B. MARITIME CABOTAGE: INTRACOUNTRY CONNECTIVITY AND GLOBAL SHIPPING NETWORKS

For any country with more than one seaport, in principle domestic and feedering traffic could be transported by sea. The potential for cabotage operations is higher in countries with longer coast lines or in countries with islands, where the alternative of trucking or rail transport is costlier or not available.

1. Domestic liner shipping connectivity

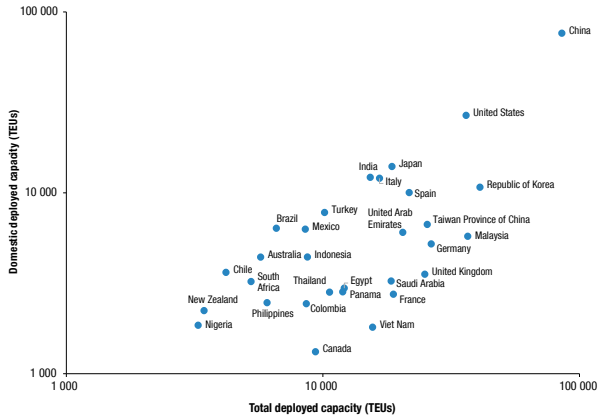
To provide an indication of potential containerized cabotage transport, table 6.4 shows the fleet deployment of liner shipping companies on services to and from a country's seaports. Figures 6.4 and 6.5 portray the relationship between total container shipping connectivity and domestic, or intracountry connectivity.

Table 6.4. Container ship deployment on domestic services, top 30 countries, May 2017

Rank (domestic deployed TEUs)	Country	Total vessel deployment					Domestic vessel deployment									
		Deployed annual capacity (TEUs)	Number of ships scheduled on services	Number of operators	Number of services	Maximum ship capacity (TEUs)	Deployed annual capacity (TEUs)	Percentage of total	Number of ships scheduled on services	Percentage of total	Number of operators	Percentage of total	Number of services	Percentage of total	Maximum ship capacity (TEUs)	Percentage of total
1	China	85 347 681	1 996	907	463	18 506	76 210 452	89	1 738	87	757	83	348	75	18 506	100
2	United States	36 154 504	990	437	200	13 950	26 758 518	74	755	76	315	72	124	62	13 950	100
3	Japan	18 584 569	594	291	204	12 939	13 960 932	75	462	78	252	87	181	89	9 041	70
4	India	15 291 675	371	164	90	11 569	12 158 250	80	290	78	117	71	62	69	11 569	100
5	Italy	16 614 787	454	162	103	14 167	12 017 710	72	318	70	114	70	72	70	14 167	100
6	Republic of Korea	40 924 768	1 017	465	245	18 506	10 725 845	26	286	28	160	34	99	40	18 348	99
7	Spain	21 685 890	605	213	151	18 506	10 016 158	46	269	44	107	50	73	48	14 167	77
8	Turkey	10 147 068	285	117	89	13 336	7 776 117	77	205	72	84	72	59	66	13 336	100
9	Taiwan Province of China	25 504 073	601	291	146	14 000	6 676 775	26	180	30	95	33	68	47	13 840	99
10	Brazil	6 581 330	175	55	31	9 635	6 359 090	97	168	96	49	89	25	81	9 635	100
11	Mexico	8 535 960	259	85	47	11 629	6 287 321	74	172	66	56	66	27	57	11 629	100
12	United Arab Emirates	20 468 669	393	158	94	17 387	6 036 511	29	118	30	52	33	31	33	12 183	70
13	Malaysia	36 663 697	906	365	196	18 506	5 739 593	16	156	17	79	22	53	27	13 908	75
14	Germany	26 427 472	621	253	143	18 350	5 213 249	20	125	20	39	15	35	24	18 341	100
15	Indonesia	8 700 671	290	146	117	8 704	4 412 786	51	184	63	85	58	77	66	4 400	51
16	Australia	5 717 420	206	91	49	6 380	4 406 863	77	157	76	63	69	32	65	6 380	100
17	Chile	4 187 451	129	40	21	11 629	3 629 957	87	113	88	32	80	18	86	11 629	100
18	United Kingdom	24 946 063	594	235	139	18 506	3 544 693	14	75	13	38	16	30	22	18 350	99
19	Saudi Arabia	18 444 508	354	137	59	14 159	3 248 576	18	60	17	29	21	13	22	11 421	81
20	South Africa	5 247 559	192	57	32	10 409	3 230 349	62	104	54	31	54	17	53	10 409	100
21	Egypt	12 110 793	293	107	71	14 167	2 968 621	25	65	22	32	30	21	30	6 571	46
22	Panama	11 943 496	357	114	62	12 041	2 829 557	24	89	25	24	21	14	23	9 040	75
23	Thailand	10 615 263	338	172	90	8 750	2 821 477	27	112	33	66	38	36	40	1 867	21
24	France	18 823 473	466	176	87	17 387	2 746 237	15	86	18	22	13	14	16	16 277	94
25	Philippines	6 056 224	195	92	76	4 818	2 468 508	41	98	50	46	50	43	57	3 477	72
26	Colombia	8 617 348	298	89	52	11 629	2 434 631	28	84	28	28	31	20	38	9 863	85
27	New Zealand	3 441 670	136	51	32	9 890	2 229 011	65	98	72	42	82	24	75	4 614	47
28	Nigeria	3 262 826	179	41	27	4 535	1 851 505	57	86	48	20	49	12	44	4 508	99
29	Viet Nam	15 616 632	487	230	128	13 504	1 804 686	12	61	13	28	12	25	20	2 550	19
30	Canada	9 351 366	259	113	45	11 293	1 320 349	14	41	16	15	13	9	20	8 500	75

