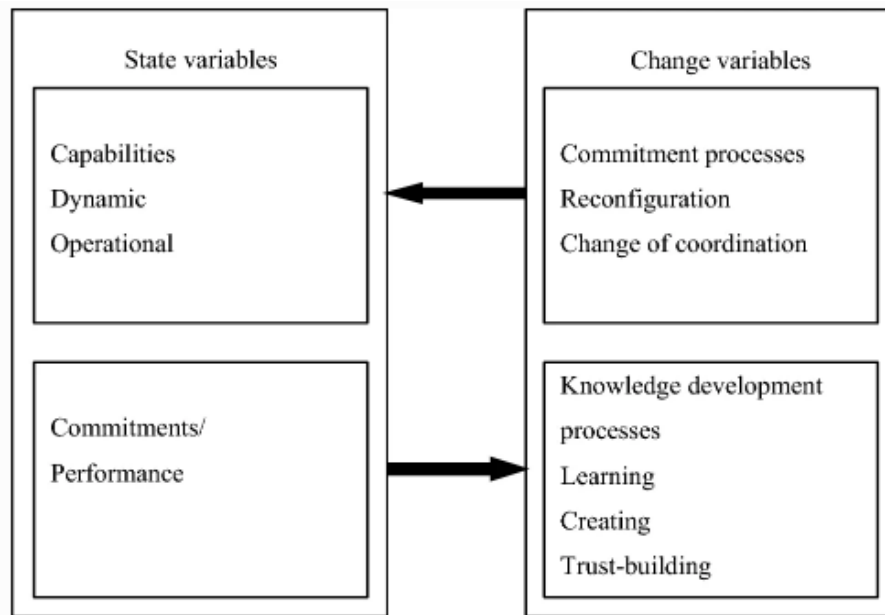
Applications of the “Upssala model” to MNEs from EE are so far rare, though it has been popular among Brazilian scholars studying the evolution of Brazilian MNEs (Barretto and da Rocha, 2001; Sacramento, de Almeida and da Silva, 2002) and it was applied to explain how learning progress leads to successively larger acquisitions by Indian MNEs (Elango and Pattnaik, 2011).

EMNEs are usually new players in the global economy, for instance in Asia FDIs from EE other than Hong Kong only took off in year 2004. This category of MNEs is originating from contexts where home-markets are often highly imperfect and EMNEs often use networking strategies when designing and implementing their outward business activities (Elango and Pattnaik, 2007; Musteen, Francis and Datta, 2010; Prashantham and Dhanaraj, 2010; Tan and Meyer, 2010; Zhou, Wu and Luo, 2007).

At the same time, since EMNEs face substantial knowledge gaps inhibiting them from competing on the global stage, they frequently use the M&A activity as a mean to close these gaps (Deng, 2009; Elango and Pattnaik, 2011; Luo and Tung, 2007; Luo, Zhao, Wang, and Xi, 2011; Mathews, 2006; Yang, Sun, Lin, and Peng, 2011). Furthermore, firms originating from EE may have been operating domestically for longer, but they lack international experience relative to developed market counterparts (Sutherland et al., 2020). In addition, EE firms are also less likely to rely on routine-based learning as a prerequisite to internationalization.

Alternative explanations of EMNEs’ performance build on the role of network embeddedness as a source of learning (Elango and Pattnaik, 2007; McDermott and Corredoira, 2010) or learning from other firms through engaging in cross-border M&As (Deng, 2009).

Figure 17 The “Uppsala Model” and Dynamic Capabilities of EMNEs.



Source: Wu and Vahlne (2020)

Prior research in IB has offered preliminary insights into the development of internationalization capabilities of EMNEs by adopting a “Resource-based view” (Peng, 2001) or “Knowledge-based view” (Kogut and Zander, 1992). It has been suggested that the firm-specific resources determine its market entry choice.

Yet resources-related advantage may not be sufficient, and the firm needs distinctive capabilities to make better use of resources. In this vein, a few studies have advanced the notion that firms compete with one another based on their ability to learn and apply knowledge to foreign markets (i.e., on the basis of their “dynamic capabilities”) (Chang and Rosenzweig, 2001, Luo, 2002, Sapienza et al., 2006, Tallman and Fladmore-Lindquist, 2002). Especially, Teece (2007) states that “dynamic capabilities” are very relevant to EMNEs’ performance because these firms typically face fast-moving environments with fierce global competition, rapid technological change, and poorly developed markets where to exchange or acquire know-how.

While firms’ existing capabilities (first-order capabilities) are likely to result in improved performance, especially in volatile environments, these capabilities have to undergo a constant process of change. In order to update existing capabilities, it has been argued that so-called “second-order” capabilities come into play (e.g. learning, improving, changing, etc.) (Collis, 1994). Experiential knowledge and organizational

learning have become increasingly accepted in IB as pivotal strategic tools that differentiate MNEs' performance.

II.2.4 Location choices and the meaning of regional versus global internationalization strategy.

Another important issue in the IB research field is whether firms follow global presence strategy in the sense of covering many countries in different regions (or continents) of the World, or specific regional-oriented strategies by concentrating on markets in fewer regions (or continents). This decision is different from firms' degree of internationalization per se. Firms may well be highly internationalized (measured as a ratio of foreign-to-total along some key dimension such as sales, outputs of the production, assets, employees), but retain a constrained geographical footprint.

Most MNEs are not global. This statement simply means that these firms have been unable to fully emulate their domestic and home-region success, in terms of achieved sales volumes and/or size of activities, in equivalently sized markets outside of their home-country or region (Rugman and Verbeke, 2004, 2005, 2007, 2008). However, many of these non-global MNEs can be pursuing a "global strategy".

Two broad approaches have emerged to assess the role of regions in MNEs' internationalization strategy: i) "Home-region orientation" (hereinafter HRO) and ii) "Semi-globalization".

"Semi-globalization" is intended as partial cross-border (i.e., regional) integration of international expansion where MNEs develop strengths/advantages that are then utilized for regional responsiveness (Verbeke, Kano and Yuan, 2016), thus building region-bound firm-specific advantages (hereinafter RFSAs) (Ghemawat, 2003; Rugman and Verbeke, 2005). Therefore, MNEs are able to counteract liabilities of foreignness, assets specificity and high costs associated with internationalization by aggregating or integrating FDIs regionally and maintaining regional responsiveness. Empirical evidence suggests MNEs locate their FDIs in the same region instead of investing in other regions (i.e., "regional aggregation") to profit from the relative similarities between countries in the same geographic region. Prior research has also shown that "regional arbitrage" occurs as MNEs take advantage of the variance among countries within a region, relocating their subsidiaries to countries in the same region (i.e., making arbitrage

decisions) to improve their international strategy while using their RFSAs (Arregle, Beamish and Hébert, 2009; Arregle, Miller, Hitt and Beamish, 2013; Ghemawat, 2003). Regional integration of their international expansion helps MNEs, due to the learning occurring as a firm internationalizes within a region, to counteract liabilities of foreignness and often high costs associated with internationalization.

However, Oh and Li have noted (2015) that, at the state of the art, it has not been investigated whether or the extent to which a MNE's decision to regionalize its FDI's across countries is dependent upon i) its capabilities or ii) its need to reduce costs or iii) its need to manage the complexity and uncertainty inherent in its internationalization process. Indeed, MNEs have different internationalization patterns, in terms of the scale, the scope and the speed of their international expansion, which may help them to overcome constraints heightening the need for regional integration.

Irrespective of whether a MNE has achieved a balanced distribution of sales or assets across the world (and could thus reasonably be characterized as a "global firm"), or alternatively just claims to be pursuing a "global strategy", the complexity of "semi-globalization" may arise, thereby transforming the intended strategy approach into one where the region looms large. As Verbeke and Asmussen (2015) argued, a research agenda regarding the regional strategy arises since the "compounded distance" between countries forming a region and those outside of it represents a quantum leap as compared to intra-regional one. Compounded distance, intended as the source of "spatial" transaction costs (Verbeke and Merchant, 2012) between regions, can have several components, including: institutional, economic, cultural, and geographic distance elements (Rugman et al., 2011; Verbeke, 2013; Håkanson and Ambos, 2010, 2014).

The explanation for MNEs' location choices has been that MNEs concentrate their international activities in host locations that share similar characteristics such as similar technological infrastructures, the presence of knowledge-intensive, innovative firms and relatively homogeneous demand (Rugman and Verbeke, 2004). Again, this is often explained by specific factors of the industry, which masks substantial firms' heterogeneity.

An alternative explanation builds on the role of firms' positions in regional networks and on the role of absorptive capacity required to benefit from the flows of

knowledge originating from these networks and use it to broaden or constrain the scope of internationalization locations (Jurkov and Benito, 2018).

Overall, scholars conclude that concentrating international operations in one or few regions is beneficial for the MNEs because it reduces the control and co-ordination costs associated with managing operations in dispersed markets, allowing for an overall effective resources' allocation and resources management.

However, MNEs' location choices are idiosyncratic and vary with the firms and managers making these choices (Buckley, Devinney, and Louviere, 2007). Indeed, there is evidence that location choices are influenced by remarkably simple sources of information, such as media coverage unrelated to the location business opportunities (Kulchina, 2014). The "Behavioral theory" of the firm could provide additional understanding of international location decisions by analyzing how they are shaped by different types of experiences and routines. For instance, international location strategies may vary as a result of MNEs being able to draw from repetitive compared to more flexible organizational routines. To the extent that a firm operates in multiple markets, it is more likely to consider those markets which are similar to one another, which enable utilization of existing knowledge (as regards local customers and competitors) and routines.

Hence, a typical expectation in IB literature is that firms will, all else equal, tend to start their internationalization in markets that are "similar" (not necessary in comparison to their home-market). The "all else equal" condition is key, however, as such decisions are also affected by other factors such as the motivation or economic rationale for the international venture, which delimits the feasible set of location alternatives. Indeed, repetitive routines may reduce costs associated with learning about different markets.

There is evidence that firms apply learning both from own experience and from the experience of peer-comparison firms when choosing location for their internationalization (Bastos and Greve, 2003). Yet, flexible routines may enable MNEs to use knowledge acquired from experience in one market location into another market location. Furthermore, the experience and intentions of managers may influence how choice attributes associated with each international location are weighed: a market can be characterized by high growth and high investment potential (allowing for the exploitation of firm-specific resources), but also high risks such as political instability and poor

protection of intellectual property rights. Indeed, a recent development in “Behavioral Theory” is exploration of how decision makers (i.e., managers and board members) are shaped by their own experience, thus making firms’ choices a function of coalition building among decision makers with shared experience and expertise (Zhang and Greve, 2019).

This contribution, in accordance with Hsu C.C. and Pereira A. (2008), examines geographic diversification as a strategy part of the internationalization process of firms, and thus as an endogenous variable, a mechanism that aids the translation of firms’ resources into corporate performance.

As firms exploit their own resources (e.g., product advantage, resources available for international expansion, etc.) successfully, they enjoy a greater market spread, which suggests a positive relationship between resources and performance (Hsu C.C. and Pereira A., 2008). Resources are considered as antecedents and internationalization as a mediator of MNEs’ corporate performance. MNEs’ development of skills and competencies, learned from their international expansion experience, helps them achieve competitive advantages and thus improves their performance.

II.2.5 Speed of firms’ internationalization.

Speed of firms’ internationalization process is an important issue for both managers entering and expanding international markets and IB researchers. From a managerial point of view, firms have to decide the speed at which to expand internationally. Such speed is a key aspect of firms’ internationalization strategy and should balance firms’ lack of resources and appetite of international opportunities.

Speed of internationalization is, therefore, a significant managerial challenge that firms face in their decision-making process. Furthermore, managers have to consider the linkages between the speed of firm’s internationalization pattern and its performance (Vermeulen and Barkema, 2002, Wagner, 2004). Varying the speed of international expansion could lead to different business performances. In addition, internationalization speed has been found to moderate the opportunity-threat trade-off in the internationalization process (Wagner, 2004).

However, most studies as regards the speed of internationalization focus on what causes the firm to internationalize at a high speed (quickly) rather than on the effects,

either in terms of corporate performance and risk implications (Chetty, Johanson and Martín, 2014).

In this vein, it has to be noticed the lack of academic contributions empirically testing on longitudinal datasets non-linear and not only time-based concepts and measurements of internationalization speed.

The concept of “speed” of internationalization is surprisingly under researched by scholar (Casillas and Acedo, 2013). At present, the academic debate has provided little guidance for firms about how to manage and measure the speed of their internationalization process. Despite its importance, there are limitations with how the extant literature conceptualizes and measures the speed of internationalization of firms.

The “evolutionary” theories above reviewed suggest considering the speed of internationalization as a distance divided by time necessary to cover it. By converse, at present, scholars generally refer to speed of internationalization as the time the firm takes to internationalize from its inception (Chetty and Campbell-Hunt, 2004, Zahra et al., 2000). Thus, the common conceptualization and measurement of speed implies a limited temporal perspective because only time between the firm’s inception and the start of its international activities is taken into account and measured, but not subsequent periods once firm’s internationalization starts. Furthermore, referring to speed solely as the time firm takes to internationalize discards core aspects of the internationalization process of firms (i.e., market knowledge, both financial and managerial commitment).

In this regard, two exceptions to the limited temporal conceptualization of internationalization speed exist: i) the Oviatt and McDougall's (2005) and ii) the Casillas and Acedo's (2013) ones. However, it has to be mentioned that their works are conceptual without empirically testing the proposed alternative measures.

Vermeulen and Barkema (2002) and Wagner (2004) also went beyond the only time-based views of internationalization speed and respectively measure it as:

- i. the number of foreign subsidiaries divided by number of years since the firm's first foreign expansion;
- ii. change in foreign subsidiaries’ sales-to-total sales ratio.

These measures are suitable in surveys of large multinational corporations but are impractical when dealing with less internationally developed and committed firms.

Furthermore, it has to be noted that to compare MNEs' different internationalization speeds it should be taken into account, at the same time, the geographic scope of such internationalization processes. In other words, different speeds should be compared with reference to similar geographic scopes of internationalization pursued.

II.2.6 Risk management and firms' internationalization.

Risk is a key issue in doing business across national borders due to the uncertainty and unpredictability of foreign markets of entrance and of the operations there carried out (Buckley et al., 2016; Feinberg and Gupta, 2009; Majocchi and Strange, 2012; Müllner, 2016).

It is not surprising that the concept of risk has received considerable attention in IB research field, and it is considered an important concept in explaining and theorizing firms' internationalization (Figueira-de-Lemos, Johanson and Vahlne, 2011; Liesch, Welch and Buckley, 2011).

Generally, risk refers to an uncertain event or condition associated with doing business in foreign markets that can have a negative effect on the firm (Miller, 1992). Firms engaging in international business activities have to deal with additional and unique risks, identified as political (Agarwal and Feils, 2007; Bekaert, Harvey, Lundblad and Siegel, 2014; Wyk, 2010), country-related (Brown, Cavusgil and Lord, 2015; Di Gregorio, 2005), related to foreign exchange rates (Batten, Mellor and Wan, 1993; Jacque, 1981) and cultural (Hain, 2011).

Differently from the definition of internationalization speed, the conceptualization and measurement of risk have been vigorously debated in the academic literature, with at least three conceptualizations of risk emerging (Janney and Dess, 2006):

- i. risk as variance,
- ii. risk as downside loss,
- iii. risk as an opportunity.

This is also true in the IB literature, where some confusion exists about risk and uncertainty (Liesch et al., 2011) and divergent meanings are applied to risk. For example, some consider risk as an outcome of uncertainty, that is a situation where the future outcomes of an action are unknown at the moment of decision (Miller, 1992).

Others consider risk and uncertainty to be two separate concepts with the former referring to situations where the probability distribution of alternative outcomes are known, while the latter referring to situations in which the result of selecting an alternative is not known (Brown et al., 2015; Müllner, 2016). In addition, risk is perceived as a constraint (Baum, Schwens and Kabst, 2011) or a danger (Ahmed et al., 2002; Pezderka and Sinkovics, 2011) either a hazard (Feinberg and Gupta, 2009). Hence, there is a need to clarify the risk concept and its role in IB.

In firms' internationalization process, risk refers to *«dangers firms face in terms of limitations, restrictions, or even losses when engaging in international business»* (Ahmed, Mohamad, Tan and Johnson, p. 805, 2002). The risks firms face vary but can be broadly classified into: i) endogenous and ii) exogenous ones.

To date, none of the studies reviewed has explored the risk implications of internationalization timing or speed, that is, when internationalization begins and how quickly it proceeds. Despite above mentioned academics contribution on accelerated internationalization patterns, scholars know little about how the internationalization speed influences implications in terms of risk (Knight and Cavusgil, 2004; McDougall and Oviatt, 2000).

Firms that are internationalizing earlier in their existence and more rapidly are believed to face additional strategic risks in their international expansion (Fernhaber and McDougall-Covin, 2014; Oviatt, Shrader and McDougall, 2004; Shrader et al., 2000).

In addition, the “pace” of firms' internationalization (i.e., the speed of internationalization after the first step abroad) may cause firms to spread resources among multiple foreign markets and inhibit the development of capabilities and routines necessary to internationalize successfully, such as the capabilities and routines necessary to handle liabilities of foreignness and outsidership (Hilmersson and Johanson, 2016; Jiang, Beamish and Makino, 2014).

However, early and rapid internationalization patterns can also reduce risk (Meschi, Ricard and Tapia Moore, 2017), for example: the risk of losing an attractive opportunity

because of competitor preemption or changing market conditions (Dickson and Giglierano, 1986; Mohr and Batsakis, 2017; Mullins and Forlani, 2005). Moreover, early and rapid internationalization can enable firms to maximize the benefit from their so-called “Learning advantage of newness” (Autio, Sapienza and Almeida, 2000; Mohr and Batsakis, 2017).

Thus, there are reasons to expect that speed of internationalization will affect risk implications of doing business abroad, but it remains unclear how. For instance, future research may explore how the point at which firms begin their internationalization pattern and the temporal succession of foreign market entries influence the internationalization-risk relationship.

II.2.7 Foreign markets adaption, the JV-WOS dilemma.

Despite the influence of external factors, there is a considerable heterogeneity of firms within industries and countries (Nachum and Song, 2011). Such heterogeneity suggests that internal rules and routines better explain firms’ behavior than external and contextual factors (Jensen and Szulanski, 2004; Papadakis, Lioukas and Chambers, 1998).

Empirical evidence suggests MNEs mostly learn from some contexts, mainly their home-country and earliest internationalization experiences, and seek to apply this knowledge in each new foreign market entry. Contextual and external factors introduce tensions within firms, but such tensions alone do not explain MNEs’ behavior. Therefore, the extent to which firms adapt to the occurrence of external and contextual factors will depend on their ability to recognize the need for, and implement, adaptive strategies.

By observing simultaneously industry and country-specific factors, scholars have focused on the objective outcomes of adaptation strategies, whether a firm adapts or not, with “best performers” being considered the ones who effectively adapt, but failed to understand the process of searching for solutions to problems which originate externally or internally.

A noteworthy group of academic studies focuses on how risk influences entry mode decisions (Elango and Chen, 2012) and the changes in the operation mode occurring after the initial entry (Santangelo and Meyer, 2011). The choice of foreign market entry mode

is a key strategic decision for firms seeking to grow internationally (Brouthers and Hennart, 2007).

When expanding into foreign markets, firms have the option to choose between the following modes: i) exports, ii) licensing/franchising, iii) JV and iv) WOS, each involving different levels and types of risk-return exposure (Ahsan and Musteen, 2011; Anderson and Gatignon, 1986; Müllner, 2016).

Previous studies have examined how different sources of risk, including cultural risk (Contractor and Kundu, 1998), political risk (Delios and Henisz, 2003), market uncertainty (Brouthers, Brouthers, and Werner, 2008; Li and Li, 2010) and exchange rates uncertainty (Campa, 1993; Cuypers and Martin, 2010), influence the choice of entry mode in foreign markets. The general argument is that firms can manage the level of risk exposure by choosing the appropriate entry mode.

Thus, firms are found to be more cautious in their entry mode strategies when the risk exposure is high and favor low-commitment entry modes (e.g., exporting, licensing or franchising) over hierarchical entry modes (Demirbag et al., 2010). In contrast, firms are found to be preferring equity-based entry modes (e.g., JV, WOS) when the probability of future events having an adverse effect on the functioning of the firm is perceived to be low (Pinho, 2007).

The impact of risk on entry mode decisions may, however, differ depending on the business model of firms and whether they are affiliated to a diversified or vertically integrated business group.

The M&As activity is an attractive way to implement the internationalization strategy for a MNE since

- i. it may provide intangible assets that are difficult to acquire separately via markets, such as brands' names and (commercial) relationships in the networks the acquired firm is embedded in (Barkema and Vermeulen, 1998) and
- ii. it may even be a fast track to building legitimacy in the local foreign market.

An aggressive as risky approach in order to acquire knowledge about foreign market of entrance for a MNEs is to seek a local firm that possesses relevant local market

knowledge and then to form a JV or to (friendly or unfriendly) take-over that firm (Forsgren, 2002).

Furthermore, MNEs wishing to build a substantive market position in a fragmented foreign market often need to make multiple acquisitions (Meyer and Tran, 2006). Hence, Elango and Pattnaik (2011) proposed learning processes over sequences of acquisitions that lead (E)MNEs to engage in progressively larger acquisition projects.

Some cross-border acquisitions have objectives that go beyond the local market, aiming for positions in other markets, including the home-market as well as the global economy. In other words, MNEs pursue the appropriation of (strategic) assets enabling them to build their own competitive advantage (i.e., “Strategic asset¹⁵-seeking”).

Strategic assets-seeking has frequently been observed as the reason for FDIs by EMNEs (Deng, 2009; Rui and Yip, 2008) and has been coined as “Springboard perspective” since EMNEs first acquire assets abroad and then combine them with their existing assets for exploitation in a second stage (Luo and Tung, 2007; Luo et al., 2011).

II.3 Synthesis and aim of Contribution.

Starting from main academic contribution populating the IB research field (i.e., the “Internalization theory” and the “Uppsala model”), passing through their most successful extensions and critiques this contribution decides to adopt the “Dynamic capabilities theory” and the “Behavioral theory” as theoretical lens in order to review some specific issues related to MNEs and their linkage in firms’ internationalization process.

Such aspects of firms’ international expansion reflect themselves in items longstanding discussed in the IB research and, however, at the center of present academic debate.

In synthesis, mechanisms of external learning complement the internal learning mechanisms emphasized by the original “Uppsala model” and its most recent extensions. By the above mentioned IB literature review two mechanism of external learning, common to all items taken into consideration, can be abstracted as key to understand firms’ internationalization:

¹⁵ The term “Strategic assets” is referred to assets having a strategic use outside the host-country, for instance: technological capability, management or marketing expertise, organizational knowledge, access to international distribution networks, design facilities and brand names (Chung and Alcacer, 2002; Dunning, 1993).

- i. learning through business relationship networks and
- ii. learning by observing peers.

Thus, this contribution inserts in IB research field aiming to accomplish two purposes:

- i. providing a quantitative timeseries investigation of MNEs' internationalization patterns relying on (updated) longitudinal/panel data, whose lack is reported by scholars in main academic contributions reviewed;
- ii. adopting as objective of the analysis issues relevant not only for academics but also for practitioners: the relationship between, among other items reviewed above, the degree of geographic diversification of MNEs' international activities and respectively the growth performance of its business and the risk of its FDIs.

Borrowing a financial lexicon, this contribution aims to investigate the trade-off between “risk” and “return” for MNEs when investing in foreign ventures and to scrutinize the relation existing between geographic diversification pursued by MNEs (regional versus global strategy) in their internationalization processes and corporate performance, intended as of corporate growth rate and growth volatility, taking into consideration the relevance of above reviewed specific issues.

This contribution seeks to confront empirical evidence, available in the form of a panel-data set, as regards the internationalization of the global container port industry over the last two decades against above reviewed IB theories.

In particular, this contribution aims to emphasize three components of the container port industry's internationalization process: i) the temporal component and its spatial corollaries; ii) the influence of both country-specific aspect (e.g., the physic and psychic distance from the home-market and the one of entry) and firm-specific issues (e.g., the business model of origin and the entry mode choice) and the significance of business relationships networks, intended as network either of vertical, horizontal or longitudinal business relationships.

In order to challenge main theories proposed by mainstream Strategic Management and IB literatures and to investigate the effectiveness of some relevant (temporal and spatial) constructs, global container port industry is a particularly suitable sector since it

is characterized by accelerated internationalization (and globalization) process, as well as, by paradigm shift from “hierarchy capitalism” to “alliance capitalism” (Li, 2007; Gao and Pan, 2010). Moreover, differently from many other businesses currently enjoying advanced stages of internationalization, worldwide liberalization and privatization of the port sector is an ongoing phenomenon that only accelerated since the mid-1990s (Peters, 2001; Parola, Satta, Persico, 2014).

III. THE INTERNATIONALIZATION PROCESS IN THE CONTAINER PORT INDUSTRY.

III.1 Introduction.

Since the 1990s, the global competitive environment is growingly populated by MNEs originating in EEs and developing countries such as China, India, Brazil, Turkey, Mexico, Chile and Indonesia (Child and Rodrigues, 2005, Moghaddam et al., 2014, Verma et al., 2011). This occurs particularly in regulated services industries, where suddenly firms have had the opportunity to participate in the liberalization and privatization programs pursued by several governments worldwide, entering high-growth businesses recently opened up to private parties (Yaprak and Karademir, 2010). In addition, some MNEs from EEs have been growingly through the M&As activity and expanding their presence in businesses such as infrastructures and other services sectors located in developed countries (Guillén and García-Canal, 2009).

In this context, over the last four decades, the container-port industry has experienced unprecedented transformations, which have profoundly re-designed its structure and competitive boundaries.

Port reform and liberalization processes taking place in many countries have opened unprecedented business opportunities for foreign private investors and operators. Moreover, the globalization process has favored the expansion of international trades with a relentless two-digits growth rate of traffic volumes handled in container ports for several years. These drivers have triggered the emergence of internationalization strategies pursued by terminal operators and the raise and growth of the industry-specific MNEs, namely the Global/ International Terminal Operators (GTOs/ITOs), i.e., privately owned or state-controlled firms operating/holding container terminals (even) outside the home country and across various world regions or continents.

Against a world containerized throughput of about 802 million TEUs (2019), the twenty-one companies classified by Drewry Shipping Consultants (2020) as ITOs handled about 66% (about 530 million TEUs). Such proportion demonstrates ITO's relevance in the industry thus suggesting that their strategic decisions (such as internationalization patterns) affect industry trends worldwide.

Figure 18 ITOs' relevance in the global container port industry, years 2018 and 2019.

	% Share of Throughput				% Share of Throughput			
	2018	Global/	Private	State	2019	Global/	Private	State
	Throughput (^{'000} teu)	International			Throughput (^{'000} teu)	International		
North America	67,564	59.9%	20.2%	19.9%	68,674	58.1%	21.3%	20.6%
Europe	136,072	76.4%	16.4%	7.3%	139,724	78.4%	13.7%	7.9%
Asia	423,547	64.8%	9.9%	25.3%	433,047	64.4%	10.2%	25.4%
Middle East and South Asia	68,591	71.6%	11.2%	17.3%	69,606	73.3%	10.9%	15.9%
Latin America	48,030	56.5%	32.5%	11.0%	48,328	61.1%	31.7%	7.3%
Africa	27,653	55.8%	6.8%	37.4%	28,393	59.7%	5.2%	35.1%
Oceania	13,133	33.5%	56.5%	10.0%	12,983	31.7%	58.8%	9.6%
World	784,589	65.6%	14.1%	20.3%	800,756	66.2%	13.8%	20.1%

Source: Drewry ¹⁶Maritime Research (2020).

III.2 Horizontal integration in the container port industry.

Along with the closure of the “privatization window” in the 2000s and the progressive scarcity of available port spaces for greenfield projects, ITOs massively resort to (horizontal) cooperative agreements to outstretch their geographic scope to both balance and consolidate their facilities portfolios (Heaver, Meersman, and Van De Voorde, 2001; Wang et al., 2012; Parola, Satta and Persico, 2014).

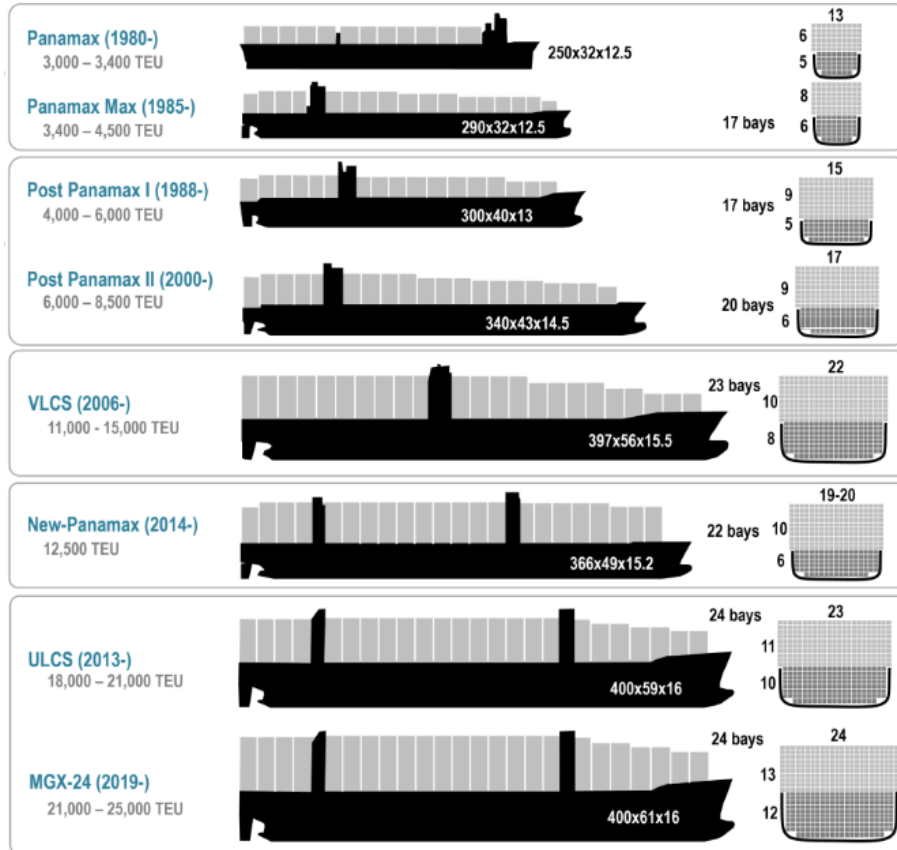
However, it has to be mentioned that at the same time the delivery of port services has become an increasingly risky undertaking: increased competition both “within” and “for” the container port industry, the need for huge financial resources, requested investments in increasingly specialized technologies and the expansion of port activities beyond traditional services exacerbated the possibility of economic losses from port operations.

Indeed, the growing demand for containerized maritime transport has been met by container shipping companies via vessel upsizing. Larger vessels allow shipping lines to benefit from scale’s economies at sea. Therefore, terminal operators and port authorities have been pushed into making significant investments in port equipment and nautical

¹⁶ According to UNCTAD’s statistics, the world container port throughput in year 2018 amounted to 792.470 million TEUs and in year 2019 to 807.330 million TEUs. According to World Bank’s data, the world container port throughput in year 2018 accounted to 792.776 million TEUs for and in year 2019 to 807.195 million TEUs.

accessibility in view of adapting the capacity of ports and container-terminals (Tran and Haasis, 2015; Notteboom, 2016).

Figure 19 Containership vessels' upsizing, 1980 to date.

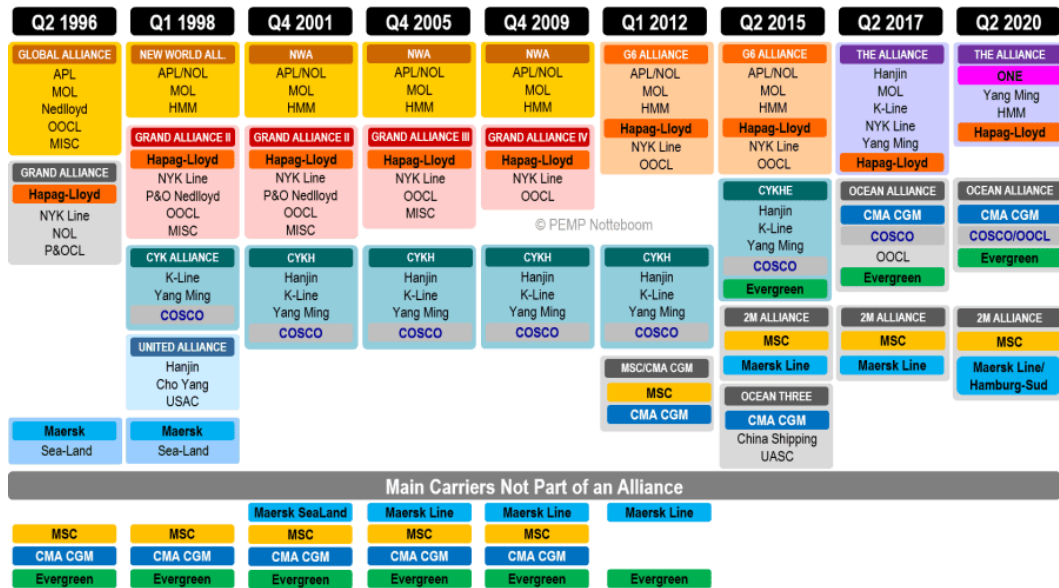


Source: Rodrigue (2022).

Furthermore, since the occurrence of a significant consolidation of the container shipping industry both in the form of i) operational co-operation agreements (early 1990s) and of ii) the M&As activity (late 1990s) between container shipping companies, terminal operators and port authorities had to deal with a few carriers' groups with an ever stronger bargaining power to play off one port against the other.

Operational co-operation has been ranging from the form of i) slot-chartering and ii) vessel-sharing agreements to iii) strategic alliances and together with the M&As activity constitute the horizontal integration dynamic ongoing (although in alternated phases) in the container shipping industry since the 1990s.

Figure 20 Alliances in container shipping industry, mid 1990s – 2020.



Source: Notteboom, Rodrigue (2022).

Since the mid-1990s, ocean carriers have largely resorted to strategic alliances to exploit global demand opportunities and achieve joint efficiencies at sea (Notteboom, Parola, Satta and Pallis., 2017; Caschili, Medda, Parola and Ferrari, 2014; Slack et al., 2002).

Quartieri (2017, p. 18) pointed out that «*the formation and enlargement of these consortia do not alter the average variable cost of a carrier but spread it over all the members yielding a decrease in each carrier's marginal cost*», ultimately positively impacting on the possibility to compete in the market. Thus, although this form of horizontal cooperation entails benefits in terms of cost savings and wider network organization, it implies challenges as well. Indeed, strategic alliances among ocean carriers are mainly designed to take advantage of vessel sharing arrangements, while they do not include price fixing, joint sales or sharing of profits (Panayides and Wiedmer, 2011). Therefore, the stability of alliances relies upon an efficient design of agreements motivating carriers to cooperate (Song and Panayides, 2002; Midoro and Pitto, 2000).

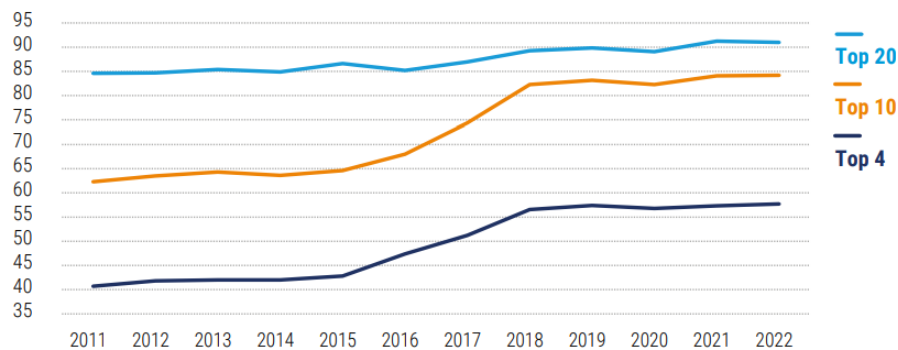
However, the formation of network strategic alliances among ocean carriers can be successful only if economies of scale achieved at sea are not negated by diseconomies of scale in ports, as pointed out by Haralambides (2019) (see also OECD, 2015; Benacchio et al., 2007; Wilmsmeier et al., 2006). Therefore, since the late 1990s vertical agreements

involving ocean carriers and pure stevedores started to be signed, in order to better compete with other allied and not-allied carriers (Parola, Satta and Caschili, 2014; Alvarez-SanJaime et al. 2013; Ferrari, Parola and Bennachio, 2008; Notteboom, 2004).

III.3 Vertical integration of the container shipping industry and the emergence of “Hybrid operators”.

Indeed, the container shipping industry has experienced several waves of M&A activity which reached the peak of n. 18 main financial transactions in year 2006 (Notteboom and Rodrigue, 2022). Most recent wave of (ocean) carriers’ consolidation occurred in the period from year 2014 to year 2018, with the most notable mergers including the one between China Shipping (Group) Company (CSG) and China Ocean Shipping (Group) Company (COSCO Group) in year 2016: the merged entity is China COSCO Shipping Corporation; the formation of the JV between NYK Line, MOL and “K”-Line in year 2017: the new entity is Ocean Network Express (ONE), consolidating containerships’ and overseas container terminal operations’ individual businesses of three Japanese (ocean) carriers; in the same year the German container shipping line Hamburg Süd has been acquired by Maersk Line (about 4.4 billion of US\$) and in year 2018 Orient Overseas International Lines (OOIL) and its containerships’ business (OOCL) has been took over by the new entity China COSCO Shipping Corporation (about 6.3 billion of US\$).

Figure 21 Market share (%) of top 4, top 10 and top 20 ocean carriers, years 2011–2022.



Source: UNCTAD’s calculations based on Alphaliner’s data.

The horizontal integration dynamics of container shipping companies inserts itself in an even earlier dynamics (since the late-1960s): the vertical integration and

diversification of shipping lines into inland transport, terminal operations, warehousing and distribution activities (Parola, Satta, Panayides 2015).

Initially, ocean carriers started to vertically integrate, acquiring equity stakes in terminal operating companies or directly managing terminal facilities, in order to exploit “dedicated” services in “single-user” terminals (Slack, 1993; Haralambides et al., 2002; Soppé et al., 2009): terminals owned/operated by ocean carriers that only handle their own containers. Nonetheless, since late 1990s, the “semi-dedicated” formula (i.e., selling spare capacity to third-party customers, which are often partners in shipping consortia or alliances) became much more common, because of the possibility of achieving a higher degree of utilization of the facility, thus reducing management costs (Notteboom, Parola, Satta and Pallis, 2017).

Since 2000s, several container shipping companies have created or acquired an ad-hoc branch dedicated to port operations, their own “terminal operating business unit”. In year 2000, MSC established the subsidiary Terminal Investment Limited (TiL) in order to secure container terminal capacity in the major ports called by the (parent) shipping company itself; in year 2001, APM Terminals brand became into existence and since year 2008 it began reporting financially as a separate business entity; then again, in year 2001 Terminal Link¹⁷ was created by CMA CGM as a subsidiary dedicated to international container terminal operations. In addition, in 2012, CMA CGM established a second terminals operating company, i.e., CMA Terminals, its WOS in charge of the development, the conception, the construction, the acquisition and the operation of container terminals worldwide.

This new approach to (container) terminal activities adopted by some major container shipping companies since the early 2000s represented a significant change in their corporate / group strategy: they started to manage container terminals as “multi-users” facilities by attracting third-party carriers and thus generating profits. In other words, some major container shipping companies started to run container terminal facilities as “profit-centers” (although at various degrees) and no more as “cost-centers” (Drewry Shipping Consultant, 2003). Thus, other than pure stevedores and ocean carriers,

¹⁷ In year 2013 China Merchants Port Holdings Company (CMPH) acquired a participation of 49% in Terminal Link from CMA CGM.

since the early 2000s a new typology of ITO emerged, the “hybrid operators” according to the ITOs’ categorization proposed by Drewry Shipping Consultant (2003, 2020).

Container shipping companies have become major players in the container port industry by entering key ports, using either the formula of i) minority interests, ii) JVs with local or GTOs and iii) WOSs focused on terminal operations (Parola, Satta, Persico, Bella, 2013; Satta and Persico, 2015).

The formation of commercial and operative alliances and equity JVs has resulted in a more complex chessboard of business relationships networks between members and partners of these strategic initiatives (mainly container shipping companies and terminal operators) involved in container terminals management and actual port calls (Parola, Satta, Caschili, 2014).

Table 4 ITO's categorization.

