MEASURING TRADE FACILITATION: EVIDENCE FROM INDIA[1]

COMMUNICATION FROM INDIA

The following communication, dated 4 October 2022, is being circulated at the request of the delegation of India for Members' information.

_____

1 SUMMARY

1.1. In this paper the authors use the trigger presented by the World Trade Organization's (WTO's) Trade Facilitation Agreement (TFA) to undertake a comprehensive review of various publicly available studies for India relating to performance measurement of the ecosystem that handles the cross-border movement of goods, focusing on the period since 2015.

1.2. The paper summarizes the results of six key composite performance indicators—namely, (1) the Organisation for Economic Co-operation and Development's (OECD's) trade facilitation indicators (TFIs); (2) the World Bank's Ease of Doing Business (EODB) Index; (3) the World Bank's Logistics Performance Index (LPI); (4) the World Economic Forum's (WEF's) Global Competitiveness Index (GCI); (5) the World Bank's World Governance Indicators (WGIs); and (6) the United Nations' Global Survey on Trade Facilitation and Paperless Trade Implementation (GSTF-PTI). This paper, by examining these composite survey-based indicators and the intertemporal trends they exhibit for India, reveals that they have not been moving in agreement with each other and that some of the trends are evidently counterintuitive. A comparison between delineated subindicators of select composite indicators sometimes indicates surprising trends.

1.3. Import cargo release times (a performance measurement prescribed by the TFA) for the largest containerized port in the country, the Jawaharlal Nehru Port Trust (JNPT), have been extracted from various studies that have relied on the data from the customs automation system; the container tracking system, which employs radio-frequency identification (RFID); and survey-based studies, including the Trading Across Borders (TAB) component of the World Bank's EODB Index. These import cargo release time studies present a consistent trend of improvement since 2017.

1.4. The paper, therefore, highlights the greater robustness of cargo release time trends, based particularly on technology-enabled data-driven studies as a more meaningful metric for measurement of performance of border management agencies and practices vis-à-vis survey or perception-based indicators representing "enablers" of trade facilitation.

2 INTRODUCTION

2.1. The World Trade Organization (WTO) Trade Facilitation Agreement (TFA) has placed trade facilitation initiatives high on the agenda of the governments of the member economies, including India, for meeting the commitments made thereunder. It has also provided a high degree of coherence to various components of trade facilitation, as a package through a whole-government approach, encouraging a plethora of efforts at performance measurement by different agencies.

---

[1] Authors: Vijay Singh Chauhan Commissioner of Customs at the Customs Authority for Advance Rulings, New Delhi, and Sruti Vijayakumar, Deputy Commissioner of Customs at the Jawaharlal Nehru Custom House, Nhava Sheva; 17 May 2021. This paper was originally published by Carnegie India. The link to the original document: https://carnegieindia.org/2021/05/17/measuring-trade-facilitation-evidence-from-india-pub-84456.

2.2. The TFA entered into force on 22 February 2017. This new Multilateral Agreement on Trade Facilitation was first raised during the Ninth WTO Ministerial Conference, held in Bali in December 2013; subsequently, an amendment protocol to bring the TFA into the WTO's legal framework was adopted in November 2014 and members were invited by WTO to complete their national process for ratification. India ratified the TFA in April 2016. The efforts toward simplifying procedures and processes associated with cross-border movement of goods and improving ease of doing business (EODB) have thus been underway for a longer period, both in India and the world over. Therefore, the coming into force of the TFA is viewed as a major landmark, one that has provided added impetus and enhanced focus to the facilitation measures, requiring compliance with specific provisions of the TFA in a time-bound manner.