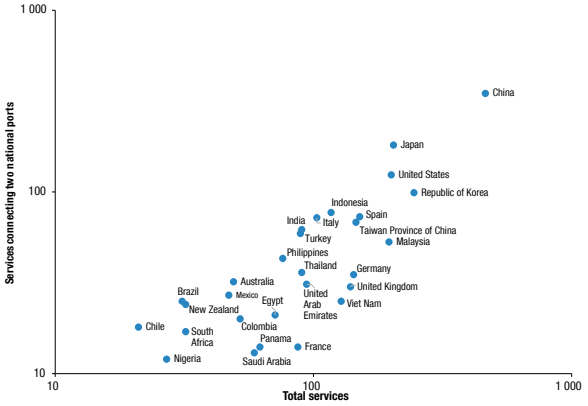
Source: UNCTAD secretariat calculations, based on data provided by MDS Transmodal.

Figure 6.4. Domestic and total 20-foot equivalent unit capacity deployed, May 2017



Source: UNCTAD secretariat calculations, based on data provided by MDS Transmodal.

Figure 6.5. Domestic and total number of container shipping services, May 2017



Source: UNCTAD secretariat calculations, based on data provided by MDS Transmodal.

As previously highlighted, many countries impose restrictions on international operators to transport domestic trade or to provide feedering services. This leads to situations where a ship may call at two ports within the same country, but is not allowed to transport cargo between the two ports. The data in table 6.4 and figures 6.4 and 6.5 give an indication of potential maritime transport of domestic trade. However, in view of the aforementioned restrictions, the data are not necessarily an indication that such transport is taking place.

Countries with long coast lines or islands often count on container shipping services that call at more than one domestic port. A comparison of Brazil and Germany, for example, reveals that Germany has a higher liner shipping connectivity than Brazil, with more companies providing services to German seaports than to ports in Brazil. However, most of these companies only call at either the ports of Hamburg or Bremerhaven but not both, while in Brazil, with its longer coast line, many operators call at the port of Santos and a second port. Hence, the intracountry container shipping connectivity is higher for Brazil than for Germany. Other countries for which domestic vessel deployment represents a high share of overall vessel deployment are Chile, China, India and Turkey.

A common feature of most countries in this situation is that the maximum TEU ship capacity deployed on intracountry services is the same as the maximum overall TEU ship capacity. This is an indication that intracountry connections form part of an international service. If in such a case an international operator is not allowed to carry domestic cargo between two ports of call in a given country, this restricts the potential supply of transport services, and thus represents a missed opportunity for maritime cabotage transport. It will also discourage the modal shift from land to sea transport.