<i>Category / Business Matrix</i>	Container Shipping	Container Terminal	<i>Definition</i>
Pure stevedore	Client	Primary activity	<i>A company or a Group of companies having container terminal operations as its core business and investing in container terminals for expansion and geographical diversification.</i>
Ocean carrier	Primary activity	Support activity ¹⁸	<i>A company or a Group of companies having container shipping as its core business and a portfolio of container terminals¹⁹ to serve the container shipping activity.</i>
Hybrid operator	Primary activity	Additional profit stream ²⁰	<i>A company or a Group having container shipping as its core business and a portfolio of container terminals managed as a profit-center.</i>

Source: Author's elaboration.

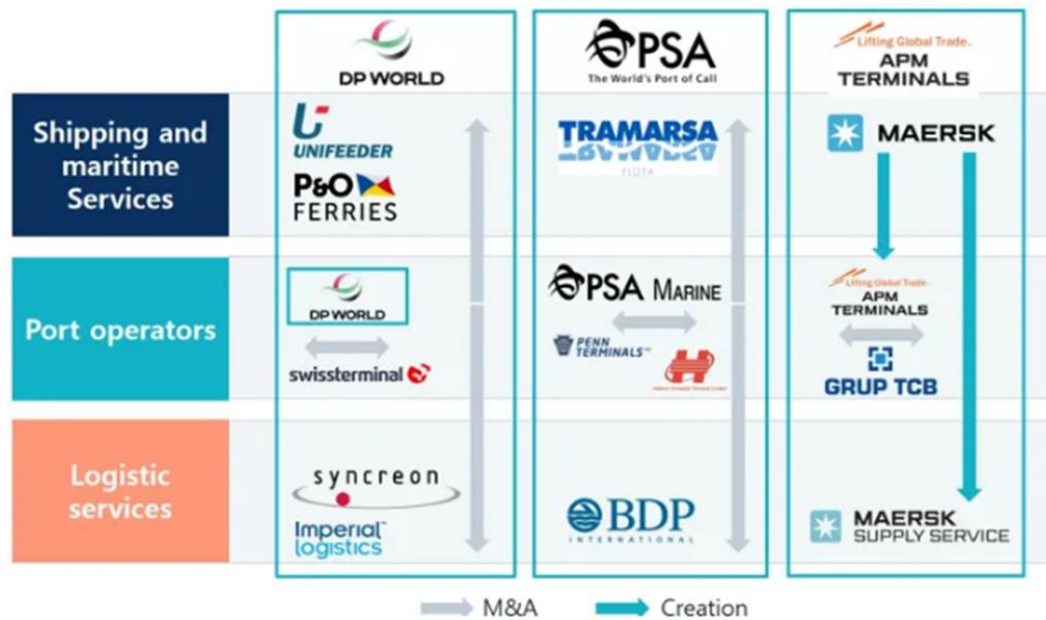
¹⁸ Container terminals are managed either as "single-user" facilities or according to the "semi-dedicated" formula.

¹⁹ Mainly managed as cost-centers.

²⁰ Container terminals are managed predominantly managed as "multi-user" or "semi-dedicated" facilities.

It has to be mentioned that the categorization of ITOs proposed by Drewry Shipping Consultant, whom scholars and analysts have been referring to since early 2000s, is not a rigid scheme, indeed it has to be intended more as a continuum²¹ both over the industry and within a company's or a group's history. Furthermore, the ITOs' categorization has not to be intended as referred to ownership structure or commercial and operative independence (e.g., brand independence) separately, rather it has to be intended as an evolving combination of these characteristics which reflects in the strategic management approach to the portfolio of terminals.

Figure 22 Examples of horizontal and vertical integration pursued by ITOs.



Source: ALG (2022).

III.4 The role of “Financial operator” in the container port industry.

In such a context, investment banks and other financial operators have started to play a key role in orchestrating, in quality of sell-side or buy-side advisors, big M&A

²¹ In year 2019 the newly adopted corporate strategy pursued by A.P. Moller - Maersk Group (i.e., becoming a fully-integrated (container) logistic (services) provider group) has moved back APM Terminals and Maersk Line closer together, although under a different perspective: APM Terminals Inland Services (a network of inland terminals around the globe consisting of 36 business units with over 100 locations) has be integrated into Maersk Logistics & Services thus «APM Terminals can fully focus on becoming a world-class port operator, while Maersk Line, with the integration of Inland Services, will continue to focus on ocean transportation as well as logistics and services product development and delivery (...)» (Søren Toft, EVP and Chief Operating Officer A.P. Moller – Maersk, May 2019).

deals in port and maritime logistics industry and in the associated provision of necessary financial resources.

At the beginning, investment banks and related financial investors, entered this market seeking both new customers to be assisted in the listing process on the equity capital market and investment's opportunities, at an initial stage with reference to the debt capital market or the bonds' private placement market. However, at least since the early 2000s, investment banks and PE funds, triggered by steadily increasing market growth rates and high profitability experienced by firms operating in the container port industry (as well as in other port-related businesses like cruise terminals, etc.) started to, directly or through their dedicated infrastructures investment arms, invest in the equity of companies involved in container terminal operations as well as in other port-related businesses.

Institutional investors have traditionally invested in infrastructure through i) listed companies and ii) fixed income instruments. Only since early 2000s, investors have started to recognize infrastructure as a distinct asset class. Since listed infrastructure tends to move in line with broader market trends, it has become a commonly held view that investing in unlisted infrastructure, although illiquid, can be beneficial to ensure proper diversification (OECD, 2012).

This is the case, for instance, of 3i Group plc, a PE firm also providing infrastructures financing and debt management, acquiring, in year 1999, Grup Marítim TCB. In the biennium 2006-2007 several M&A transactions occurred in the (container) port industry involving financial operators with the role of buyers. In year 2006, the investment bank Goldman Sachs, the investment arm of the savings and insurance M&G Prudential Group and the infrastructure investment arm of the pension fund OMERS acquired, together with the SWF of Singapore GIC Special Investments, Associated British Ports (ABP) for about 6.332 billion of US\$; then again, in year 2006 the infrastructure investment company Babcock & Brown Infrastructure Limited (BBI) acquired PD Ports Plc (about 0.616 billion of US\$) from a consortium of financial operators among which Citi Group had been holding a 29% interest. In year 2007, the financial institution Deutsche Bank acquired a minority stake (49%) in Peel Ports Group (about 1.114 billion of US\$); the Ontario Teachers' Pension Plan Board (OTTP) acquired the Terminals Division of Orient Overseas International (OOIL) and re-named it Global

Container Terminals (GCT) (about 1.791 billion of US\$); the PE fund Highstar Capital (part of American Insurance Corporation Group (AIG)) acquired P&O Ports North America Inc. from DP World and re-named it Ports America; Goldman Sachs provided equity funding to SSA Marine's parent company, Carrix Corporation, and as part of the deal acquired a minority stake (49%) in the company.

This trend of investing in (container) port facilities portfolios by various types of financial investors had been lasting until the sharp blast of financial crisis in year 2008 and it has continued also during the financial storm in years 2009 and 2010, although with a fewer number of transactions concluded and at lower (equity) considerations to existing shareholders, since in most cases target companies had gathered a high level of debt exposure. See, for instance, the case of Euroports. It has been established in year 2006 by Babcock & Brown Infrastructure Limited (BBI) and in year 2009 it closed a private placement agreement²² of common equity shares to new investors Arcus Infrastructure Partners LLP and Antin Infrastructure Partners (respectively holding a stake of 9.8% and 19.8%). In the same year, the asset management company Brookfield Corporation acquired PD Ports Plc from Babcock & Brown Infrastructure Limited (BBI) (about 0.520 billion of US\$ of total transaction value, whereof 0.355 of net liabilities assumed). In year 2010, Brookfield Corporation acquired the remaining²³ majority stake (60%) of Babcock & Brown Infrastructure Limited (BBI) and thus indirect equity stakes in its infrastructure assets portfolio, such as Euroports. In December 2010, the investment bank JP Morgan together with the pension fund Stichting Pensioenfond ABP acquired Spanish assets of Dragados Group (respectively an equity stake of 67% and 33%, for about 0.953 billion of US\$) and re-named them Noatum Ports.

Since year 2011 (and at least until the early 2020) this trend of various typologies of financial operators populating the container port industry continued although it has

²² «The “Shares Subscription Agreement” (2009) includes a shares equalization process in years 2012 and 2013 based on the performance of Euroports through to that time. Depending on Euroports' performance, the aggregate equity owned by Antin Infrastructure Partners and Arcus Infrastructure Partners LLP will be adjusted from the potential up-front 40% holdings to an amended holding of between 34% and 65% (to be held between Antin and Arcus on the same proportional basis as the up-front holding assuming Antin converts its convertible bond into equity). Furthermore, Antin and Arcus have the right to acquire another 9% from Babcock & Brown Infrastructure on the same terms as the current “Shares Subscription Agreement”. » Babcock & Brown Infrastructure Limited Annual Report (2009).

²³ In late 2009 Brookfield Corporation acquired 40% equity stake in Babcock & Brown Infrastructure (BBI) as part of an about US\$ 1.8 billion debt's re-capitalization deal. Following the re-capitalization, Babcock & Brown Infrastructure (BBI) was re-branded as Prime Infrastructure.

been characterized by a distinctive investment approach adopted by financial actors. Furthermore, the container port industry has been the first market that has attracted financial investors worldwide since the late 1990s (Olivier, Parola, Slack and Wang, 2007; Parola, Satta, Persico, Bella, 2013), however these operators have discovered the cruise terminal sector later on (mainly after the 2008 financial crisis, focusing on geographic areas such as United Kingdom, Unites States and Australia). Indeed, while previously financial companies, in particular investment banks and PE firms (to a lesser extent, investment arms both of insurance companies and pension fund), entered the container port industry, seeking for benefits from a sector characterized by a double-digit CAGR, of about +10.15% over the period 1980-2007, and by double-digit multiples related to transactions concluded in the period late 1990s-2007, according to an aggressive and speculative investment strategy (i.e., massive financial resources committed and exit strategy in the short-medium term, within 3-5 years), since year 2011 it has taken place a “substitution” in the typology of financial operators investing in the container port industry (i.e., increasing presence of public and private pension funds and infrastructure-assets specialized investment companies instead of investment banks and “generalist” PE funds) which has led a change also in the adopted investment approach to the industry: establishing long-term (growth) relationships with target companies and greater involvement in PPPs.

Institutional investors like pension funds, insurance companies and mutual funds are, typically, “buy and hold” investors and their main focus is on long-term income rather than on capital accumulation.

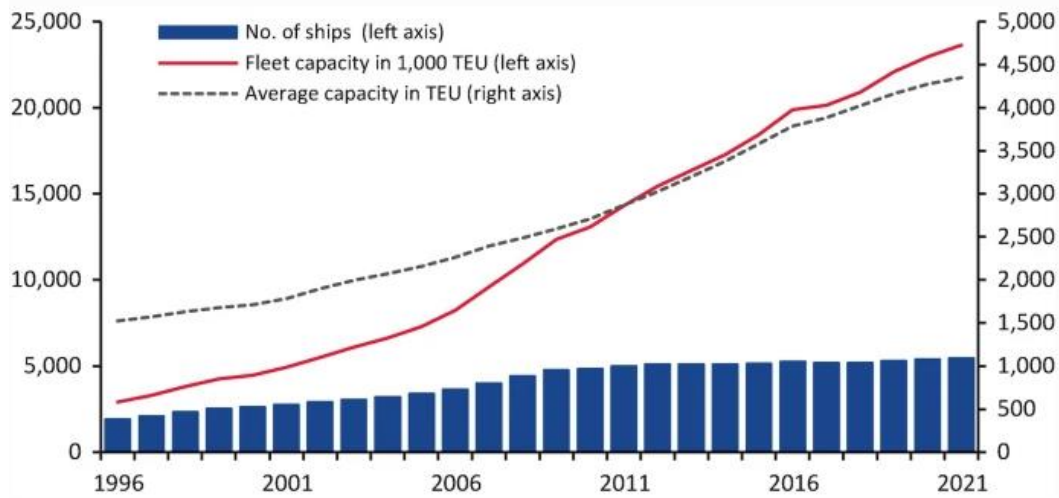
This is the case of Global Infrastructure Partners, infrastructure assets investment company (JV between the financial institution Credit Suisse and the multinational industrial conglomerate General Electric), which has entered the container port industry in year 2007 with the acquisition of International Port Holdings Ltd. (IPH) and with other single-site acquisitions, and in year 2013 took a step into the MSC network by taking a significative minority stake (35%) in TiL (about 1.93 billion of US\$). It is, also, the case of Brookfield Corporation that, for instance, has consolidated its presence in the container port industry through the acquisition, in year 2014, of a significative minority stake (49%) in International Transportation Inc. (owning two US West Coast terminals) from MOL (about 0.277 billion of US\$) as part of a new strategic alliance aimed at enhancing and

expanding MOL's container terminal business. More recently, in year 2019, Brookfield Corporation has assumed a majority stake (about 60%) in the Oaktree Capital Group, which owns, since year 2014, together with the Canada Pension Plan Investment Board (CPPI) the pure stevedore Ports America (respectively, a 90% and a 10% stake). In addition, the financial institution Macquarie Group, which entered in the container port industry in year 2006 with the acquisition of a minority stake (49%) in Hanjin Terminals (including various terminals in Taiwan, Japan and U.S.A.) from the ocean carrier Hanjin Shipping (about 0.87 billion of US\$), and in year 2019, among others, acquired the remaining²⁴ 51% of Ceres Terminals (North America activities) from NYK Line (for about 0.1 billion of US\$).

At the same time, the container port industry is commonly recognized, both by scholars and practitioners, to have been entered in a "maturity" phase which had been lasting at least until the early 2020: in the period 2011-2019 the industry has signed a CAGR of about +4.15% (in comparison to a CAGR of about +10.95% over the period 2000-2008). In addition, in the same time frame, the average containership vessels' size and the world fleet's nominal capacity had annual growth rates almost continuously above +10% (especially before years 2008 and 2009) and since year 2010 it can be observed that the number of containerships has been increasing rather slowly, while the average vessel's size, in terms of nominal capacity, continues to rise almost linearly (Jungen H., Specht P., Ovens J. and Lemper B., 2021).

²⁴ Macquarie Group acquired a minority stake (49%) in Ceres Terminals (North America) in year 2014, for about 0.34 billion of US\$.

Figure 23 Containership vessels' upsizing, number of ships, world fleet nominal capacity and average nominal capacity per ship, years 1996-2021.



Source: Jungen H., Specht P., Ovens J. and Lemper B., (2021).

The steady containership vessels' upsizing has imposed increasing container terminals' operating expenses (OPEX hereinafter) and capital expenses (CAPEX hereinafter).

The combination of these two dynamics, together with the ongoing trends related to horizontal integration within the container shipping industry, has implied, inter alia, that over the last decades the container port industry (which since the late 1990s had yet been characterized by a heightening competition, both "within" and "for" the market) has raised concerns as regards business profitability (in terms of investments' expected returns), at least for speculative financial investors, and it has become a riskier business for ITOs recognizable as pure stevedore (i.e., in comparison to hybrid operators, pure stevedores do not govern maritime traffic "to" and "from" seaports, while they likewise face the increasing (both operational and financial) risk of ever higher CAPEX and OPEX in ports).

Such perspective, relying both on the corporate finance and the strategic management theories, gives insights not only about the shift that occurred, in the last decade, in the typology of financial operators populating the container port industry and their newly "moderate" investment approach but also about other two simultaneous behaviors intensifying in the container port industry:

- i. the strengthening and the widening of business relationships networks among ITOs, the so-called “hidden families” (Parola, Satta and Caschili, 2014) and
- ii. the enhanced investment appetite of particular typologies of investors/operators: the SOEs, State-holding companies and SWFs, predominantly from Asian and Middle Eastern countries.

III.5 The strengthening of network relationships and the dominant role of State-owned enterprises and of Sovereign wealth funds.

Since the late 1990s, ITOs addressed the increasing managerial, operational, and commercial complexity and the forcing competition characterizing the container port industry by resorting to equity JVs in order to develop and manage new container port facilities in foreign countries.

The relevance of equity partnerships in the container port industry has been growing, in terms of both the number of jointly owned terminal facilities and the total container throughput handled by them. In fact, between year 2002 and year 2010, the number of equity JV container facilities, involving at least one ITO, experienced a CAGR of about +9.74%: going from a number of 135 in year 2002 to a number of 284 in year 2010 and, in the same period, the container throughput generated by equity JV terminals (involving at least one ITO) rose from representing the 51.7% of the ITOs’ global throughput to the 70.56% (Parola, Satta and Caschili, 2014). These data detect two significant trends occurring since the early 2000s:

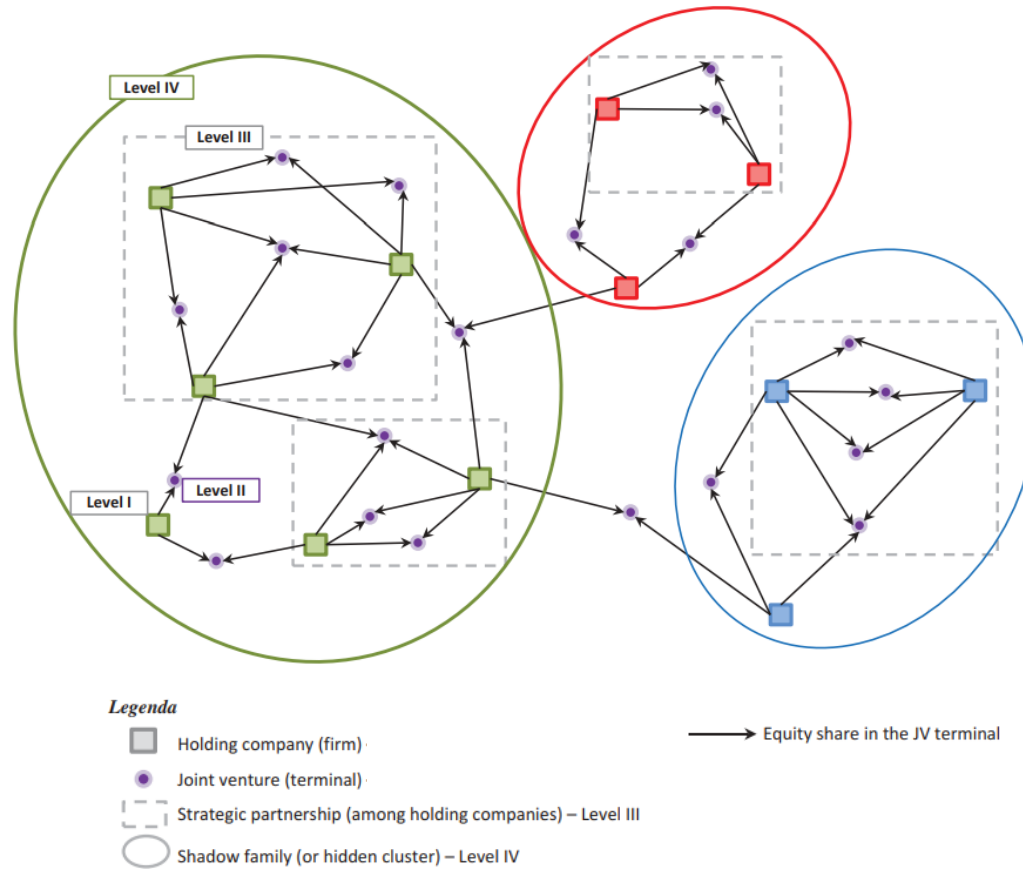
- i. the steady increasing global seaborne containerized cargo has been ever handled by equity JV container terminal facilities;
- ii. ITOs started to undertake equity JV with each other further and further (i.e., over the last decade the number of equity JV container terminals involving more than one ITO has been ever higher).

On the one hand, the first trend opens up an interrogative, at least for scholars, whether the steady increasing global seaborne containerized cargo trade routes have been attracted by container terminals controlled and managed by at least an ITO or, vice versa, ITOs have decided to enter, through equity JV either with local or global terminal operators, “strategic” geographic locations for the global seaborne containerized cargo

trade routes. On the other hand, the second trend suggests the need for investigating more in detail the developing of such equity partnerships in the container port industry (since early 2000s to date), questioning, for instance, whether some equity JV have been undertaken according to an “opportunistic” approach (e.g., the equity JV between two operators is just limited to one facility, exploiting a specific time-window opportunity (Abell, 1978)) or whether they are “recurring” (i.e., they assume a much more broad and profound relevance both in geographical and temporal patterns).

Despite the relevance of previous empirical contributions (Olivier, 2005; Vanelslander, 2008; Soppé, Parola and Frémont, 2009), breaking with the traditional approach of mainstream literature in the container port industry Parola, Satta and Caschili (2014) attempted to investigate the extent of inter-firm equity JVs and the diverse strategic attitudes of ITOs toward equity co-operation through the proposition of a multi-layer conceptual framework distinguishing four layers of ITOs’ “involvement” in equity JVs.

Figure 24 Four analytical layers to analyze equity JVs in the container port industry.



Source: Parola, Satta and Caschili (2014).

“Level I” of analysis takes into consideration the firm-specific approach to equity JVs, that is focusing on a single ITO and its strategic decisions regarding new business initiatives. According to Strategic management and IB literature, most relevant choices having strategic significance may concern:

- i. the option of autonomously investing in a specific container terminal facility or through a co-operative venture;
- ii. the nature and features of co-operative ventures: for instance, the choice of equity or of operational as well as commercial arrangements; the geographic coverage of the agreement;
- iii. partners selection criteria: for instance, nationality, culture of origin, business model, etc.;
- iv. the degree of control over the new initiatives: partially owned subsidiary (POS hereinafter), 50/50 JVs or minority shareholding.

In synthesis, “Level I” of analysis allows verifying if firms’ strategies are affected by previous business decisions and what exogenous variables play a major role (e.g., the risk profile of the host country).

“Level II” of analysis evaluates factors specific of single FDI such as the project size, the geographic location of the facility (in this regard, it would be interesting to investigate the causality nexus between the geographic location, the identity of operators/investors and the performance of a container terminal over time), the regulatory framework and the governance scheme of the port of entrance, the nature of equity partners (whether they are local or international), etc.

“Level II” equity JVs should in part reflect the strategic orientation of (either equity, commercial or operative) partnerships established at “Level I” but they also encompass several other single-terminal JVs traceable back to multiple key-drivers of each FDI, varying case by case (i.e., the single specific time-window opportunity, Abell (1978)).

“Level III” of analysis takes into consideration the more rare but ever significant cases of equity JVs established at the “mixed holding” level. This is the case of ITOs being part of a multinational industrial conglomerate or of a vertically integrated business group whose “ultimate” shareholders own and manage (i.e., control) the (container) port business through an operating-holding company, that is a company, besides managing

subsidiaries, runs its own business activities in the same specialization industry (e.g., the container port one).

This level's strategic equity partnerships mostly have a financial nature: in several cases the operating-holding company may temporarily need of additional financial resources raised up through the acceptance of new equity-partners. However, given the multi- or diversified industry nature of the conglomerate / group of affiliation; it could be also the case of ITOs seeking for a specific (either operative and commercial) know-how, expertise in order to serve one or more industries within the conglomerate's / group's range, whether they are client industries or business units.

Finally, "Level IV" of analysis traces the corporate hierarchy, going beyond both "pure intermediate" and "mixed holding" companies, in order to detect equity partnerships at the "ultimate" ownership level of ITOs. These often unknown, or unrevealed, equity partnerships among ITOs are hard to investigate through the lens of traditional IB or Strategic Management constructs.

Indeed, by identifying the "ultimate" shareholders of these "hidden" networks of ITOs, it emerges they mainly are not private MNEs but rather SOEs, SWFs or, at a lesser extent, public pension funds. Therefore, their drivers of entrance/expansion in the global (container) port industry as well as their investment approach (reflecting in, for instance, the geographic scope pursued and the degree of control assumed in their foreign ventures) vary a lot depending on their country of origin (i.e., the institutional settings, whether it is the case of a democracy or of a kingdom; the economic cluster of belonging, traditional or emerging markets; the evolutionary stage of national financial industry, etc.), mostly responding to geopolitical issues or financial diversification strategies.

Since year 2011 to date, "Level III" and "Level IV" equity partnerships have been observed as strengthening and widening, being the global container port industry ever more complex, riskier and requiring ever larger capital outlays, especially for greenfield PPPs in developing countries.

In such a context, with reference to "Level III" of analysis, it has been increasing the role of multinational industrial conglomerate and of main vertically integrated logistic operators which are able to better face the enforcing competitive and technical complexity of the sector. While, as regards "Level IV" of analysis, it has emerged the dominant role of SOEs, SWFs and, at a lesser extent, of public pension funds (the former especially

from Asian countries, the latter from Anglo-Saxon countries) which dispose of significant amounts of financial resources and are able to better manage risks (at least the financial and political ones).

This is the case, for instance, of Yildirim Group, Turkish multinational industrial conglomerate involved, among others, in container port and shipping industries, which in year 2010 acquired a minority stake (20%), through the subscription of bonds reimbursable into shares, in CMA CGM (for about 0.5 billion of US\$). It is the case also of Hutchison Port Holdings Trust (HPH Trust hereinafter), business trust established in Singapore in year 2011 by the sponsor HPH, whose main unitholders are CK Hutchison Holdings Ltd (about 30.7%) and Temasek Holdings (about 14.1%). The rationale of this strategic equity partnership relies in its ancestor: the pioneering minority participation (20%) assumed in year 2006 by PSA International in HPH (about 4.4 billion of US\$). Then again, it is the case of APM Terminals acquiring, in year 2012, a minority interest (37.5%) in the Russian pure stevedore Global Ports Investments (for about 0.95 billion of US\$).

A further as well as significant step in the analysis of business relationships networks between ITOs (both at a date and over time) is taking into consideration not only the “mixed holding” level but also the “ultimate” ownership of such firms and investment companies. By accomplishing this further exercise, it is inevitable to detect the widespread and ramified presence of SOEs, SWFs and of State-holding companies (especially from Asian and Middle East countries) in the equity of several ITOs, notwithstanding they can be considered pure stevedores, ocean carriers or hybrid operators.

This is the case, for instance, of China Merchants Group, a State-owned multinational industrial conglomerate, engaged in the transportation, finance and property businesses, which is the owner of China Merchant Port Holdings (CMPH hereinafter), a “red-chip²⁵” company engaged in the port and related businesses (as operating investor since early 2000s). Over time CMPH has assumed and cumulated equity participation not

²⁵ A “red-chip” company is one that does most of its business in China and it is participated by the Chinese Government (owning a considerable equity stake). Red-chips, however, are incorporated outside mainland China and listed on the Hong Kong Stock Exchange. Red-chip stocks are, thus, expected to maintain the filing and reporting requirements of the Hong Kong Stock Exchange. This makes them an important outlet for foreign investors who wish to participate in the rapid growth of the Chinese economy.

only at terminal level but also at firm and holding ones. For instance, in year 1998 it has assumed an indirect minority participation (22²⁶%) in Modern Terminals Limited (MTL hereinafter) and in year 2005 it has acquired a minority stake (30%) in Shanghai International Port (Group) (SIPG hereinafter); in addition, in year 2013 it has assumed a minority participation (49%) in Terminal Link, the first container terminal operations subsidiary of CMA CGM. It has to be noted that SIPG itself can be considered SOE, since its majority shareholder Shanghai International Group Corporation is a SOE financial holding.

It is obviously the case of Singaporean SWF and State-holding company, GIC and Temasek Holdings. The former, for instance, is a minority shareholder (33²⁷%) of ABP since year 2006 and of TiL (10%) since year 2019; the latter is the sole shareholder of PSA International since its foundation, it has been the majority shareholder of NOL from year 1988 to year 2016 (and thus of APL Terminals since its acquisition by NOL in year 1997) and through PSA International itself it is an indirect minority shareholder (20%) of HPH since year 2006. The again, it is the case of DP World, whose ultimate owner is Dubai Emirate (of) itself.

Finally, the case of China COSCO Shipping Corporation, deserves a special mention. The merge between China Ocean Shipping (Group) Company (COSCO Group) and China Shipping (Group) Company (CSG) is considered one of the most complicated deals in the history of China's capital market, with China COSCO Shipping Corporation being formed, in year 2016, following a merger plan (about 8.8 billion of US\$) involving n. 74 transactions between two biggest SOE shipping conglomerates. The new entity, China COSCO Shipping Corporation, in last five years has been the protagonist of several majority or minority acquisition in the global maritime industry. For instance, in year 2017, it has acquired a minority stake (15%) in SIPG for about 2.8 billion of US\$ and, in year 2018, it has acquired together with SIPG itself (respectively, about 90% and 10%) OOIL and its containerships' business (OOCL) (about 10.4 billion of US\$).

In synthesis, while the strategic equity partnerships among ITOs, both at terminal and firm level, have been partially investigated by scholars and field experts, there is a lack of contributions analyzing and systematizing (at a recent date and over time)

²⁶ In year 2007 increased to 27%.

²⁷ In year 2015 it decreased to 23%.

“hidden” networks of ITOs with reference to the holding and “ultimate” ownership levels and taking into consideration the nature and the nationality of their ultimate shareholders.

III.6 Recent trends and next challenges for the container port industry.

More recently, the extension of the business scope of several shipping lines and terminal operators has started to go beyond sea-port terminal operations to include inland and air transport and the provision of (value added) logistics and warehousing services. Many ITOs are also heavily focusing both on the issues of digital transformation through investments and initiatives in the development of digital infrastructure and services as well as on the enhancement of their environmental sustainability responsiveness.

Even if the vertical integration ambitions both of container shipping companies and terminal operators were articulated and operationalized well in advanced of the GVCs’ crisis due the occurrence of shock-events such as COVID-19 pandemic, the Suez Canal blockage and the Ukraine war, which implied extraordinary conditions in the market (i.e., ports congestion faced by terminal, the contextual high profits recorded in year 2020 and year 2021 by shipping lines) and broader consequent supply-chains’ disruptions (i.e., the increasing demand of hinterland transport and the reconsideration of contemporary supply-chain management principles such as “just-in-time”), they provide an even greater impetus for the integration of the global maritime logistic industry as well as, more recently, of the related rail and air (freight) transportation industries.

These contextual elements have imposed to (re)open and (re)assess the subject of logistics (vertical) integration in the academic debate.

At the time of writing, the international market scenario of the container port and shipping industries is ever subject to alterations of the global playfield. Horizontal and vertical integration strategies seem to be ever re-enforced, while the assumed “automatic” renewal of shipping alliances start to be questioned.

It is the case of Hapag-Lloyd, which has acquired (October 2022) the full ownership (100%) of the shares of the Chilean terminal-operator SAAM Ports S.A. and of SAAM Logistics S.A. (about 1 billion of US\$) and, thereby, entered in a network composed of a number of 10 terminals in six countries in Latin America. The new company is announced to operate as independent entity.

Again, in December 2022 MSC Group, through its WOS SAS Shipping Agencies Services, has completed the acquisition (100%) of Bolloré Africa Logistics for about 6.1 billion of US\$. MSC has, thus, acquired Bolloré's African operations (in a number of 47 African countries with a number of 16 container terminals, 7 ro/ro terminals, 2 wood terminals, and a river terminal) as well as terminal operations in India, Haiti, and Timor-Leste. The target-company, also, operates three rail concessions, Sitarail in Burkina Faso, Camrail in Cameroon, and Benirai in Benin, and a network of 85 maritime agencies. MSC has announced to unveil new branding for the operation along the year 2023 although Bolloré Africa Logistics Group will operate as an autonomous entity.

Finally, in February 2023 Maersk Line and MSC jointly announced the "end" of 2M Alliance in year 2025, and in April 2023, CMA CGM Group granted a put option to the Bolloré Group to sell the transport and logistics operations of Bolloré Logistics and Bolloré Group has accepted the proposal as a put option. Completion of the transaction remains subject, first, to the examination by employee representation, and then to customary regulatory approvals.

III.7 Literature gaps.

The aforementioned waves of port reforms worldwide have brought a greater involvement of private investors/operators, which is assumed, in accordance with main Strategic Management and IB theories, to improve ports competitiveness, increase productivity and lower costs.

However, the corporatization and heterogeneity of ITOs have also enhanced the competition both “within” and “for” the industry and thus differences in port reforms outcomes have been observed among countries (Brooks and Cullinane, 2006; Brooks, Cullinane, Pallis, 2017).

Although scholars have analyzed the political process of devolution (Brooks, 2004) or privatization (Cullinane and Song, 2002, Baird, 2000) and others have reflected on the consequences of public action and the challenges for port authorities confronted with the landlord transition (Comtois and Slack, 2003, Notteboom and Winkelmanns, 2001), Brooks and Pallis (2008) have examined the link between different types of governance and port performance. National comparisons of actual port reform processes raise questions about the differentiated transposition of homogenous port governance schemes in various institutional contexts (Brooks, 2007, Ng and Pallis, 2010).

Therefore, the corporatization of the container port industry, the emergence of ITOs and their heterogeneity can be better understood when using some of main IB theoretical frameworks (Notteboom and Rodrigue, 2022) as identified by Forsgren (2013) and Kano and Verbeke (2019).

III.7.1 The geographic diversification strategy of MNEs.

Previous contributions in the Strategic Management and IB research fields have demonstrated the specific implications of geographic diversification strategy on the internationalization pattern of MNEs and their corporate performance (Hennart, 2007; Lee and Chung, 2007; Peng, 2009; Tallman and Yip, 2009). MNEs are used to geographically diversify their business to capitalize their industry-specific know-how and firm-specific resources (Contractor et al., 2003). This fosters the rise of opportunities and the achievement of competitive advantages (Hitt et al., 1997).

Moreover, MNEs can broaden their multinational business relationships networks and, thus, not only increase their strategic flexibility (Lee and Makhija, 2009) and

adaptability to newly entered local markets, but also to multiply the source of their competitive advantage.

However, Qian et al. (2010) argue performance varies nonlinearly with respect to the various levels of geographic diversification. While inter-regional diversification may lower corporate risk, it is expected to increase costs (Patel et al. 2018). Indeed, diversification across different countries can increase the costs and complexity of managing activities in diverse economic, social, cultural and institutional settings (Reeb et al., 1998). Moreover, Goerzen and Beamish (2003) demonstrate the greater dissimilarities between country profiles, the higher costs required to run the business and meet the demand. Therefore, the increasing commitment in different countries raises the risk of failure even though it may generate a positive return to MNEs when the level of geographic diversification is moderate.

The analysis of the prominent literature leaves room to extend theories on how MNEs leverage geographic diversification strategies to enhance their corporate performance. In this vein, Vahlne and Johanson (2020) report a lack of industry-specific longitudinal (i.e., panel-data) analysis investigating the internationalization process of MNEs and this is even more the case of regulated services-industry, like the container port one.

As regard the specificities of the container port operation industry, the increasingly liberalized environment in which firms operate triggered a number of terminal operators to outgrow their home-country, paving the way to industry internationalization.

However, the nature and ultimate strategic objectives of the internationalization process of ITOs are not univocal: distinct business models established themselves in the industry and mutually affected each other (Parola, 2021) as well as the home-country's economic cluster of belonging affects the internationalization process but also its outcome (i.e., the corporate performance of ITOs and the associated business risk).

While strategies of internationalization have long been the focus of main IB and Strategic Management theories (e.g., the "Process theory" and the "New venture theory") contributing to the understanding of the internationalization processes, differences in firms' international growth patterns and survival rates have not yet been fully explained. Over the last two decades, ITOs have performed horizontal growth strategies to keep pace

with global and regional demand expansion as well as to diversify corporate risk across various geographic regions.

Adopting a “Dynamic capabilities” perspective, this contribution aims to fulfill the literature gap by investigating the specific case of the container port industry internationalization and the implementation strategy adopted by ITOs.

III.7.2 The business relationships networks among ITOs.

Hymer's theory of FDI (1976) is based on the assumption that a MNE will engage in FDI if it holds a monopolistic advantage over firms located in the host-country through its unique FSAs. For FDI to take place, benefits of exploiting FSAs internally through the MNE hierarchy should be larger than the additional costs of conducting business in a foreign market. The additional costs of expanding internationally used to be high in the container-port industry.

Until the mid-1990s, discriminatory entry barriers in the container-port industry erected by governments or local port authorities in many countries prevented foreign investor and/or operator from entering national or local markets. The move towards transparent and open concession / licensing procedures implied that local terminal operators faced competition (i.e., competition “for” the industry) from internationally experienced (and often vertical integrated or business diversified) players, able to fully play out their FSAs in the competitive bidding procedure (Pallis, Notteboom, De Langen, 2008). ITOs use their scale and scope advantages to outperform other bidders in terms of managerial competences, financial resources and international expertise.

The “Organizational Capabilities theory” (Grant, 1991) argues that MNEs' boundaries are determined by the firm's reservoir of capabilities and knowledge and how the firm replicates its FSAs (in the home-country) abroad through proper governance mechanisms to coordinate knowledge flows (Kano and Verbeke, 2019). ITOs try to replicate their FSAs (in the home-country) abroad while, at the same time, they are seeking a strategic fit of their FDI with each of foreign environments of entrance (according to the “Contingency theory” and the “Institutionalization theory”).

By converse, terminal operators generally achieve greater efficiency and lower costs by establishing standardized systems across the entire terminals network they dispose of. Thus, the international expansion implies a trade-off for ITOs: the need of

adapting their FDIs to the foreign environment of entrance versus the convenience of standardizing operational systems and procedure across their entire terminals network.

Furthermore, gaining a competitive advantage in the container-port industry is both a matter of pursuing scale and scope economies originating by the fact of benefitting from being part of a multinational business relationships network (which enables the firm to overcome the intra-regional competition “within” the container port industry) and of establishing highly connected transportation services and close (commercial) relationships with the hinterland of each port, relying on a local and infrastructure-based advantage (i.e., institutional factors and local markets affecting the intra-regional competition). For instance, a capillary and reliable railway connectivity with inland terminals and a shared and affordable ICT system play a pivotal role in the strategic positioning of a port-terminal operator within the regional competitive field. In line with the above-mentioned strategic factors, each port-terminal faces a different operational (cargo mix), institutional (labor regulations, governmental policies, port governance model), and economic environment (hinterland markets). Olivier (2005) refers in this context to the role of “place-specificity” and “territorial embeddedness” linked to the home-market in understanding expansion strategies.

For example, PSA International initially developed terminal activities in its homeport of Singapore before opting for an internationalization strategy. The operational scale of its activities in Singapore helped PSA International to acquire exceptional FSAs in terminal handling and related digital solutions. These FSAs were used to roll out an international terminals network through the M&A activity and the successful bidding for new terminal concessions. This development was accelerated by increased competition at port of Singapore, not least from newcomer Tanjung Pelepas in Malaysia.

The “Information-processing view” of the MNE (Egelhoff, 1988) stresses the role of formal coordination and control by headquarters to achieve the necessary adaptation, while the “Differentiated network view” (Bartlett and Ghoshal, 1989; Mudambi, 2011) underlines the importance of differentiated management approaches of (dispersed) local units in the network, of subsidiary autonomy and of the balancing of local responsiveness with global integration.

In synthesis, it is possible to argue that while ITOs following their internationalization or expansion path usually opt for the so-called “geographic

diversification” strategy in order to decide where to invest next, their actual mode and timing of entry in regional markets follows an “opportunistic” approach which is very much dependent on their success rate in dealing with the opportunities emerging in terms of concessions obtaining or M&As offered.

In this context, (local) institutional factors are crucial in opening windows of investment opportunities for ITOs (Jacobs and Notteboom, 2011) and the enforcing (regional) competition among port location can multiply the number of terminal entry options for ITOs in the same region, while the likewise increasing (international) competition “for” the port industry by vertical integrated or business diversified players both reduces the number of emerging opportunities in terms of obtaining concessions or M&A offers and increases the associated business risk.