2.3. The Government of India has constituted the National Committee on Trade Facilitation (NCTF), chaired by the cabinet secretary, the senior-most civil servant, to ensure domestic coordination and to drive forward and monitor India's compliance with the provisions of the TFA. The NCTF has put together the National Trade Facilitation Action Plan 2017-2020 (NTFAP), which identifies the lead agency responsible for each of the provisions of the TFA and prescribes timelines under three broad categories: short-term (zero to six months), medium-term (six to eighteen months), and long-term (eighteen to thirty-six months).[2]

2.4. The NTFAP, "in order to identify the key performance indicators and to achieve the objectives of TFA," referred to four "global key performance indicators or benchmarks that will provide aspirational value" to the government measures.[3] These four indicators are (1) the Organisation for Economic Co-operation and Development (OECD) trade facilitation indicator's (TFIs); (2) World Bank Trading Across Borders (TAB), which is a component of the World Bank's EODB Index; (3) the World Bank's Logistics Performance Index (LPI); and (4) the World Economic Forum's (WEF) Global Competitive Index (GCI).[4] The specific performance indicator included in the TFA to measure trade facilitation relates to measuring and publishing the average release time of goods, including through the conduct of a release time study, which "encourages members to measure and publish their average release time of goods periodically and in a consistent manner, using tools such as, *inter alia*, the Time Release Study of the World Customs Organization."[5]

2.5. It has been more than three years since the TFA came into force. The WTO has been monitoring the "state of play of the TFA" on a daily basis, providing the implementation status for the various member countries.[6] In addition, details of various performance indicators that are being deployed by different agencies and organizations and cargo release times for specific customs formations reported by various agencies are available to the public.

2.6. In this paper we have undertaken a comprehensive review of the publicly available data on trade facilitation and key performance indicators pertaining to India since 2010, or from the time they are available – whichever is later. Toward this objective, we have gone beyond the four key performance indicators identified in the NTFAP, since those indicators are also found to provide similar assessment of the economy in respect to select parameters.

2.7. As regards the release time data, we note that besides the World Customs Organization's (WCO's) Time Release Study (TRS), there are certain other indicators that also seek to capture data, broadly corresponding to release time, often in addition to certain other performance indicators. For example, the World Bank's EODB Index includes the TAB subindicator, which captures respondents' perception about release time and cost for import and export cargo, at specified customs formations. In the case of India, the two formations that are captured by TAB are the Jawaharlal Nehru Custom House (JNCH), catering to the Jawaharlal Nehru Port Trust (JNPT)—the largest containerized port in the country, located in the Raigad District, near Mumbai, and the inland container depot (ICD) at Tughlakabad in Delhi—a major customs dry port. The studies relating to cargo release time are often

---

[2] Central Board of Indirect Taxes and Customs, National Trade Facilitation Action Plan 2017–2020 (Revised up to August, 2019) (New Delhi: Central Board of Indirect Taxes and Customs, 2019), http://cbic.gov.in/resources/htdocs-cbec/implmntin-trade-facilitation/ntf-action-plan-Revised-upto-August2019.pdf.

[3] Central Board of Indirect Taxes and Customs, National Trade Facilitation Action Plan 2017–2020.

[4] For the World Economic Forum's Global Competitiveness Reports, see World Economic Forum, "Reports," web page, n.d., https://www.weforum.org/reports.

[5] World Trade Organization, Agreement on Trade Facilitation, 22 February 2017, https://www.wto.org/english/docs_e/legal_e/tfa-nov14_e.htm, subarticle 7.6.1.

[6] World Trade Organization, "State of Play of the Trade Facilitation Agreement in 7 Charts," web page, accessed 20 March 2021, https://tfadatabase.org/state-of-play.

found to be location specific and seem to have higher utility when so presented. In view of the above, and taking into account the happy coincidence of the JNCH producing high-quality annual TRSs since 2017, with which the authors were closely associated, this paper seeks to analyze the import cargo release time data, with specific reference to the JNCH and JNPT.