2. Trans-shipment and feedering services

Countries with large cabotage potential may find themselves in a situation where ports in neighbouring countries become the hub ports for their own cabotage or feedering services. Montevideo, Uruguay, for example, acts as a relay port for services that connect ports in Argentina or Brazil (Brooks et al., 2014). Colombo, Sri Lanka benefits from cabotage restrictions in India, as global liner operators call at the port of Colombo, and from there international feedering services can connect to seaports in India.

Increased seaborne trade resulting from the recent Chinese economic boom had prompted several countries in Asia to compete for trans-shipment. Since 2013, China has gradually relaxed cabotage restrictions within the Shanghai free trade area in a bid to promote the area and boost the trans-shipment volumes of Shanghai. As a result, foreign registered vessels may now carry containers between Shanghai and other Chinese ports – although vessels must still have Chinese owners. Previously the formal position was that this could only be done by Chinese-owned and -flagged vessels, thereby preventing the use of, among others, foreign flagged ships of the China Ocean Shipping (Group) Company and China Shipping Container Lines. This recent change has raised concerns about Hong Kong (China), owing to its decreasing throughput and connectivity (see also the declining liner shipping connectivity index in 2016, figure 6.2(h)). Protecting the role of Hong Kong (China) as a trans-shipment hub had been one of the reasons for the mainland's restrictions on cabotage, in addition to protecting the domestic shipping lines and security concerns of China.

In India, cabotage regime changes were recently introduced in the context of broader reforms related to improving logistics for trade and competitiveness, reducing costs. The Government has relaxed cabotage restrictions for specialized vessels, which are short in supply. In this case, enabling the trans-shipment of containers through foreign flagged vessels would encourage a modal shift from road and rail to coastal shipping (MDS Transmodal, 2016).

In Malaysia, the modification of the cabotage policy is partly due to the rising cost of consumer goods. Goods exported from Eastern Malaysia are left in transit for prolonged periods of time because vessels travelling out of Eastern Malaysia are unable to carry a full load. Consequently, manufacturers in Eastern Malaysia lose their ability to compete in the market because by the time their goods arrive at the port of discharge, the prices of those goods are no longer competitive. The delay and issue of vessel frequency has also resulted in increased port charges and a risk of cargo theft. Additionally, goods transported from peninsular Malaysia to Eastern Malaysia pass through a long supply chain before being discharged, resulting in increased freight costs. The lack of transport options and a monopolized shipping industry has led to consumers having to pay the price of a cabotage policy that from the onset sought only to benefit the domestic shipping industry. Lifting cabotage laws could make Eastern Malaysian ports more accessible, increase trading activities and gain prominence attracting container traffic routes going through the Straits of Malacca.

New Zealand is also an interesting case. The country's regulation of coastal shipping has been allowing foreign registered vessels to go from one local port to another since 1994. The regulation foresees that access to coastal trade is restricted to New Zealand flagged ships or foreign ships on bareboat charter to a New Zealand-based operator. The regulation also allows for cabotage transport if a foreign ship that is passing through New Zealand waters is on a continuous journey from a foreign port to another foreign port and is stopping in New Zealand to load or unload international cargo. This exception has benefited the country from the perspective of reduced freight rates and thus improved trade competitiveness. As a result, thousands of empty containers have been repositioned in the South for loading and returning north, or heading for export markets (Thompson and Cockrell, 2015; Graham, 2003).

Current trends in shipping networks suggest that potential benefits from connecting cabotage services to international services will increase. First, there is continued growth in the average size of ships, which require deeper ports and larger areas for handling ships and containers. Such infrastructure investments are costly. Second, the difference in size between the largest and the smallest ships will also increase, making it more economical to trans-ship containers in order to benefit from the optimum vessel size for different legs of the total route. Third, there is continued pressure to reduce costs and increase efficiency along the entire supply chain. Not making use of potential cost savings will be more and more difficult to justify. Furthermore, there is a growing awareness and mainstreaming of sustainability criteria in public policies; the promotion of short sea shipping is one way to reduce carbon dioxide emissions, as shipping is more energy efficient than other modes of transport.