IV RESEARCH OBJECTIVES

In this perspective, this contribution aims to investigate, relying on wide and updated longitudinal data, ITOs’ strategic behaviors when implementing their internationalization processes following three research objectives (ROs hereinafter):

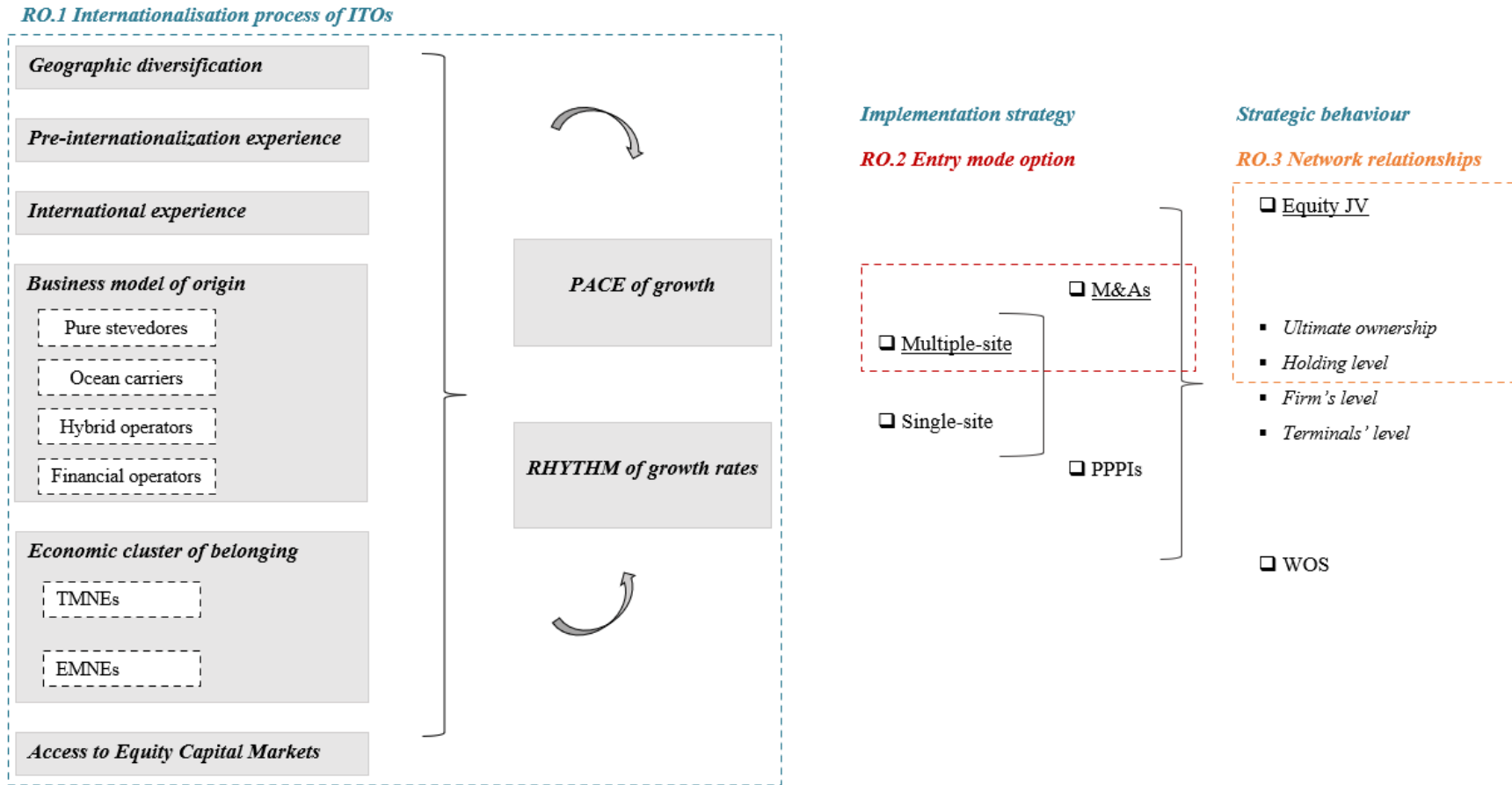
- i. RO.1: to investigate, borrowing the corporate finance vocabulary and the IB main theories, the “risk” and the “return” of ITOs’ foreign investments in their internationalization patterns, while taking into consideration the effect of some key-factors, such as both country-specific aspects (e.g., the physic and psychic distance from the home-market and the one of entry, the economic cluster of belonging) and firm-specific issues (e.g., the business model of origin and the access to the ECM);
- ii. RO.2: to illustrate how these both firm and country-specific key-factors and further related specifications (for instance, the nationality and the nature, private or public, as well as the entrepreneurial orientation of the “ultimate” ownership) affect the implementation strategy of ITOs’ internationalization process, either in terms of:
 - a. the foreign markets entry mode options (M&As activity or “direct” PPPIs),
 - b. single or multiple-site selection as well as
 - c. the JV-WOS dilemma.

RO.2 intends, also, to illustrate the “alternate” trend, over the last four decades, in foreign markets entry mode choices made by ITOs, between the M&As activity (both single or multiple-site transactions) and “direct” PPIs, which is mainly, but not only, a single-site entry mode option.

- iii. RO.3: to investigate how aforementioned both firm and country-specific key-factors affects the ITOs’ strategic behavior in the global playfield (i.e., competition versus co-operation and the concept of “co-petition”) with a particular emphasis to the investigation of the formation, the widening and the strengthening of equity JVs among ITOs at the highest level of the corporate hierarchy, the “ultimate” ownership one.

Under this vein, RO. 3 detects the increasing role of SOEs, of State-holding companies and of SWFs.

Figure 25 Conceptual framework.



Source: Author's elaboration.

IV.1 Research Objective 1. Hypotheses development.

IV.1.1 Geographic diversification.

At the intersection of IB and Strategic Management literatures there exists a significant debate regarding the appropriate level of geographic diversification to be pursued by MNEs (Contractor, 2007; Goerzen and Beamish, 2003; Hennart, 2007; Lee and Chung, 2007; Tallman and Li, 1996), which has specific implications for firms' internationalization process. In spite of the large volume of research carried out over the past four decades, theoretical foundations and empirical findings concerning the nature of MNEs' the geographic diversification strategy and corporate performance relationship vary greatly (Yang and Driffield, 2012).

Geographic diversification strategy per se, at inter-regional level, it is not assumed to necessary positively affect a MNE's corporate performance. The lack of consensus is manifested in the different shapes of the geographic diversification strategy and corporate performance relationship that have been reported in literature: positive linear (Gaur and Kumar, 2009); negative linear (Lin et al., 2011; Singla and George, 2013); U-shaped (Li and Yue, 2008; Chen and Yu, 2012); inverted U-shaped (Chao and Kumar, 2010; Lampel and Giachetti, 2013); S-shaped (Lu and Beamish, 2004; Kumar and Singh, 2008); and more recently M-shaped (Ruigrok et al., 2007; Lee, 2010; Almodóvar, 2012; Almodóvar and Rugman, 2014).

Quin et al. (2010), analyzing over a seven-years period a sample of n. 123 U.S.A. based MNEs and leveraging both sales-based and subsidiary-based measures for measuring geographic diversification, found that corporate performance increases at an progressively higher rate as firms concentrate more heavily on intra-regional diversification and, in accordance with literature emphasizing how corporate performance varies nonlinearly with respect to the various levels of inter-regional diversification (e.g., such as squared relationships according to Gomes and Ramaswamy, 1999; Hitt, Hoskisson and Kim, 1997; or in cubic/sigmoidal terms per Contractor, Kundu and Hsu, 2003; Lu and Beamish, 2004; Ruigrok, Amann and Wagner, 2007), they found an inverted-U relationship of inter-regional diversification and total geographic diversification with corporate performance of MNEs.

The diversity of findings has suggested scholars to take into consideration a series of factors and/or moderators in order to explain different results (Kirca et al., 2012).

In this vein, there is a growing recognition that “contextual” factors are critical (Fleming and de Oliveira Cabral, 2016; Kirca et al., 2012; Singla and George, 2013) and IB and Strategic Management research fields have started to shift perspective: recent lines of research focus on understanding the factors underlying the geographic diversification strategy and corporate performance relationship in specific contexts rather than trying to find a generic shape of relationship curve that can be generalizable across various sectors (Hennart, 2007).

As regards the specific case of container port industry, at least until global seaborne containerized cargo trade (and thus the world container throughput) has grown according to a double digit CAGR (over the period 1980-2008) (i.e., in the accelerated phase of the globalization process) the geographic diversification has been considered a favorable strategy to pursue in order to exploit an exceptional positive market trend opportunity.

In this perspective, the geographic diversification strategy is expected to positively affect the corporate performance. The expectation relies on the assumption that under such exceptional favorable market conditions, all global containerized cargo trade routes and port regions have seen an increasing traffic over the over the period years 1980-2008.

On the other hand, since year 2011 the container port industry has still grown but at a lower CAGR (single digit one) and some major routes consolidated (e.g., the Europe-Far East and the Transpacific ones) rather than others, and it has steadily increased the competition both “within” and “for” the industry.

In light of these considerations, the effect of the pursuit of a geographical diversification strategy by ITOs on their corporate performance (i.e., on the annual growth rate of their total equity throughput) is more uncertain. The relationship between a higher geographical diversification and the corporate performance of a MNE is complex and characterized by both positive and negative influences.

In synthesis, a higher geographic spread is likely to offer new revenue streams and business risk diversification, but these may be accompanied by further costs (e.g., negotiation ones) and organizational stress.

H.1 A higher degree of inter-regional geographic diversification is expected to positively affect the ITOs' pace of total (equity) throughput growth.

H.2 A higher degree of inter-regional geographic diversification is expected to lower the volatility of ITOs' total (equity) throughput growth rate.

However, in order to better investigate the link between the ITOs' geographic diversification and the growth rate of the (equity) throughput and its volatility it is appropriate to take into consideration the intermediate, the moderator effect of other factors, firm and country-specific, recognized as significant by relevant literature.

In accordance with Hsu and Pereira (2008), this contribution considers firms' resources as antecedents and geographic diversification strategy as a mediator of MNEs' corporate performance. In other words, MNEs' development of skills and competencies, learned from their international expansion experience, is expected to help them achieve competitive advantages and thus improve their performance.

The moderator effect of ITOs' specific characteristics such as the pre-internationalization experience, the post-foreign markets entry experience will be investigated, beside the business model of origin of ITOs and the home-country-specific economic cluster of belonging.

IV.1.2 The expertise.

While firms' internationalization process has been understood as being dynamic, the dimension of internationalization speed has rarely been the main focus of research efforts until the mid-1990s (Casillas and Acedo, 2012), following the development of "International entrepreneurship" theory (Jones and Coviello 2005; Oviatt and McDougall 1994; Zahra and George 2002).

Furthermore, as Autio et al. (2000, p. 909) noted: *«research has not sufficiently distinguished between two closely related but distinct issues: first, the time lag between the founding of a firm and its initiation of international operations (Jones 1999; Jones and Coviello 2005) and second, the speed of a firm's subsequent international growth».*

This contribution, while being aware of significant above-mentioned distinction (a new measurement approach to the concept of international experience and

internationalization speed of ITOs will be proposed in Chapter VII “Research Agenda”) in order to accomplish RO.1 will refer to pre- and post-internationalization experiences as linear measures of time and will consider such measures as a stock of cumulative knowledge of local and foreign markets environments, respectively.

IV.1.3 The pre-internationalization experience.

The decision regarding the appropriate time to initiate the internationalization process is central to a firm’s continued performance. Delaying the foreign markets entry unnecessarily may entail opportunity costs (Patel et al., 2018), while doing it prematurely may involve inadequate preparation for the efforts required, thus threatening business survival (Chetty, Johanson and Martín, 2014). However, as pointed out by Oviatt and McDougall (1994), an increasing number of firms are able to expand abroad shortly after their establishment in order to develop key resources and leverage business opportunities across borders (Patel et al., 2018), so called “Born global” firms. Risk-taking and innovation are central elements in this behavior (Slewaegen et al., 2014).

In line with the “evolutionary” theory of the internationalization process, the Contribution argues that while initiation of foreign markets expansion offers firms an opportunity to generate new capabilities or growth opportunities, it also requires a commitment of resources (for instance, managerial and financial ones) which may endanger younger firms.

Therefore, pre-internationalization experience is assumed to be inversely related to the ITOs’ pace of total (equity) throughput growth: the lower the pre-internationalization experience of a firm aiming to internationalize, the higher it is assumed to be its appetite for foreign ventures. By converse, it is more uncertain the link between the pre-internationalization experience and the total (equity) volatility in throughput growth rates for ITOs: delaying the foreign markets entry unnecessarily means the firm will be exposed to higher throughput volatility. Indeed, Autio et al. (2000), who studied the effect a firm’s age at international entry might have on its subsequent international pace of growth, found the relationship negative. Some other scholars have, also, attempted to link these two speeds but have offered little empirical support (Prashantham and Young 2011; Sapienza et al. 2006).

H.1.1 A higher level of pre-internationalization experience is expected to negatively affect the ITOs' pace of total (equity) throughput growth.

IV.2.1.2.2 The international experience.

The gradual internationalization model, building mainly on the “Behavioral” and “evolutionary” theories, proposes that international experience is a crucial attribute for ensuring a firm’s potential for expansion and performance.

In this view, a company’s accumulation of experience and knowledge in foreign markets determines the extent of its development of internationalization capabilities and the managerial decision to commit further resources to foreign expansion activities (Luo and Peng, 1999).

To the extent that a firm may leverage its international experience to dynamically develop managerial capabilities and access new knowledge and revenue streams, while overcoming potential drawbacks in terms of cognitive inertia, such experience may enhance the firm’s long-term performance and survival.

Furthermore, especially in uncertain environments, having a higher level of international experience (i.e., higher knowledge of foreign markets, increased sources of competitive advantage and multiple revenues’ streams) are expected to lower risk for firms, at least the business-related one.

H.1.2 A higher level of international experience is expected to positively affect the ITOs' pace of total (equity) throughput growth.

H.2.1 A higher level of international experience is expected to lower the volatility of ITOs' total (equity) throughput growth rate.

IV.1.4 The business model of origin.

ITOs have often core competencies in different sectors and adopt diverse corporate strategies depending on their business model of origin, such as pure stevedores, (integrated) ocean carriers, hybrid operators and financial operators (Peters, 2001; Midoro, Musso and Parola, 2005; Notteboom and Rodrigue, 2012).

ITOs recognizable as pure stevedores manage container terminal facilities as “profit centers” and adopt an aggressive marketing policy in order to attract cargo both towards

the hinterland catchment area and overseas markets as well as by attracting the port-calls by ocean carriers. The latter, on the other hand, at least until mid-2000s, have not been interested in improving the “attractiveness” of container terminals comprising their own portfolio for third-party, except their alliance members, rather they usually manage container terminals as “cost centers” under a tactical perspective.

However, over the last decade this management approach to container terminals portfolios has been less fashionable. Beside the “non-stop arm-wrestling” (Musso and Parola, 2007) between pure stevedores and biggest ocean carriers (i.e., the former tries to reduce their costs and keep their income stable, the latter want a higher productivity and lower rates), the previously depicted evolution of the container port industry over the last two decades has implied additional competitive behaviors, new investment approaches and strategic initiatives.

Hybrid operators, although they are global shipping companies, manage most of their container terminals as “multi-user” facilities and thus as “profit centers”. In such a context it has been ever crucial the formation of strategic equity partnerships among ITOs and the definition of the involvement level of each actor, not only to share risk, increase profits and stabilize revenues streams but also in order to avoid contractual fighting.

Furthermore, similarly to what happened in the airline industry (Goetz and Sutton, 1997), some ocean carriers entering the container port industry have developed “fortress hubs”, which serve as strongholds where, apart from the sole-owner ocean carrier (or in some cases its alliance members), no other ocean carriers have been able to establish their operations. It could be also the case that an ocean carrier or a hybrid operator acquires or makes a bid for a terminal facility in order to manage it in a tactical manner (i.e., not to handle volumes in that location but only to prevent a competitor to “conquest” it).

Finally, the involvement of financial operators, since early 2000s, in the container port industry has asked for ever higher profitability and operating margins (i.e., the operative and economic efficiency) but has also raised concerns as regards the risk associated to such a capital-intensive business (i.e., as regards the long-standing sustainability of financial profitability and of operative marginality).

In light of this competitive scenario within the container port industry, the following hypothesis have been formulated with reference to the business model of origin of ITOs.

H.1.3 Pure stevedores are expected to have registered an increasing pace of total (equity) throughput growth but at a lower rate than Hybrid operators and Financial operators.

H.2.2 Pure stevedores are expected to have registered a higher volatility of total (equity) throughput growth rates than Ocean carriers and Hybrid operators.

H.2.3. Ocean carriers are expected to have registered a higher volatility of total (equity) throughput growth rates than Hybrid operators.

H.2.4 Financial operators are expected to have registered a lower volatility of total (equity) throughput growth rates than Pure stevedores and Ocean carriers only in the long term.

IV.1.5 The economic cluster of belonging.

This contribution inserts in the broader literature field interested in investigating the internationalization patterns of EMNEs and their determinants, paying particular attention in exploring existing behavioral differences between TMNEs and EMNEs in a regulated service industry as the container port one.

Previously mentioned IB theories claim MNEs are known to follow sequential and incremental foreign expansion pathways (Johanson and Vahlne, 1977), on the other hand the rapid internationalization of EMNEs demonstrate the existence of accelerated and unconventional patterns in overseas growth (Mathews, 2006; Warner et al., 2004).

In the past two decades, there has been a sharp increase in the number of studies focusing on the internationalization process of EMNEs (e.g., Ayden, Tatoglu, Glaister, and Demirbag, 2020; Gaur and Delios, 2015; Parthasarathy, Momaya, and Jha, 2017; Paul and Gupta, 2014; Yaprak, Yosun, and Cetindamar, 2018; Yeoh, 2011).

This shift towards examining the internationalization process of EMNEs is attributable, mainly, to two factors. The first factor refers to the dynamic capabilities (Teece, Pisano, and Shuen, 1997) and specific resources or assets (Barney, 1991) that EMNEs are able to exploit in their home location (e.g., abundance of natural resources, relatively skilled and low-wage workforce, the experience of operating in idiosyncratic environments, among others) which are considered to be instrumental for the successful EMNEs' internationalization (Bianchi, 2009), even though they tend to tap into foreign

locations as a way to acquire critical resources and assets that are not available in their home location (Deng, 2009). The second factor refers to the location-specific characteristics and institutional idiosyncrasies that tend to affect (or shape) EMNEs' internationalization strategy (Peng, Wang, and Jiang, 2008). With reference to cluster-specific characteristics, the international expansion of EMNEs is demonstrated to be boosted by cumulative benefits from inward internationalization (Parola, Satta and Persico, 2014) which are supposed to reduce EMNEs' liability of foreignness (Luo and Tung, 2007) and to foster their absorptive capacity during the international knowledge accumulation process (Guthrie, 2005; Young et al., 1996).

The behavior of EMNEs, characterized by their ability of quickly entering faraway foreign markets, regardless of psychic distance concerns, and of successfully catching-up with the early-mover TMNEs from the developed countries (Li, 2003), is reinforced in regulated service industries, such as the as the container port one, where firms suddenly had the opportunity to participate in government liberalization and privatization (Yaprak and Karademir, 2010).

Beside this facilitating peculiarity of the port operation industry, some characteristics of EMNEs' countries of origin, such as the conditions of a protected home-market and a significant state support (Child and Rodrigues, 2005; Nolan, 2001), foster their rapid international expansion.

Therefore, this contribution, in accordance with the "Springboard theory" (Luo and Tung, 2007, 2018) and its more recent extensions (Kumar, Singh, Purkayastha, Popli and Gaur, 2019), argues that in presence of "pro-market reforms" (i.e., liberalization and privatization processes), as in the global container port industry since early 1990s and, more generally, in most emerging markets, firms' age and business group affiliation (BGA hereinafter) are important predictors of an aggressive internationalization pattern.

This insight offers greater clarity on which EMNEs are exemplary of the springboard phenomenon:

H.1.4 ITOs from Emerging markets are expected to have registered an increasing pace of total (equity) throughput growth at a higher degree than ITOs from Traditional markets.

By converse

H.2.5 ITOs from Emerging markets are expected to have registered a higher volatility of total (equity) throughput growth rates than ITOs from Traditional markets.

IV.1.6 The access to ECM.

The access to the Equity capital markets (ECM hereinafter) by ITOs is taken into consideration as a control variable since it is considered as an “enabler-factor” of large and long-standing capital-intensive container ports development projects.

Figure 26 RO.1 expected signs.

RO.1 Hypotheses development

Independent variables

Geographic diversification

Pre-internationalization experience

International experience

Business model of origin

Pure stevedores

Ocean carriers

Hybrid operators

Financial operators

Economic cluster of belonging

TMNEs

EMNEs

Dependent variables

Access to Equity Capital Markets

Model 1 Dependent variable

PACE of growth

H.1.1 +

H.1.2 -

H.1.3 +

H.1.4 ±

±

+

+

+

H.1.5 +

+

Model 2 Dependent variable

RHYTHM of growth rates

H.2.1 -

±

H.2.1 -

H.2.2 +

H.2.3 -

-

H.2.4 ±

-

H.2.5 +

-

Source: Author's elaboration.

IV.2. Research Objective 2.

This contribution provides, integrating two distinct literature streams from the “Organizational learning perspective” and the “Resource-based view”, an analysis of ITOs’ foreign markets entry mode choice and its associated impact on corporate performance.

The decision of ITOs to enter a new port (market) and provide substantial infrastructure and superstructures investments is contingent on firms-specific factors (e.g., business model of origin, business group affiliation, etc.), characteristics of the terminal (e.g., geographic location, size of the facility, main stakeholders, etc.), and institutional and other country-specific factors (e.g., regulatory scheme and port governance framework, growth opportunities, etc.) (Parola, Satta, Persico, Bella, 2013). Outside of taking advantage of organic growth opportunities to develop infrastructure and superstructures, the M&As activity and bidding for new port (land) concessions and leases (i.e., PPPIs) are mostly resorted (international) expansion modes.

Therefore, RO.2 aims to investigate, through a holistic multiple-case study analysis, how ITOs’ preferences in foreign markets entry modes (i.e., the implementation strategy of their own internationalization process) have evolved over the last four decades, being affected not only by critical conjunctures for the industry (like aforementioned waves of port reforms worldwide and the sharp blast of the financial crisis) and by firm and country-specific key-factors investigated in RO.1 (such as the business model of origin, the economic cluster of belonging, etc.) but also by the shareholding and governance structure of ITOs (i.e., the nature, private or public, and the entrepreneurial orientation of their “ultimate” ownership).

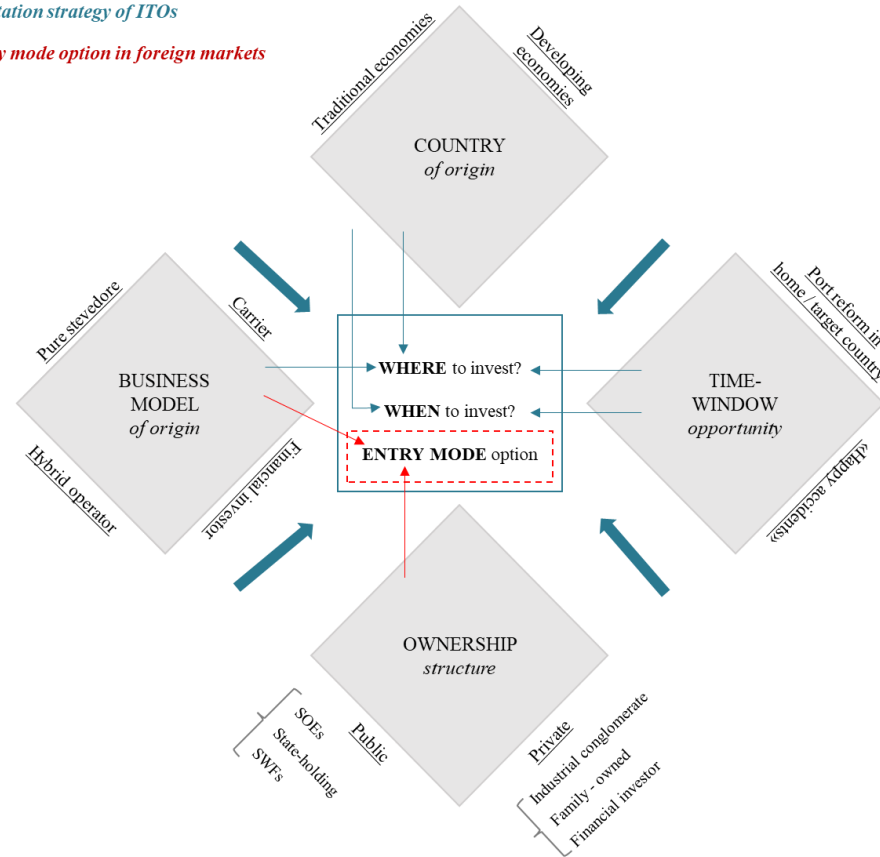
The Research framework of RO. 2 is captured by a “diamond shape” made up of four facets, each one subdivided into two or more sub-building blocks with related hypotheses.

This approach allows for an overview of the interrelated aspects of either vertical and horizontal integration strategies as well as international expansion pursued by ITOs recognizable as ocean carriers, hybrid operators or pure stevedores.

Figure 27 RO. 2 hypothesis development

Implementation strategy of ITOs

RO.2 Entry mode option in foreign markets



Source: Author's elaboration.

IV.2.1 The M&As activity.

Multiple-site acquisitions heavily affect both spatial and temporal dimensions of a firm foreign expansion patterns and alter its internationalization process (Roberts, 1999). According to IB and Strategic literature, a multiple-site acquisition is commonly expected to minimize the entry time in different geographic locations and to give direct access to the target firm's local market competitive advantages (e.g., its local business and institutional relationships, its brand-identity, etc.) (Belderbos, 2003), but it may also generate so-called "time compression diseconomies" which negatively affect the buyer firm's absorptive capacity (i.e., the firm's ability to exploit prior experiences to identify new information and to combine it to create useful knowledge in an ongoing business) (Cohen and Levinthal, 1990; Simonin, 1999; Li, 2007; Mathews, 2006; Zhang et al., 2010; Yeoh, 2011). The resulting inadequate adaptation of the firm to the new foreign environment, in turn, may trigger negative effects on the firm's overall performance (Chang, 2011).

Although a firm's international experience tends to wide its spectrum of foreign markets knowledge, strengthening its absorptive capacity and ability to identify new business opportunities (Cohen and Levinthal, 1990), when entering various countries simultaneously, a firm needs to integrate and cumulate knowledge sourcing from multiple foreign markets in a compressed timeframe, which challenges the speed of the firm's learning process (Zahra et al., 2000).

Over the last two decades, the MNEs from EEs have been representing an interesting case-study since they have proven to be able to successfully launch their FDI projects in culturally distant countries (Li, 2007) and rapidly achieve a wide geographic scope (Guillén and García-Canal, 2009) while having started the internationalization process much later than TMNEs (Luo and Tung, 2007).

However, it has to be mentioned that such an accelerated international expansion outcome can vary depending on several factors, such as the EMNEs' country of origin. For instance, EMNEs from Asia, Middle East and South America show different patterns of rapid internationalization and related effects on both their corporate performance and risk. Wei and Nguyen (2021), by investigating the degree of internationalization and corporate performance relationship for the case of Chinese services MNEs, have found that their overall poor financial performance is not due to their limited scope of

international expansion, but rather due to their lack of firm-specific resources (i.e., FSAs). Although Chinese services MNEs have either initiated or enhanced their internationalization process by aggressively taking over foreign assets, their lack of international experience, both at firm and individual level, and of ability to manage a multinational network (Peng 2012; Rugman et al. 2016) has implied significant post-acquisition integration costs, especially in culturally and institutionally distant countries (Shimizu et al. 2004).

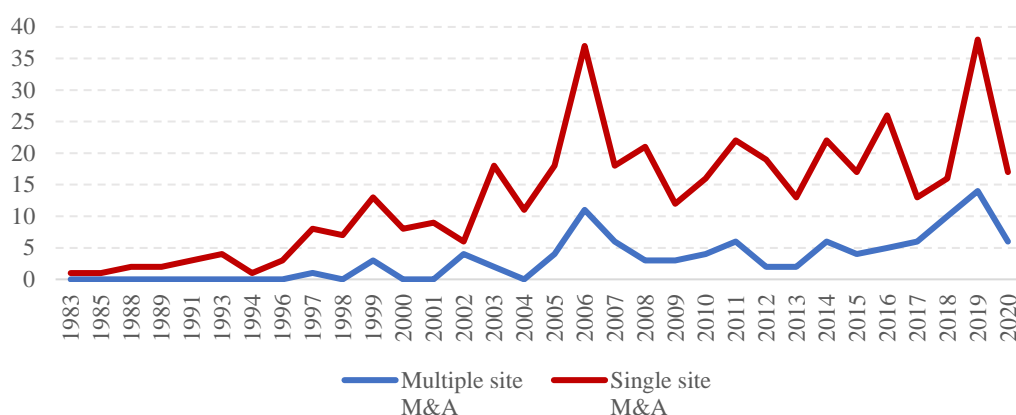
By converse, EMNEs who mostly had the opportunity to gain cumulative benefits originating from inward investments (Li, 2007) (i.e., those whose home-country is characterized by a greater openness to FDIs), like EMNEs from Middle East or South-East Asia, are commonly recognized to better cope, through their dynamic learning capabilities, with the post-integration costs arising from their multiple FDIs. Indeed, inward internationalization allows EMNEs to upgrade marketing knowledge as well as technological and managerial skills, accumulate significant financial resources, and develop learning experiences (Li, 2007).

In addition, as the case of EMNEs from South America suggests, a less extended geographic scope pursued through the multiple-site acquisition entry mode option moderates the post-integration costs and adaptability challenges for the buyer firm (e.g., multiple-asset acquisitions across countries within the same region).

In synthesis, since internationalization is considered as a sequential process whereby firms gradually increase their (financial and managerial) commitment to new foreign markets (accumulating knowledge and increasing their capabilities along the way), firms at the beginning of such a process adopt entry mode options allowing them to maximize knowledge acquisition whilst minimizing costs of adaptation to and integration with the new environments. In contrast to such gradual approach to internationalization, since the mid-1990s there has been evidence that some other firms, the so-called “Born global”, especially from EEs, rapidly internationalize business activities at early stages after the inception by referring to multiple and aggressive entry modes across several countries.

This is particularly the case of regulated service industries, like the global container port industry, where the portfolio of assets (i.e., terminal facilities) being acquired is capital intensive and operationally complex (Satta, Parola and Persico, 2014).

Figure 28 Number of single and multiple-site M&As in the global container port industry, years 1980-2020.



Source: Author's elaboration on Dataset 3.

Port economics studies (Olivier, 2010; Notteboom and Rodrigue, 2012; Parola, Notteboom, Satta and Rodrigue, 2018) demonstrate that over the last two decades M&As transactions within the global container port industry have been increasingly assuming a “multiple-site” dimension (e.g., DP World on CSX World Terminals and P&O Ports, PSA International on HPH, Goldman Sachs on SSA, etc.).

A multiple-site acquisition is an external growth strategy focusing on the simultaneous takeover of an entire (container) terminals portfolio (two or more terminals in multiple geographical locations) as part of a unique transaction. Contractual arrangements of such a unique transaction range from:

- i. the simultaneous acquisition of diverse selected facilities, to
- ii. the takeover of the whole corporation and
- iii. the acquisition of a (significant) minority interest.

Parola, Notteboom, Satta and Rodrigue (2015) have attempted to provide a systematization of key concerns arising when studying the effects of multiple-site acquisitions on both spatial and temporal dimensions of an ITO's internationalization process: i) “the transaction package problem”, ii) “the locational diversity problem” and iii) “the irregular growth path problem”.

With reference to the “irregular growth path problem”, which affects the ITOs’ corporate performance, multiple-site acquisitions contribute to shape a boom-and-bust cycle (Li, 2003; Li and Chang, 2000) along the overall pattern of ITO’s internationalization. Therefore, this entry mode option may lead to corporate over-fitting and generate problems on long-term corporate performance and responsiveness.

Despite of the critical relevance of multiple-site acquisitions within the global container port industry, the impact of this entry mode on both corporate performance and risk profiles of ITOs’ internationalization processes has not been well addressed in academic literature, leaving a gap to be filled.

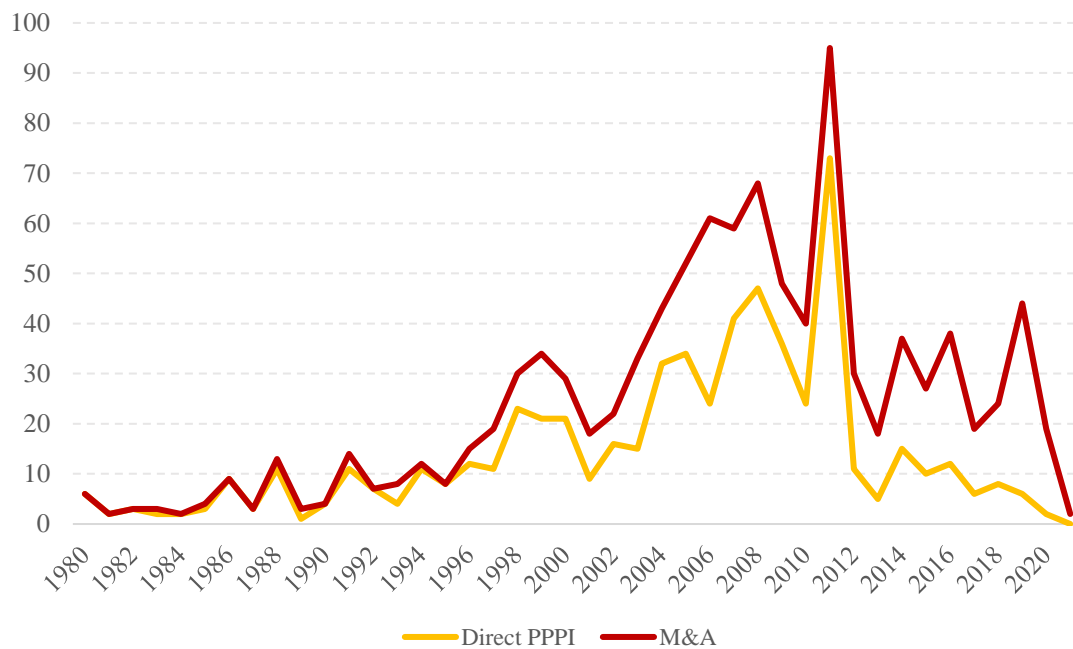
This contribution aims to investigate and to compare the adoption, over the last four decades, of the multiple-site acquisition entry mode option by ITOs depending either on their economic cluster of belonging and on their business model of origin.

Beyond the “non-stop arm-wrestling” (Musso and Parola, 2007) between pure stevedores and biggest ocean carriers and a step further the dichotomy of TMNEs versus EMNEs, the aim of RO.2 is to detect the evolution of ITOs’ entry mode choices in foreign markets on critical junctures for the industry and by taking into consideration the nature of their “ultimate” ownership. For instance, Asian SOEs with respect to Middle Eastern SWFs, Western financial investors in comparison to ones by European global hybrid operators.

IV.2.2 “Direct” PPPs.

The prevalent port governance model worldwide after the long wave of port reforms and liberalization processes (started in the early 1990s and reinforced after the sharp blast of the financial crisis in year 2008) involves landlord port authorities or government agencies leasing container terminals (or port land) to private terminal operators/investors. Thus, the model of “public ownership and private operations” (POPO hereinafter) has established itself as the most common worldwide, involving various contractual forms of PPPs.

Figure 29 Number of single and multiple-site M&As in the global container port industry, years 1980-2020.



Source: Author’s elaboration on Datasets 3 and 4.

Such partnerships require returns, risks and responsibilities to be shared between the public and private sectors. The responsibility for investments, as well as other relevant issues such as the temporal framework and risk sharing covenants, are subject to negotiation through the terms of the bidding procedure where respective public and private roles for port infrastructure, such as quays and superstructure and cranes are identified.

While the potential profitability of the PPPIs is critical for a private operator/investor to enter a port PPP arrangement, the associated risks, such as construction, operational, financial and political risk have been highlighted in literature as one of the key determinants for private operators'/investors' willingness to invest in a port PPP (Xiao and Lam, 2019).

Key determinant of (container) terminals leases/concessions agreements have been discussed in port studies both with reference to private operators'/investors' perspective (Ng and Pallis, 2010; Parola, Notteboom, Satta, Rodrigue, 2013) and with a focus on port governance tools (Notteboom, 2007), on bidding procedures and risk-sharing between parties (Theys et al., 2010), on the contractual design (Juan et al., 2004), on the performance-related clauses (Notteboom, Pallis, Farrell, 2012) and on the determination of land fees (Ferrari and Basta, 2009; Ferrari, Puliafito, Tei, 2018).

In port PPPIs contracts, firm's size and (international) markets experience represent two selection criteria preferred by public bodies when awarding bid winners (Farrell, 2012; Notteboom et al., 2012; Siemonsma et al., 2012). These factors are commonly considered by scholars and practitioners reliable predictors of the PPPI's success, which, according to Panayides, Parola and Lam (2015), can be conceptualized both as:

- i. the "attractiveness" of the PPPI measurable as the degree of commitment of the private operator/investor over time and as
- ii. the "competitiveness" of the PPPI intended as the total growth of throughput.

Larger and more internationally experienced firms are expected to present both the adequate scale, capitalization and personnel skills for managing complex greenfield projects and for ensuring long-term commitment (DeLangen et al., 2012; Notteboom, Pallis, Farrell, 2012).

Therefore, RO.2 intends to illustrate also the "alternate" trend in foreign markets entry mode choices made by ITOs, between the M&A activity (both single or multiple-site) and the PPPIs, which is mainly but not only a single-site entry option.

IV.3 Research Objective 3.

Despite the relevance of some pioneering empirical contributions (Parola, Satta and Caschili, 2014; Crotti, Ferrari, Tei, 2020; Paridaens. and Notteboom, 2022), there is still a need for a robust quantitative approach and dynamic multi-layer conceptual framework in addressing equity partnerships in the global container port industry.

The novelty and added value of this contribution is to inspect, relying on the detailed and dynamic (over years 2002-2019) systematization of ITOs' shareholding structures, with reference to the highest level of their corporate hierarchy, the "ultimate" ownership one, the formation, the widening and the strengthening not only of manifest and well-known port operators/investors network but also of "hidden" or "unraveled" ones.

The contribution borrowing the investigation approach of de Langen and van der Lugt, (2017, 2019), focusing on the "Why" (local or national) government equity involvement in the port managing bodies would be desirable or not, rather describing the "business model" of the port authority (i.e., the landlord, toolport or service port models), aims to detect the ever significant role played by SOEs, State-holding companies and SWFs as well as by (public) pension funds.

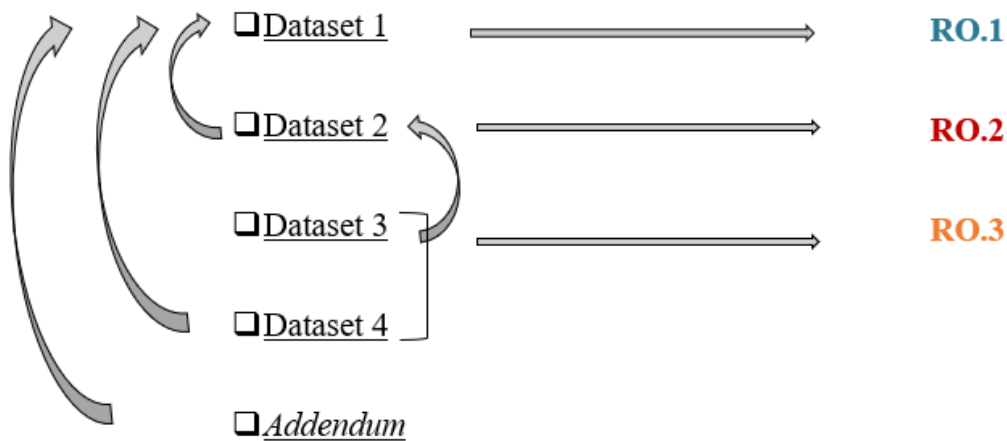
Furthermore, this contribution aims to appropriately link the construct of "hidden" networks of ITOs to the specificities of single operators' corporate strategies investigated in previous two research objectives, like the business model of origin (e.g., vertical integration for hybrid operators and ocean carriers; horizontal integration for pure stevedores; financial diversification for investment companies) and also the country of origin (e.g., the institutional settings and the economic cluster of belonging of home-countries could affect different geopolitical orientations).

V DATA & METHOD.

The empirical research carried out in order to provide a panel-data analysis of the internationalization process of the global container port industry over the last four decades relies on four distinct but related datasets plus an addendum:

- i. Dataset 1: total annual equity throughput, split per world regions, of a selected sample of a number of 80 ITOs over the period years 2002-2019.
- ii. Dataset 2: detailed (share percentage) and dynamic (over the period years 2002-2019) shareholding structure of ITOs' sampled.
- iii. Dataset 3: chart of single, multiple-site and "network" acquisitions occurred in the global container port and shipping industries over the period years 1972-2020.
- iv. Dataset 4: chart of PPPIs (in the form of concessions, leases, etc.) as regards the port sector signed in the (container) port industry since year 1990 to date.
- v. Addendum: provides some qualitative and quantitative information in relation to ITOs included in the sampling frame.

Figure 30 Datasets – ROs relationship



Source: Author's elaboration.

Dataset 1 provides data regarding the annual throughput (i.e., thousands of TEUs) of a selected sample (a number of 80) of ITOs, offering the detail of volumes handled per world region (for a number. of 11 regions²⁸) over an 18 years period (years 2002–2019), thereby providing longstanding and updated information. Data is gathered from two sources:

- i. the Annual Review of Global Container Terminal Operators published by Drewry Shipping Consultants, the leading maritime advisor in this industry and
- ii. official annual statistical reports published by national Government and Port Authorities where container terminal facilities are settled.

Furthermore, data is integrated with information sourced from the consolidated firm's annual reports and financial statements, company websites and press releases.