3 THE WORLD TRADE ORGANIZATION'S TRADE FACILITATION AGREEMENT

3.1. The TFA is divided into three sections comprising twenty-four articles. The first twelve articles, included in section 1, cover specific commitments relating to publication and availability of information (article 1); opportunity to comment, information before entry into force, and consultations (article 2); advance rulings (article 3); procedures for appeal or review (article 4); other measures to enhance impartiality, non-discrimination, and transparency (article 5); disciplines on fees and charges imposed on or in connection with importation and exportation and penalties (article 6); release and clearance of goods (article 7); border agency cooperation (article 8); movement of goods intended for import under customs control (article 9); formalities connected with importation, exportation and transit (article 10); freedom of transit (article 11); and customs cooperation (article 12). Section 2 contains articles 13–22 and covers the special and differential treatment provisions for developing country members and least-developed-country members. Section 3 covers articles 23–24, which relate to institutional arrangements and final provisions.

3.2. Article 14 of the TFA provides that there are three categories of provisions: category A contains provisions that a developing country member or a least-developed-country member designates for implementation upon entry into force of the agreement, or in the case of a least-developed-country member within one year after entry into force, as provided in article 15; category B contains provisions that a developing country member or least-developed-country member designates for implementation on a date after a transitional period of time following the entry into force of the TFA, as provided in article 16; and category C contains provisions that a developing country member or least-developed-country member designates for implementation on a date after a transitional period of time following the entry into force of the TFA and requiring the acquisition of implementation capacity through the provision of assistance and support for capacity building, as provided in article 16.

3.3. According to a communication dated 18 March 2016, India provided a detailed list of provisions within a category A commitment, stating that all other commitments in section 1 were designated as category B commitments. These category B commitments need to be implemented by February 2022.

3.4. According to the data available as of 22 February 2020, India has completed its designation of categories A, B, and C; its implementation status reflects that 72.3% of provisions have been placed under category A, which have been fulfilled. The remaining 27.7% of provisions are placed under category B, for which no separate notification will be filed by India until 30 April 2020.[7]

3.5. India's NCTF published the revised NTFAP in August 2019.[8] As initially formulated and subsequently revised, the plan includes sixteen specific provisions, which were to be completed within the short and medium terms and have been fulfilled. It included nine category B commitments, which were to be fulfilled in the medium term of six to eighteen months. None of the provisions were placed in category C.

3.6. The NTFAP also included a much longer list of fifty action points, categorized as TFA Plus Activities, which were to be completed mostly in the medium term. These action points relate mainly to infrastructure developments, including those related to major ports (thirteen points); those related to civil aviation (ten points); and those related to land customs stations (three points). The NTFAP was subsequently updated to include additional activities pertaining to category B commitments and to integrate eleven additional TFA Plus Activities, cumulatively taking the number of activities to ninety-six.

---

[7] World Trade Organization, "Trade Facilitation Agreement Database," webpage, accessed 20 March 2021, https://tfadatabase.org/implementation/progress-by-member.
[8] Central Board of Indirect Taxes and Customs, National Trade Facilitation Action Plan 2017–2020.

3.7. The list of activities identified by the NCTF, including those covered by the TFA commitments, are expected to improve EODB, facilitate trade, and bring about other perceptible improvements in the economic environment of India, acting as "enablers" of trade facilitation.

4 INDIA'S PERFORMANCE AS MEASURED BY GLOBAL INDICATORS

4.1. In this section we review India's performance as measured by six global indicators, which are conducted by different agencies with varying periodicity. The six indicators selected are the four key indicators referred to in the NTFAP, the World Bank's Governance Indicators (WGI), and the United Nation's Global Survey on Trade Facilitation and Paperless Trade Implementation (GSTF-PTI). The additional two indicators have been included since governance and paperless trade are both enablers of trade facilitation.

4.2. All six indicators covered in this section are composite indicators, since they include a varying number of subindicators. These indicators invariably provide economy-wide statistical scores, often including economic ranks. In some cases, subindicator scores and ranks are also available.