C. TRADE AND MARITIME TRANSPORT FACILITATION

Many international agreements are in place to support trade and transport facilitation. They include the revised International Convention on the Simplification and Harmonization of the World Customs Organization and United Nations transport facilitation conventions, managed, among others, by the Economic Commission for Europe. One such example is the Convention on International Transport of Goods under Cover of TIR [international road transport] Carnets. In addition, many international standards and guidelines cover international trade procedures, such as recommendations of the Economic Commission for Europe and the United Nations Centre for Trade Facilitation and Electronic Business. These conventions and standards contribute to facilitating elements of the trade transaction chain. This section focuses on trade and transport facilitation measures included in the Agreement on Trade Facilitation of the World Trade Organization, as well as the IMO Convention on Facilitation of International Maritime Traffic, which focuses on maritime shipping.

1. Agreement on Trade Facilitation

The Agreement on Trade Facilitation entered into force on 22 February 2017. The Agreement underlines that efficient movement of goods across borders is a priority of the global trade agenda, both for the trading community and individual countries. It also shows a shift in the focus and operation of the multilateral trading system, previously driven essentially by market access negotiations. Instead of negotiating the legal aspects of market access, the focus has shifted to improving physical market access through improved procedures and connectivity.

The Agreement sets forth procedures for expediting the movement, release and clearance of goods across borders with a view to reducing related costs, while at the same time ensuring safety and security of trade goods through efficient compliance controls. Such procedures tend to be less advanced in developing countries compared with developed countries. The Agreement contains ground-breaking rules on special and differential treatment, linking the implementation by

developing countries and the least developed countries to the attainment of technical capacity.

Against this background, the Agreement on Trade Facilitation has the potential to significantly reduce trade costs for import, export and transit procedures if the procedures contained in the Agreement are implemented in full. According to OECD estimates, the reduction of total trade costs following full implementation of the Agreement is 16.5 per cent for low-income countries, 17.4 per cent for lower middle-income countries, 14.6 per cent for upper middle-income countries, and 11.8 per cent for OECD countries (Moïsé and Sorescu, 2013). Fully implementing the Agreement would have a greater global impact on trade costs than eliminating all tariffs (World Trade Organization, 2015). OECD and UNCTAD (2017) estimate that full implementation of the Agreement would boost trade flows by 0.6 per cent and increase GDP by between 0.04 and 0.41 per cent, depending on a country's level of development. UNCTAD (2016) discusses the close statistical correlation not only between specific measures of the Agreement and trade competitiveness, but also between trade facilitation reforms and the achievement of the Sustainable Development Goals on strengthening governance and formalizing the informal sector.

Reliability and speed of maritime trade transactions

Article 7 of the Agreement on Trade Facilitation sets forth measures for the timely release and clearance of goods. At the same time, this measure encourages investment in the electronic processing of trade clearance procedures, including payment and electronic submissions of declarations and pre-arrival processing, thus reducing the time goods spend at borders. Similarly, article 10 on formalities relating to importation, exportation and transit provides incentives for the integration of informal trade into the formal economy. Indeed, the implementation of both articles have a stronger positive bearing on a country's Doing Business Index indicator for trading across borders, as suggested by the data obtained from a country-by-country analysis of the number of notifications on the date of the entry into force of the Agreement. Measures enhancing predictability have the greatest influence on imports and exports of value added goods. In this respect, advance ruling measures affect imports, while measures relating to the availability of trade-related information affect exports (OECD and UNCTAD, 2017).

Stakeholder collaboration

The entry into force of the Agreement also promotes public–private partnerships. Under article 23.2, Members of World Trade Organization are required to have in place national trade facilitation committees, which are platforms where representatives from the public and private sectors, including the port community, consult, inform, coordinate and engage in strategies towards the successful implementation of the Agreement and trade facilitation in general. Such a mechanism is crucial for ensuring political buy-in from relevant stakeholders, including users and providers of trade and transport-supporting services.

Strengthening the port community system

Implementation of the Agreement can also strengthen the port community system by enabling neutral and open electronic platforms, such as the single window, where stakeholders from the public and private sectors exchange information for the clearance of goods to improve the efficiency and competitive position of maritime communities.