Therefore, the data gathering activity has guaranteed a high degree of completeness and consistency for all the observations. The sample of ITOs is composed of:

- i. terminal operators defined as GTO/ITOs by Drewry²⁹ Shipping Consultant,
- ii. other selected international operating/holding firms either mentioned by Drewry Shipping Consultant as seeking to expand their international container terminals portfolio and overseas footprint (although not yet pursuant to the status of GTOs/ITOs according to Drewry's test) and
- iii. operating/holding firms emerging as primary regional operators according to statistical annual reports published by local Government and Public Authorities.

As a result, more than 1,400 statistical observations make up the dataset.

Furthermore, in order to build the dataset (i.e., to compound the total annual equity throughput of firms sampled), the shareholding structure of each ITO, either at terminal, at firm and at holding level (i.e., the business group affiliation) has been considered.

²⁸ The level of clustering of the regional split of handled volumes is the following: Far East, Southeast Asia, South Asia, Middle East, North Europe, East Europe, South Europe, North America, Latin America & Caribbean, Africa and Oceania.

²⁹ GTO/ITO is «a company or a Group of companies having significant activities in more than one of world's regions and with activities in more than one country.». “Significant activities” are intended as «at least 5% of an operator's annual equity TEUs» over a total equity throughput per annum at least of 1.5 million of TEUs. (Drewry Shipping Consultant, 2003, 2020).

After data consolidation, the sample of ITOs is composed of a number of 77 operating/holding firms.

In this regards, Dataset 2 and 3 have been created in order to take into account cases of, not only direct, but also indirect participation of ITOs (or of their “ultimate corporate parent”, either it is a financial operator, a pure stevedore, an ocean carrier, a multinational industrial conglomerate, etc.) with each other and to detect equity partnerships at their highest level, the so-called “hidden families” of collaborating firms.

Table 5 GTO/ITO Definition and Methodological test by Drewry Shipping Consultant.

Global / International Terminal Operator	A company or a Group of companies having <u>significant activities</u> in more than one of World regions and with activities in more than one country.
«Significant activities»	At least <u>5%</u> of an operator’s annual <u>equity TEUs</u> must be generated in a World region outside the operator’s home-base region (the basis of calculation is excluding stevedoring TEUs).
Equity TEUs	The combined equity TEUs of an operator’s portfolio must be at least <u>1.5 million TEUs</u> per annum (excluding stevedoring TEUs).
World regions	North America, North Europe, South Europe, Far East, Southeast Asia, Middle East, Central America/Caribbean, South America, Oceania, South Asia, Africa, Eastern Europe.
Notes	<ul style="list-style-type: none"> • The test applies only to terminals portfolio <u>directly</u> owned by the operator, not to “indirect” participation may be held in other operators. • Container terminals must be <u>controlled</u> and <u>operated</u> in all respects (i.e., the only stevedoring or management contract or shared berths/cranes activity are not taken into consideration by Drewry). • If the entire non-home-base equity TEUs are generated by terminal(s) in a country <u>bordering</u> the home-base country (even though it is in a different world region), Drewry does not categorize that operator as a GTO / ITO.

Source: Author’s elaboration on Drewry Shipping Consultant (2020).

Dataset 2 provides the detailed (share percentage) and dynamic (over the period 2002-2019) shareholding structure of each ITO sampled.

Data is gathered from three sources:

- i. the database S&Ps I-Q Capital,
- ii. the annual Investors Presentation and Report for operating/holding firms listed on at least a Stock Exchange market and
- iii. the national Governments' and Port Authorities' maritime port concessions database, when available.

Information have been systematized in order to go beyond “pure” holding companies (either they are “immediate” or “intermediate”) and to trace the corporate hierarchy and identify the “mixed holding” company or the “ultimate” ownership.

In the case of investment management companies, PE funds and infrastructure investment arms this investigation approach has been applied in case they were traceable to a single or major financial sponsor (i.e., an investment bank, a financial institution, a pension fund or an insurance company), otherwise they have been considered as independent financial operators.

Finally, a threshold has been put both as regards the share percentage and the holding period to take into consideration: stakes of at least 5% and held for more than one year have been considered, thus avoiding compounding participations not having strategic or financial relevance.

Therefore, a number of 102 mixed holding companies (either they operate within the global maritime logistic and port industry or the financial services one or they are multinational industrial conglomerate) and ultimate corporate parents make up the Dataset 2.

Dataset 3 is the corollary of Dataset 1 and 2. It is ancillary to the combination of two previous datasets since it provides the chart not only of single but also of multiple-site and “network” acquisitions (either they are mergers, acquisition, IPOs or private placements) occurred in the container ports and shipping industries over the period years 1972-2020.

Dataset 3, besides giving the detailed register of each M&A transaction closed over the period years 1972-2020 (identity of buyer, seller and target companies as well the date of deal), provides the magnitude of this (aggressive) market entry mode, both in terms of geographic scope pursued (i.e., number of countries and ports of entrance), of assets took over (i.e., number of container terminal facilities of entrance) and of related financial commitment (i.e., total transaction value in US\$).

Data is gathered from three sources:

- i. the database S&Ps I-Q Capital,
- ii. the supranational and national Antitrust and Competition Authorities’ (e.g., UE Commission, the U.S.A. Federal Trade Commission, etc.) decisions and pronouncements and
- iii. the Annual Review of Global Container Terminal Operators published by Drewry Shipping Consultants.

In addition, data has been integrated with information sourced from company websites and press releases.

Dataset 4 is complementary with Dataset 2 and 3 in order to provide a further aspect of ITOs’ total annual equity throughput growth over the period years 2002-2019.

Indeed, Dataset 4 is a chart of PPPIs signed, as regards the global (container) port industry, since year 1990 to date. In addition to giving the detail of each single-project’s total investment amount (US\$), financial closure and investment year, and identifying sponsors involved, at various level, in the PPPI (and their financial commitment), it provides whether the project is a greenfield or a brownfield project, a divestiture or a management and lease contract. For each single project, it is specified also the contract category (e.g., Build, rehabilitate, operate and transfer (BROT hereinafter), Build, operate and transfer (BOT hereinafter), Management contract, etc.).

Data is gathered from two sources:

- i. the World Bank “Private Infrastructure Projects” Database and
- ii. the Annual Review of Global Container Terminal Operators published by Drewry Shipping Consultants.

Furthermore, data is integrated with single-terminal information sourced from local Governments’ and Port Authorities’ maritime port concessions database, when available.

Finally, the Addendum provides some qualitative and quantitative information in relation to ITOs included in the sample, whether, for instance, a firm is listed on a Stock Exchange market and the IPO’s date; its year of foundation as well as the year of its first domestic investment in the (container) port industry and the one of its first foreign investment. Furthermore, the Addendum indicates also the country where the ITO is headquartered and its economic cluster of belonging according to annual classification published and updated by International Monetary Fund (IMF) the World Bank.

IV.1 Methodological approach of Research Objective 1.

In order to investigate the RO.1, two Ordinary Least Square (OLS hereinafter) regression models are performed.

The Model 1 investigates the impact of geographic diversification (i.e., the main independent variable) on the “pace” of ITOs’ corporate performance (i.e., the annual growth rates of total equity throughput, the dependent variable) over the observation period, years 2002-2019. The main independent variable is calculated as the annual GINI index of each ITO, which estimates the inter-regional statistical dispersion of ITO’s investments.

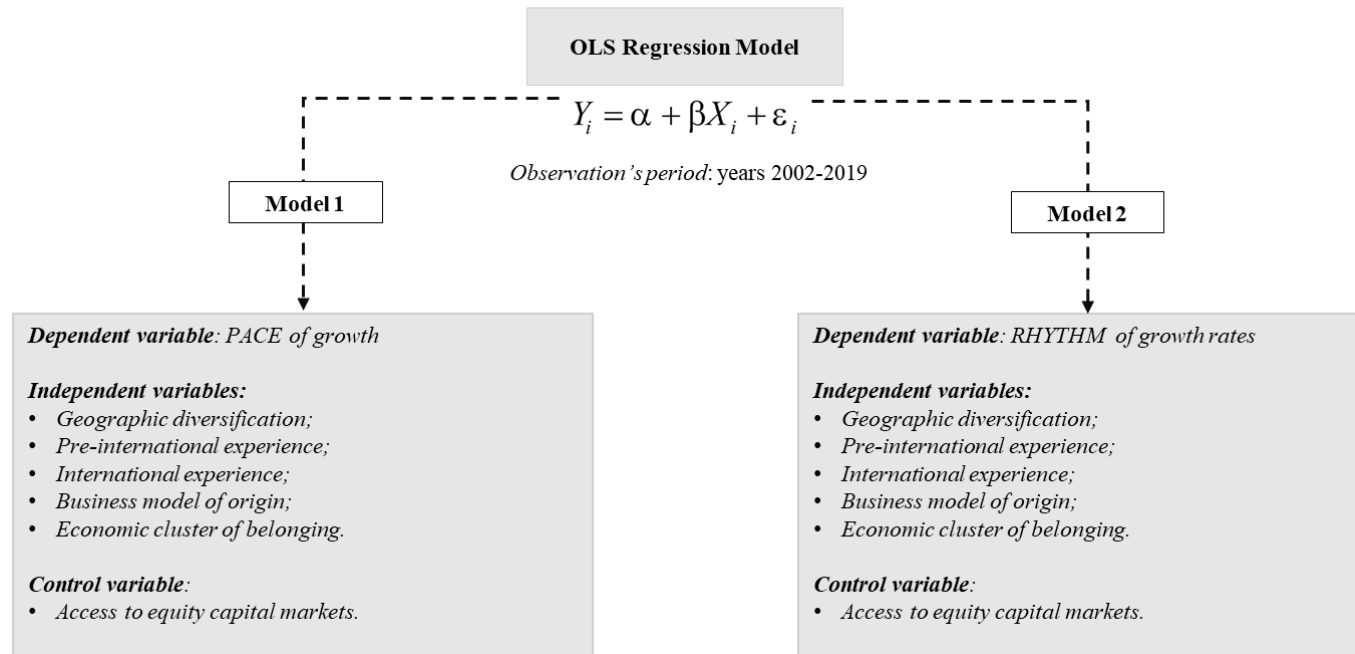
The Model 2 investigates the impact of geographic diversification (i.e., the main independent variable) on the “rhythm” (i.e., the volatility) of ITOs’ corporate performance (i.e., their business risk, the dependent variable), calculated as the standard deviation of annual growth rates of total equity throughput over the observation period.

In order to address the RO.1, Models 1 and 2 include also following independent variables: i) the economic cluster of belonging of the ITO’s home-country, ii) the business model of origin (four dummy variables), iii) the pre-internationalization experience and

iv) the international experience of ITOs (number of years) as well as a key control-variable such as firm-specific financial resources: v) the access to ECM (dummy variable).

Figure 31 Models 1 and 2 regression framework.

RO. 1 Regression framework



Source: Author's elaboration.

V.1.1 Sampling frame

The sample, over the 18 years observation period (years 2002-2009), is populated of a total number of 80 ITOs (a number of 77 after data consolidation).

At the beginning of the period, in year 2002, the number of active ITOs is 40, whereof a number of 20 are recognizable as pure stevedores, 12 as (ocean) carriers and 4 as hybrid operators, compounding a total equity throughout of about 264 million of TEUs (with respect to the world total throughput of about 140 million of TEUs). In year 2002, ITOs recognizable as financial investors or multinational industrial conglomerate accounted only for a number of 3 observation units.

In year 2008 (before the sharp blast of the financial crisis), the sampling frame is composed of a number of 52 active ITOs. Indeed, since year 2003 a number of 15 additional ITOs, of which a number of 8 are financial investors, mainly investment banks and PE funds, enter the sample while three abandon it since they have been fully acquired (i.e., 100% of ownership) and thus incorporated by other players still belonging to the sample.

Finally, in year 2019, the number of active ITOs populating the sample is 57, compounding a total equity throughout of about 468 million of TEUs (with respect to the world total throughput of about 807 million of TEUs). Since year 2009 it has been accounted a number of 21 new entrances and a number of 16 exits (of which, for instance, 4 financial divestitures, one bankruptcy, one merge involving 3 ITOs, etc.). As regards the composition of the sampling frame in year 2019, ITOs recognizable as pure stevedores account for a number of 23 players, while ocean carriers, hybrid operators and financial investors account, respectively, for a number of 10, 5 and 19 observation units.

Changes in the composition of the sampling frame over the observation period, either intended as variations of the number of observation units and shift of their distribution across proposed categorizations of ITOs, occur as a result of one or more of following happenings:

- i. an ITO has been fully acquired by a player out of the sampling frame and thus the latter has substituted it in the sample, independently both former's post-acquisition brand, commercial, operative independence and of the latter's business model of origin.

- ii. An ITO has been fully acquired by an ITO still part of the sampling frame and thus the latter has gained the 100% of the former's annual equity throughput, independently both former's post-acquisition brand, commercial, operative independence and of the latter's business model of origin.
- iii. Two or more ITOs part of the sampling frame have been merged one with each other. In this case the annual equity throughput of involved parties has been attributed to the new merged entity.
- iv. A firm, independently of the business model of origin, entered the sampling frame since it has over time internationally expanded its own container terminals' operations/portfolio, either through single/multiple-site acquisitions and/or participating to PPPIs, and thus gained the status of ITO.
- v. An ITO belonging to the sampling frame has been fully acquired by several operators/investors, some still part of the sample some others out of it. In this case, buyers yet belonging to the sampling frame have gained the target ITO's annual equity throughput (accordingly to the equity share acquired), while acquirers not yet part of the sample have been included only in case:
 - a. they have acquired an equity stake at least equal to 5% and/or
 - b. they have yet been owning interests in container terminals' operations.
- vi. An ITO either goes bankrupt or divest its interests from the container port industry.

Finally, although the Contribution investigates in a detailed manner the acquisition of minority and/or majority participations of ITOs one with each other in ROs. 2 and 3, information contained in related datasets (i.e., Datasets 2 and 3) have been taken into consideration in order to calculate and attribute the "indirect" annual equity throughput of each ITO in addressing RO.1.

Figure 33 Sampling frame of RO.1, financial investors.

ITQ	Business model	Headquarter Nation	Economic cluster	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019									
B&B Infrastructure Group	Financial inv.	Australia	T																																																	
Deutsche Bank	Financial inv.	Germany	T																																																	
Goldman Sachs	Financial inv.	U.S.A.	T																																																	
Infracapital (M&G Investement)	Financial inv.	United Kingdom	T																																																	
Macquarie Group	Financial inv.	Australia	T																																																	
Global Infrastructure Partners (IPH)	Financial inv.	U.S.A.	T																																																	
Morgan Stanley Infrastructure (MSI)	Financial inv.	U.S.A.	T																																																	
OTTP fund (Global Container Terminals)	Financial inv.	Canada	T																																																	
Antin Infrastructure Partners	Financial inv.	France	T																																																	
Arcus Infrastructure Partners	Financial inv.	United Kingdom	T																																																	
Brookfield Corporation	Financial inv.	Canada	T																																																	
IFM Investors	Financial inv.	Australia	T																																																	
Citigroup	Financial inv.	U.S.A.	T																																																	
PSP Investments	Financial inv.	Canada	T																																																	
CDPQ	Financial inv.	Canada	T																																																	
Pardo Family Holding	Financial inv.	Mexico	E																																																	
Canada Pension Plan Investment Board	Financial inv.	Canada	T																																																	
Hermes GPE Infrastructure Fund	Financial inv.	United Kingdom	T																																																	
iCON Infrastructure	Financial inv.	United Kingdom	T																																																	
InfraVia Capital Partners	Financial inv.	France	T																																																	

	International activities
	Domestic operations
	No container port activity

Source: Author's elaboration on Dataset I.

V.1.2 Model 1 – Pace

In Model 1 the dependent variable “PACE” is measured as the CAGR of total (equity) throughput over selected timeframes (six years moving ones) covering the entire observation period variables.

The independent variables “GINI_Index”, “PRE_IE” and “IE” are calculated as moving averages on six years timeframes over the entire observation period.

Table 6 Model 1, definition and operationalization of dependent, independent and control variables.

Group	Code	Variable	Definition and operationalization	Hp	Predicted Sign
<i>Dependent variable</i>					
Corporate performance	PACE	Total (equity) throughput growth rate	Measured as the CAGR of total (equity) throughput over selected timeframes (six years moving ones) covering the entire observation period (years 2002-2019).		
<i>Independent variables</i>					
Corporate strategies	GINI_Index	Geographic diversification	ITO’s geographic diversification measured as a Gini index which estimates the inter-regional statistical dispersion of ITO's total (equity) throughput (Qian et al., 2010).	H.1.1	+
Time-based experience	PRE_IE	Pre-Internationalization Experience	Measured as the number of years between the beginning of domestic operations in the container-port industry and the first foreign (direct or indirect) venture of the ITO.	H.1.2	-
Time-based experience	IE	International Experience	Number of years from the first foreign (direct or indirect) investment of the ITO.	H.1.3	+
Corporate strategies	Pure_stevedore	Business Model of origin	Dummy variable which takes value 1 if the ITO's core-business model is the pure-stevedore's one, and 0 otherwise.	H.1.4	±
Corporate strategies	Ocean_carrier	Business Model of origin	Dummy variable which takes value 1 if the ITO's core-business model is the ocean-carrier's one, and 0 otherwise.		±
Corporate strategies	Hybrid_operator	Business Model of origin	Dummy variable which takes value 1 if the ITO's core-business model is the hybrid-operator's one, and 0 otherwise.		+

Group	Code	Variable	Definition and operationalization	Hp	Predicted Sign
Corporate strategies	Financial_operator	Business Model of Origin	Dummy variable which takes value 1 if the ITO's core-business model is the financial-operator's one, and 0 otherwise.		+
Home-country factors	TMNE	Traditional Economic Cluster of belonging	Dummy variable which takes value 1 if the ITO's home-country's economy is a developed market (according to IMF's classification, 2019), and 0 otherwise.		+
Home-country factors	EMNE	Emerging Economic Cluster of belonging	Dummy variable which takes value 1 if the ITO's home-country's economy is an emerging market (according to IMF's classification, 2019), and 0 otherwise.	H.1.5	+
<i>Control variables</i>					
Firm-specific resources	Access_ECM	Access to Equity Capital Market	Dummy variable which takes value 1 when the ITO is listed on at least one Stock Exchange over the selected timeframes (six years ones), offering an easier access to remarkable financial and managerial resources, and 0 otherwise.		+

Source: Author's elaboration.

V.1.3 Model 2 – Rhythm

In Model 2 the dependent variable “RHYTHM” is measured as the standard deviation of total (equity) throughput growth rates over selected timeframes (six years moving averages ones), covering the entire observation period.

The independent variables “GINI_Index”, “PRE_IE” and “IE” are calculated as moving averages on six years’ timeframes over the entire observation period.

Table 7 Model 2, definition and operationalization of dependent, independent and control variables.

Group	Code	Variable	Definition and operationalization	Hp	Predicted Sign
<i>Dependent variable</i>					
Corporate performance	RHYTHM	Volatility of total (equity) throughput growth rate	Measured as the standard deviation of total (equity) throughput growth rate over selected timeframes (six years ones), covering the entire observation period (years 2002-2019).		
<i>Independent variables</i>					
Corporate strategies	GINI_Index	Geographic diversification	ITO’s geographic diversification measured as a Gini index which estimates the inter-regional statistical dispersion of ITO’s total (equity) throughput (Qian et al., 2010).	H.2.1	-
Time-based experience	PRE_IE	Pre-Internationalization Experience	Measured as the number of years between the beginning of domestic operations in the container-port industry and the first foreign (direct or indirect) venture of the ITO.		±
Time-based experience	IE	International Experience	Number of years from the first foreign (direct or indirect) investment of the ITO.	H.2.2	-
Corporate strategies	Pure_stevedore	Business Model of origin	Dummy variable which takes value 1 if the ITO’s core-business model is the pure-stevedore’s one, and 0 otherwise.	H.2.3	+
Corporate strategies	Ocean_carrier	Business Model of origin	Dummy variable which takes value 1 if the ITO’s core-business model is the ocean-carrier’s one, and 0 otherwise.	H.2.4	-
Corporate strategies	Hybrid_operator	Business Model of origin	Dummy variable which takes value 1 if the ITO’s core-business model is the hybrid-operator’s one, and 0 otherwise.		-

Group	Code	Variable	Definition and operationalization	Hp	Predicted Sign
Corporate strategies	Financial_operator	Business Model of Origin	Dummy variable which takes value 1 if the ITO's core-business model is the financial-operator's one, and 0 otherwise.	H.2.5	±
Home-country factors	TMNE	Traditional Economic Cluster of belonging	Dummy variable which takes value 1 if the ITO's home-country's economy is a developed market (according to IMF's classification, 2019), and 0 otherwise.		-
Home-country factors	EMNE	Emerging Economic Cluster of belonging	Dummy variable which takes value 1 if the ITO's home-country's economy is an emerging market (according to IMF's classification, 2019), and 0 otherwise.	H.2.6	+
<i>Control variables</i>					
Firm-specific resources	Access_ECM	Access to Equity Capital Market	Dummy variable which takes value 1 when the ITO is listed on at least one Stock Exchange over the selected timeframes (six years ones), offering an easier access to remarkable financial and managerial resources, and 0 otherwise.		+

Source: Author's elaboration.

V.2 Methodological approach of Research Objective 2

In order to pursue the RO.2, the investigation relies on information systematized in:

- i. an extract of Dataset 1: representing total annual equity throughput, split per World regions, per country and per terminal, over the observation period (years 2002-2019) of a number of six selected business cases.
- ii. Dataset 3: representing a number of, respectively, 324 single-site and 106 multiple-site transactions (either they are mergers, acquisition, IPOs or private placements).
- iii. Dataset 4: representing a number of 566 “direct” PPIs signed, as regards the global container port industry, since year 1990 to year 2020.

In order to address RO.2 and provide both anecdotal and empirical evidence six business cases have been selected: i) the case of A.P. Moller-Maersk and APM Terminals, ii) the case of CMA CGM, Terminal Link and CMA Terminals, iii) the case of MSC and TiL, iv) the case of China COSCO SHIPPING Corporation, v) the case of PSA International and vi) the case of DP World.

Six above mentioned business cases have been selected the following reasons:

- i. their position in the top tier of total equity TEUs handled over the entire observation period. Indeed, this contribution particularly intends to detect “how” and “at what extent” selected ITOs have established themselves as leaders in the global container port industry (i.e., how they have built and developed their own competitive advantage in the global/regional playfield) and both “how” they adapt to (acting as catalyzers) or shape (acting as foreshadow of) global further trends and developments in the industry trends (i.e., how they manage and reinforce their own competitive advantage);
- ii. they concern six ITOs (respectively, 4 hybrid operators and 2 pure stevedores) equally distributed either geographically and as regards the nature of their “ultimate” ownerships. A.P. Moller-Maersk - APM Terminals, CMA CGM and MSC – TiL are three European private hybrid operators whose “ultimate” ownership is traceable back to individuals or families; by opposite, China COSCO SHIPPING Corporation, DP World and PSA International are three Asian ITOs (a hybrid operator and two pure stevedores) whose “ultimate” ownership is, respectively, represented by the People's

Republic of China (PRC), the Dubai Emirate of and the Singaporean State-holding company Temasek Holding;

- iii. almost all of six selected ITOs are keenly focused on expansion into the (inland and air freight) logistics as well as the digital solutions sector and are applying significant investments in order to pursue such expansion through the M&As activity.

There is currently no explicit indication from other ITOs such as the ocean carriers ONE, Evergreen, Hapag-Lloyd or the pure stevedores HPH, HHLA and Eurogate of a large investment ramp-up in logistics and digital solutions' companies.

This can be partly explained by the presence of a logistics company in the shareholding structure of these ITOs (e.g., the Kühne family is one of the main shareholders of Hapag-Lloyd while also being active in global 3PL company Kühne & Nagel) or by the fact that these ITOs belong to larger conglomerates somewhat already active in the logistics sector (e.g. the Japanese NYK Group is active shareholder of carrier ONE while also having its own logistics division Yusen Logistics; the German BLG LOGISTICS Group is 50% shareholder of Eurogate and the investment company CK Hutchison Holding, 80% owner of HPH, is itself an active investor in digital technologies and integrated logistics companies).

Table 8 Six selected business cases, years 2002, 2011 and 2019.

ITO	Headquarter country	Economic cluster of belonging	Business model of origin	Ownership structure	2002			2011			2019		
					Equity t'put (.000 TEUs)	Global T'put Rank	Geographic diversification (GINI Index)	Equity t'put (.000 TEUs)	Global T'put Rank	Geographic diversification (GINI Index)	Equity t'put (.000 TEUs)	Global T'put Rank	Geographic diversification (GINI Index)
A.P. Moller-Maersk / APM Terminals	Denmark	Traditional	Hybrid operator	Private (Family owned)	14.315	3	0,6826	32.975	3	0,4400	46.811	3	0,3587
CMA CGM / Terminal Link / CMA Terminals	France	Traditional	Hybrid operator	Private (Family owned)	-	-	n.a.	5.486	13	0,7758	10.938	11	0,5018
MSC / TIL	Switzerland	Traditional	Hybrid operator	Private (Family owned)	1.215	25	0,9325	13.061	6	0,6426	18.694	9	0,4843
China COSCO Shipping Corporation (since 2016)*	China	Emerging	Hybrid operator	SOE	3.237	18, 29 and 39	0,9515	22.996	9, 34 and 11	0,9082	46.825	2	0,8604
PSA International	Singapore	Traditional	Pure stevedore	State-holding company	22.911	2	0,9095	47.808	1	0,8241	60.481	1	0,7601
DP World	United Arab Emirates	Emerging	Pure stevedore	State-holding company	5.271	7	0,9932	33.088	2	0,6319	44.514	4	0,5731
Total					46.949	-	-	155.414	-	-	228.263	-	-
Percentage of World T'put					17,8%	-	-	26,7%	-	-	28,3%	-	-

Source: Author's elaboration on Dataset 1 and 2.

Figure 34 Integration strategies of six selected business cases.



Source: Author's elaboration.

RO.2 employs a holistic multiple-case-study analysis, relying on an activity of desk-research (Stake, 2006; Tellis, 1997; Yin, 2014; Harrison, Birks, Franklin and Mills, 2017).

The selected business cases are studied and compared over an observation period composed of four timeframes, separate by event recognizable as critical junctures³⁰ for the global container port industry:

- i. early 1980s – late 1990s: the first two waves of port reforms under way worldwide (Period 1 hereinafter);
- ii. early 2000s – year 2008: outstanding growth and high perspectives (Period 2 hereinafter);
- iii. years 2009 – 2011: the financial crisis (Period 3 hereinafter);
- iv. years 2012 – 2019: a (first) maturity phase of the industry (Period 4 hereinafter).

The holistic multiple-case design is aimed to detect and to assess the implementation strategies of ITOs' internationalization process in a variety of corporate and sector situations over the observation period. This approach allows for an overview of the interrelated aspects of either vertical and horizontal integration strategies as well as international expansion one pursued by ITOs recognizable as hybrid operators or pure stevedores.

The methodology captures not only the numerical information (i.e., domestic and overseas throughputs, number of countries and number of terminals, either partially or fully owned, in the home and in foreign countries as well as the total transaction's value of the M&As activity) as regards the implementation strategies adopted, but also the reasons for adopting them and how they are managed in relation to other ITOs' strategies (Zainal, 2007).

With reference to either the M&As activity and "direct" PPPIs, information has been systematized in order to take into consideration for each deal: i) the identity, ii) the business model of origin (for instance hybrid operator, speculative financial, multinational industrial conglomerate, etc.), iii) the category (i.e., whether private or

³⁰ A critical juncture is a moment or specific window in time where there is a significant possibility of a decisive transition from one state to another (Nkomo, Bell, Roberts, Joshi and Thatcher, 2019; Paridaens and Notteboom, 2022).

public, for instance SOEs, SWFs, State-holding companies, etc.) and iv) the headquarter country both of buyers/concessionaires, of sellers/partners and of target companies. Furthermore, for each deal it has been accounted and investigated not only v) the total transaction's value³¹ and vi) the share percentage of acquisition (where these figures have been disclosed) but also, in the case of multiple-site and "network" transactions, vii) the number of nations and of ports of entrance and viii) the number of container terminal facilities acquired/licensed.

³¹ The total transaction's value is comprising of: i) the consideration to shareholders, ii) other considerations and iii) the net assumed liabilities.

Table 9 Extract of Datasets 3 and 4 for six selected business cases, years 2017-2020.

Year	Entry mode	Buyer	Buyer Typology	Buyer Category	Buyer Headquarter	Target	Target Typology	Target Headquarter	Port	Transaction code	Share	US\$ billion
2020	Acquisition	A.P. Moller Capital	Patient Financial	Private	Denmark	ARISE Ports & Logistics	Pure stevedore	India	Owendo Mineral Port	Multiple assets	43%	0.3
2020	Acquisition	DP World	Pure stevedore	SOE	U.A.E.	Swissterminal Frenkendorf Ag	Inland terminal operator	Switzerland	Basel	Multiple assets	44%	n.a.
2020	Acquisition	Terminal Link (CMA-CCM)	Pure stevedore	Private	France	various Terminals	Multiple Terminals	France	Odessa Terminal (Ukraine)	Multiple assets	various	0,968
2020	Acquisition	MSC	Hybrid operator	Private	Switzerland	TIL (MSC)	Multiple Terminals	Switzerland	various	Multiple assets	8%	n.a.
2020	Concession	COSCO SHIPPING Ports Development Co.	Hybrid operator	SOE	Hong Kong	Verbrugge Terminal's Albert II dock	Single Terminal	Belgium	Zeebrugge	Single asset	n.a.	n.a.
2020	Acquisition	DP World	Pure stevedore	SOE	U.A.E.	TIS Container Terminal	Single Terminal	Ukraine	Yuzhny	Single asset	51%	n.a.
2020	Acquisition	DP World Canada Investment Inc	Pure stevedore	SOE	Canada	Fraser Surrey Docks	Single Terminal	Canada	Vancouver	Single asset	55%	n.a.
2020	Concession	PSA International	Pure stevedore	SOE	Singapore	Second container terminal in the King Abdul Aziz port	Single Terminal	Saudi Arabia	Dammam	Single asset	51%	0,969
2020	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	Liverpool2 deepwater container terminal	Single Terminal	United Kingdom	Liverpool	Single asset	50%	n.a.
2019	Acquisition	DP World	Pure stevedore	SOE	U.A.E.	Puertos y Logistica S.A.	Pure stevedore	Chile	PuertoCentral	Multiple assets	99%	0,80796
2019	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	SSA Terminals LLC	Pure stevedore	U.S.A.	Seattle	Multiple assets	25%	n.a.
2019	Acquisition	DP World	Pure stevedore	SOE	U.A.E.	DP World Australia	Multiple Terminals	Australia	Brisbane	Multiple assets	35%	0,9873612
2019	Acquisition	CMA Terminals (CMA-CCM)	Pure stevedore	Private	France	Société Mahoraise d'Aceonage, de Développement et de	Pure stevedore	France	Mayotte	Single asset	100%	n.a.
2019	Private placement	COSCO SHIPPING Ports Development Co.	Hybrid operator	SOE	Hong Kong	Terminales Portuaires Chancay S.A	Single Terminal	Perù	Chancay	Single asset	60%	0,225
2019	Concession	DP World	Pure stevedore	SOE	U.A.E.	South Container Terminal	Single Terminal	Saudi Arabia	Jeddah	Single asset	n.a.	0.5
2019	Acquisition	PSA International	Pure stevedore	SOE	Singapore	Deepwater Container Terminal Gdańsk	Single Terminal	Poland	Gdańsk	Single asset	40%	0,529576
2019	Acquisition	PSA International	Pure stevedore	SOE	Singapore	Halterm Container Terminal	Single Terminal	Canada	Halifax	Single asset	100%	n.a.
2019	Acquisition	PSA International	Pure stevedore	SOE	Singapore	Penn Terminals LLC	Single Terminal	U.S.A.	Pennsylvania	Single asset	100%	n.a.
2019	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	Marport terminal	Single Terminal	Turkey	Ambarli	Single asset	50%	n.a.
2019	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	CSM Italia-Gate S.p.A.	Single Terminal	Italy	Gioia Tauro	Single asset	50%	n.a.
2019	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	SOMACLUM (Société De Manutention Et De	Pure stevedore	Le Port	La Reunion	Single asset	100%	n.a.
2018	Acquisition	CMA-CCM	Hybrid operator	Private	France	ContainerShiping Oyj, Container-Depot Ltd Oy, Mobil Link Terminals	Hybrid operator, Pure stevedores	Finland	HaminaKotka	Multiple assets	100%	n.a.
2018	Acquisition	CHINA COSCO SHIPPING	Hybrid operator	SOE	China	OOCL	Ocean carrier	Taiwan	Kaohsiung	Multiple assets	89%	9,3564582
2018	Acquisition	CMA Terminals (CMA-CCM)	Pure stevedore	Private	France	CSP Zeebrugge Terminal NV	Single Terminal	Belgium	Zeebrugge	Single asset	10%	n.a.
2018	Acquisition	COSCO SHIPPING Ports Development Co.	Hybrid operator	SOE	Hong Kong	Cosco Terminals Zeebrugge	Single Terminal	Belgium	Zeebrugge	Single asset	10%	n.a.
2018	Acquisition	DP World	Pure stevedore	SOE	U.A.E.	Cosmos Agencia Maritima S.A.C.	Single Terminal	Perù	Paña	Single asset	50%	0,31572
2017	Acquisition	CHINA COSCO SHIPPING	Hybrid operator	SOE	China	SIPG	Pure stevedore	China	various	Multiple assets	15%	2,78029
2017	Acquisition	COSCO SHIPPING Ports Development Co.	Hybrid operator	SOE	Hong Kong	Noatum Port Holdings S.L.U.	Multiple Terminals	Spain	Valencia	Multiple assets	51%	0,2279
2017	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	Total terminals international (TTI) LLC	Multiple Terminals	U.S.A.	LongBeach	Multiple assets	54%	0,078
2017	Acquisition	COSCO SHIPPING Ports Development Co.	Hybrid operator	SOE	Hong Kong	Nantong Tonghai Terminal	Single Terminal	China	Nantong	Single asset	51%	0,0157
2017	Acquisition	COSCO SHIPPING Ports Development Co.	Hybrid operator	SOE	Hong Kong	Wuhan Yangtzeo Jitong Port Co., Ltd.	Single Terminal	China	Wuhan	Single asset	70%	n.a.

Source: Author's elaboration.

Table 10 Detail of Datasets 3 and 4, examples of multiple-site transactions, years 2017-2020.

Year	Entry mode	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Seller	Seller_ Typology	Seller_ Category	Seller_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations	N. Ports	N. Terminals	Share	US\$ billion
2020	Acquisition	A.P. Moller Capital	Patient Financial	Private	Denmark	n.a.	n.a.	n.a.	n.a.	ARISE Ports & Logist	Pure stevedore	India	2	3	3	43%	0.3
2020	Acquisition	AustralianSuper	Patient Financial	Private	Australia	Deutsche Bank, Peel C	Financial instituti	Private	Germany, United	Peel Ports	Pure stevedore	England	3	7	8	25%	1,19912
2020	Acquisition	DP World	Pure stevedore	SOE	United Arab Emi	Mayer Family Holding	Family Office	Private	Switzerland	Swissterminal Frenken	Inland terminal o	Switzerland	1	5	8	44%	n.a.
2020	Acquisition	Terminal Link (CMA-C	Pure stevedore	Private	France	CMA-CGM	Hybrid operator	Private	France	various Terminals	Multiple Termina	France	9	10	10	various	0,968
2020	Acquisition	MSC	Hybrid operator	Private	Switzerland	Global Infrastructure P	Infrastructure Inv	Private	U.S.A.	TIL (MSC)	Multiple Termina	Switzerland	31	38	39	8%	n.a.
2019	Acquisition	Maritime Kuhn Group	Pure stevedore	Private	France	Bollorè Ports (Bollorè	Pure stevedore	Private	France	Bollorè Ports France	Pure stevedore	France	1	15	15	100%	n.a.
2019	Acquisition	CDPQ	Patient Financial	Public	Canada	DP World	Pure stevedore	SOE	United Arab Emi	DP World Australia	Pure stevedore	Australia	1	4	4	27%	0,229
2019	Acquisition	CDPQ	Patient Financial	Public	Canada	DP World	Pure stevedore	SOE	United Arab Emi	Puertos y Logistica S./	Pure stevedore	Chile	1	2	2	45%	0,2259
2019	Acquisition	DP World	Pure stevedore	SOE	United Arab Emi	Minera Valparaíso S.A	Investment company, Independent	Chile	Chile	Puertos y Logistica S./	Pure stevedore	Chile	1	2	2	99%	0,80796
2019	Acquisition	ICTSI	Pure stevedore	Private	Philippines	Harbour Center Port T	Pure stevedore	Private	Philippines	Manila North Harbour	Pure stevedore	Philippines	1	1	2	15%	0,01687
2019	Acquisition	Macquarie Group	Patient Financial	Private	Australia	NYK Line	Ocean carrier	Private	Japan	NYK (Ceres) Termina	Pure stevedore	U.S.A.	2	18	18	51%	0,102
2019	Concession	Red Sea Gateway Terri	Pure stevedore	Private	Saudi Arabia	Mawani Saudi Ports A	Port Authority	Public	Saudi Arabia	Tusdeer Container Ter	Multiple Termina	Saudi Arabia	1	1	2	100%	1,7
2019	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	SSA Marine	Pure stevedore	Private	U.S.A.	SSA Terminals LLC	Pure stevedore	U.S.A.	1	1	2	25%	n.a.
2019	Acquisition	Brookfield Corporation	Patient Financial	Private	Canada	Oaktree Capital Group, Asset managem	Private	Private	U.S.A.	Ports America	Pure stevedore	U.S.A.	1	18	28	56%	n.a.
2019	Acquisition	DP World	Pure stevedore	SOE	United Arab Emi	Gateway Infrastructure Investment comp	Private	Private	U.S.A.	DP World Australia	Multiple Termina	Australia	1	4	4	35%	0,987361
2019	Acquisition	Rongshi International F	Multinational ind	SOE	Hong Kong	CHINA COSCO SHIH	Hybrid operator	SOE	China	OOCL	Ocean carrier	Taiwan	2	3	3	2%	0,14935
2019	Acquisition	Silk Road Fund	Patient Financial	Public	China	CHINA COSCO SHIH	Hybrid operator	SOE	China	OOCL	Ocean carrier	Taiwan	2	3	3	8%	n.a.
2020	Acquisition	GIC Pte. Ltd.	SWF	SWF	Singapore	Global Infrastructure P	Infrastructure Inv	Private	U.S.A.	TIL (MSC)	Multiple Termina	Switzerland	31	38	39	10%	n.a.
2019	Acquisition	Participatiemaatschapp	State-holding con	State-holding con	Belgium	Brookfield Corporation	Asset managem	Private	Canada, United I	Euroports Holdings S.à	Pure stevedore	Luxembourg	7	20	33	25%	n.a.
2019	Acquisition	R-Logitech S.A.R.L.	Logistic operator	Private	Monaco	Brookfield Corporation	Asset managem	Private	Canada, United I	Euroports Holdings S.à	Pure stevedore	Luxembourg	7	20	33	50%	n.a.
2019	Acquisition	Federal Holding and In	SWF	SWF	Belgium	Brookfield Corporation	Asset managem	Private	Canada, United I	Euroports Holdings S.à	Pure stevedore	Luxembourg	7	20	33	25%	n.a.
2018	Private placem	China Merchants Port	Pure stevedore	SOE	Hong Kong	Liaoning North East A	Pure stevedore	SOE	China	Liaoning Port Co Ltd	Pure stevedore	China	1	1	2	50%	0,01435
2018	Acquisition	CMA-CGM	Hybrid operator	Private	France	Container Finance Ltd	Hybrid operator	Private	Finland	Containerships Oyj, Co	Hybrid operator,	Finland	3	3	3	100%	n.a.
2018	Acquisition	ATCO Ltd.	Multinational ind	Private	Canada	Ultramar	Integrated Logist	Private	Chile	Neltume Ports	Pure stevedore	Chile	4	8	8	40%	0,34
2018	Acquisition	CK Hutchison Holding	Patient Financial	Private	Hong Kong	CHINA COSCO SHIH	Hybrid operator	SOE	China	OOCL	Ocean carrier	Taiwan	3	4	4	5%	n.a.
2018	Acquisition	CHINA COSCO SHIH	Hybrid operator	SOE	China	Silchester International ICT company, H	Private	Private	United Kingdom,	OOCL	Ocean carrier	Taiwan	3	4	4	89%	9,356458
2018	Acquisition	SIPG	Pure stevedore	SOE	China	Silchester International ICT company, H	Private	Private	United Kingdom,	OOCL	Ocean carrier	Taiwan	3	4	4	10%	1,046542
2018	Lease	Ports America	Pure stevedore	Private	U.S.A.	Port NOLA	Port Authority	Public	U.S.A.	Napoleon Avenue Terri	Multiple Termina	U.S.A.	1	1	2	100%	n.a.
2018	Acquisition	OOO Delo-Center	Logistic operator	n.a.	Cyprus	N-Trans Group	Transportation G	n.a.	Russia	Global Ports Investmer	Pure stevedore	Russia	2	5	7	31%	n.a.
2018	Acquisition	Public Sector Pension	Patient Financial	Public	Canada	Arcus Infrastructure P	Infrastructure PE	Private	France	Forth Ports	Pure stevedore	Scotland	2	8	8	63%	n.a.
2018	Acquisition	British Columbia Invest	Patient Financial	Private	Canada	Ontario Teachers' Pen	Pension fund	Public	Canada	GCT Global Container	Pure stevedore	Canada	2	3	4	25%	n.a.
2018	Acquisition	IFM Investors	Patient Financial	Private	Australia	Ontario Teachers' Pen	Pension fund	Public	Canada	GCT Global Container	Pure stevedore	Canada	2	3	4	38%	n.a.
2017	Acquisition	ICTSI	Pure stevedore	Private	Philippines	Petron Corporation	Oil refining and n	Private	Philippines	Manila North Harbour	Pure stevedore	Philippines	1	1	2	35%	0,03457
2017	Acquisition	CHINA COSCO SHIH	Hybrid operator	SOE	China	Shanghai International	State-holding con	SOE	China	SIPG	Pure stevedore	China	2	7	16	15%	2,78029
2017	Acquisition	Hyundai Merchant Ma	Ocean carrier	Private	South Korea	Hanjin Shipping Co. Lt	Ocean carrier, P	Private	South Korea, Jap	Hanjin Pacific Corpora	Multiple Termina	South Korea	2	2	2	100%	0,01315
2017	Acquisition	COSCO SHIPPING P	Hybrid operator	SOE	Hong Kong	J.P. Morgan Asset Ma	Asset managem	Private	U.S.A., The Net	Noatum Port Holdings	Multiple Termina	Spain	1	2	2	51%	0,2279
2017	Acquisition	TIL (MSC)	Pure stevedore	Private	Switzerland	Hanjin Shipping Co. Lt	Ocean carrier	Private	South Korea	Total terminals internat	Multiple Termina	U.S.A.	1	2	2	54%	0,078
2017	Acquisition	Hyundai Merchant Ma	Ocean carrier	Private	South Korea	Hanjin Shipping Co. Lt	Ocean carrier	Private	South Korea	Total Terminals Intern	Multiple Termina	U.S.A.	1	2	2	20%	0,0156

Source: Author's elaboration.

V.3 Methodological approach of Research Objective 3.

In order to investigate the RO.3, the corporate hierarchy of ITOs populating the sampling frame related to the RO.1 has been traced back in order to detect the “ultimate” ownership of each firm.

In this manner, it has been retraced the dynamic shareholding structure of each ITO over the entire observation period. From year 2002 to year 2019 for a number of 80 ITOs it has been accounted a number of 102 shareholders (either they are mixed holding companies and/or ultimate corporate parent).

In the case of investment management companies, PE funds and infrastructure investment arms this investigation approach has been applied in case they were traceable to a single or major financial sponsor (i.e., an investment bank, a financial institution, a pension fund or an insurance company), otherwise they have been considered as independent financial operators.

Furthermore, a threshold has been put both as regards the share percentage and the holding period: stakes of at least 5% and held for more than one year, thus avoiding compounding participations not having strategic or financial relevance.

This investigation approach has been supported and combined with information arising from Dataset 3, in particular as regards the multiple-site transactions.

Table 11 Extract of Dataset 2, examples of sampled ITO’s shareholding structure, year 2019.

ITO_Firm-level	Shareholder_Holding level	%_Share	Typology_ ITO	Typology_ Shareholder	Category_ Shareholder	Headquarter_ ITO	Headquarter_ Shareholder
APL Terminals	CMA CGM	100	Hybrid operator	Hybrid operator	Private	U.S.A.	France
APM Terminals Division	A.P. Møller – Mærsk	100	Pure stevedore	Hybrid operator	Private	The Netherlands	Denmark
Arkas Group	Arkas Group	100	Hybrid operator	Ocean carrier	Private	Turkey	Turkey
Associated British Ports (ABP)	GIC Special Investments Pte. Ltd.	23	Pure stevedore	SWF	SWF	United Kingdom	Singapore

ITO_Firm-level	Shareholder_Holding level	%_Share	Typology_ITO	Typology_Shareholder	Category_Shareholder	Headquarter_ITO	Headquarter_Shareholder
Associated British Ports (ABP)	Canada Pension Plan Investment Board (CPPIB)	24	Pure stevedore	Patient Financial	Public	United Kingdom	Canada
Associated British Ports (ABP)	Hermes GPE Infrastructure Fund	10	Pure stevedore	Patient Financial	Private	United Kingdom	United Kingdom
Associated British Ports (ABP)	OMERS Infrastructure	33	Pure stevedore	Patient Financial	Private	United Kingdom	Canada
Associated British Ports (ABP)	Kuwait Investment Authority (KIA)	10	Pure stevedore	SWF	SWF	United Kingdom	Kuwait
Bolloré Group	Bolloré Group	100	Pure stevedore	Patient Financial	Private	France	France
Busan Port Authority (BPA)	Busan Port Authority (BPA)	100	Pure stevedore	Government (PA)	Public	South Korea	South Korea
Ceres Terminals	Macquarie Group	100	Pure stevedore	Patient Financial	Private	U.S.A.	Australia
China COSCO SHIPPING Corporation	China COSCO SHIPPING Corporation	100	Hybrid operator	SOE	SOE	China	China
CMA CGM	CMA CGM	90	Hybrid operator	Hybrid operator	Private	France	France
CMA CGM	Yildirim Group	10	Hybrid operator	Hybrid operator	Private	France	Turkey
CMPH	China Merchants Group Limited	100	Pure stevedore	SOE	SOE	China	China
COSCO SHIPPING Development Co., Ltd.	China COSCO SHIPPING Corporation	100	Hybrid operator	SOE	SOE	China	China
DP World	DP World	100	Pure stevedore	Pure stevedore	SOE	United Arab Emirates	United Arab Emirates
Eurogate	EUROKAI GmbH & Co.	50	Pure stevedore	Pure stevedore	Private	Germany	Germany
Eurogate	BLG LOGISTICS GROUP AG & Co.	50	Pure stevedore	Logistic operator	Private	Germany	Germany
Euroports	R-Logitech S.A.R.L.	50	Pure stevedore	Logistic operator	Private	Luxembourg	Monaco (FR)
Euroports	Participatiemaatschappij Vlaanderen NV	25	Pure stevedore	State-holding company	State-holding company	Luxembourg	Belgium
Euroports	Federal Holding and Investment Company	25	Pure stevedore	SWF	SWF	Luxembourg	Belgium
Evergreen Marine Corporation	Evergreen Marine Corporation	100	Ocean carrier	Ocean carrier	Private	Taiwan	Taiwan
Forth Ports	Public Sector Pension (PSP) Investment Board	100	Pure stevedore	Patient Financial	Public	United Kingdom	Canada

ITO_Firm-level	Shareholder_Holding level	%_Share	Typology_ITO	Typology_Shareholder	Category_Shareholder	Headquarter_ITO	Headquarter_Shareholder
Global Container Terminals (GCT) Inc.	Ontario Teachers' Pension Plan Board (OTTP)	37,5	Pure stevedore	Patient Financial	Public	U.S.A.	Canada
Global Container Terminals (GCT) Inc.	British Columbia Investment Management Corporation	25	Pure stevedore	Patient Financial	Private	U.S.A.	Canada
Global Container Terminals (GCT) Inc.	IFM Investors	37,5	Pure stevedore	Patient Financial	Private	U.S.A.	Australia
Global Infrastructure Partners (IPH)	Global Infrastructure Partners (IPH)	100	Pure stevedore	Speculative Financial	Private	U.S.A.	U.S.A.
Global Ports Holding	Global Yatirim Holding	100	Pure stevedore	Patient Financial	Private	Turkey	Turkey
Global Ports Investments Plc	N-Trans Group	6,75	Pure stevedore	Logistic operator	Private	Cyprus	Russia
Global Ports Investments Plc	Listed on Stock Exchange	25	Pure stevedore	Float	Float	Cyprus	London
Global Ports Investments Plc	APM Terminals Division	37,5	Pure stevedore	Pure stevedore	Private	Cyprus	The Netherlands
Global Ports Investments Plc	OOO Delo-Center	30,75	Pure stevedore	Logistic operator	n.d.	Cyprus	Russia
Gulfairer Company Limited	Gulfairer Company Limited	100	Pure stevedore	Pure stevedore	Private	United Arab Emirates	United Arab Emirates
Hapag-Lloyd	Hapag-Lloyd	100	Ocean carrier	Ocean carrier	Private	Germany	Germany
HHLA	Listed on Stock Exchange	31	Pure stevedore	Float	Float	Germany	n.d.
HHLA	Free and Hanseatic City of Hamburg (FHH)	69	Pure stevedore	Government (Municipality)	Public	Germany	Germany
HPH	PSA International	20	Pure stevedore	Pure stevedore	SOE	Hong Kong	Singapore
HPH	CK Hutchison Holdings Limited	80	Pure stevedore	Patient Financial	Private	Hong Kong	Hong Kong
HPH Trust	CK Hutchison Holdings Limited	30,08	Pure stevedore	Patient Financial	Private	Singapore	Hong Kong
HPH Trust	Temasek Holdings	14,02	Pure stevedore	State-holding company	State-holding company	Singapore	Singapore
HPH Trust	Listed on Stock Exchange	55,9	Pure stevedore	Float	Float	Singapore	n.d.
Hyundai Merchant Marine Co.,Ltd.	Hyundai Merchant Marine Co.,Ltd.	100	Ocean carrier	Patient Financial	Private	South Korea	South Korea
ICTSI	ICTSI	100	Pure stevedore	Patient Financial	Private	Philippines	Philippines
Mitsui & Co.	Mitsui & Co.	100	Pure stevedore	Multinational industrial conglomerate	Private	Japan	Japan
Mitsui O.S.K. Lines (MOL)	Mitsui O.S.K. Lines (MOL)	100	Ocean carrier	Ocean carrier	Private	Japan	Japan

ITO_Firm-level	Shareholder_Holding level	%_Share	Typology_ITO	Typology_Shareholder	Category_Shareholder	Headquarter_ITO	Headquarter_Shareholder
MMC Ports	MMC CORPORATION BERHAD (MMC)	100	Pure stevedore	Patient Financial	Private	Malaysia	Malaysia
Modern Terminals Limited (MTL)	The Wharf (Holdings) Limited	68	Pure stevedore	Patient Financial	Private	Hong Kong	Hong Kong
Modern Terminals Limited (MTL)	CMPH	27	Pure stevedore	Pure stevedore	SOE	Hong Kong	Hong Kong
Modern Terminals Limited (MTL)	Jebsen Group	5	Pure stevedore	Multinational industrial conglomerate	Private	Hong Kong	Hong Kong
MSC	MSC	100	Hybrid operator	Hybrid operator	Private	Switzerland	Switzerland
National Container Company LLC (NCC)	Global Ports Investments Plc	100	Pure stevedore	Pure stevedore	Private	Russia	Cyprus
Neltume Ports	ATCO Ltd.	40	Pure stevedore	Multinational industrial conglomerate	Private	Chile	Canada
Neltume Ports	Ultramar Ltda.	60	Pure stevedore	Logistic operator	Private	Chile	Chile
Noatum Ports	JPMorgan	33	Pure stevedore	Speculative Financial	Private	Spain	U.S.A.
Noatum Ports	ABP Pension Fund	16	Pure stevedore	Patient Financial	Private	Spain	The Netherlands
Noatum Ports	COSCO SHIPPING Ports Limited	51	Pure stevedore	Hybrid operator	SOE	Spain	Hong Kong
NWS Holdings Limited	NWS Holdings Limited	100	Pure stevedore	Patient Financial	Private	Hong Kong	Hong Kong
OOCL	China COSCO SHIPPING Corporation	75	Ocean carrier	SOE	SOE	Hong Kong	China
OOCL	SIPG	9,9	Ocean carrier	Pure stevedore	SOE	Hong Kong	China
OOCL	Rongshi International Holding Company Ltd.	2,38	Ocean carrier	Multinational industrial conglomerate	State-holding company	Hong Kong	China
OOCL	Silk Road Fund	7,73	Ocean carrier	Patient Financial	Public	Hong Kong	China
OOCL	CK Hutchison Holdings Limited	4,99	Ocean carrier	Patient Financial	Private	Hong Kong	Hong Kong
PD Ports	Brookfield Corporation	100	Pure stevedore	Patient Financial	Private	United Kingdom	Canada
Peel Ports Group	Deutsche Bank	49	Pure stevedore	Patient Financial	Private	United Kingdom	Germany
Peel Ports Group	Peel Ports Group	51	Pure stevedore	Pure stevedore	Private	United Kingdom	United Kingdom
Ports America	Oaktree Capital Group, LLC	90	Pure stevedore	Patient Financial	Private	U.S.A.	U.S.A.

ITO_Firm-level	Shareholder_Holding level	%_Share	Typology_ITO	Typology_Shareholder	Category_Shareholder	Headquarter_ITO	Headquarter_Shareholder
Ports America	Canada Pension Plan Investment Board (CPPIB)	10	Pure stevedore	Patient Financial	Public	U.S.A.	Canada
PSA International	Temasek Holdings	100	Pure stevedore	State-holding company	State-holding company	Singapore	Singapore
SAAM Ports	SAAM Ports	100	Pure stevedore	Pure stevedore	Private	Chile	Chile
SIPG	CMPH	26,5	Pure stevedore	Pure stevedore	SOE	China	China
SIPG	SIPG	58,5	Pure stevedore	Pure stevedore	SOE	China	China
SIPG	China COSCO SHIPPING Corporation	15	Pure stevedore	SOE	SOE	China	China
SSA Marine	Pardo Family	49	Pure stevedore	Speculative Financial	Private	U.S.A.	Mexico
SSA Marine	Carrix, Inc.	51	Pure stevedore	Logistic operator	Private	U.S.A.	U.S.A.
Terminal Link	CMA CGM	51	Pure stevedore	Hybrid operator	Private	France	France
Terminal Link	CMPH	49	Pure stevedore	Pure stevedore	SOE	France	Hong Kong
TERTIR	Yildirim Group	100	Pure stevedore	Hybrid operator	Private	Portugal	Turkey
TiL	GIC Special Investments Pte. Ltd.	10	Pure stevedore	SWF	SWF	Switzerland	Singapore
TiL	MSC	90	Pure stevedore	Hybrid operator	Private	Switzerland	Switzerland
Yilport	Yildirim Group	100	Pure stevedore	Hybrid operator	Private	Turkey	Turkey

Source: Author's elaboration

VI. EMPIRICAL RESULTS.

VI.1 Research Objective 1. Model 1

Table 12 Model 1 OLS regression output.

<u>log Pace</u>	Coefficient	Std. err.	T-statistic	P³²> t 	
<i>Intercept</i>	-1.081.304	.4755678	-2.27	0.024	**
<i>Independent variables</i>					
GINI_Index	-1.375.598	.4573061	-3.01	0.003	*
PRE_IE	-.0214079	.0064246	-3.33	0.001	***
IE	-.0524102	.0061425	-8.53	0.000	***
Ocean_carrier	.3357808	.1492839	2.25	0.025	**
Financial_operator	-.1453627	.187895	-0.77	0.440	
Hybrid_operator	.2400793	.1983515	1.21	0.227	
EMNE	.4379146	.1180501	3.71	0.000	***
<i>Control variable</i>					
Access_ECM	.453021	.1232826	3.67	0.000	***
<i>F-statistics</i>					
			14.31		
<i>p-value</i>					
			0.0000		
<i>R-squared</i>					
			0.2187		
<i>Adj R-squared</i>					
			0.2035		

Source: Author's elaboration.

Model 1, which refers to the “PACE” of ITOs’ total equity throughput growth appears statistically significant (F-statistics = 12.06; p-value = 0.0000).

The coefficient of GINI_Index is statistically significant (p-value < 0.1) while it is signed oppositely to developed hypothesis (H.1.1): the geographic dispersion of ITOs’ investments results to negatively affect the annual growth rates of total equity throughputs. Although the result appears in contrast with the industry-specific expectations, it is in line with IB and Strategic Management literature contributions finding that rather it is the intra-regional geographic diversification to positively affect the MNEs’ corporate performance, nevertheless the shape of the relationship is controversial.

³² *p-value < 0.10; ** p-value < 0.05; ***p-value < 0.01.

Furthermore, adopting an industry-specific point of view the result sign can be explained in light of the fact that since year 2011 (i.e., half of the observation period) some major routes consolidated (e.g., the Europe-Far East and the Transpacific ones) rather than others and thus some regions, and in turn only some ports, have benefited of the growth of seaborne containerized cargo reducing benefits of pursuing an inter-regional geographic diversification strategy.

The coefficient of PRE_IE is statistically significant (p -value < 0.1) and it is in line with the developed hypothesis (H.1.2), confirming constructs and evidences as regards so-called “Born global” firms also within the container port industry, in accordance with Parola, Satta and Persico (2014).

On the other hand, the coefficient of IE is statistically significant (p -value < 0.1) while it is signed oppositely to developed hypothesis (H.1.3): the international experience of ITOs results to negatively affect the annual growth rates of total equity throughputs. The output can be interpreted as in accordance with the coefficient of the variable GINI_Index, indeed longstanding ITOs, pursuing a truly global expansion strategy, at a certain date of their internalization process may have incurred in the regionalization of major routes of seaborne containerized cargo trade.

Furthermore, result signs both of PRE_IE and IE suggest investigating, in accordance with RO.2, whether the entry mode option (i.e., single or multiple-site M&As or “direct” PPPI) is adopted in accordance with investment preferences varying either over time and across other firm-specific and country-specific characteristics, such as the business model of origin or the economic cluster of belonging.

The coefficient of dummy variable Ocean_carrier is statistically significant (p -value < 0.1) although ITOs recognizable as ocean carriers result to register total equity throughputs’ growth rates higher than ITOs recognizable as pure stevedores, contrary to expectations relying on the consideration that the latter manage container terminals as “multi-users” facilities while the former according to the “dedicated” formula.

However, this output should be investigated more in a detailed manner by taking into consideration separately, over the same timeframe, data from nascent terminal facilities and from older ones. In other words, being an ocean carrier could easier boost the growth of TEUs handled only for nascent container terminals and thus the higher growth

performance of ocean carriers in comparison to pure stevedore could be over-estimated due the prevalence of nascent terminal facilities in the data basis.

The coefficient of the dummy variable Hybrid_operator is not statistically significant (p-value > 0.1) although it is signed in accordance with H.1.4: ITOs recognizable as hybrid operator register higher total equity throughput growth rates than ITOs recognizable as pure stevedore. The coefficient of the dummy variable Financial_operator is not statistically significant (p-value > 0.1), and it is neither signed in accordance with (H.1.4).

The coefficient of dummy variable EMNE is statistically significant (p-value < 0.1), and it is in line with the developed hypothesis (H.1.5): in accordance with IB and Strategic Management literature dynamic capabilities of EMNEs, as well as cumulative benefits from inward investments (Parola, Satta and Persico, 2014), drive the outstanding growth of the corporate performance of their overseas ventures with respect to TMNEs.

In synthesis, it is possible to argue that the “Springboard theory” (Luo and Tung, 2007, 2018) and its more recent extensions (Kumar V., Singh, Purkayastha, Popli and Gaur A., 2019) perfectly fit the case of the container port industry’s internationalization. Indeed, in the face presence of liberalization and privatization processes, as in the case of the global container port industry since early 1990s and, more specifically, in most emerging markets over since early 2000s, firms’ age and business group affiliation (BGA hereinafter) are important predictors of an aggressive internationalization pattern. This insight offers greater clarity on which ITO are exemplary of the springboard phenomenon (i.e., ones from EE) and opens up the necessity of investigating more in detailed the corporate hierarchy and network relationships at its highest level (i.e., RO.3).

A second version of Model 1 has been tested by excluding observation units considered as outliers, whose Cook’s distance is higher than 0.02 ($d > 0.02$).

By applying this test, the significance of the dummy variable Hybrid_operator is retrieved (p-value < 0.1) and it is signed in accordance with H.1.4.

Table 13 Model 1, version 2 OLS regression output.

log_Pace	Coefficient	Std. err.	T	P> t 	
<i>Intercept</i>	-1.079.243	.4720165	-2.29	0.023	**
<i>Independent variables</i>					
GINI_Index	-1.385.152	.4546856	-3.05	0.002	***
PRE_IE	-.0211347	.0063599	-3.32	0.001	***
IE	-.0522013	.0060898	-8.57	0.000	***
Ocean_carrier	.2972399	.1477617	2.01	0.045	**
Financial_operator	-.147086	.1861006	-0.79	0.430	
Hybrid_operator	.3647358	.1978421	1.84	0.066	*
EMNE	.4274382	.1169935	3.65	0.000	***
<i>Control variable</i>					
Access_ECM	.4677871	.1219605	3.84	0.000	***
<i>F-statistics</i>					
			15.12		
<i>p-value</i>					
			0.0000		
<i>R-squared</i>					
			0.2287		
<i>Adj R-squared</i>					
			0.2135		

Source: Author's elaboration.

VI.2 Research Objective 1. Model 2

Table 14 Model 2, OLS regression output.

log_Rhythm	Coefficient	Std. err.	T	P> t 	
<i>Intercept</i>	-.1402783	.3114952	-0.45	0.653	
<i>Independent variables</i>					
GINI_Index	-1.337.916	.3022732	-4.43	0.000	***
PRE_IE	-.0140558	.0039185	-3.59	0.000	***
IE	-.0421109	.0039378	-10.69	0.000	***
Ocean_carrier	.4840464	.0940041	5.15	0.000	***
Financial_operator	-.0009978	.1199562	-0.01	0.993	
Hybrid_operator	.0617973	.1306381	0.47	0.636	
EMNE	-.0240607	.0783513	-0.31	0.759	
<i>Control variable</i>					
Access_ECM	.2646311	.0778078	3.40	0.001	***
<i>F-statistics</i>					
			18.16		
<i>p-value</i>					
			0.0000		
<i>R-squared</i>					
			0.2139		
<i>Adj R-squared</i>					
			0.2021		

Source: Author's elaboration.

Model 2, which refers to the “RHYTHM” of ITOs’ total equity throughput growth rates volatility appears statistically significant (F-statistics = 18.16; p-value = 0.0000).

The coefficient of GINI_Index is statistically significant (p-value < 0.1) while it is signed oppositely to developed hypothesis (H.2.1): an increasing geographic dispersion of ITOs’ investments (i.e., a lower GINI_Index) results to positively affect the volatility of total equity throughputs growth. The result which apparently contradicts the diversification strategy’s assumptions (whether it is intended as financial, product or geographic one) can be explained in light of two considerations:

- i. as in the case of Model 1, the IB and Strategic Management literature provide evidence of the effectiveness of the intra-regional geographic diversification strategy on both the MNEs’ corporate performance and risk;
- ii. in addition, in the specific case of the container port industry, over the last four decades the foreign investments of ITOs has ever regarded some World regions where major containerized cargo trade routes consolidated (e.g., the Europe-Far East and the Transpacific ones) rather than others. In such a context, over the observation period, with the only exception of the sharp blast of financial crisis in years 2008-2011, ITO’s foreign investments could be considered risk-free in the sense the volatility of their performance arises only from growth patterns.

The coefficient of PRE_IE is statistically significant (p-value < 0.1), and it is in line with the “evolutionary theory” of the internationalization process, whereby besides time-window growth opportunities, an early internationalization requires a commitment of resources (for instance, managerial and financial ones) which may endanger younger firms.

The coefficient of IE is statistically significant (p-value < 0.1), and it is signed in line with developed hypothesis (H.2.2): the international experience of ITOs results to negatively affect the volatility of ITOs’ total equity throughputs’ growth. More experienced MNEs, leveraging on a wider accumulation of international markets’ knowledge, are able to better manage, through their enhanced dynamic capabilities, criticalities of their internationalization process.

The coefficient of dummy variable Ocean_carrier is statistically significant (p-value < 0.1) although, contrary to expectations, ITOs recognizable as ocean carriers result to

register a higher volatility of total equity throughput's growth rates than ITOs recognizable as pure stevedores. However, the result sing is in line with the coefficient of the variable *Ocean_carrier* in Model 1: on one hand ocean carriers easier provide TEUs to handle to their own container terminals' managing them through the "semi-dedicated" formula, on the other hand the "multi-users" management approach adopted by pure stevedores enables them to mitigate the volatility total equity throughput's growth rates in the (rare) adverse phases.

The coefficient of the dummy variable *Hybrid_operator* is not statistically significant ($p\text{-value} > 0.1$) although it is signed in accordance with H.2.4: ITOs recognizable as hybrid operator register lower volatility of total equity throughput growth rates than ITOs recognizable, respectively, as pure stevedores and ocean carriers. The coefficient of the dummy variable *Financial_operator* is not statistically significant ($p\text{-value} > 0.1$) although it is signed in accordance with H.2.5.

The coefficient of dummy variable *EMNE* is not statistically significant ($p\text{-value} > 0.1$), and it is neither in line with the developed hypothesis (H.2.6).

In synthesis, while Model 2 confirming some hypothesis and literature's theoretical constructs, for instance with reference to the significance and the direction of both the *PRE_IE*'s and *IE*'s impact on MNEs business risk, it reinforces the call for country-based data in order to:

- i. measure and test the effectiveness of the intra-regional geographic diversification strategy on mitigating MNEs' business risk and
- ii. take into consideration country-specific control variables capturing the host-countries' not only business but also regulatory and politics risks.

A second version of Model 2 has been tested by excluding observation units considered as outliers, whose Cook's distance is higher than 0.02 ($d > 0.02$).

By applying this test, the significance of the variable *GINI_Index* diminishes and the significance of the variables *Financial_operator* *Hybrid_operator* and *EMNE* is not retrieved.

Table 15 Model 2, version 2 OLS regression output.

log_Rhythm	Coefficient	Std. err.	T	P> t 	
<i>Intercept</i>	-1.052.086	.3348912	-3.14	0.002	*
<i>Independent variable</i>					
GINI_Index	-.3879045	.3259937	-1.19	0.235	
PRE_IE	-.013833	.0039544	-3.50	0.001	*
IE	-.0374999	.0039931	-9.39	0.000	*
Ocean_carrier	.4410775	.0948644	4.65	0.000	**
Financial_operator	.0145559	.1209064	0.12	0.904	
Hybrid_operator	.184794	.1352789	1.37	0.173	
EMNE	-.0612544	.0791388	-0.77	0.439	
<i>Control variable</i>					
Access_ECM	.2271804	.0780518	2.91	0.004	*
<i>F-statistics</i>					
			15.53		
<i>p-value</i>					
			0.0000		
<i>R-squared</i>					
			0.1893		
<i>Adj R-squared</i>					
			0.1771		

Source: Author's elaboration.

VI.3 Research Objective 1. Descriptive statistics

The following paragraph provide some detail information in the form of descriptive statistics as regards the pace of growth rates of the sampling frame.

As first, it is interesting to compare, over the entire observation period, the ITOs' total equity throughput's average annual growth rates breakdown by business model of origin.

Table 16 Breakdown of annual average Pace of growth by business model of origin and economic cluster of belonging, years 2002-2019.

<i>Economic Cluster / Business model</i>	EMNE	TMNE	Total
<i>Hybrid operator</i>	25,6%	19%	21,8%
<i>Financial investor</i>	5,3%	16,4%	15,7%
<i>Pure stevedore</i>	9,4%	14,5%	12,5%
<i>Ocean carrier</i>	11,4%	8,8%	9,6%
Total	11,8%	14,3%	13,6%

Source: Author's elaboration on Dataset 1.

ITOs recognizable as hybrid operators have registered the highest average annual growth rate of total equity throughout (+21.8) lead by CMA CGM (+55.53%) and MSC (19.39%). Financial investors and ITOs recognizable as pure stevedore show a similar pace of growth over the observation period, respectively (+15.7%) and (+12.5), indicative of the fact that the latter have been the preferred target typology for the formers' investment decisions. In this vein, it is interesting to note that ITOs recognizable as pure stevedore registering the highest average annual growth rate of total equity throughout over the observation period are Bollorè Port and Logistics (+26.78%) and China Merchant Port Holdings (+17.61%) whose ultimate corporate parents (China Merchant Group and Bollorè Group) are both multi-sector investment companies. Finally, ITOs recognizable as ocean carrier have registered the lowest, nevertheless still positive, average annual growth rate of total equity throughput (+9.6).

With reference to the comparison of total equity throughput's average annual growth rates breakdown by economic cluster of belonging, it surprisingly appears that, over the observation period, ITOs from EEs have registered a slower pace of growth than ITOs headquartered in a developed country. However, the result is influenced by the research choice of including in the sampling frame also financial investors accounting, over the entire observation period, for a comprehensive number of 22 ITOs, whereof a number of

21 are headquartered in a developed country. It is interesting to note, besides well known U.S.A. and U.K.-based PE funds and investment banks, the “Canadian block” of financial investors composed of Canada Pension Plan Investment Board (CPPIB), Ontario Teachers' Pension Plan (OTTP), Public Sector Pension (PSP) Investments, Caisse de dépôt et placement du Québec (CDPQ) and the asset management company Brookfield corporation.

The statistics point in the same direction also with reference to ITOs recognizable as pure stevedores: ones headquartered in a developed country (such as the Singaporean Portek +34.05%, PSA International +6.26%, the U.K. based Peel Ports +10.95% as well as aforementioned Hong-Kong based CMPH and French Bollorè Port and Logistics) show over the observation period a higher pace of growth than ones from EEs (lead by, in order, the Dubai-based DP World +17.50%, Russian Global Ports Investments +14.715, the Chilean Neltume Ports +14.06% and SAAM Ports +13.91%).

By converse, looking at ITOs recognizable as hybrid operators and ocean carriers, the average pace of growth, in line with expectations, is higher for ITO from EEs (respectively, +25.6% and +11.4%) than for ones headquartered in a developed country (respectively, 19% and 8.8%). It is remarkable the average annual growth rate of total equity throughput of Turkish Yildirim Group over the observation period, the highest of hybrid operators from EE (+58.60%), followed by Chinese COSCO Group (respectively, pre-merge with China Shipping Group +11.05% and post-merge +7.08%). China Shipping Group and Taiwanese Hyundai Merchant Marine are, instead, ocean carriers from EE having registered the highest paces of growth, respectively +58.38% and +10.85%.

Figure 35 Annual growth rate of ITOs' throughput (excluded financial investors), years 2002-2019.

ITO	Business model	Headquarter Nation	Economic cluster	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
SAAM Ports	Pure stevedore	Chile	E	32.7%	18.0%	53.2%	-2.8%	3.9%	45.4%	-3.1%	25.5%	6.6%	16.0%	0.7%	-0.1%	4.8%	-3.6%	31.9%	14.4%	-7%	
HHLA	Pure stevedore	Germany	T	8.7%	15.5%	14.1%	14.3%	11.3%	0.1%	-34.1%	18.6%	21.8%	1.3%	3.7%	0.7%	-10.9%	1.5%	7.7%	3.0%	2.8%	
Forth Ports	Pure stevedore	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
SSA Marine	Pure stevedore	U.S.A.	T	34.4%	24.4%	8.6%	-17.6%	-47.8%	43.9%	-10.8%	12.2%	-11.1%	1.3%	1.2%	3.9%	2.8%	-0.7%	10.2%	13.2%	2.5%	
"K" Line	Ocean carrier	Japan	T	1.7%	18.7%	3.4%	8.8%	-0.7%	1.9%	-10.2%	-1.3%	-1.3%	11.9%	8.4%	0.9%	-28.8%	5.1%	8.1%	-2.7%	-5.8%	
Mitsui O.S.K. Lines (MOL)	Ocean carrier	Japan	T	10.2%	27.9%	-12.9%	3.4%	0.6%	-5.7%	-16.4%	19.6%	-5.7%	16.9%	-0.5%	-12.7%	0.1%	18.8%	8.9%	-1.4%	4.5%	
HPH	Pure stevedore	Hong Kong	T	13.0%	12.2%	4.6%	-7.2%	10.4%	0.3%	-6.2%	11.8%	-22.5%	1.2%	1.5%	2.7%	3.5%	-3.2%	5.8%	0.8%	-1.9%	
P&O Ports	Pure stevedore	United Kingdom	T	24.7%	22.0%	8.6%	-10.0%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
NYK Line	Ocean carrier	Japan	T	9.6%	3.4%	-17%	14.3%	12.4%	-2.4%	-13.8%	12.5%	-7.3%	4.2%	1.9%	8.0%	-5.9%	1.0%	1.3%	-9.4%	-1.3%	
APL Terminals	Hybrid operator	U.S.A.	T	12.8%	5.8%	5.2%	0.2%	3.4%	-12.2%	-13.9%	26.4%	4.1%	-16.3%	3.4%	5%	-13.7%	-100.0%	n.a.	n.a.	n.a.	
OOCL	Ocean carrier	Hong Kong	T	12.6%	5.8%	18.4%	13.6%	-53.5%	-5.0%	-4.1%	11.3%	8.9%	13.8%	3.9%	9.4%	2.7%	-2.5%	15.4%	-100%	n.a.	
DP World (DPW)	Pure stevedore	U.A.E.	E	4.9%	46.5%	21.6%	169.9%	9.9%	13.4%	-6.4%	9.6%	-2.7%	1.1%	-1.9%	9.2%	3.3%	8.2%	6.9%	3.3%	0.8%	
Grup Maritim TCB	Pure stevedore	Spain	T	-4.6%	16.7%	15.5%	0.0%	29.4%	-5.6%	-23.9%	21.1%	4.0%	-14.7%	-15.3%	24.7%	-100%	n.a.	n.a.	n.a.	n.a.	
Modern Terminals Limited (MTL)	Pure stevedore	Hong Kong	T	25.8%	32%	-4.9%	18.6%	20.0%	0.1%	-11.4%	16.3%	-3.6%	-8.5%	8.9%	4.8%	-15.8%	9.7%	-7.9%	1.3%	-3.2%	
PSA International	Pure stevedore	Singapore	T	12.3%	14%	13.2%	28.0%	12.5%	5.3%	-11%	13.9%	-6.4%	6.8%	3.8%	4.2%	-3.8%	-1.5%	7.9%	7.2%	-0.1%	
Maersk Line / APM Terminals	Hybrid operator	Denmark	T	18.5%	31.0%	17.2%	25.5%	6.7%	-1.4%	-7.5%	0.7%	3.0%	7.5%	2.5%	5.8%	0.6%	-3.3%	6.6%	11.7%	5.2%	
Mitsui & Co. Group	Industrial conglom	Japan	T	17.9%	19.2%	18.3%	9.9%	19.8%	-2.8%	-10.6%	17.8%	-54.9%	19.2%	12.1%	-20.1%	-0.8%	1.8%	17.0%	31.1%	-2.3%	
Gulfair	Pure stevedore	U.A.E.	E	14.2%	25.7%	6%	-10.2%	22.3%	16.8%	17.8%	7.7%	3%	16.6%	6%	25%	3.9%	-8.8%	-30.1%	-29.8%	-38.3%	
Hyundai Merchant Marine	Ocean carrier	South Korea	E	2.8%	-2.1%	12.0%	9.5%	2.1%	-14.5%	22.8%	-3.2%	43.2%	12.1%	25.1%	1.4%	-5.4%	-17.7%	38.6%	36.0%	21.7%	
Evergreen Marine Corporation	Ocean carrier	Taiwan	T	11%	11.6%	2.1%	24.4%	13.6%	0.5%	-19.5%	2.4%	6.7%	7.5%	-0.5%	4.4%	-3.8%	2.1%	9.8%	-6.2%	5.4%	
Yang Ming Line (YML)	Ocean carrier	Taiwan	T	8.9%	21.2%	-6.1%	-1.0%	-4.5%	-11.7%	93.2%	11.9%	59.4%	-6.6%	-14.5%	3.7%	-5.9%	2.4%	-0.4%	-5.8%	-2.3%	
COSCO Container Lines	Ocean carrier	China	E	30.1%	-11.4%	11.9%	-14.9%	12.9%	-9.9%	-3.0%	27.7%	32.7%	-18.3%	-8.7%	-13.4%	-10.3%	-17.5%	-100%	n.a.	n.a.	
CMPH	Pure stevedore	Hong Kong	T	45%	32.7%	17.1%	76.4%	15.1%	15.7%	-16.5%	30.8%	17.7%	10.2%	11%	7.1%	1.9%	3.8%	12.8%	10.4%	8.1%	
Terir	Pure stevedore	Portugal	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	20.8%	8.3%	0.3%	1461.9%	-100%	n.a.	n.a.	n.a.	n.a.	
Associated British Ports (ABP)	Pure stevedore	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	16.1%	-9.3%	-13.7%	10%	-31.7%	-23.8%	-1.8%	-0.5%	11.5%	-51.5%	13%	1.2%	-2%	
Hanjin Shipping Co., Ltd.	Ocean carrier	South Korea	E	10.8%	9.4%	6.3%	-9.2%	8.3%	-5.3%	-11.4%	41.5%	28.8%	39.8%	-1.5%	-7.4%	-10.8%	-10.7%	-100.0%	n.a.	n.a.	
Wan Hai	Ocean carrier	Taiwan	T	10.6%	4.8%	2.9%	0.9%	0.3%	-14.5%	17.3%	25.6%	29.6%	-77.4%	-1.1%	28.8%	5.1%	11.8%	11.9%	4.8%	3.6%	
ICTSI	Pure stevedore	Philippines	E	30.8%	17.2%	2.9%	10.3%	45.2%	22.7%	-6.5%	19.2%	23.1%	4.7%	9.6%	17.3%	3.7%	12.2%	5.1%	5.9%	-100.0%	
COSCO Group	Hybrid operator	China	E	23.1%	64.4%	9.1%	45.8%	24.2%	16.7%	-2.7%	30.6%	9.3%	12.3%	10.9%	10.1%	1.0%	-100%	n.a.	n.a.	n.a.	
NWS Holdings	Pure stevedore	Hong Kong	T	12.6%	9.3%	-38%	62.3%	12.2%	-8.1%	-4.5%	-1.5%	1.9%	-36.6%	5.6%	6.4%	-1.8%	0.7%	3.5%	2.6%	-36%	
SIPG	Pure stevedore	China	E	22.5%	24.9%	27.8%	-31.9%	21.6%	20.3%	-9.2%	22.5%	32.4%	7.8%	1.7%	6.3%	-0.1%	-19.4%	5.9%	7.1%	3.9%	
Bollore Group	Pure stevedore	France	T	7.5%	216.3%	19.6%	17.7%	22.8%	9%	45.8%	64.7%	-9.2%	9.4%	15.7%	-9.0%	30.5%	-10.8%	12.6%	11.1%	1.6%	
Nelume Ports (Ultramar)	Pure stevedore	Chile	E	37.6%	34.4%	-4.6%	73.4%	62.6%	20.7%	-4.5%	12.5%	7.7%	-0.8%	3.7%	8.1%	-5.8%	3.0%	-12.3%	0.7%	2.7%	
Arkas Group	Ocean carrier	Turkey	E	n.a.	n.a.	n.a.	n.a.	35.8%	-4.2%	-100%	n.a.	n.a.	5.3%	9.0%	3.3%	-34.4%	10.9%	1.3%	7.8%	4.2%	
Adani Ports & Special Economic Zone	Pure stevedore	India	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	14.2%	29.4%	13.9%	35.9%	44.4%	23.2%	10.7%	n.a.	n.a.	
China Shipping Container Line (CSCL)	Ocean carrier	China	E	-56.5%	423.6%	197.9%	136.1%	70.2%	18.0%	5.2%	11.3%	86.8%	17.7%	-1.0%	-5.4%	13.5%	-100.0%	n.a.	n.a.	n.a.	
PONL (P&O Nedlloyd Container Line)	Ocean carrier	United Kingdom	T	5.1%	43.9%	26.3%	-100.0%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
CSX World Terminals	Pure stevedore	U.S.A.	T	-8.6%	-100.0%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Dragados SPL	Pure stevedore	Spain	T	8.6%	19.1%	15.0%	28.2%	19.4%	-6.4%	-13.3%	-86.7%	-100%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Eurogate	Pure stevedore	Germany	T	4.2%	7.7%	5.6%	5.1%	12.5%	-0.2%	-17.6%	1.4%	6.8%	0%	1.9%	5%	1.1%	4.5%	-9.2%	0.1%	-7.5%	
Noatum Terminals	Pure stevedore	Spain	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.1%	5.5%	-9.6%	-5.9%	3.3%	2.5%	12.5%	-48.9%	-6.0%	
TIL (& MSC associated companies)	Hybrid operator	Switzerland	T	40.7%	42.3%	42.0%	15.1%	75.6%	14.2%	2.9%	20.1%	32.6%	6.4%	-24.5%	15.5%	2.4%	4.7%	25.4%	9.2%	5.2%	
MMC CORPORATION BERHAD (MV Hapag-Lloyd)	Pure stevedore	Malaysia	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6.3%	10.1%	1%	
National Container Company (NCC)	Pure stevedore	Germany	T	552.2%	40.0%	393%	6.3%	-50.0%	11.9%	-18.5%	11.8%	12.8%	-26.2%	3.6%	-6.9%	-14.7%	3.1%	9.6%	-0.8%	0.6%	
Peel Ports Group	Pure stevedore	Russia	E	11.8%	68.0%	9.9%	23.3%	14.0%	14.1%	-33.2%	13.8%	6.2%	2.2%	-5.6%	-100%	n.a.	n.a.	n.a.	n.a.	n.a.	
Portek	Pure stevedore	United Kingdom	T	1.8%	144.0%	2.0%	23.4%	-47.1%	5.5%	-21.1%	25.3%	4.3%	23.0%	-1.2%	1.7%	3.5%	0.9%	4.1%	-31.2%	47.1%	
CMA CGM / Terminal Link and CMA Terminal	Hybrid operator	Singapore	T	318.1%	7.7%	-0.6%	47.7%	27.4%	6.8%	-19.0%	18.4%	-100.0%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Jebsen Group	Industrial conglom	Hong Kong	T	n.a.	368.8%	256.6%	46.7%	12.3%	24.0%	13.9%	-12.2%	34.0%	-36.1%	-13.3%	21.8%	-4.2%	151.7%	29.6%	-7.3%	2%	
Busan Port Authority	Pure stevedore	South Korea	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10.0%	5.6%	4.2%	-0.1%	5.3%	5.7%	1.5%	-0.8%	
Global Ports Holding	Pure stevedore	Turkey	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	39.1%	22.2%	16.7%	-5.1%	-15.9%	n.a.	
Global Ports Investments (GPI)	Pure stevedore	Russia	E	n.a.	n.a.	30.4%	6.6%	192.3%	3.8%	3.4%	-5.7%	-7.1%	-31.4%	4.3%	65.7%	-32.1%	-19.8%	2.3%	5.5%	2.6%	
Yilport	Hybrid operator	Turkey	E	n.a.	n.a.	n.a.	12.3%	6.8%	9.0%	-6.5%	647.7%	43.7%	5.4%	9.3%	11.5%	21.0%	35.2%	22.3%	4.4%	-1.9%	
Zim	Ocean carrier	Israel	T	n.a.	n.a.	n.a.	n.a.	32.0%	197.6%	-3.8%	-11.2%	26.5%	-15.0%	17.3%	19.0%	9.1%	-5.5%	10.2%	2.3%	-3.9%	
Abu Dhabi Ports (ADP)	Pure stevedore	U.A.E.	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.7%	-5.2%	-6.9%	-8.2%
Euroports	Pure stevedore	Luxembourg	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Ports America	Pure stevedore	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	n.a.	44.9%	-17.6%	-2.4%	-47.4%	3.9%	-13.0%	2.1%	17.2%	-10%	2.8%	2.9%	-68.4%	
HPH Trust	Pure stevedore	Singapore	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-49.5%	7.6%	10%	-0.4%	-0.3%	4.8%	-3.2%	-6.6%	
China COSCO SHIPPING Corporation	Hybrid operator	China	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
ATCO Ltd.	Industrial conglom	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	

Source: Author's elaboration on Dataset 1.