Article 10.4 of the Agreement requiring countries to establish and maintain single windows plays a key role in this endeavour. The single electronic submission of data optimizes and automates the performance of ports and logistics processes. Connecting transport and logistics chains also reduces the duplication of data and the number of steps in trade procedures. Other measures of the Agreement, such as electronic payment (article 7.2), can complement a single window environment. Many ports around the world have electronic port community systems for the exchange of data between port stakeholders. By linking or converting such systems to electronic single window systems, the entire transport and trade chain can be connected, thus linking or combining the logistics and commercial data information systems with the government clearance systems of customs and other border agencies, which in turn will speed up and streamline the trade process, making it more efficient.

Experience with the Automated System for Customs Data of UNCTAD suggests that single windows can have a strong, positive impact on the speed, reliability and transparency of trade procedures. Rwanda is a case in point. Remote offices of the Rwanda electronic single window based on the Automated System for Customs Data World platform located in ports of neighbouring countries of Kenya (Mombasa) and the United Republic of Tanzania (Dar es Salaam) helped reduce clearance times from 11 days in 2010 to 34 hours in 2014. Volumes of cargo inspected increased from 14 per cent in 2012 to 42 per cent in 2014 and reduced the cost of clearance from FR 30,000 to FR 4,000 in a one-year period, 2013–2014 (Trade Mark East Africa, 2015).

Connecting landlocked countries

Landlocked developing countries face additional challenges insofar as their trade flows and costs largely depend on the efficiency of customs and other border agencies, not only in their own countries but also of those in neighbouring transit countries. Against this background, article 11 seeks to improve the efficiency of transit operations requiring close coordination among a multitude of agencies on either side of a border. Landlocked developing countries and coastal transit developing countries benefit from the reduction of

bureaucratic tasks related to transit. Furthermore, the Agreement on Trade Facilitation offers a comprehensive treatment to transit issues by considering and dealing with transit in other provisions of the Agreement. For instance, the obligation to publish relevant information (article 1) and provide traders with an opportunity to comment on proposed new regulations before they enter into force (article 2) also includes transit.

Enhancement of regional connectivity

Facilitation of cross-border transit and trade is closely linked to regional integration and cooperation between neighbouring countries. The Agreement on Trade Facilitation encourages and contributes to regional connectivity. The benefits of domestic trade facilitation reforms are multiplied when such reforms are achieved with neighbouring countries and in a regional context with trading partners. In addition, intraregional connectivity helps eliminate geographical constraints, which can benefit small economies and landlocked countries. OECD and UNCTAD (2017) describe a strong, positive association between improvements in infrastructure and trade facilitation in neighbouring countries, on the one hand, and greater value chain connectivity at home, on the other. The Agreement includes articles on inter-agency collaboration and customs cooperation at the national and bilateral levels and allows for regional collaboration in setting up enquiry points, enhancing cooperation between neighbouring countries. Moreover, the Agreement attains this objective without requiring a multitude of regional trade agreements, making it unnecessary to process additional paperwork related to certificates of origin (UNCTAD, 2016).

2. Convention on Facilitation of International Maritime Traffic

The Convention on Facilitation of International Maritime Traffic is important for the maritime and ports sectors and contributes to improving connectivity in this field. The Convention is aimed at facilitating maritime transport by simplifying and minimizing formalities, data requirements and procedures associated with the arrival, stay and departure of ships engaged in international voyage. To this end, the annex to the Convention contains standards and recommended practices on formalities, documentary requirements and procedures that should be applied to ships, their crews, passengers, cargo and baggage on arrival, during their stay and on departure.

The Convention reduces to nine the number of declarations that can be required by public authorities. These standardized IMO forms include, inter alia, the general declaration, cargo declaration, crew and passenger lists, and dangerous goods manifest (IMO, 2017). IMO is currently working on a revision of the explanatory manual of the Convention with a view to updating the information.

D. OUTLOOK AND POLICY CONSIDERATIONS

Low transport connectivity remains a major hurdle for developing countries to connect to global markets. In particular, landlocked developing countries, small island developing States and other smaller and weak economies face considerable challenges in benefiting from trade opportunities, as they have access to fewer, less frequent, less reliable, more costly transport connections. As maritime transport continues to be the main mode of transport for the imports and exports of most developing countries, it is important to identify policies that help improve maritime transport connectivity. Based on the analysis provided in this issue of the Review, a number of conclusions and recommendations for policymakers, the international community and future work of UNCTAD can be drawn, as follows.