Figure 36 Annual growth rate of financial investors' throughput, years 2002-2019.

ITO	Buainess model	Headquarter Nation	Economic cluster	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
B&B Infrastructure Group	Financial inv.	Australia	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Deutsche Bank	Financial inv.	Germany	T	n.a.	n.a.	n.a.	n.a.	67,2%	5,5%	-16,8%	22,4%	8%	1,2%	-2,3%	2%	3,3%	-66,7%	-4,1%	3,3%	-1,2%	
Goldman Sachs	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	784,3%	38,6%	-10,2%	12,9%	-12,3%	1,2%	-92,2%	-0,5%	-100%	n.a.	n.a.	n.a.	n.a.	
Infracapital (M&G Investement)	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	16,1%	-9,3%	-13,7%	10%	-31,4%	-24,1%	-1,8%	-0,5%	-100%	n.a.	n.a.	n.a.	n.a.	
Macquarie Group	Financial inv.	Australia	T	n.a.	n.a.	n.a.	n.a.	40,6%	6%	-19,9%	33,8%	28,4%	-4,0%	15,2%	-16,3%	32,6%	77,6%	5,1%	17,8%	-14,8%	
Global Infrastructure Partners (IPH)	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	56,3%	132,3%	23,7%	-24,2%	792,2%	3,5%	9,3%	2,6%	28,4%	10,2%	5,2%	
Morgan Stanley Infrastructure (MSI)	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-12,8%	6,0%	6,4%	-7,2%	-5,3%	-11,1%	-1,3%	-100,0%	n.a.	n.a.	n.a.	
OTTP fund (Global Container Terminals)	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	-3,9%	-13,5%	17,8%	8,7%	1,3%	3,2%	3,1%	3,0%	2,9%	2,9%	2,8%	-35,8%	
Antin Infrastructure Partners	Financial inv.	France	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	13,6%	-12,9%	-2,4%	30%	5,7%	-1,3%	2,3%	3,2%	0,8%	0,8%	
Arcus Infrastructure Partners	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	13,6%	-12,9%	997,6%	1,5%	1,2%	-0,6%	-0,6%	-13,5%	-85,4%	0,8%	
Brookfield Corporation	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-10,6%	-45,1%	-3,5%	11,5%	108,1%	10,0%	150,8%	1,8%	3,4%	83%	
IFM Investors	Financial inv.	Australia	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Citigroup	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-6%	-0,8%	-0,9%	3,9%	-3,6%	8,5%	-0,5%	-14,2%	
PSP Investments	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
CDPQ	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Pardo Family Holding	Financial inv.	Mexico	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	3,9%	2,8%	-0,7%	10,2%	13,2%	2,5%
Canada Pension Plan Investment Board (CPPI)	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	75,8%	-23,9%	5%	2,5%	-1,5%
Hermes GPE Infrastructure Fund	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-51,5%	13,0%	1,2%	-2%
iCON Infrastructure	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Infra Via Capital Partners	Financial inv.	France	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Source: Author's elaboration on Dataset 1.

Figure 38 Geographic diversification (GINI index) of financial investors' throughput, years 2002-2019.

ITO	Business model	Headquarter Nation	Economic cluster	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	
B&B Infrastructure Group	Financial inv.	Australia	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
Deutsche Bank	Financial inv.	Germany	T	n.a.	n.a.	n.a.	n.a.	1	0,8804135	0,8819715	0,8895612	0,8841976	0,8826966	0,8920559	0,8907756	0,8903562	0,8921498	0,876036	0,8767313	0,8765708	0,8799021	
Goldman Sachs	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	1	0,8701602	0,8985981	0,8855307	0,8822343	0,8916786	0,9007323	1	1	n.a.	n.a.	n.a.	n.a.	n.a.	
Infracapital (M&G Investement)	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	1	1	1	1	1	1	1	1	1	n.a.	n.a.	n.a.	n.a.	1	
Macquarie Group	Financial inv.	Australia	T	n.a.	n.a.	n.a.	n.a.	0,9112515	0,9336973	0,9209587	0,8914749	0,8741049	0,8740838	0,8263517	0,8146688	0,8550165	0,8384943	0,8981208	0,9149382	0,9145904	0,9343454	
Global Infrastructure Partners (IPH)	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	0,8603992	0,8536888	0,8521104	0,6015427	0,591219	0,5408969	0,4939617	0,5193418	0,4718592	0,4842698	
Morgan Stanley Infrastructure (MSI)	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	1	1	1	1	1	1	n.a.	n.a.	n.a.	n.a.	
OTTP fund (Global Container Terminals)	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	1	1	1	1	1	1	1	1	1	1	1	
Antin Infrastructure Partners	Financial inv.	France	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	1	1	1	1	1	1	1	1	1	
Arcus Infrastructure Partners	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	1	0,9822167	0,9772362	0,9762287	0,9763941	0,9756917	0,9709986	1	1	
Brookfield Corporation	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	1	1	1	0,909964	0,9044934	0,8719623	0,8699929	0,8717436	0,8737416	
IFM Investors	Financial inv.	Australia	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0,871868	
Citigroup	Financial inv.	U.S.A.	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	1	1	1	1	1	1	1	
PSP Investments	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1
CDPQ	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0,9513028
Pardo Family Holding	Financial inv.	Mexico	E	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0,9269042	0,9276616	0,9233854	0,9204808	0,9081399	0,9046313	0,9084729	
Canada Pension Plan Investment Board (CPPI)	Financial inv.	Canada	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0,9920383	0,9228423	0,9420137	0,9397484	0,9402517	0,9412688
Hermes GPE Infrastructure Fund	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1	1	1	1	1	
iCON Infrastructure	Financial inv.	United Kingdom	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0,9067194
InfraVia Capital Partners	Financial inv.	France	T	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1

Source: Author's elaboration on Dataset 1.

Outcomes of Model 1 and Model 2 as well as statistics show how the internationalization process of ITOs is affected by, besides long debated temporal and spatial concerns, some key-factors (either firm and country-specific) such as ITOs' business model of origin and the economic cluster of belonging.

In particular, the Contribution assumes these key-factors and further related specifications (for instance, the nationality and the nature, private or public, of the ITOs' "ultimate" ownership) affect both the implementation strategy of ITOs' internationalization process (RO.2), either in terms of entry mode options (M&As activity or "direct" PPPIs), of single or multiple-site acquisitions selection as well regards the JV-WOS dilemma, and their strategic behavior (i.e., competitive, cooperative or "co-opetitive" behavior) in the global playfield (RO.3).

VI.4 Research Objective 2. Multiple case study analysis

As previously mentioned in Chapter 3, the internationalization process of ITOs inserts in and combines itself with the integration (either vertical and horizontal) and the diversification (either product's or geographic) strategies pursued by ITOs over time depending on their own business model of origin.

Over the last four decades, ITOs (until mid-2000s only ocean carriers or hybrid operators and over the last decade also pure stevedores) have been steadily acquiring the missing supply chain segments they need to provide full control of customer cargo beyond the maritime perspective. As far as high growth prospects were granted to the global containerized maritime and port industry concerned (i.e., until year 2008), one of the main strategies carried by ocean carriers and hybrid operators has been indeed to create and increase the “share of wallet” (Paridaens and Notteboom, 2022): sharing activities by cross-selling the container line and logistics products (Haddad, 2008).

However, more recently end users and multinational corporations ever want faster and more predictable delivery, as well as a broader and more sophisticated choice of logistics services. Thus, ocean carriers, hybrid operators and pure stevedores had new commercial incentives to go beyond the initial strategy focused on (container) terminal operations by providing customers with “one-stop” shipping experiences and the necessity to rely on a wider vertical integration in order to not only increase both operative and economic efficiency but also to add new profit streams.

In such a context, some ITOs have moved towards acquisitions of logistic services providers with a global presence or regional specific footprint. Indeed, offering their own “end-to-end” service or “value-added services” (VAS) to shipped/handled goods is of strategic importance, respectively, for ITOs recognizable as ocean carriers or hybrid operators since the ocean business is ever characterized by an increasing level of commoditization of container shipping services (i.e., leaving little room for differentiation between carriers when only focusing on liner services), while for pure stevedores since (international) terminal operations profitability is ever more challenged either by the ever higher bargaining power of shipping companies, the ever increasing OPEX and CAPEX requested by technology advances at sea as well as, more recently, by rising energy costs.

Logistic integration (either vertical and horizontal) provides ITOs with a path towards focused differentiation combined with a high degree of specialization and increasing market power for the provision of certain services. Indeed, integrated logistic operators, whether their business model of origin is the ocean carrier or the pure stevedore one, want to stimulate demand by offering seamless logistics solution packages with less duplication and more premium services.

Therefore, by addressing RO.2 the designed holistic multiple-case study analysis allows to consider the interaction of (either vertical and horizontal) logistic integration strategy pursued by six selected ITOs with the implementation strategy of their own internationalization process.

IB and Strategic Management literature have recognized how MNEs' "high-level" strategies are always embedded in a particular economic context and can be influenced by peculiarities of ownership and governance structures. Furthermore, "high-level" strategies are neither fixed in time nor immutable. See for instance how most recent combination of industry-specific and external shock disruptions (e.g., extraordinary high freight rates and the war in Ukraine) has affected ITOs corporate performance and strategies with varying intensities.

While some ITOs seem to be opting for a continued focus on the core business mode of origin, other more recently also seem to be moving towards more vertical integration. For instance, Hyundai Merchant Marine (HMM) has recently released a new five-years strategy calling for US\$11.4 billion in investments to lay the foundations for future growth prospects as well as to respond to the major disruptions and challenges of today fast-changing world. In this vein, the South Korean (ocean) carrier (which has separated from the Hyundai Motor Group conglomerate in year 2016) has developed a new strategic roadmap formalizing its intention to invest *«in a range of initiatives, including securing core assets such as ships, terminals, [but also] logistics facilities»* (Press release 14/07/2022).

In accordance with theoretical constructs of the IB and Strategic Management literature, prominent academics contributions dedicated to the global maritime and port industry (see Parola et al., 2013, 2014, 2015; Notteboom and Rodrigue, 2012; 2022) argue that a combination of drivers (both firm and country specific) contributes to corporate

commitment (either in terms of managerial and financial resources committed) to and affect the implementation strategy of the ITOs' internationalization process.

This contribution inserts in this Research field and provide anecdotal and empirical evidence as regards the cases of six ITOs over four observation periods covering the last four decades.

Table 17 Geographic diversification (GINI index) of six selected ITOs, years 2002, 2011 and 2019.

ITO	Year	Africa	East Europe	Far East	Latin America & Caribbean	Middle East	North America	North Europe	Oceania	South Asia	South East Asia	South Europe
A.P. Moller-Maersk / APM Terminals	2002	0,1%	0,2%	21,4%	6,3%	2,6%	36,6%	8,2%	0%	0%	6,8%	17,6%
	2011	12,8%	0,4%	18,7%	3,1%	4,9%	18%	15%	0%	7%	8,4%	11,7%
	2019	14,9%	2%	15,4%	10,5%	4,2%	10,6%	15,3%	0%	5,4%	8,7%	13,1%
CMA CGM / Terminal Link / CMA Terminals	2002	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	2011	12,0%	0%	0%	4,6%	5,5%	5,9%	25,3%	0%	0%	0%	46,7%
	2019	6,3%	1,2%	14,4%	17,9%	2,7%	4,1%	12,8%	0%	4,1%	24,8%	11,8%
Cosco CLines	2002	0,0%	0,0%	47,0%	0,0%	0,0%	33,3%	0%	0%	0%	0,0%	19,7%
	2011	0%	0%	29%	0%	0%	45,1%	12,8%	0%	0%	0%	13%
	2019	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Cosco Group	2002	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
	2011	4,7%	0%	81,1%	0%	0%	0,0%	1,7%	0%	0%	3,9%	8,6%
	2019	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CSCL	2002	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%
	2011	0%	0%	92,3%	0%	0%	7,7%	0%	0%	0%	0%	0,0%
	2019	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
CHINA COSCO SHIPPING	2019	1,3%	0%	67,1%	0%	0,7%	5,7%	3,9%	0%	0%	5,2%	16%
DP World	2002	3,4%	0%	0%	0%	96,6%	0%	0%	0%	0%	0%	0%
	2011	3,6%	1,5%	15,2%	5,7%	44,0%	1,4%	7,5%	2,4%	12,5%	5,3%	1%
	2019	3,7%	1,2%	17,6%	7,6%	35,4%	2,5%	13,9%	2%	10,1%	3,6%	2,3%
MSC / TIL	2002	0%	0%	0%	0%	0%	0%	33,7%	0%	0%	0%	66,3%
	2011	0,5%	1,2%	7,4%	6,3%	0%	19%	28,2%	0%	0%	15,8%	21,7%
	2019	2,8%	1,6%	5,4%	11,7%	9,3%	11,3%	17,9%	0%	3,0%	11,8%	25,3%
PSA International	2002	0%	0%	6,4%	0,0%	1,0%	0%	14,8%	0%	0,6%	73,6%	3,6%
	2011	0,2%	0,1%	13,9%	3,5%	0,4%	0,0%	16,5%	0%	1,8%	58,3%	5,3%
	2019	0,4%	1,2%	21,2%	3,1%	0,9%	0,4%	13,2%	0%	4,6%	49,1%	5,8%

Source: Author's elaboration on Dataset 1, 2, 3 and 4.

Table 18 Internationalization process's outcomes³³ of six selected business cases, years 2002-2019.

A.P. Moller-Maersk and APM Terminals case

Year	N. Terminals	Home-country	N. Countries	N. Regions	Domestic equity TEUs	Overseas equity TEUs
2002	32	1	17	10	200	14,115
2008	53	1	29	11	261	34,126
2011	54	1	33	10	255	33,572
2019	66	1	39	12	502	46,3

CMA CGM, Terminal Link and CMA Terminals case

Year	N. Terminals	Home-country	N. Countries	N. Regions	Domestic equity TEUs	Overseas equity TEUs
2003	3	3	1	1	120	-
2008	18	6	11	6	8955	4,092
2011	21	7	11	8	1,133	3,683
2019	TL 12	4	TL 8	12	TL 1.633	6,3
	CMAT 29	3	CMAT 24		CMAT 0,345	

MSC and TIL case.

Year	N.Terminals	Home-country	N.Countries	N. Regions	Domestic equity TEUs	Overseas equity TEUs
2002	6	-	4	1	-	1,215
2008	19	-	12	7	-	7,974
2011	26	-	16	9	-	13,927
2019	39	-	26	12	-	28,8

China COSCO SHIPPING Corporation case

Year	N.Terminals	Home-country	N.Countries	N. Regions	Domestic equity TEUs	Overseas equity TEUs
2002	17	11	6	3	1.426	1,811
2008	35	27	9	6	10.914	3,517
2011	42	31	10	6	17.036	6,213
2019	52	41	14	6	30	19

PSA International case

Year	N.Terminals	Home-country	N.Countries	N. Regions	Domestic equity TEUs	Overseas equity TEUs
2002	17	1	7	6	16,800	6,111
2008	76	4	27	11	23,874	26,511
2011	83	4	29	11	26,536	20,950
2019	96	7	45	11	27,6	32,4

DP World case

Year	N.Terminals	Home-country	N.Countries	N. Regions	Domestic equity TEUs	Overseas equity TEUs
2002	3	1	3	2	4,194	1.077
2008	49	5	25	12	12,253	20.833
2011	53	3	28	13	13,030	21.069
2019	52	2	31	13	15,7	28.5

Source: Author's elaboration on Dataset 1, 2, 3 and 4.

³³ Equity throughput is expressed in thousands (.000) of TEUs.

VI.4.1 Period 1 – “The first two waves of port reforms under way worldwide”.

Table 19 Single-site acquisitions and “direct” PPPIs of six selected ITOs, years 1975-2000.

Year	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations		N. Ports		N. Terminals		Entry mode	Share	US\$ billion
								Home	Foreign	Home	Foreign	Home	Foreign			
1975 - 2000	A.P. Møller - Mærsk A/S	Ocean carrier	Private A.P. Møller Group	Denmark	5	Single terminal	Various	0	4	0	5	0	5	M&As	various	n.a.
					13		Various	1	9	1	12	1	12	Direct PPPIs	various	n.a.
	CMA CGM	Ocean carrier	Private (Saadè Family)	France	0	Single terminal	Various	0	0	0	0	0	0	Acquisition	various	n.a.
					0			0	0	0	0	0	0	Direct PPPIs	various	n.a.
	MSC – TiL	Ocean carrier	Private (Aponte Family)	Switzerland	2	Single terminal	Various	0	2	0	2	0	2	Acquisition	various	n.a.
					0			0	0	0	0	0	0	Direct PPPIs	various	n.a.
	COSCO Group CSG	Hybrid operator Ocean carrier	SOE	China	5	Single terminal	Various	1	1	4	1	4	1	M&As	various	n.a.
					9			1	3	5	4	5	4	Direct PPPIs	various	n.a.
	PSA International	Pure stevedore	SOE	Singapore	1	Single terminal	Various	0	1	0	1	0	1	M&As	various	n.a.
					10			1	4	1	6	4	6	Direct PPPIs	various	n.a.
	DP World	Pure stevedore	SOE	Dubai Emirate	0	Single terminal	Various	0	0	0	0	0	0	M&As	various	n.a.
					3			1	2	1	2	1	2	Direct PPPIs	various	n.a.

Source: Author’s elaboration on Dataset 1,2,3 and 4.

Table 20 Multiple-site acquisitions of six selected ITOs, years 1975-2000.

Year	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations	N. Ports	N. Terminals	Entry mode	Share	USD billion
1999	A.P. Møller - Mærsk A/S	Ocean carrier	Private	Denmark	Sea-Land Service Inc., International Liner Business	Ocean carrier	U.S.A.	3	14	14	Acquisition	100%	0.7872

Source: Author’s elaboration Dataset 1,2,3 and 4.

Over the selected timeframe ocean carriers and pure stevedores have started to benefit of the first two wave of port reforms taking place worldwide and to implement their internationalization process, the former by accelerating the vertical integration strategy and the latter by horizontally (i.e., internationally) expanding their (container) port operations.

Most systematic and long-standing vertical integration strategy pursued since the early 1970s by the ocean carriers was to acquire shares in, or full ownership of some key container terminals' facilities. In doing so, ITOs recognizable as ocean carriers secure dedicated terminal capacity and achieve efficiency gains (both economic and operative) in fleet operations (Haralambides, Cariou, and Benacchio, 2002). Furthermore, managing container terminals according to the "semi-dedicated" formula or as "multi-user" facilities also serve as source of new revenue streams for ocean carriers, offering additional higher operating margins than container shipping activities (Notteboom, Pallis and Rodrigue, 2021). This is the case of A.P. Moller-Maersk which in year 1975 launched its first fully containerized service on the Panama Line and its first FDI in the container port industry licensing the Maersk Port Newark facility in in New York. Thereafter to the late 1990s the Danish shipping company has implemented its internationalization process by alternating a number of 5 single-site acquisitions (for a total of 4 new countries of entrance and five new terminals' facilities) and a number of 13 "direct" PPPIs (for a total of 7 new countries of entrance and 13 terminals' facilities). By converse CMA CGM has been established and launched its first containerized service between Beirut, Latakia, Livorno and Marseille in year 1978 but the French shipping company entered the container port industry in a second phase Concentrating at first in the horizontal integration in the shipping industry. In year 1996 CMA made the strategic acquisition of Compagnie Générale Maritime (CGM) and in year 1998 it acquired Australian National Lines (ANL), leader in the transpacific market. The case of the Swiss MSC points in the same direction: it has been founded in year 1970, in year 1984 the Company received its first full container vessel "Alexandra" (650 TEUs' capacity, length of 150 m) but it entered the container port industry only since year 2000. However, yet since the 1980s the Swiss company pursued an early vertical integration strategy in the inland logistic: in year 1988 it has been established MEDLOG the "Transport and Logistic" division of MSC. Furthermore, the Company differently from other selected business cases

contemporary adopted a product's diversification strategy: in year 1988 it entered the passenger cruises business by acquiring the cruise liner Monterey and a year later, by taking over the Lauro Cruise Line. In year 1995 MSC Cruises was formally established as a subsidiary of MSC Cargo.

The internationalization process of the hybrid operator COSCO Group and of the ocean carrier China Shipping Company Group (CSG) (the two merged entities in China COSCO SHIPPING Corporation since year 2016) is slightly different from previously mentioned ones, since it is more dependent on the liberalization and corporatization of the (container) port industry in China which can be substantially synthesized in three plus one stages (Huang J, 2020): i) the "Reform and opening-up" policy put forward in year 1978 by President Deng Xiaoping, ii) the "dual" management system of ports after the 1980s: central government's transportation department and the local government's authority, iii) the implementation of the People's Republic of China Port Law in year 2004 which has not only allowed FDIs in China's port industry but has also actively encouraged them and iv) the proposition of the Belt and Road Initiative (BRI hereinafter) by President Xi in year 2013. Therefore, COSCO Group made its first FDI in the Port of Long Beach (U.S.A.) in year 1981 by licensing the Pacific Maritime Services Container Terminal in partnership with the U.S.A.-based pure stevedore SSA Marine (respectively 51% and 49% equity stake). Thereafter to year 2000, COSCO Group has mainly contributed to the corporatization of the (container) port industry in its home-country by establishing in year 1994 its fully owned terminal division COSCO Pacific and by alternating a number of 5 single-site acquisitions (whereof for a total of 4 in China and 1 in Italy) and a number of 8 "direct" PPPIs (whereof for a total of 5 in China, 2 in Hong-Kong and 1 in Japan). Since the late 1990s also the ocean carrier China Shipping Company Group (CSG) entered the (container) port industry by acquiring a minority stake in the Dalian Dagang China Shipping CT.

Over the selected timeframe, ITOs recognizable as pure stevedores have started to benefit of the opening-up of investments opportunities worldwide, thanks to the port liberalization and privatization processes under way, by internationally expanding their

(container) port operations. This is the case of PSA which was established³⁴ in year 1964 as the central agency responsible for managing and developing the ports of Singapore and in year 1972 it handled the first containership in Singapore's Port. In year 1993 PSA International, fully owned by the Singaporean State-holding company, has been formed as a holding company for both PSA's businesses in Singapore and worldwide. In year 1996 PSA made its first FDI in Dalian Port, China, in JV with the Dalian Port Authority and a year later, in the face of increasing global competition, PSA has been corporatized³⁵ and renamed PSA Corporation in order to ensure that the port remained responsive to the developments and needs of the shipping industry. Since early 1980s to year 2000, PSA International alternated a number of 1 single-site acquisitions (a minority stake in the Dalian Dagang China Shipping Container Terminal) and a number of 10 "direct" PPPIs (whereof 4 in the Singapore's Port, 2 in China, 2 in India, 1 in Yemen and 1 in Brunei). It is also the case of DP World. The journey of the Dubai Port Authority starts in year 1972 with the establishment of Port Rashid in Dubai and continues with the opening of Jebel Ali Port. In year 1999 Dubai Ports International (DPI) was established in charge of developing the first foreign project at Jeddah Islamic Port. DP World will be formed only in year 2005 though the integration of the terminal operations of the Dubai Ports Authority and of DPI. However, since early 1980s to year 2000, the only FDI beside the aforementioned Jeddah Islamic Port is the licensing of the Djibouti Container Terminal in year 2000.

In addition, since the late 1990s, the fierce global competition both "within" and "for" the (container) port industry and the steady increasing growth rates of global seaborne containerized cargo trade have pushed some operators/investors to adopt a more aggressive entry mode option in foreign markets, the so-called multiple-site acquisitions in order to minimize the entry time in different geographic locations and to have direct access to the target firm's local market competitive advantages (e.g., its local business and institutional relationships, its brand-identity, etc.) (Belderbos, 2003). Among six

³⁴ Establishment following the enactment of the Port of Singapore Authority Ordinance of year 1963. PSA was formed to replace the Singapore Harbour Board and to take over certain duties of the Master Attendant. The main responsibilities of PSA were to provide and maintain adequate and efficient port services; regulate and control navigation and shipping within the port limits of Singapore; and promote the use, the improvement, and the development of the port.

³⁵ Following corporatization, PSA Corporation retained its core business of operating container terminals in Singapore but transferred its regulatory functions to the Maritime and Port Authority of Singapore (MPA).

ITOs selected, it is the case of A.P. Moller – Maersk acquiring, in year 1999, the full ownership of the International Liner Business of the U.S.A.-based ocean carrier Sea-Land Service, comprising its portfolio of n. 14 container terminal facilities spread across 3 countries (U.S.A., The Netherlands and Germany), and of PSA International acquiring, in year 1998, a majority stake (60%) of Sinport S.p.A. in Italy, owning two container terminals (Voltri Terminal Europa in Genova and Venezia Container Terminal).

In synthesis, it is possible to say that in Period 1, although almost all selected ITOs have benefited of the opening-up of investments opportunities worldwide thanks to the port liberalization and privatization processes under way, differences emerge in their entry mode choices either depending on the business model of origin and on particularly on their ownership and governance structure. Indeed, while some ocean carriers and hybrid operators have started to enter the global (container) port industry (i.e., to internationalize their (container) port operations) earlier than pure stevedores (i.e., early 1980s vs late 1990s), in this initial phase of the internationalization of the container port industry privately owned ITOs have shown a higher commitment to FDIs, while State-owned ones have been more involved in the corporatization of their home-country's port industry. However, the preferred entry's mode option in Period 1, in terms of number of deals closed, results to be “direct” PPPIs (in the form of concessions, leases, etc.).

VI.4.2 Period 2 – “Outstanding growth and high perspective”.

Table 21 Single-site acquisitions and “direct” PPPIs of six selected ITOs, years 2001-2008.

Year	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations		N. Ports		N. Terminals		Entry mode	Share	US\$ billion
								Home	Foreign	Home	Foreign	Home	Foreign			
2001 - 2008	A.P. Møller - Mærsk APM Terminals	Hybrid operator	Private	Denmark	10	Single terminal	Various	0	8	0	10	0	10	M&As	various	n.a.
					25		Various	0	15	0	25	0	25	Direct PPPIs	various	n.a.
	CMA CGM Terminal Link	Hybrid operator	Private	France	7	Single terminal	Various	1	4	2	5	2	5	M&As	various	n.a.
					8			1	6	1	7	1	7	Direct PPPIs	various	n.a.
	MSC - TiL	Hybrid operator	Private	Switzerland	9	Single terminal	Various	0	6	0	9	0	9	M&As	various	n.a.
					8			0	7	0	8	0	8	Direct PPPIs	various	n.a.
	COSCO Group CSG	Hybrid operator	SOE	China	8	Single terminal	Various	1	2	6	2	6	2	M&As	various	n.a.
					19			1	5	11	5	14	5	Direct PPPIs	various	n.a.
	PSA International	Pure stevedore	SOE	Singapore	9	Single terminal	Various	0	6	0	7	0	9	M&As	various	n.a.
					20			1	10	1	17	2	18	Direct PPPIs	various	n.a.
	DP World	Pure stevedore	SOE	Dubai Emirate	6	Single terminal	Various	0	6	0	6	0	6	M&As	various	n.a.
					10			1	6	1	8	2	8	Direct PPPIs	various	n.a.

Source: Authors elaboration Dataset 1,2,3 and 4.

Table 22 Multiple-site acquisitions of six selected ITOs, years 2001-2008.

Year	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations	N. Ports	N. Terminals	Entry mode	Share	US\$ billion
2002	PSA International	Pure stevedore	SOE	Singapore	Hesse-Noord Natie NV (HNN)	Pure stevedore	Belgium	1	2	5	Acquisition	80%	0.65
2003	CMACGM	Hybrid operator	Private	France	Egis Ports SA	Pure stevedore	France	1	2	3	Acquisition	40%	n.a.
2005	A.P. Møller - Mærsk A/S	Hybrid operator	Private	Denmark	Royal P&O Nedlloyd (PONL)	Ocean carrier	Belgium	5	5	5	Acquisition	100%	n.a.
2005	PSA International	Pure stevedore	SOE	Singapore	Hong Kong International Terminals	Multiple Terminals	Hong Kong	1	1	5	Acquisition	20%	0.62
2005	DP World	Pure stevedore	SOE	United Arab Emirates	CSX World Terminals LLC	Pure stevedore	U.S.A.	7	8	8	Acquisition	100%	1.142
2006	PSA International	Pure stevedore	SOE	Singapore	HPH	Pure stevedore	Hong Kong	19	33	40	Acquisition	20%	4.4
2006	DP World	Pure stevedore	SOE	United Arab Emirates	The Peninsular and Oriental Steam Navigation Company (P&O Ports)	Pure stevedore	United Kingdom	16	30	34	Acquisition	100%	8.40224

Source: Author's elaboration Dataset 1,2,3 and 4.

The culmination of the vertical integration strategy pursued by ITOs recognizable as ocean carriers has occurred in the early 2000s when three European privately owned shipping companies MSC, A.P. Moller-Maersk and CMA CGM have established their fully owned terminal divisions, respectively, TiL in year 2000, APM Terminals in year 2001 and Terminal Link in year 2001 as well. However, it has to be noted that while TiL and Terminal Link have been financially reporting as separate business entity since their inception, APM Terminal initially was established only as a commercial brand and only since year 2008 it will financially report as separate business entity. As regards the Asian State-owned ocean carrier CSG, in year 2000 it has established its WOS China Shipping Terminal Development.

Over the selected eight years' timeframe the implementation strategy adopted by selected ITOs' in their own internationalization process has been more similar, with the only exception of the case of Chinese hybrid operators COSCO Group and CSG. Indeed, since year 2001 to year 2008 A.P. Moller-Maersk, through APM Terminals division, MSC and TiL as well as PSA International mostly undertook single-site acquisitions and "direct" PPPs in foreign countries rather than in the home-country, with the latter entry mode option largely preferred although it is ever increasing the resort to the former with respect to the previous period of observation. On the other hand, over the selected timeframe COSCO Group and CSG undertook the majority of their investment in the home-country. This is probably due to the fact that two Chinese SOEs have been mainly involved in the corporatization's process of the national (container) port industry which, as above mentioned, has been promoted by the Chinese Government later on and more slowly (i.e., the liberalization has been only partial) with respect to the waves of port reforms taking place worldwide. Indeed, only in year 2004 it has been promulgated the People's Republic of China Port Law allowing and encouraging FDIs in the Chinese (container) port industry.

In light of this fact, it is possible to interpret the strategic behavior, over the selected timeframe, of Chinese ITOs, particularly of selected COSCO Group and CSG, under a further perspective. They have concentrated in the domestic market not only in order to act as vehicles of the corporatization of the national (container) port industry but also, especially since year 2004, in order to cumulatively benefit from inward investments by foreign port operators. Indeed, as pointed out by Wei and Nguyen (2020), although

Chinese service MNEs have either initiated or enhanced their international expansions by aggressively taking over foreign assets they are historically lacking of FSAs especially in international experience, adaptability to and network management of multinational markets (Peng 2012; Rugman et al. 2016).

As regards the entry mode choice, in Period 2 the “direct” PPPI option is still preferred one by all six ITOs selected, in terms of number of deals closed, although the resort to single-site acquisitions results ever increasing.

This trend in the entry mode options is interpretable in light of sound financial resources became available for investments in the container port industry (either infrastructures and superstructures), since investment banks and related financial investors entered (the early 2000s) this market as well as the global maritime logistic industry seeking both new customers to be assisted in the listing process on the equity capital market and investment’s opportunities, at an initial stage with reference to the debt capital market or the bonds’ private placement market. For instance, it is the case of the “red chip” China Merchant Port Holdings (CMPH, formerly known as China Merchant Holding International) listed on the Hong Kong Stock Exchange (about 30% of free float equity) in year 1997.

In such a context, the availability of new sound financial resources (both in the form of debt and equity) seeking for secure and high return from the global container port industry has made it ever more fashionable the resort the multiple-site acquisitions (either in the form of i) the simultaneous acquisition of diverse selected terminals’ facilities, ii) the takeover of the whole corporation and iii) the acquisition of a significative minority interest). Indeed, in mid-2000s it has been registered a peak in the adoption of this aggressive entry mode option: since year 2002 to year 2007 it is possible to account for a number of 27 multiple-site transaction’s occurred in the container port industry (a total invested amount higher than 24 billion of US\$), whereof 13 transactions involving as buyer a firm not being a financial investor (either it is a pure stevedore, a hybrid operator, an ocean carrier or more generally a logistic operator) for an total invested amount of about 17.8 billion of US\$. PSA International, DP World, A.P. Moller – Maersk and CMA CGM have been among protagonists of this trend. PSA International has boosted the growth of its overseas terminal operations by undertaking three multiple-site acquisitions over the selected timeframe: in year 2002 it acquired a majority stake (80%) of the pure

stevedore Hesse-Noord Natie NV (HNN), headquartered in The Netherlands, and thus entering in a number of 5 container terminals across the Antwerp and the Zeebrugge Ports; in year 2006 it acquired a minority stake (20%) in Hong Kong International Terminals (n. 5 container terminals' facilities) and a year later it closed the historical Network acquisition of a minority stake in the pure stevedore HPH, thus obtaining an indirect equity participation in a network comprising, at that time, a number of about 40 terminals across 19 countries. At the same time, DP World in year 2005 acquired the full ownership of the pure stevedore CSX World Terminals LLC, headquartered in the U.S.A., disposing, at that time, of a number of 8 terminals across 7 countries and in year 2006 it closed one of most debated acquisition in the history of the global maritime logistic industry, the one of P&O Ports, headquartered in the United Kingdom, disposing, at that time, of a number of about 34 terminal facilities across 16 countries. While PSA International ranked first, over the selected timeframe, as regards either the number of countries and of terminal facilities entered, DP World ranked first in terms of total transactions' value (about 9.5 billion of US\$). Furthermore, also A.P. Moller-Maersk and CMA CGM resorted to multiple-site acquisitions, although according to different objectives: in year 2003 the French hybrid operator, in order to consolidate its presence in the home-market, acquired a significative minority stake (40%) in Egis Ports disposing at that time of 3 terminal facilities in France, while, in year 2005, the Danish hybrid operator acquired the full ownership of the ocean carrier Royal P&O Nedlloyd (PONL) (disposing at that time of a number of 5 terminal facilities across 5 countries) in order to boost the growth of its overseas terminal operations.

In synthesis, over Period 2 almost all selected ITOs have picked-up the emerging trend of multiple-site acquisitions, with the only exceptions of Chinese SOEs COSCO Group and CSG pursuing, as above mentioned, other strategic objectives and of MSC – TiL Group showing an investment's attitude more oriented to single-site acquisitions and to "organic" growth (i.e., "direct" PPPIs in the form of concessions, lease, etc.).

VI.4.3 Period 3 – “The financial crisis”.

Table 23 Single-site acquisitions and “direct” PPPIs of six selected ITOs, years 2009-2011.

Year	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations		N. Ports		N. Terminals		Entry mode	Share	US\$ billion										
								Home	Foreign	Home	Foreign	Home	Foreign													
2009 - 2011	A.P. Møller - Mærsk A/S APM Terminals	Ocean carrier	Private	Denmark	3	Single terminal	Various	0	2	0	2	0	3	M&As	various	n.a.										
					13												Various	0	8	0	11	0	13	Direct PPPIs	various	n.a.
					0																					
	5	Single terminal	Various	0	5	0	5	0	5	Direct PPPIs	various	n.a.														
	8												Single terminal	Various	0	7	0	8	0	8	Direct PPPIs	various	n.a.			
	2	Single terminal	Various	0	1	0	2	0	2	M&As	various	n.a.														
	2												Single terminal	Various	1	1	1	1	1	2	various	n.a.				
	12	Single terminal	Various	1	2	9	2	10	2	Direct PPPIs	various	n.a.														
	4												Single terminal	Various	0	3	0	4	0	4	M&As	various	n.a.			
	13	Single terminal	Various	1	10	1	11	1	12	Direct PPPIs	various	n.a.														
	2												Single terminal	Various	0	1	0	2	0	2	Direct PPPIs	various	n.a.			
	8	Single terminal	Various	0	7	0	8	0	8	M&As	various	n.a.														

Source: Author’s elaboration Dataset 1,2,3 and 4.

The sharp blast of the financial crisis in year 2008 can be considered an external shock-events to the global container port industry as well as to the global maritime logistic industry. Whether since year 1980 until year 2007 the global container port industry (i.e., total TEUs handled in ports) grown according to a double digit CAGR, of about +10%, the industry halved its pace of growth in year 2008 (+5.38%) and it had a sharp decrease in year 2009 (-8.5%). Although the total TEUs handled in ports worldwide fast recovered in years 2010 (+14.7% with respect to previous year) since that time the global container port industry has started to grow according a single-digit annual growth rate.

Over the selected timeframe, ITOs which cumulated over time a high debt exposure in order to undertake large and capital intensive port development projects and/or numerous high-priced acquisitions were obliged to re-negotiate their debt exposure, often in the form of convertible bonds, or to dispose of some facilities comprising their portfolio or also to accept new equity partners (i.e., minority shareholders, either they are strategic or financial ones, providing new equity). It is the case of the Spanish pure stevedore Dragados which in year 2010 sold its Spanish assets to a consortium composed of the investment bank JP Morgan and the Dutch Stichting Pensioenfond ABP; it is the case of Babcock & Brown Infrastructure Group (BBI) which as first in year 2009 accepted two Infrastructure PE funds as new equity partners in its subsidiary Euroports and contemporary accepted Brookfield Corporation as its own minority shareholder (40% stake) as part of an about US\$ 1.8 billion debt's re-capitalization deal. A year later, BBI was fully acquired by Brookfield Corporation and re-branded Prime Infrastructure.

In such a context, one of six selected ITOs, the French CMA CGM Group had to undergo a serious debt restructuring process culminating, nevertheless, in year 2010 in what Hensmans, Johnson and Yip (2013) call "happy accidents³⁶": the entrance of the Turkish Yildirim Group, with a minority stake of 20% (for an investment of 0.5 billion of US\$), in the capital of CMA CGM. What has born as a pure financial operation (subscription of bonds reimbursable into shares) through a debt restructuring process it has revealed over time as a strategic and still-standing to date equity partnership among ITOs (Yildirim Group will obtain the status of GTO/ITO according to Drewry Shipping Consultant in year 2014), forebear of the strengthening and the widening of Network

³⁶ Unexpected situations or events that lead to transformation are known as happy accidents (Johnson, Yip, & Hensmans, 2012).

relationships among ITOs (see the next paragraph and RO.3). As regards the implementation strategy of the internationalization process, in Period 3 CMA CGM undertook a number of 5 “direct” PPPIs in as many foreign countries and no single or multiple-site acquisitions.

A.P. Moller-Maersk – APM Terminals, COSCO Group, CSG, PSA International and DP World followed a similar international expansion over the selected timeframe: they all largely favored “direct” PPPIs’ entry mode option, in terms of number of transactions closed, rather than single or multiple-site acquisitions. Two Chinese SOEs, also in Period 3, distinguished themselves from other selected ITOs for the prevalence of investment in container terminal facilities located in the home-country. By converse, in Period 3 Moller-Maersk – APM Terminals and DP World made no investments, neither single or multiple-site acquisition nor “direct” PPPIs, in their home-country, while PSA International made one only investment in its home-country by signing in year 2009 a JV with the Singaporean Pacific International Lines in order to manage the PIL-PSA Singapore Terminal.

The implementation strategy of the internationalization process adopted by MSC - TiL assumes a net direction in Period 3 with respect to previous years (which will be forebear of future development of the Group): MSC - TiL is the sole among ITOs selected to largely preferer, over the selected timeframe, the single-acquisition entry’s mode’ option than the “direct” PPPIs (for a number of, respectively, 8 versus 2 transactions).

In synthesis, in Period 3 the implementation strategy of the internationalization process adopted by the selected ITOs was similar notwithstanding their business model of origin or the economic cluster of belonging. In Period 3, most significant differences in selected ITOs’ strategic behavior (i.e., the home-country orientation of COSCO Group and CSG and the bucking preference of MSC -TiL for single-site acquisition rather than for “direct” PPPIs) seems to rely more on the nature of the former (i.e., being Chinese SOEs) and on the entrepreneurial orientation³⁷ (Purkayastha and Gupta, 2022) of latter’s founding Family (Aponte Family). Thus, over the selected timeframe it appears to be relevant in affecting the implementation strategy of ITOs’ internationalization process the

³⁷ Entrepreneurial orientation is intended as a gestalt construct comprising of innovativeness, proactiveness and risk-taking (Covin and Slevin, 1989; Miller, 1983).

identity and further related peculiarities of their “ultimate” ownership (i.e., their shareholding and governance structure).

VI.4.4 Period 4 – “A (first) maturity phase of the industry?”

Table 24 Single-site acquisitions and “direct” PPPIs of six selected ITOs, years 2012-2019.

Year	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations		N. Ports		N. Terminals		Entry mode	Share	US\$ billion
								Home	Foreign	Home	Foreign	Home	Foreign			
2012 - 2019	A.P. Møller - Mærsk A/S APM Terminals	Ocean carrier	Private	Denmark	4	Single terminal	Various	1	3	1	3	1	3	M&As	various	n.a.
					8											
	CMA CGM Terminal Link CMAT	Ocean carrier	Private	France	5	Single terminal	Various	1	4	1	05	1	4	M&As	various	n.a.
					3											
	MSC – TiL	Ocean carrier	Private	Switzerland	4	Single terminal	Various	0	3	0	4	0	4	M&As	various	n.a.
					2											
	China COSCO SHIPPING	Hybrid operator	SOE	China	12	Single terminal	Various	1	8	3	8	3	9	M&As	various	n.a.
					1											
	PSA International	Pure stevedore	SOE	Singapore	7	Single terminal	Various	0	6	0	7	0	7	M&As	various	n.a.
					4											
	DP World	Pure stevedore	SOE	Dubai Emirate	7	Single terminal	Various	0	6	0	7	0	7	M&As	various	n.a.
					4											

Source: Author’s elaboration Dataset 1,2,3 and 4.

Table 25 Multiple-site acquisitions of six selected ITOs, years 2012-2019.

Year	Buyer	Buyer_ Typology	Buyer_ Category	Buyer_ Headquarter	Target	Target_ Typology	Target_ Headquarter	N. Nations	N. Ports	N. Terminals	Entry mode	Share	US\$ billion
2012	APM Terminals	Pure stevedore	Private	Denmark	Global Ports Investments (GPI)	Pure stevedore	Russia	2	4	6	M&A	37,5%	0.952
2012	TiL	Pure stevedore	Private	Switzerland	Total terminals international (TTI)	Multiple Terminals	U.S.A.	1	3	3	M&A	26%	n.a.
2016	APM Terminals	Hybrid operator	Private	Denmark	Grup Maritim TCB	Multiple Terminals	Spain	4	6	6	M&A	100%	1
2016	CMA CGM	Hybrid operator	Private	France	APL Terminals	Ocean carrier	U.S.A.	8	8	8	M&A	n.a.	n.a.
2016	COSCO Group	Hybrid operator	SOE	China	CSG	Hybrid operator	China	11	33	46	M&A	100%	8.7
2017	TiL	Pure stevedore	Private	Switzerland	Total terminals international (TTI)	Multiple Terminals	U.S.A.	1	2	2	M&A	54%	0.078
2017	COSCO SHIPPING Ports Development	Hybrid operator	SOE	Hong Kong	Noatum Port Holdings	Multiple Terminals	Spain	1	2	2	M&A	51%	0.2279
2017	CHINA COSCO SHIPPING	Hybrid operator	SOE	China	SIPG	Pure stevedore	China	2	7	16	M&A	15%	2.8
2018	CMA-CGM	Hybrid operator	Private	France	Containerships, Container-Depot, Multi-Link Terminals	Hybrid operator, Pure stevedores	Finland	3	3	3	M&A	100,0%	n.a.
2018	CHINA COSCO SHIPPING	Hybrid operator	SOE	China	OOIL (and OOCL)	Ocean carrier	Taiwan	3	4	4	M&A	88.5%	9.4

<i>Year</i>	<i>Buyer</i>	<i>Buyer_ Typology</i>	<i>Buyer_ Category</i>	<i>Buyer_ Headquarter</i>	<i>Target</i>	<i>Target_ Typology</i>	<i>Target_ Headquarter</i>	<i>N. Nations</i>	<i>N. Ports</i>	<i>N. Terminals</i>	<i>Entry mode</i>	<i>Share</i>	<i>US\$ billion</i>
2019	TiL	Pure stevedore	Private	Switzerland	SSA Terminals	Pure stevedore	U.S.A.	1	1	2	M&A	25%	n.a.
2019	DP World	Pure stevedore	SOE	Dubai Emirate	DP World Australia	Multiple Terminals	Australia	1	4	4	M&A	35%	0.987361
2020	DP World	Pure stevedore	SOE	Dubai Emirate	Puertos y Logistica	Pure stevedore	Chile	1	2	2	M&A	99.2%	0.80796
2020	Terminal Link	Pure stevedore	Private	France	various Terminals	Multiple Terminals	France	9	10	10	M&A	various	0.968
2020	A.P. Moller Capital	Investments company	Private	Denmark	ARISE Ports & Logistics	Pure stevedore	India	2	3	3	M&A	43%	0.3

Source: Author's elaboration Dataset 1,2,3 and 4.

Since year 2011 to year 2019 the global container port industry grown according to a CAGR of +4.15%. With respect to the double-digits CAGR of about +9.6% and +11%, respectively, over the years 1980-200 and years 2000-2008, in Period 4 the global container port industry seems to be entered in a (first) maturity phase of its life cycle.

Over the selected timeframe, the strategic behavior of A.P. Moller-Maersk – APM Terminals is coherent with the implementation strategy of the internationalization process adopted by the Danish hybrid operator over the previous decades: the preferred entry mode option is the “direct” PPPs (in the forms of concessions, leases, etc.) and the large majority of its investments is in foreign countries, accounting for a total number of 8 “direct” PPPs and 3 single-site acquisition in foreign countries and one only acquisition in Denmark.

The French hybrid operator CMA CGM, following the investment approach adopted over the previous decade, made a more balanced choice among single-site and “direct” PPPs, for a total number of 4 single-site acquisitions, whereof one in the home-country and 3 “direct” PPPs in foreign markets. However what characterizes the strategic behavior of the French hybrid operator in Period 4 is the undertaking of two broader strategic initiatives (i.e., not at terminal’s or firm’s level): i) in year 2012 it established its second fully owned subsidiary dedicated to international container terminal operations, CMA Terminals, and a year later it signed a strategic equity partnership with China Merchant Porto Holding by accepting the entrance of the Chinese “red chip”, with a significant minority stake of 49% (for 0.53 billion of US\$), in the shareholding structure of Terminal Link.

A similar initiative was contemporary taken also by the Swiss MSC -TiL Group which, in year 2013, signed a strategic equity partnership with the U.S.A.-based Global Infrastructure Partners, by accepting the entrance of the Infrastructure PE fund, with a significant minority stake of 35% (for about 1.93 billion of US\$) in the equity of TiL. Global Infrastructure Partners entered the global container port industry in year 2007 by acquiring the strategic port investment platform International Port Holdings (IPH) This was an unexpected move by the Aponte Family whose investment management style has always been marked by a “jealous” protection of its Group’s “jewels”.

The move can be interpreted either in two directions. As first, the decision of selling a significant minority stake in its subsidiary dedicated to the capital intensive

(container) terminal operations can be a consequence of having passed through financially tumultuous years due to the sharp blast of the financial crisis in year 2008, pointing in the same direction of the aforementioned French hybrid operator's moves (i.e., the acceptance of new minority shareholders both in CMA CGM and in Terminal Link, respectively, the Yildirim Group and China Merchant Port Holdings).

However, going beyond the financial rationale of such agreements and abstracting by the contingency of the financial crisis of years 2008-2011, the move of Aponte Family as well as the similar choices made by CMA CGM Group can be interpreted as the initial phase of a significative shift in the corporate strategic behavior of ITOs starting to experiment at a higher level of the corporate hierarchy (i.e., the group's one) Parola, Satta and Caschili (2014) found to be occurred at terminal level over the past decade³⁸: the shift from a fierce competition to a "co-opetition" perspective by signing strategic equity partnership with other ITOs or strategic investors at the mixed holding or "ultimate" ownership level.

As regards the entry mode options the MSC – TiL Group over the selected timeframe opted for a number of two single-site acquisitions in foreign countries.

With reference to the implementation strategy of the internationalization process adopted by selected Asian State-owned ITOs, it has to be noted as all of three in Period 4 shown an inversion of the preferences in entry mode options with respect to the previous decade: they all majorly resorted to single-site acquisitions rather than "direct" PPPIs (for a total number of 12 single-site acquisition and 1 "direct" PPPIs for China COSCO SHIPPING Corporation, of 7 single-site and 4 "direct" PPPIs both for PSA International and DP World). Furthermore, the merged entity CHINA COSCO SHIPPING investments commitment, contrary to the tendency of its two ancestors, was largely dedicated to foreign countries (for a total number of 10 FDIs and 3 single-site acquisitions in the home-country). This newly adopted investment approach by China COSCO SHIPPING Corporation can be explained in light of the rationale of the merge occurred in year 2016.

³⁸ The forerunner of this new co-petitive paradigm was the equity partnerships signed in year 2006 by PSA International and HPH. Indeed, the magnitude of the deal, either in terms total transaction's value and of number of countries and terminals' facilities involved, as well as the strong and top tier competitive positioning of both buyer and the target company, although taking into consideration the "outstanding growth and high perspectives" industry-specific context in which it took place, needed for a wider justification beyond the financial rationale of the transaction.

Although it responds to different motivations, heavily relying on the particular nature of involved ITOs' shareholding and governance structures (i.e., being SOEs) and on their home-country-specific peculiarities (in year 2013 President Xi launched the proposition of the BRI), under the same perspective of a shift in the strategic behavior of ITOs more oriented to "co-opetition" rather than to fierce competition, can be also interpreted the merge between COSCO Group and CSG. On one hand, the merge surely responds to the objective of establishing a more cost-efficient organization of two State-owned hybrid operators: although the (vertical) integration of information management and operational "know-how" pursued by two SOEs helps to lower their own transaction's costs due to the asymmetry of information and lack of transparency characterizing the maritime supply chain, the merge of two entities allows to eliminate, or at least greatly reduce, redundancy's costs arising when separate companies own two or more same segments of the maritime supply chain (Buzzell, 1983). Furthermore, logistics mergers may also reduce the double-marginalization's problem, which describes a situation where every firm in the maritime supply chain wants to maximize its profits (Pilsbury, Meaney, & Muller, 2010). However, the merge between COSCO Group and CSG, giving the birth to China COSCO SHIPPING Corporation, can be interpreted also as a strategic move towards the formalization and the strengthening of strategic equity partnership among Chinese State-owned ITOS and, thus, toward the formation of a wider network of ITOs gravitating around them.

In this vein, Huang J. (2020) points out how after the official proposition of the BRI in year 2013 COSCO Group and CSG separately and China COSCO SHIPPING Corporation since year 2016 have shown either a significative increase in the e number of FDIs in the global (container) port industry as well as a significative shift in the preferred entry mode options: before year 2016 Chinese overseas investment in ports were dominated by equity JV but after, with the only exception of COSCO Xingang Terminal and Vado Ligure APM Terminal in Italy, all FDIs have been made through WOS or by acquiring majority stakes. Furthermore, as noticed by Huang J. (2020), previously COSCO Group's and CSG's FDIs in the global (container) port industry were mainly in the form of "direct" PPPIs or single-site acquisitions, while after year 2016 the implementation strategy of internationalization process adopted the Chinese State-owned hybrid operator mainly has resorted to multiple-site acquisitions, particularly in the form

of takeovers of the whole corporation or of the acquisition of a (significant) minority interest.

However, what Huang (2020) points out as a newly adopted entry mode option by China COSCO SHIPPING since year 2016 it is, indeed, a trend common to almost all six selected ITOs as well as to the overall global maritime and port industry which, in Period 4, experienced a second wave of multiple-site acquisitions after the first above mentioned one in Period 2 (whose peculiarities will be investigated more in a detailed manner in the next paragraph and in RO.3).

Indeed, A.P. Moller -Maersk – TiL in year 2012 acquired a minority stake (37.5%) in the Russian pure stevedore Global Ports Investments (for about 0.95 billion of US\$) and in year 2016 it took over the Spanish pure stevedore Grup Maritim TCB (for 1 billion of US\$). The Danish hybrid operator has been able to undertake such ambitious multiple-site acquisitions by leveraging on sound financial resources available after the disposal of its energy subsidiary Maersk Oil to Total (for over 7.5 billion of US\$) of Maersk drilling, tankers and supply service. These divestments in the energy sector freed up the necessary funds to invest in transport and logistics.

In year 2016 CMA CGM acquired the full ownership of the hybrid operator American President Lines (APL) and, thus, also its container terminals portfolio; in year 2018 the French hybrid operator took over the Finnish carrier Containerships, leader in intra-regional in Northern Europe and its sister companies involved in container terminal operations, Multi-Link Terminals Ltd and Container-Depot Holding. Furthermore, in year 2020, in the midst of the COVID-19 pandemic CMA CGM proceeded with the delivery of its US\$ 2.1 billion liquidity plan and strengthened its balance sheet by selling its stakes in ten terminals to its POS Terminal Link, jointly owned with CMPH. In doing so, CMA CGM raised about 1 billion of US\$ and, thus, support the takeover of CEVA Logistics

MSC – TiL through two distinct transactions (the first in year 2012 and the second one in year 2017) acquired the full ownership of Total Terminals International (TTI) (U.S.A). In addition, in year the Swiss hybrid operator acquired a minority stake (25%) in SSA Terminals.

DP World, through the adoption of multiple-site acquisitions, in year 2019 consolidated its presence both in the South American and Australian (container) port industry: it acquired an additional stake 35% in DP World Australia (increasing its stake

to 60%). and took over the Chilean pure stevedore Puertos y Logística S.A. re-branding it DP World Chile.

In such a context, PSA International is the only of six selected ITOs not adopting the multiple-site acquisition entry mode option in Period 4, while China COSCO SHIPPING Corporation went through the aforementioned strategic objective of forming a wider network of ITOs through the acquisition both of the whole corporation and of (significant) minority or majority interests.

Indeed, in year 2017 the Chinese State-owned hybrid operator acquired a majority stake (51%) in the Spanish pure stevedore Noatum Ports (for about 0.23 billion of US\$); in year 2018 it acquired a minority participation (16%) in the Chinese State-owned ITO SIPG (for about 2.8 billion of US\$), yet participated (26.5%) since year 2005 by the other Chinese State-owned ITO CMPH; and in year 2019 China COSCO SHIPPING Corporation took over in partnership with SIPG itself (respectively, a 90% and a 10% equity stake) the ITO recognizable as ocean carrier Orient Overseas International Line (OOIL) and its container terminal division OOCL.

In synthesis, in Period 4 beside the usual “alternate” trend in entry ‘mode’s options adopted by six selected ITOs, it emerges a second wave of multiple-site acquisitions particularly in the form of the takeover of the whole corporation and of the acquisition of a (significant) minority interest. Such a trend is widespread among all selected ITOs, although with some peculiarities depending on the case-by case triggering factors, in turn, mostly relying on the ITOs’ shareholding and governance structure: the entrepreneurial orientation of Aponte Family for MSC – TiL Group, the occurring of some “happy accidents” both for CMA CGM and A.P. Moller-Maersk groups and the proposition of the BRI for Chinese State-owned ITOs.

VI.4.5 Synthesis

RO.2 illustrates as over the last four decades the implementation strategy of the internationalization process adopted by six selected ITOs is characteristic (and at certain point forerunner) of the overall (container) port industry’s trends in foreign markets entry mode choices. For instance, over the last two decades, “direct” PPPIs have been preferred in order to implement port greenfield projects, especially in developing countries, while the M&A activity has ever included mainly existing and operating terminal facilities in

the developed markets (due to the scarcity of land and spaces available for new terminals development in these countries “direct” PPPs recently signed consist ever more of renewal or re-negotiations of older ones).

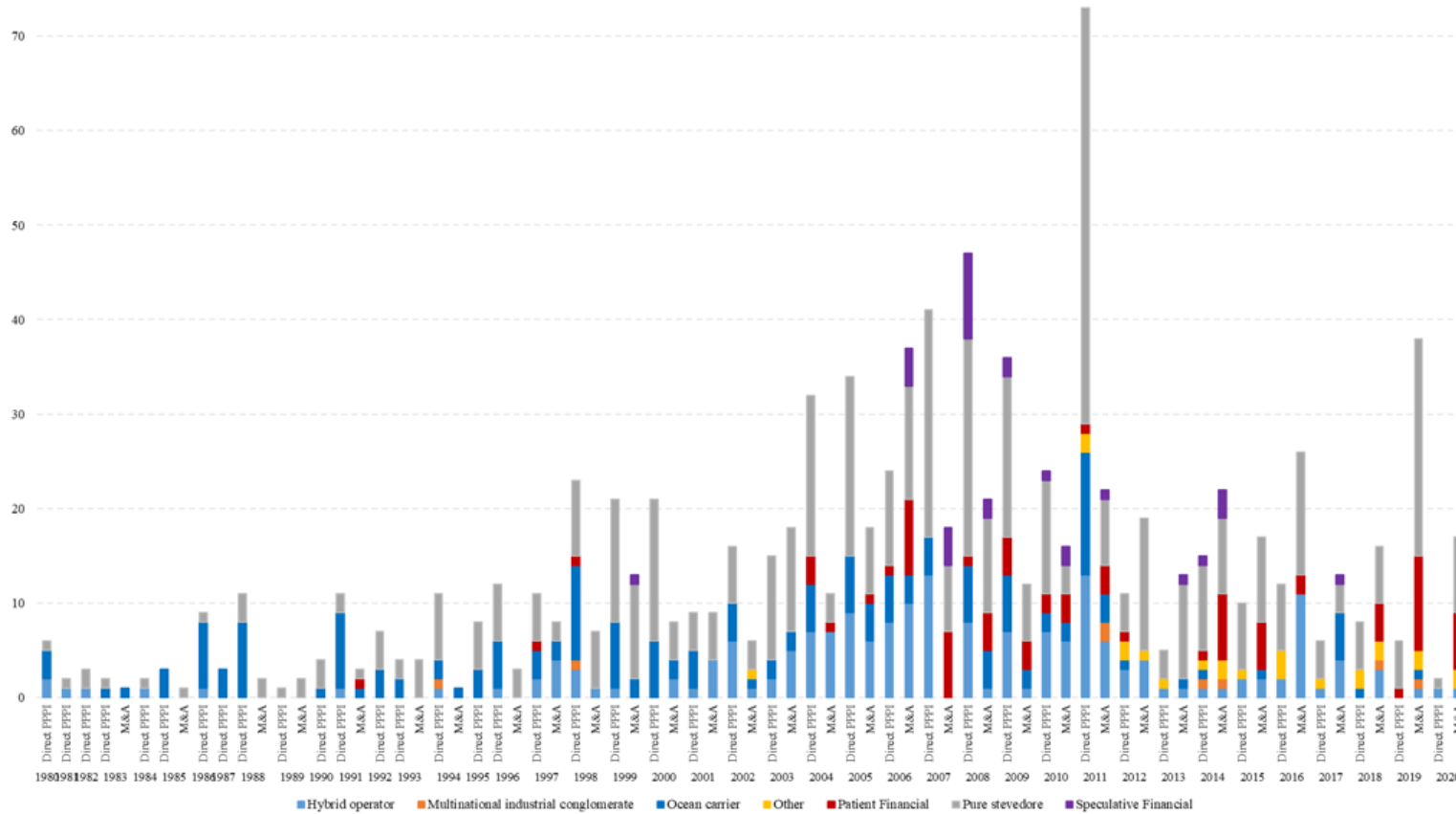
Furthermore, RO.2 shows that the ITOs’ business model of origin does affect only the temporal dimension (i.e., “when” to enter a new foreign market) of the implementation strategy of their internationalization process (i.e., ocean carriers and hybrid operators have started it in advance), while it results more crucial in the interaction between the internationalization process and both the vertical integration and the geographic diversification strategies (confirming hypothesis and results of RO.1). Ocean carriers and hybrid operators appears pursuing a multi-regional geographic diversification strategy combined with the development through the M&As activity of “end-to-end” logistic solutions; pure stevedores, instead, results pursuing a truly global presence strategy combined with the development of VAS and inland logistics services.

However, RO.2, in line with the theoretical construct of this contribution, detects that over the last four decades, and especially across the critical junctures of such an observation period (for instance, the several waves of port reforms, the sharp blast of the financial crisis in year 2008), it is the shareholding and governance structure of ITOs (i.e., the nature and the entrepreneurial orientation of their “ultimate” ownership) to mostly influence the implementation strategy of their internationalization process. For instance, private ITOs whose “ultimate” ownership is traceable back to individual or single families have developed corporate specific strategic behavior starting from single “happy accidents” over time, while State-owned ITOs have been pioneer or late-comers in the internationalization process of the global container port industry depending on some key-factors specific of their home-country (e.g., the starting time of port liberalization processes and the shadow of openness to FDI of the national (container) port industry, see Panayides, Parola and Lam, 2015).

Furthermore, the geographic scope (whether regionalization versus “semi-globalization” versus global strategy) pursued as well as the choice between JV or WOS faced in the implementation strategy of State-owned ITOs’ internationalization process results to be affected by the institutional settings and the geopolitical orientation of the home-country.

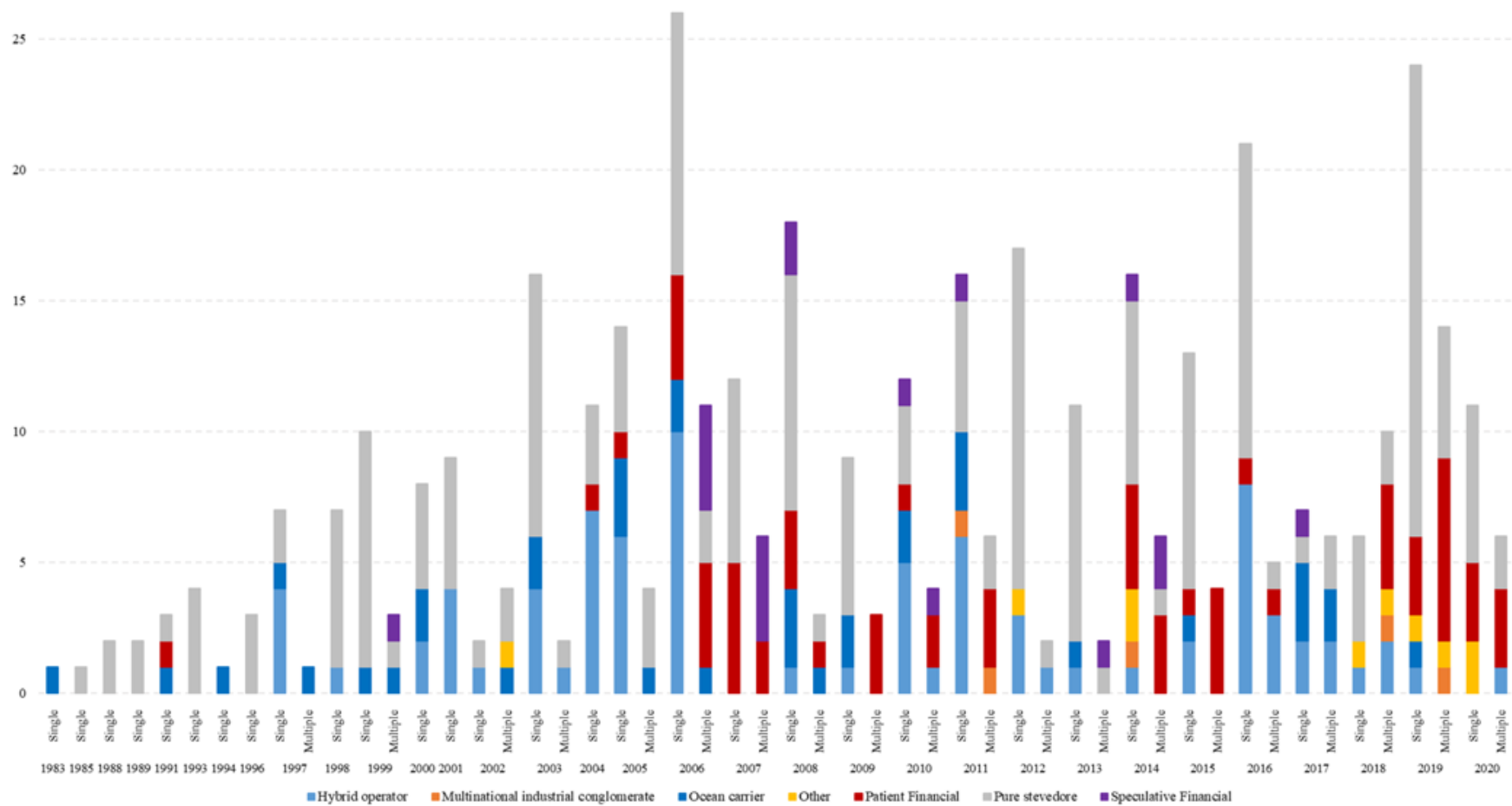
VI.5 Research Objective 2. Descriptive statistics

Figure 39 Number of M&As and “Direct” PPPIs deals breakdown by typology of operator/investor, years 1980-2020.



Source: Author's elaboration on Datasets 3 and 4.

Figure 40 Number of single and multiple-site M&As deals breakdown by typology of operator/investor, years 1980-2020.



Source: Author's elaboration on Dataset 3.

The entry mode option of multiple-site acquisition (either) results to be adopted only by ITOs since regional or local operators, not having a sufficient scale in order to implement such a capital intensive strategy, mostly recur to single-site acquisitions or “direct” PPPs.

Financial investors, as previously mentioned, massively enter the container port industry in the early 2000s and while they are among protagonist of the global container port industry M&A activity, either of the first peak in the mid-2000s as well as in the second wave since year 2011 to year 2019, they do not participate in “direct” PPPs.

Dedicated infrastructure investments funds were first set up in the mid-1990s in Australia and pension funds were early investors in them. Some large Canadian pension plans also pioneered in the field. In the 2000s, the availability of cheap debt fueled the increase in fund-raising for mainly unlisted infrastructure funds in other regions such as Europe and North America, opening up new opportunities of investment for pension funds (OECD, 2011).

However, as previously mentioned in Chapter III, across the first wave and the second wave of M&A activity it has taken place a “substitution” in the typology of financial operators investing in the global container industry.

Since year 2011 it has been accounted an ever increasing presence of “patient” financial investors (e.g., public and private pension funds and infrastructure-assets specialized investment companies) instead of “speculative” financial investors (e.g., investment banks and “generalist” PE funds). Such a substitution in the typology of financial investors has led a change also in the adopted investment approach to the industry, more oriented to establishing long-term (growth) relationships with target companies and greater involvement in “direct” PPPs.

In principle, the long-term investment horizon of pension funds and other institutional investors should make them natural investors in less liquid, long-term assets such as port infrastructure, often included in the alternative investments part of the portfolios.

However, there are limited data on pension fund investment in (port) infrastructure. National statistical agencies do not currently collect separate data on these investments, and the different modes available to investors to gain exposure to infrastructure means that information is buried under different headings (OECD, 2012).

In addition, until year 2011 the commitment of financial investors to the global container port industry was rather balanced, either in terms of number of transactions closed and of single versus multiple-site acquisitions, while over the last decade financial investors (particularly patient ones) mostly recurred to multiple-site acquisitions.

Whereas it was made a higher disclosure of financial details of the M&A activity occurring in the global container port industry since the early 2000s, it would be interesting also to investigate whether the substitution in the typology of financial investors has been concomitant with a lowering of market multiples evaluations associated to closed transactions.

This hypothesis does not simply rely on the assumption that the investment appetite of “patient” financials require for lower returns on investments in comparison to the one of “speculative” ones; rather it relies on the fact that over the same timeframe (since year 2011 to year 2019) another significant shift occurred, as above mentioned in the illustration of the multiple-cases analysis: ITOs started to assume a behavior less competitive and more “co-opetitive” in the global playfield by starting to sign strategic equity partnerships one with each other, at the at the highest level of their corporate hierarchy.

Such two concomitant shifts in the behavior of both strategic operators of and investors in the global container port industry suggest that the key-driver of these significant changes could be the same: an overall diminishing profitability of the global container port industry over the last decade (although its operative efficiency and marginality remained high) due to the concurrency of:

- i. the slowed pace of growth of the industry (since year 2011 to year 2019 total TEUs handled worldwide grown according to a CAGR of about 4.15% with respect to the +9.59% between years 1980 – 2000 and to the +10.95% over the period 2000-2008);
- ii. and, on the other hand, of the ever increasing OPEX and especially CAPEX requested in ports (infrastructures and superstructures investments) by continuing technologies advances at sea (i.e., ever increasing vessels’ upsizing).

A third hint pointing in this direction is the progressive increasing, over the last two decade, resort to single and multiple-site acquisitions in the global container port industry, despite its aforementioned slowed pace, not only by SOEs, which are assumed both to

respond to strategic objectives going beyond the financial return on investment and to better manage, with respect to private ITOs, politics and institutional risks in foreign venture, but also by State-holding companies and SWFs which area assumed to evaluate infrastructure investments not only on the basis of their financial performance but also on the “ real option” value they provide.

Under this perspective, the Contribution, through RO.3, investigates the ever significant role played by SOEs, SWFs as well as by patient financials in the formation, the strengthening and the widening of network relationships among ITOs through the signing of strategic equity partn.

Table 26 Number of multiple-site M&As transactions, by business model of origin and category of investors/operators, years 1997-2020.

<i>Operators / Investors</i>	1997	1999	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Hybrid operator				1						1		1				3	2	2		1	11
Private				1						1		1				2		1		1	7
SOE																1	2	1			4
Logistic operator			1															1	1		3
n.a.																		1			1
Private			1																	1	2
Multinational industrial conglomerate.											1							1	1		3
Private											1							1			2
SOE																				1	1
Ocean carrier	1	1	1		1	1		1										2			8
Private	1	1	1		1	1		1										2			8
Patient Financial						3	2	1	3	2	3			3	3	1		4	5	2	32
Private						3	1	1	3	2	3			3	1			3	2	2	24
Public							1								2	1		1	3		8
Pure stevedore		1	2	1	3	2		1			2	1	1	1	2	1	2	3	6	2	31
Private		1	1	1				1			2	1		1	1	1	2	1	4	1	18
SOE			1		3	2							1		1			2	2	1	13
Speculative Financial		1				4	4			1			1	2							13
Private		1				4	4			1			1	2							13
State-holding SWF						1									1				1	1	4
Total	n.a	3	4	2	4	11	6	3	3	4	6	2	2	6	6	5	6	11	15	6	106

Source: Author's elaboration.

VI.6 Research Objective 3. Empirical evidence.

Since year 2011 a new strategic orientation has been ever adopted by ITOs, the “co-competition” with selected partners through the signature of equity partnerships at the highest level of the corporate hierarchy, the “mixed holding” or the group one.

The signature of equity partnerships one with each other has been at first, over the previous decade, adopted by ITOs, as pointed out by Parola, Satta and Caschili (2014), at terminal or firm level in order to enter new foreign markets and develop new (container) terminals’ projects. Between year 2002 and year 2010, the number of equity JV container facilities, involving at least one ITO, experienced a CAGR of about +9.74%: going from a number of 135 in year 2002 to a number of 284 in year 2010 and, in the same period, the container throughput generated by equity JV terminals (involving at least one ITO) rose from representing the 51.7% of the ITOs’ global throughput to the 70.56% (Parola, Satta and Caschili, 2014).

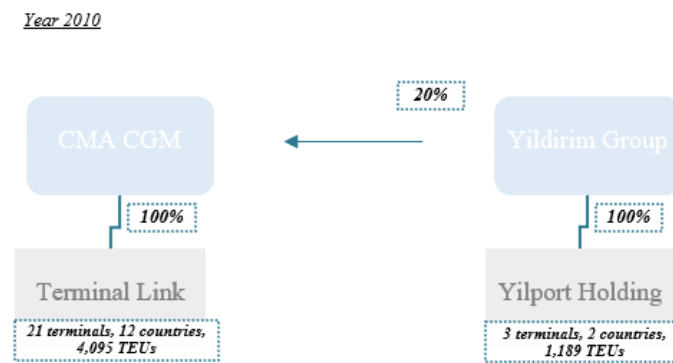
These co-operation agreements have been including include both traditional equity JVs (i.e. a separate jointly owned firm created by two or more parties which assign their own resources to the new entity) in front of licensing new (container) terminal facilities and direct minority equity investments in single-terminal operating companies, which take shape when one or more parties (i.e., ITOs) acquire a minority equity stake in a target firm (Pisano 1989).

However, as described in Chapter V.4, since year 2011 this form of co-operation among ITOs (i.e., the signature of equity partnerships) has soared to a higher level of the corporate hierarchy. See, for instance, in year 2010 the aforementioned acquisition of a minority equity stake (20%) in CMA CGM by the Turkish Yildirim Group as well as in year 2013 both the acquisition of a significative minority equity stake (49%) in Terminal Link by the State-owned China Merchant Port Holdings and the acquisition of a minority equity stake (35%) in TiL by the infrastructure-specialized PE fund Global Infrastructure Partners.

These three transactions are illustrative cases of a strategic behavior which has been ever adopted by ITOs over the last decade: the signature of equity partnerships one with each other by the acquisition of (either minority or majority) stake in the equity of the “mixed-holding” or of the “ultimate” corporate parent of an ITO.

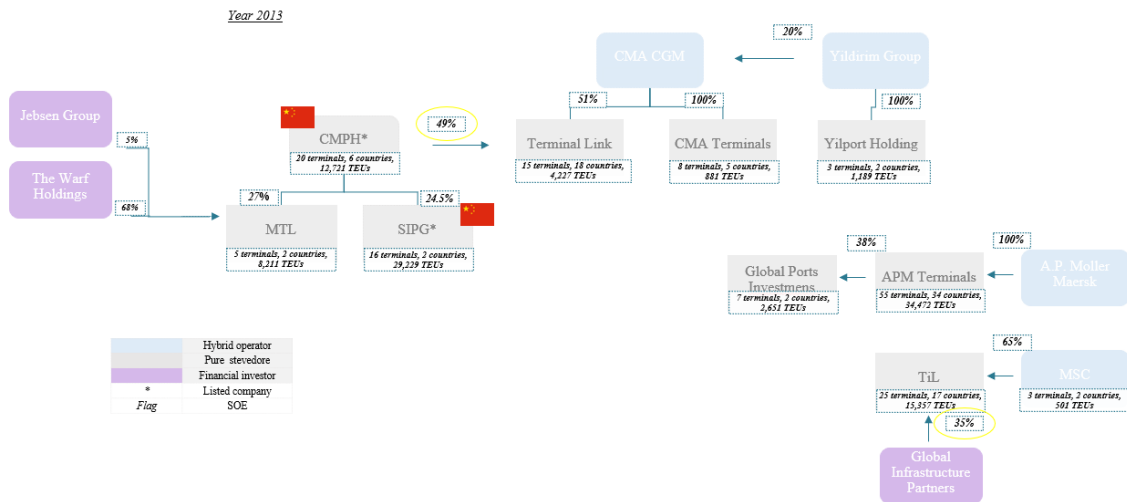
Although, as described in Chapter VI.4, the signature of such strategic equity partnerships among ITOs may arise from case-specific situations, they all take the form of “network” acquisitions: they both give the chance to the buyer firm to directly or indirectly enter the target’s network of container terminal facilities as well as allow the formation of a wider network of container terminal facilities, comprising the portfolios of both the parties involved in the transaction, to be managed under a “co-opetitive” perspective rather than under fierce competition. The aforementioned acquisition of an equity stake in CMA CGM by the Yildirim Group in year 2010 allowed the Turkish hybrid operator to indirectly enter a number of (at that time) of 21 container terminal facilities across a number of 12 countries; in year 2013, the entrance of the “red-chip” CMPH in the equity of Terminal Link allowed the Chinese ITO to directly enter a network comprising of a number of (at that time) 15 container terminal facilities across a number of 8 nations as well as by acquiring a minority stake in TiL, Global Infrastructure Partners entered a network comprising a number of (at that time) 25 container terminal facilities across a number of 17 countries.

Figure 41 CMA CGM - Yildirim Group strategic equity partnership, year 2010



Source: Author’s elaboration on Dataset 2.

Figure 42 Strategic equity partnership (and “network” acquisitions) among ITOs, year 2013.



Source: Author’s elaboration on Dataset 2.

Since year 2011, also APM Terminals started to sign strategic equity partnerships with other ITOs by resorting to “network” acquisition. In year 2012, the Danish ITO acquired a minority stake (of about 38%) in the Russian pure stevedore Global Ports Investments and, thus, indirectly entered in a network comprising a number of 7 container terminal facilities across a number of 2 countries; in addition, in year 2016, the Danish ITO strengthened its own (container) terminals’ network by taking over the Spanish pure stevedore Grup Maritim TCB and thus directly entered in a number of 6 (container) terminal facilities across a number of 4 countries.

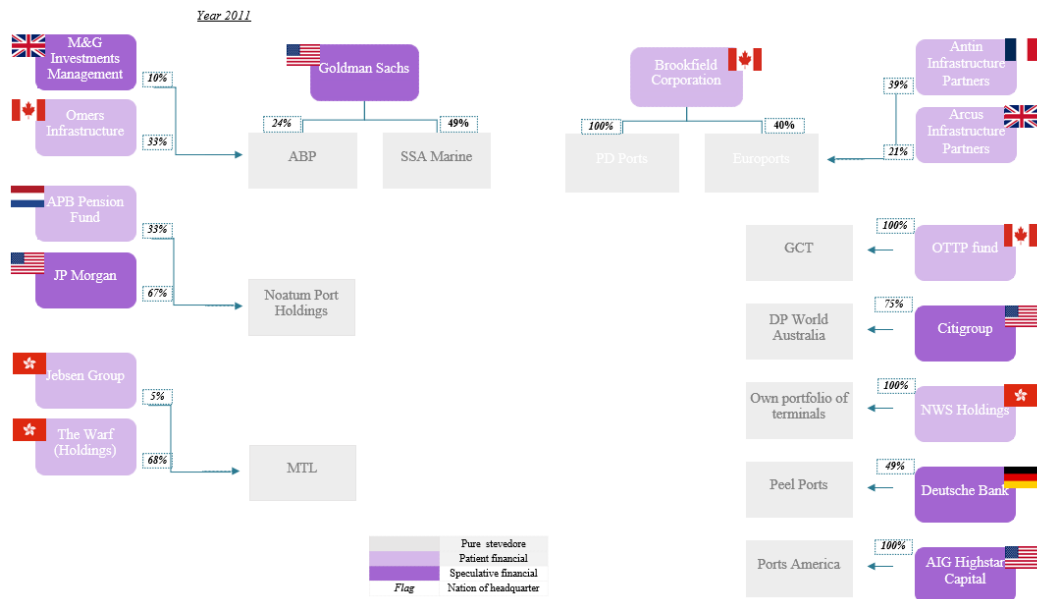
As described in Chapter VI.4, PSA International not signed strategic equity partnerships at the “mixed-holding” or “ultimate” ownership level over the last decade. However, the Singaporean State-owned pure stevedore has been the forerunner of such strategic behavior though the “ancestor” of “network” acquisitions, the HPH-PSA International deal in year 2006.