Data and research

Include maritime connectivity in planning and trade models. When negotiating trade deals, preparing trade policies or planning transport infrastructure investments, research and forecasts can be significantly improved if data on maritime transport networks are included. "Successful connectivity combines planning for scale economies, development of sustainable infrastructure capacity, efficient use of such capacity and economic inclusion aspects" (Global Infrastructure Connectivity Alliance, 2017). To this end, UNCTAD publishes two annual indices on maritime transport connectivity. It is recommended that further research be conducted on the specific components of shipping connectivity, as well as linkages to other dimensions of transport and trade connectivity.

Explore digital and other forms of connectivity. Better transport connectivity leads to lower trade costs and higher trade flows. At the same time, e-commerce, global value chains and advances in technology trigger further demand for better digital and other forms of connectivity. There are opportunities from modern network technologies, such as cargo and vessel tracking and numerous other digital developments, that can help enhance maritime connectivity. Researchers and policymakers need to consider maritime connectivity as a component of the broader dimensions of connectivity.

Shipping networks

Promote linkages between domestic, regional and intercontinental shipping services. Limitations to domestic or regional cabotage markets can lead to unnecessary inefficiencies and loss of maritime connectivity. Allowing international lines to also carry domestic trade and feedering cargo can enhance both the competitiveness of a country's seaports and the access of importers and exporters to international shipping services.

Ensure regional coordination. Most seaports can serve more than one country, be it through inland connections or via trans-shipment operations. Not every country can be host to the region's main hub port. For ports along the same route, it makes sense to plan port investments jointly to accommodate the vessels that are expected to serve this route in future. Regional organizations and international development partners can play an important role when planning port investments in countries within the same region.

Seaports and the hinterland

Investments in seaports and intermodal connections should be made. Important determinants of a country's maritime connectivity are beyond the control of policymakers. Notably, a country's geographical position and trade volumes are difficult to change. Investments can make a difference in domestic seaports. These investments may take the form of public–private partnerships, as most common user ports such as container terminals have in recent decades been concessioned or have involved the private sector in some other form.

Inter-port competition should be encouraged. Competitive pressures will encourage port operators to maximize their efficiency and pass on those efficiency gains to their clients, shippers and shipping lines. Inter-port competition should not be limited to domestic seaports, but to neighbouring countries' ports as well. Efficient trucking markets, rail and road infrastructure, and transit regimes are effective instruments for enhancing inter-port competition.

Trade and transport facilitation

Collaborative platforms should be built or strengthened. Under the Agreement on Trade Facilitation and Convention on Facilitation of International Maritime Traffic, members should establish committees in which stakeholders coordinate and cooperate in the implementation of trade and transport facilitation reforms. Ideally, such collaborative platforms should go beyond compliance issues, aiming instead at all necessary reforms to facilitate international trade and its transport.

International transit and cross-border trade should be facilitated. Maritime connectivity benefits from a larger hinterland for seaports to capture additional cargo from neighbouring countries. Transit can be facilitated in line with international standards and recommendations, including those of the United Nations, the World Customs Organization and the World Trade Organization. Regional and subregional transit regimes may also help and are often more ambitious than the minimum requirements of multilateral regimes.

Trade and its transport

Policy objectives should be clearly defined. Connectivity is not everything. Pressure from shipping lines to invest in seaports to accommodate ever larger ships, especially for trans-shipment operations, may not be worth the extra cost. Without additional volumes, increasing the ship size will reduce the effective capacity of a seaport, as larger yards would be necessary to handle the same total volume. Policy objectives need to be clearly defined. Furthermore, improved maritime connectivity is not an end in itself – it should serve predefined purposes, such as enhancing trade competitiveness and employment.

Transport and trade policies should be realistic. In view of current industry developments in liner shipping, including mergers, global alliances and ever larger gearless ships, it will be difficult and costly for some remote and small markets to maintain frequent and cost-effective liner shipping connections. Trade policies will need to realistically consider what type of goods and services a country can import and export. These may include digital goods and services, or goods that are competitive by air transport in order to complement the goods traded by sea.