On the other hand, since year 2011 to year 2019, the Dubai-based pure stevedore DP World resorted to a number of 4 “network” acquisitions, whereof 2 have been undertaken in partnership with the Canadian pension fund Caisse de dépôt et placement du Québec (CDPQ): in year 2019 DP World Chile, equity JV between DP World and CDPQ (respectively, 55% and 45% equity take) undertook the Chilean pure stevedore Puertyos Y Logistica; in the same year, DP World acquired an additional stake (35%) in DP World

Australia from Gateway Infrastructure Investments and other financial investors, increasing its own stake to the 60%, whereof it subsequently sold the 45% to CDPQ.

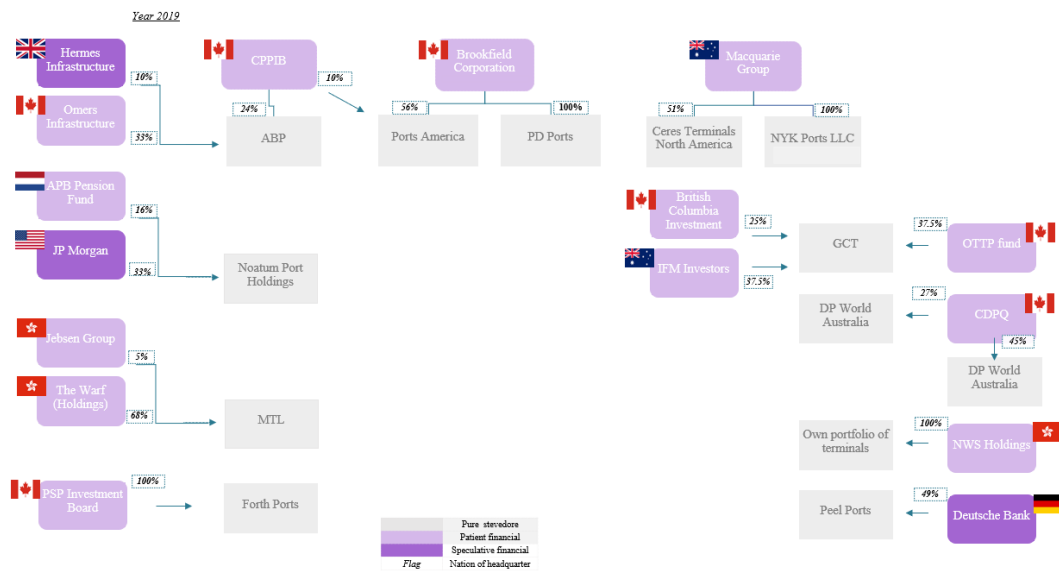
With reference to the role played by financial investors in the signature of strategic equity partnerships at the “mixed-holding” or “ultimate” ownership level, it is notable the activism, among others, of both the so-called Canadian and Australian “block” of pension fund and asset management companies.

Figure 43 Financial investors' equity stake in selected ITOs, year 2011.



Source: Author's elaboration on Dataset 2.

Figure 44 Financial investors' equity stake in selected ITOs, year 2019.



Source: Author's elaboration on Dataset 2.

In year 2011, the Australian asset management company Brookfield Corporation acquired a significant minority stake (49%) in International Transportation Inc. (a number of 2 terminals in the U.S.A.) from the Japanese ocean carrier Mitsui O.S.K. Lines (MOL) for about 0.34 billion of US\$; in the same year the Australian financial institution Macquarie Group acquired a significant minority stake (49%) in NYK Ports LLC (a number of 3 terminals across U.S.A. and Canada) from NYK Line for about 0.28 billion of US\$. In year 2015, the Canada Pension Plan Investment Board (CPPI) acquired a minority stake (24%) in Associated British Ports (ABP) (6 terminals across 3 countries in the U.K.). In year 2018, the British Columbia Investment Management Corporation in partnership with the Australian investment company IFM Investors acquired the majority (respectively, 25% and 38%) of Global Container Terminals (GCT) Inc. (a number of 4 terminal facilities across U.S.A. and Canada) from the Ontario Teachers' Pension Plan Board (OTTP fund); in the same year the Canadian Public Sector Pension (PSP) Investment Board acquired the majority (63%) of Forth Ports (8 terminal facilities across 2 countries in the U.K.) from the French infrastructure-specialized PE fund Arcus Infrastructure. Finally, in year 2019 the Australian Macquarie Group acquired the remaining 51% of equity in NYK Port LLC and contemporary acquired an equal share in NYK (Ceres) North America (for a number of 18 terminal facilities across U.S.A. and Canada) for about 0.1 billion of US\$; in the same year the Canadian Brookfield Corporation acquired the majority (about 62%) of the U.S.A.-based asset management company Oaktree Capital Group which is the 100% owner, through its WOS AIG Highstar Capital,

of Ports America (a number of 48 terminal facilities in the U.S.A.). It is remarkable, the acquisition by the Australian Super pension fund of a minority stake (25) in the equity of Peel Ports from Deutsche Bank and the founding Family, for about 1.2 billion of US\$.

As described in Chapter VI.4, the merge, in year 2016, between China Shipping Company (CSH) Group and COSCO Group, although responding to the objective of establishing a more cost-efficient organization of two State-owned hybrid operators, it can be interpreted also as a strategic move towards the formalization and the strengthening of strategic equity partnerships at the highest level of the corporate hierarchy among Chinese State-owned ITOs and, thus, toward the formation of a wider network of ITOs gravitating around them.

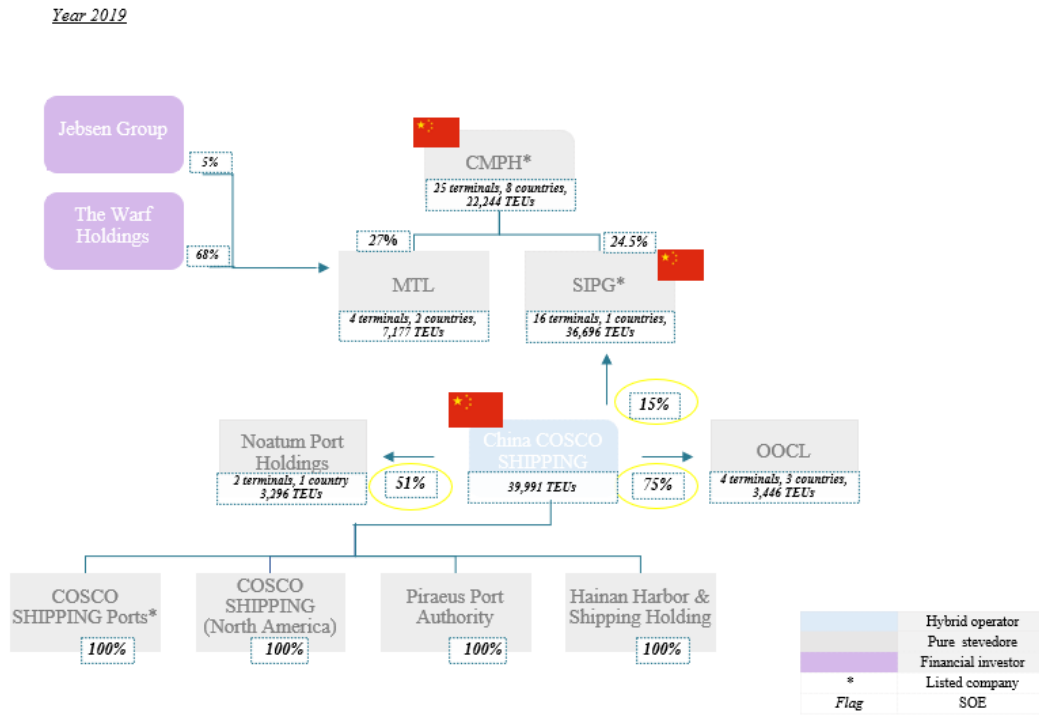
Point in this strategic direction subsequent moves made, since year 2017, by the merged entity China COSCO Shipping Corporation:

- i. in year 2017, the Chinese State-owned hybrid operator acquired a majority stake (51%) in the Spanish pure stevedore Noatum Ports (for a number of 2 (container) terminal facilities in Spain);
- ii. in year 2018, it acquired a minority participation (16%) in the Chinese State-owned ITO SIPG (for a number of 6 (container) terminal facilities in China and one in The Netherlands), yet participated (26.5%) since year 2005 by the other Chinese State-owned ITO CMPH; and
- iii. in year, 2019 China COSCO SHIPPING Corporation took over in partnership with SIPG itself (respectively, a 90% and a 10% equity stake) the ITO recognizable as ocean carrier Orient Overseas International Line (OOIL) and its container terminal division OOCL comprising of a number of 4 (container) terminal facilities across a number of 4 countries. Furthermore, subsequently to the acquisition of OOIL (and of OOCL), China COSCO SHIPPING Corporation sold to the SOE Rongshi International Holding Company and to the Silk Road Fund, respectively, an equity stake of about 2% and 8%.

Such a move confirms the designed strategy (after the launch of the BRI in year 2013) of widening and strengthening a network comprised of several portfolios of (container) terminal facilities gravitating around Chinese few SOEs.

Indeed, according to Huang (2020), after the Belt and Road Initiative was launched in 2013, China increased the scale of its FDI and Chinese port operators investing in overseas ports dramatically rose as well.

Figure 45 Widening and strengthening of the Chinese network of ITOs



Source: Author's elaboration on Datasets 2 and 3.

In synthesis, over the last decade State-owned ITOs rank first, together with patient financial investors, as regards both to the total transactions' value and the transaction's magnitude (i.e., number of counties and ports involved) since they are ITOs most recurring to the entry mode option of the takeover of the whole or the acquisition of a (significant) minority interest in the target corporation.

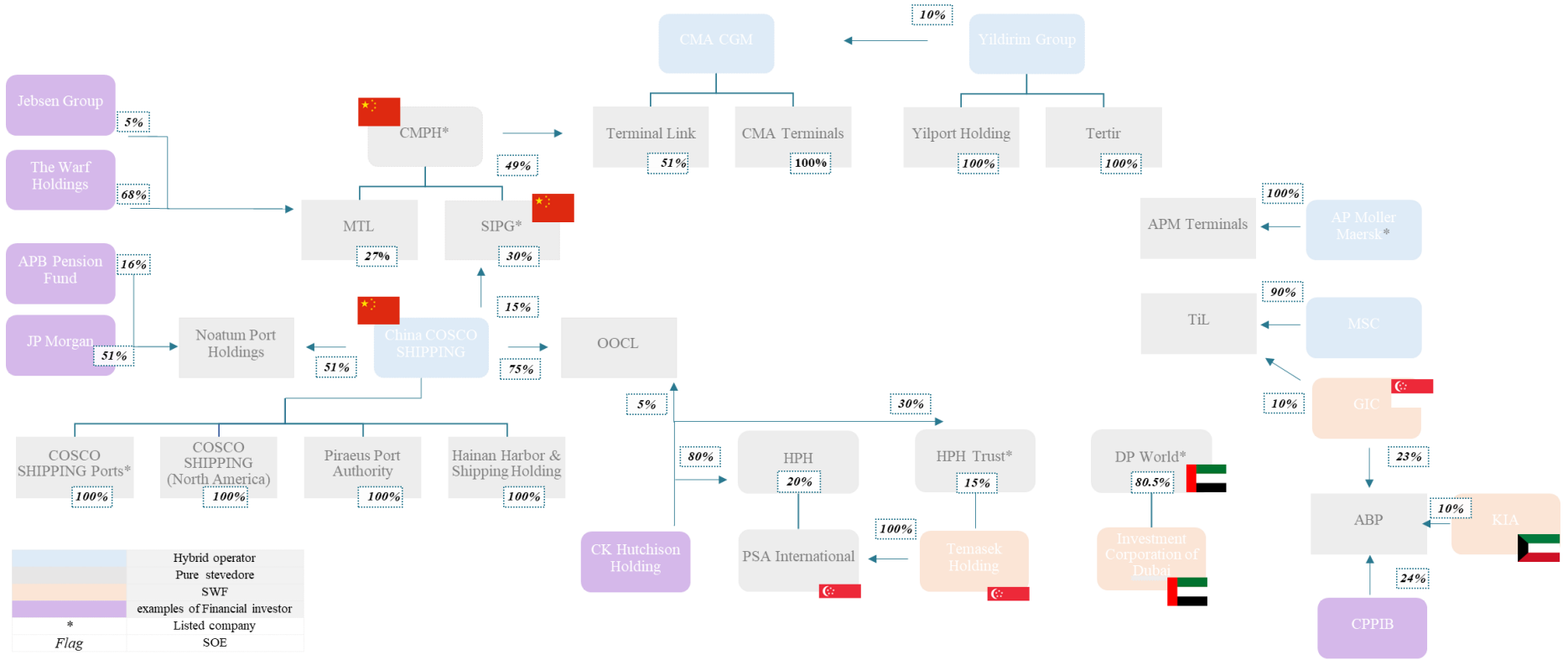
However, besides above discussed cases of State-owned ITOs like PSA International, DP World, China Merchant Port Holdings, China COSCO SHIPPING Corporation and SIPG, over the last decade it emerges the ever increasing role played in the global playfield of the container port industry (either in terms of total transactions' value and transaction's magnitude of deals closed) by SWFs. See, for instance, the case of the Singaporean SWF GIC Private Limited, which in year 2006 had acquired a minority stake (33%) of ABP (for about 1.6 billion of US\$); in year 2019, it still owns a minority interest

in the U.K.-based pure stevedore (23%) and also acquired a minority equity stake in TiL from Global Infrastructure Partners. As regards ABP, in year 2015 the Kuwait Investment Authority (KIA), the oldest SWF, acquired a minority equity stake of 10%. In addition, in year 2019 the Belgian State-holding company Participatiemaatschappij Vlaanderen together with the SWF of Belgium, Federal Holding and Investment Company, acquired the 50% (respectively an equity stake of 25% each) of Euroports.

Furthermore, with reference to the entry mode option of single-site acquisitions or “direct” PPPs, since year 2011 the Public Investment Fund (PIF) of the Kingdom of Saudi Arabia licensed, respectively in year 2011 and in year 2019, the Saudi Global Ports (SGP) (for about 0.26 billion of US\$) and the second container terminal in the King Abdul Aziz Port (for about 0.931 billion of US\$); while the Chinese SWF CIC Capital in year 2015 acquired a minority stake (13%) in the Turkish Kumport Terminal (for about 0.16 billion of US\$).

This enriching empirical evidence is suitable to be investigated in a more detailed and robust manner the antecedents of State-holding companies and of SWFs ever investing in the container port industry, while taking into consideration not only institutional settings and the geopolitical orientation of their home-country but also how nowadays these categories of investors evaluate the so-called “real option” value of (container) port investment.

Figure 46 Network relationships among ITOs: examples of equity partnerships at the “ultimate” ownership level, year 2019.



Source: Author's elaboration.

Table 27 Total transaction's value (billions of US\$), multiple-site M&As by business model of origin and category of investors/operators, years 1997-2020.

Operator / Investor	1997	1999	2002	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Total
Hybrid operator																					23,52
Private				n.a.						0,5		0,95				1,00		n.a.		n.a.	2,45
SOE																8,70	3,01	9,36			21,06
Logistic operator																					n.a.
n.d.																		n.a.			n.a.
Private			n.a.																	n.a.	n.a.
MIN																					0,66
Private											0,18							0,34			0,52
SOE																			0,15		0,15
Ocean carrier																					2,43
Private	1,54	0,79	n.a.		n.a.	0,07		n.a.									0,03				2,43
Patient Financial																					12,93
Private						2,91	n.a.	n.a.	0,74	0,32	3,18			0,62	n.a.			n.a.	0,10	1,5	9,36
Public							2,41								0,06	0,64		n.a.	0,45		3,56
Pure stevedore																					22,78
Private		0,15	0,22	n.a.				n.a.			n.a.	n.a.		n.a.	n.a.	0,34	0,11	n.a.	1,72	0,97	3,5
SOE			0,65		2,44	12,80							0,54		n.a.			1,06	1,80	n.a.	19,28
Speculative Financial																					6,04
Private		0,15				3,32	n.a.			0,64			1,93	n.a.							6,04
State-holding company																				n.a.	n.a.
SWF						1,6									n.a.				n.a.	n.a.	1,60
Total	1,54	1,09	0,87	n.a.	2,44	20,70	2,41	n.a.	0,74	1,46	3,35	0,95	2,47	0,62	0,06	10,68	3,15	10,76	4,22	2,47	69,97

Source: Author's elaboration on Dataset 3.

VII. RESEARCH AGENDA.

This contribution inserts in the IB research field aiming to respond, through RO.1, to the prominent call made by Vahlne and Johanson (2020) for longitudinal data collection so as to conduct quantitative time-series analyses in order to test and challenge main theoretical constructs of firms' internationalization process.

Under this vein, empirical results of RO.1, provide evidence supporting the significance of the geographic diversification strategy as well as of pre-internationalization and of international experience while affecting the corporate performance of ITOs. Furthermore, empirical results of RO.1 illustrate the significance of ITOs' business model of origin and of the home-country's economic cluster of belonging while affecting and differentiating behaviors and outcomes of the internationalization process.

However, by addressing RO.1 (i.e., by gathering and systematizing data as well as running models and interpreting empirical results), it has emerged a series of further theoretical hypotheses, not being investigated or tested in this contribution since they call for country-based data, which can be formalized in the Research Agenda in order to measure and detect, among others, the impact of intra-regional geographic diversification strategy.

This contribution insets also in the Strategic management research field by attempting, through RO.2, to go a step further in the investigation of antecedents of services firms' foreign markets entry mode choices, taking into consideration not only firm and country-specific key-factors (such as the business model of origin, the economic cluster of belonging, etc.) but also the shareholding and governance structure of firms (i.e., the nature, private or public, and the entrepreneurial orientation of their "ultimate" ownership).

Empirical results of the holistic multiple-case study analysis confirm the significance of ITOs' business model of origin and of the institutional setting of the home-country while affecting the timing of ITOs' international expansion. Furthermore, empirical results of RO.2 suggest time-window opportunities (e.g., the opening-up of port reforms and/or so-called "happy accidents") and the shareholding and governance structure of ITOs (i.e., the nature, private or public, and the entrepreneurial orientation of their "ultimate" ownership) rather affect the location as well as the entry mode choices.

In this perspective, it is suitable a call for investing in gathering longitudinal data also as regards the foreign investments “exit strategy” data of ITOs in order to aliment the Research Agenda with the purpose of investigating the comprehensive investment approach of ITOs to foreign ventures. In addition, it emerges the need for gathering and systematizing information and qualitative data as regards port reforms worldwide, in order to better take into account the role of such “legislative” innovation in driving the international expansion of ITOs.

Finally, this contribution inserts also in the Corporate finance research field, aiming to provide a robust quantitative approach and dynamic multi-layer conceptual framework in addressing equity partnerships in the global container port industry as well as by trying to underpin, through RO.3, drivers of the newly adopted "co-petitive" orientation of ITOs in the global playfield and of the increasing financial commitment of State-holdings and SWFs in the container port industry.

Although empirical evidence supports the hypotheses of an overall diminishing profitability of the global container port industry over the last decade (due to the concurrency of i) a slowed pace of growth of the industry and ii) of the ever increasing OPEX and especially CAPEX requested in ports, it emerges a lack of disclosure of financial information (figures and anecdotal) as regards the M&As activity and balance sheets of ITOs, in order to, for instance, investigate more in detail total transactions' values and to assess valuation methods of several categories of investors (e.g., State-holdings and SWFs) .

Table 28 Synthesis and Limitations of Research objectives

Synthesis	Research field	Topic	Objective	Method	Result	Limitations
RO.1	International business for the Maritime Economy	The internationalization process of ITOs	The impact of geographic diversification strategy on the "pace" and "rhythm" of ITOs' internationalization process	Two OLS regression models	In line with expectations as regards the "Pace" Model Non-significant results as regards the "Rhythm" Model	Call for <u>country-based data</u> in order to measure and detect the impact of <u>intra-regional geographic diversification</u>
RO.2	Strategic management for the Maritime Economy	The implementation strategy of ITOs' international expansion	Antecedents of foreign markets entry mode choices adopted by ITOs: the role of firm, home-country specific factors and of time-window opportunities. - M&As vs "direct" PPPs; - JV-WOS dilemma; - Single vs Multi-site vs "Network acquisition".	Holistic Multiple case-study analysis	<u>Business mode</u> of origin affects the <u>timing</u> of foreign markets entry while The entry mode option is mostly affected by the home-country specific factors and by the <u>nature</u> and the <u>entrepreneurial orientation</u> of ITOs' " <u>ultimate</u> " <u>ownership</u>	Call for longitudinal <u>exit strategy data</u> in order to investigate the comprehensive investment approach of ITOs to foreign ventures Call for longitudinal and detailed data as regards <u>port reforms</u> worldwide
RO.3	Strategic management and Corporate finance for the Maritime Economy	The strategic behavior of ITOs in the global playfield	Drivers of co-petition among ITOs: the equity partnership among ITOs at the "ultimate" ownership level of the corporate hierarchy.	Empirical evidence	Empirical evidence supporting the new "co-petitive" orientation of ITOs and the increasing role of State-holdings and SWFs in the container port industry	Lack of sufficient <u>disclosure</u> of <u>financial figures</u> and details as regards <u>M&As activity</u> in order to assess valuation methods of these categories of investors

Source: Author's elaboration.

VII.1 Multidimensional concepts and measurements of MNEs' speed of internationalization.

Country-based data could allow to conceptualize, measure and test the “speed” of MNEs' internationalization process not only referring to speed solely as time (i.e., the time the firm takes to int) discards the central aspects of the internationalization process of firms (such as market knowledge and managerial and financial commitment) (Chetty, Johanson and Martín, 2014) or its outcomes (like the pace of growth of MNEs' outputs produced abroad or foreign assets over time).

Indeed, country-based data could allow to combine “comprehensive” (i.e., time scope) and multidimensional (i.e., content scope) concepts and measures of firms' speed of internationalization with a higher granularity of detail as regards also the geographic scope pursued by MNEs in their international expansion strategy (i.e., to detect the intra-regional versus the inter-regional geographic diversification strategy).

Indeed, both the “evolutionary process theory” and the “internalization theory” aim to explain the dynamics of internationalization by developing temporal concepts (Hilmersson, Johanson, Lundberg, and Papaioannou, 2017).

The “evolutionary process theory” of internationalization (Johanson and Vahlne, 1977, 1990) suggests that a significant time lag is necessary between the creation of a firm and its first expansion abroad, in order to enable it to secure the necessary resources (Luo & Peng, 1999) and build absorptive capacity (Zahra and George, 2002).

However, with the growing integration and harmonization of national markets and economies, nascent firms have been increasingly commencing to expand abroad at or shortly after their inception (Sapienza et al., 2006). Managers allocating the resources required to seize international opportunities will expect faster and more sustainable internationalization. Speed of internationalization is, therefore, an important managerial challenge that firms face in their decision making.

As pointed out in Chapter II.2, the issue of firms' “speed” of internationalization is also important from an academic perspective. Indeed, the emerging literature on “Born global” (Knight and Cavusgil, 2005) suggests that firms internationalize with a higher

speed than they used to do when the incremental approach, also known as the “Uppsala model” (Johanson and Vahlne, 1977), was proposed.

Surprisingly, the concept of speed of internationalization is under researched (Casillas and Acedo, 2013) and scholars have provided little guidance for firms about how to manage and measure speed of internationalization (Chetty, Johanson and Martín, 2014). Two exceptions to the one-dimensionality conceptualization and measurement are Oviatt and McDougall's (2005) and Casillas and Acedo's (2013) views on how speed of internationalization should be conceptualized and measured. Nevertheless, their work is conceptual without empirically testing an alternative measure.

Vermeulen and Barkema (2002) and Wagner (2004) also went beyond only time-based views on speed and measure it, respectively, as the number of foreign subsidiaries divided by number of years since the firm's first foreign expansion and the change in foreign subsidiary sales-to-total sales ratio.

Furthermore, as well pointed out by Autio (2000) and noticed in Chapter III, the IB research field should also distinguish in more a detailed manner *«two closely related but distinct issues: first, the time lag between the founding of a firm and its initiation of international operations (Jones 1999; Jones and Coviello 2005) and second, the speed of a firm's subsequent international growth»* Autio et al. (2000, p. 909).

Under this perspective, the first issue of the Research Agenda proposed is to measure the ITOs' speed of internationalization between the firm's inception and its first foreign venture as the product of this time lag and the ratio of the number (or the value) of assets abroad to the correspondent assets in the-home country (i.e., a proxy of the firm's financial and managerial commitment to the internationalization process) at the first year of internationalization.

$$(Y_1 - Y_i) * \left(\frac{Assets_{F1}}{Assets_{H1}} \right)$$

Such a measurement of firms' internationalization speed of can be replicated over time-lags subsequent to the first foreign venture in order detect the “intensity” of the internationalization process over time.

$$\left(Y_{10} - Y_1 \right) * \left(\frac{Assets_{F10}}{Assets_{H10}} \right)$$

In addition, such measurements of MNEs' commitment to the internationalization process can be combined with (i.e., it can be investigated their impact on) measurements of speed of growth of the outcomes of the international expansion strategy (e.g., how quickly evolve sales or volume abroad).

Under this vein, the previously proposed measurement of firms' speed of internationalization process can be applied to the outcome of the international expansion: product of a selected time lag and the ratio of sales (or volumes) produced abroad to the correspondent sales (or volumes) produced in the-home country in the last year of the selected time lag.

$$\left(Y_{10} - Y_1 \right) * \left(\frac{Sales_{F10}}{Sales_{H10}} \right)$$

or

$$\left(Y_{10} - Y_1 \right) * \left(\frac{Volumes_{F10}}{Volumes_{H10}} \right)$$

This measurement of speed of growth of MNEs international activities works as “multiplier” of the only time-based perspective: whether over the selected time lag sales (or volumes) produced abroad are higher than domestic ones, the only time-based speed is multiplied by a ratio higher than 1; by converse, in case firm's foreign activities produced a lower output than domestic ones over the selected timeframe, the time-based speed of the internationalization is diminished by a ration lower than 1 .

The three proposed measurements of the firm's speed of internationalization can be perfectly applied to the case of the container port industry, respectively considering as proxy of ITOs' commitment to the internationalization process the number of (container) terminal facilities (partially or fully) owned or managed in foreign countries and as output of their international expansion strategy the volume of equity TEUs handled in foreign countries.

VII.2 The intra-regional versus the inter-regional geographic diversification strategy of (container port) MNEs.

The case of the global container port industry is perfectly suitable also to the investigation of the significance of the geographic diversification strategy on the MNEs' corporate performance and to make clarity on the nature of such a relationship taking into consideration separately the intra-regional and the inter-regional geographic dispersion of production's inputs/outputs, as attempted by Parola, Satta and Persico (2014) for the specific case of ITOs from EEs.

Indeed, as pointed out in Chapter III, the variety of theoretical constructs and the lack of consensus as regards the empirical evidence is manifested in the different shapes of the geographic diversification strategy and corporate performance relationship that have been reported in literature: positive linear (Gaur and Kumar, 2009); negative linear (Lin et al., 2011; Singla and George, 2013); U-shaped (Li and Yue, 2008; Chen and Yu, 2012); inverted U-shaped (Chao and Kumar, 2010; Lampel and Giachetti, 2013); S-shaped (Lu and Beamish, 2004; Kumar and Singh, 2008); and more recently M-shaped (Ruigrok et al., 2007; Lee, 2010; Almodóvar, 2012; Almodóvar and Rugman, 2014).

Quin et al. (2010), analyzing over a seven-years period a sample of n. 123 U.S.A. based MNEs and leveraging both sales-based and subsidiary-based measures for measuring geographic diversification, found that corporate performance increases at an increasingly higher rate as firms concentrate more heavily on intra-regional diversification and, in accordance with literature emphasizing how corporate performance varies nonlinearly with respect to the various levels of inter-regional diversification (e.g., such as squared relationships according to Gomes and Ramaswamy, 1999; Hitt, Hoskisson and Kim, 1997; or in cubic/sigmoidal terms per Contractor, Kundu and Hsu, 2003; Lu and Beamish, 2004; Ruigrok, Amann and Wagner, 2007).

In addition, the diversity of findings has suggested scholars to take into consideration a series of factors and/or moderators in order to explain different results (Kirca et al., 2012).

VII.3 The antecedents of (ocean) carriers' investments in container port terminals.

Country-based data could allow, also, to investigate more in a detailed manner i) the location choice of selected (container) terminal facilities and ii) the entry mode choice made by ITOs recognizable as ocean carriers or hybrid operators when investing in container port terminals, by taking into consideration firm and port-specific factors, like, for instance, the number of terminals owned by the carrier in the range of interest; the utilization rate of capacity owned by the carrier in the range of interest; the typology of carrier's terminal operations partners in the seaport of interest; the commercial relevance of the port in the geographical range; the number of terminals owned in the range of reference by Shipping Alliance's partners.

Furthermore, relying on country-based data it is possible to take into consideration country-specific variables, like the "Ease of Doing Business Index", the "Logistic Performance Index" the carrier's home-country as well as the "Liner Connectivity Index" of the seaport of interest published, respectively, by the World Bank, the International Monetary Fund and by the UNCTAD.

Under this vein, the investigation of antecedents of (ocean) carriers' investments in container port terminals could be combined with the research objective pursued by Notteboom, Parola, Satta and Pallis (2017) (i.e., how changing organizational routines of shipping companies, due to alliances formation and other forms of horizontal cooperation among carriers, have been affecting the selection of ports of call in intercontinental liner service networks). By adopting this combined investigation's approach, it would be possible to detect whether it is the geographic positioning or the terminal operator's identity of a port to mostly affect its performance over time (volumes of TEUs handled).

VII.4 The profitability of the global container port industry and the "real option" value of (container) port investments.

The holistic multiple-case study analysis conducted by addressing the RO.2 illustrate the "alternate" trend in foreign markets entry mode options adopted by ITOs over time.

However, accessing to a higher disclosure of financial information (figures and anecdotal) as regards the sectorial M&A activity and ITOs' balance sheets, would allow to prove the above proposed theoretical construct: the exit strategy of speculative financial investors, the arrival of more patient ones as well as the newly adopted "co-

opetitive” behavior of ITOs in the global playfield and finally, as pointed out in RO.3, the increasing financial commitment of State-holding companies and of SWFs investing in the global container port industry are all trends respondent to the same driver: an overall lower profitability of the industry.

Finally, with reference to the strategic behavior of the strengthening and widening of equity partnership among ITOs at the highest level of the corporate hierarchy, the “ultimate” ownership one, country-based data would allow to detect more in a detailed manner such a strategic behavior, by addressing specific questions like:

Where (i.e., which location of container terminal facilities) are more likely to invest, respectively, speculative and patient financials?

Does the nationality of financial investors affect the abovementioned choice?

And to provide and test, through robust quantitative approach, a dynamic multi-layer conceptual framework addressing equity partnerships in the global container port industry and empirically answering to questions like:

How do ITOs choose their equity partner(s)?

Does the geographic-foot print of target-partners affect the previous question?

Does the nationality and the public nature of ITOs’ “ultimate” ownership affect the previous question?

Table 29 Research Agenda.

Topic	Research field	Specific topic	Proposal
"Speed" of firms' internationalization	International business	<u>Multidimensional</u> concepts and measurements of MNEs' speed of internationalization	The "speed x intensity" pace of firms' internationalization process Three multidimensional measure
Geographic diversification	International business for the Maritime Economy	The <u>intra-regional</u> versus the <u>inter-regional</u> geographic diversification strategy of (container port) MNEs	Call for country-based data
Vertical integration in the maritime and port logistic	International business and Strategic management for the Maritime Economy	Key-drivers of the implementation of the <u>vertical integration strategy</u> of (ocean) carriers	Call for country-based data
Corporate performance and valuation methods of ITOs	Strategic management and Corporate finance for the Maritime Economy	The " <u>real option</u> " <u>value</u> of (container) port investments	Call for a higher disclosure of financial information as regards the sectorial M&A activity and ITOs' balance sheets
The strategic behavior of ITOs in the global playfield	Strategic management and Corporate finance for the Maritime Economy	Drivers of " <u>co-petition</u> " among ITOs: the <u>equity partnership</u> among ITOs at the " <u>ultimate</u> " <u>ownership</u> level of the corporate hierarchy.	Dynamic multi-layer conceptual framework

. Source: Author's elaboration.

VIII. CONCLUSION.

VIII.1 Academic contributions

This contribution by addressing RO.1 answers to the prominent call made by Johanson and Vahlne (2020) for investing in the collection of longitudinal data in order to test main theoretical constructs of the IB literature through quantitative time series analysis.

Under this perspective, RO.1 provide empirical evidence, tested for the specific case of the container port industry over the observation period (years 2002-2019), supporting main theoretical constructs of the IB literature, especially the “evolutionary theory” of the firms’ internationalization process originating from the “Uppsala Model” (Johanson and Vahlne, 1977). The case of the container port industry confirms the significance of the “Network Approach” emphasizing on firms’ gradual learning and development of market knowledge through interaction within networks of business relationships (Johanson and Mattson, 1993) as well as the validity of MNEs’ “Dynamic Capabilities”, especially for EMNEs, in order to learn, to stock and to apply knowledge to foreign markets (Wu and Vahlne, 2020). In line with the “Born global” theory, nascent MNEs of the container port industry, so-called “Born global” ITOs, show a higher pace of growth of their corporate performance rather than ones gradually approaching to the international expansions. On the other hand, ITOs relying on a longer pre-internationalization experience are found to present a lower volatility of the growth rates of their corporate performance (i.e., they are less likely exposed to business risk).

Furthermore, although empirical results of RO. 1 confirm the significance of the geographic diversification strategy while affecting the “pace” of growth of ITOs corporate performance, as pointed out in the Research Agenda, it emerges also the need for investing in the collection of country-based data in order to implement and test “comprehensive” (i.e., time scope’) and multidimensional (i.e., content scope) concepts and measures of firms’ speed of internationalization as well as to investigate more in a detailed manner the significance of the geographic diversification strategy on the MNEs’ corporate performance by taking into consideration separately the intra-regional and the inter-regional geographic dispersion of production inputs/outputs.

With reference to the (container) port industry-specific literature, it is confirmed the robustness of theoretical constructs arguing that either the ITOs' business model of origin (see, for instance, Musso and Parola, 2007; Olivier, Parola, Slack and Wang, 2007; Notteboom and Rodrigue, 2102) and the home-country's economic cluster of belonging are explanatory of different "paces" of growth of ITOs corporate performance (see, for instance, Debie, Lavaud-Letilleul and Parola, 2013, Parola, Satta and Persico 2014).

Under this perspective, ITOs recognizable as ocean carriers and hybrid operators have started their own internationalization process in advance with respect to one recognizable as pure stevedores (late 1960s versus late 1990s), while the latter have been pursuing a truly "global presence" strategy in comparison to the (multi) regional or "semi-globalization" geographic diversification strategy of the former.

Furthermore, it surprisingly appears that, over the observation period, ITOs from EEs have registered a slower pace of growth than ITOs headquartered in a developed country. However, the result is influenced by the research choice of including in the sampling frame also financial investors accounting, over the entire observation period, for a comprehensive number of 22 ITOs, whereof a number of 21 are headquartered in a developed country.

Hypotheses developed in RO. 2, whereby it is the shareholding and governance structure of ITOs (i.e., the nature and the entrepreneurial orientation of their "ultimate" ownership) to mostly influence the implementation strategy of the internationalization process (i.e., the location and the entry mode option choices) is supported by the empirical evidence of the holistic multiple-case study analysis, in line with the "International Entrepreneurship theory", McDougall and Oviatt, 2000; Antoncic and Hisrich, 2000; Ruzzier et al., 2006).

For instance, private ITOs whose "ultimate" ownership is traceable back to individual or single families have developed corporate specific strategic behavior starting from single "happy accidents" over time, while State-owned ITOs have been pioneer or late-comers in the internationalization process of the global container port industry depending on some key-factors specific of their home-country (e.g., the starting time of port liberalization processes and the shadow of openness to FDI of the national (container) port industry, see Panayides, Parola and Lam, 2015).

In this regard, it has to be noted differences still exist in the implementation strategy of the internationalization process of Asian SOEs: in line with Hertog (2010), Middle Eastern and Southeastern Asian SOEs' (whose governments have limited budget concerns) FDIs in the (container) port industry are distinguished by a preferable financial performance than, for instance, massive Chinese SOEs' ones.

The contribution shows how investing in the collection and in systematizing updated longitudinal data, both as regards the MNEs' corporate performance as well as governance and shareholding structure, enables scholars to conduct quantitative time series analysis testing main theoretical constructs of the IB and Strategic Management Research fields, applying them to industry-specific cases, such as the global container port industry's one.

VIII.2 Managerial implications

This contribution, especially by addressing RO.2 and RO.3, provides several managerial insights either as regards the MNEs and the ITOs' specific case.

RO.1 provides empirical evidence supporting that the firm's internationalization process is a matter of (foreign) market knowledge, of adaptability and dynamic learning capabilities to new (foreign) business and institutional environments and of decision-making routines. In other words, the process of firms' internationalization and its success heavily depends on the management's know-how, capabilities and (international) exposure.

Furthermore, since entering in foreign markets has been requiring ever huge financial commitment for the specific case of the global container port industry, despite in front of an ever increasing sectorial competition (either "within" and "for" the industry) and a slowed pace of sectorial growth over the last decade, RO.2 suggests the critical success-factor of foreign ventures is the selection of the appropriate (equity) partners to undertake with FDIs.

Such an insight is valuable either for ITOs looking for a financial backing of their FDIs either for ones seeking for entering in or establishing a "co-opetitive" network of ITOs, through the signature of strategic equity partnerships one with each other ITOs, either at the firm and terminal level as well as at the higher levels of the corporate hierarchy, the "mixed holding" or "ultimate" ownership ones.

In doing so, practitioners should take into consideration not only the selected partner's business model of origin or home-country's economic cluster of belonging, but also its entrepreneurial orientation and investment approach mostly relying on the ITO's governance and shareholding structures.

VIII.3 Institutional implications

This contribution, by investigating the implementation strategy of ITOs' internationalization process (RO.2) and by detecting the formation, the widening and the strengthening of equity partnerships among ITOs at the highest level of the corporate hierarchy (RO.3), points out some considerations national and supra-national policy makers should take into account.

For instance, national or supra-national Competition Authorities while evaluating at date the case of mergers or of takeovers of a whole corporation in the global container port industry should consider that such a move inserts in a wider sectorial trend (i.e., the strengthening of equity partnership at the "ultimate" ownership level) aiming to respond to the ever increasing competition not only "within" but also "for" the global container port industry and the contemporary slowed pace of growth of volumes handled worldwide since year 2011.

However, the geopolitical dimension of port infrastructure financing is, also, important to mention, even if it goes beyond the scope of this contribution. Given the significance of ports for the national public interest, governments consider ports as "strategic assets" for their economy and international presence. See the case of the emergence of China's BRI and certain Russian investments (for instance, in pipelines).

Even though most governments retain some form of control over port assets, some of them rely on third parties, such as the World Bank, other multinational financial institutions, or foreign governments for support in financing port investments, usually in the form of bilateral loans and grants giving the lending country leverage on international trade flows and, thus, geopolitical influence (European Seaports Organization, 2018).

The geopolitical dimension of port development strengthens the case for public funding mechanisms, as the absence of such mechanisms would accelerate foreign participation in the development of critical port infrastructure. National and supra-national Institutions designing policies aimed to prevent and limit cases of State's aid to

the national or regional (container) port industry should balance the tightening of such policies by comparing it with the correspondent orientation of home-countries' of foreign terminal operators populating and entering the national or regional (container) port industry.

It could be the case of a State-owned foreign port operator whose home-country does not apply rigid or at all limits to State's aids and therefore the foreign port operator is able to alter the fair competition's level "within" and "for" the national or regional (container) port industry (i.e., bidding for new terminal concessions / leases or acquiring local operators) by leveraging on a wider financial backing of its FDIs depending on an asymmetry between State's aids policies adopted by the host and the home-country (i.e., by doing arbitrage among regions or countries on different institutional settings).

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