4.3. In table 1 we summarize the salient features of these composite indicators. Thereafter we briefly discuss each of them, presenting their time series rank and score, if available for India.[9]

Table 1 The Composite Indicators

Section	Indicators	Agency	Frequency/ Coverage	Data Period	Rank, Score, or Both	Scope
1	OECD TFIs	OECD	Biennial—163 countries	2015, 2017, 2019	Score	Covers eleven subindicators, with governance and impartiality being an additional indicator outside the TFA remit.
2	EODB Index	World Bank	Annual—190 economies	2006–2019	Rank and score	Covers twelve business regulatory areas, ten of which are used to estimate EODB scores.
3	LPI	World Bank	Biennial—160 countries	2010–2018	Rank and score	Measures six dimensions relating to trade.
4	GCI	WEF	Annual—141 economies	2014–2019	Rank and score	Covers twelve main pillars that determine productivity, aggregating 103 individual indicators.
5	WGIs	World Bank	Annual—200 countries and territories	2010–2018	Score	Based on more than thirty underlying data sources, covering six dimensions of governance.
6	GSTF-PTI	United Nations	Biennial—120 (99)* economies	2015, 2017, 2019	Score	Covers four main areas via a survey comprising forty-seven questions.

Note: The latest study covers 120 economies, of which 99 were covered in the previous two studies as well.

---

[9] Investopedia, What Is a Time Series?, webpage, last updated 31 March 2020, https://www.investopedia.com/terms/t/timeseries.asp. Time series data consist of successive measurements obtained from the same source at specific time intervals, often used to track changes over time.

5 THE ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT'S TRADE FACILITATION INDICATORS

5.1. The OECD TFIs, as composite performance indicators, perhaps most closely approximate the provisions of the TFA. The OECD itself claims that to help governments improve their border procedures, reduce trade costs, boost trade flows and reap greater benefits from international trade, we have developed a set of trade facilitation indicators (TFIs) that identify areas for action and enable the potential impact of reforms to be assessed. The OECD TFIs cover the full spectrum of border procedures for more than 160 economies across different income levels, geographical regions, and levels of development.[10]

5.2. The OECD TFIs comprise eleven subindicators, each covering several related variables. Ten of these subindicators represent ten specific provisions of the TFA, with "governance and impartiality" being outside its remit.

5.3. The indicator assigns values ranging from 0 to 2 for each of the eleven subindicators, where 0 represents the worst performance that can be achieved and 2 represents the best. The scores aim to reflect the regulatory framework, along with the implementation status of various trade facilitation measures in the country concerned. The indicator also presents the overall combined average trade facilitation performance score for each country based on the eleven subindicator scores, assigning equal weight to each of the subindicators.

5.4. Our primary research of OECD TFIs was based on publicly available data for 2015, 2017, and 2019 on the OECD's website. Subsequent to the completion of our primary research, however, we noted that at the OECD website there were certain changes in the reported scores for India beyond the deletion of data relating to 2015. In order to understand the reasons behind the modifications in the data, we wrote to the OECD team. The team has responded, explaining that the OECD revised certain scores "in respect of the sub-indicators, for the years 2017 and 2019, based on a fine-tuned methodology with the aim to deepen the analysis of various components by inserting additional variables that were previously challenging to cover across the different indicators as well as introducing some adjustments in the scoring across several components."[11] This revision is in some sense reflective of the challenges in performance measurement of trade facilitation measures, both across time and economies.

5.5. In figure 1 we present India's scores in respect to each of the eleven subindicators, for the three biennial data points covering 2015–2019, relying on the revised scores for 2017–2019 and using the earlier available score for 2015.

5.6. For the OECD TFIs as a whole, we find that India's average cumulative trade facilitation score in 2019 is 1.524, which is well above the global average of 1.15. At the subindicator level, we find that in 2015 and 2019, India's scores improved in respect to seven subindicators, remained the same for three (formalities-automation, formalities-procedure, and advance rulings) and marginally declined for one (involvement of the trade community).

5.7. Further, since the revision of the data by OECD has had a significant impact on India's trade facilitation scores, we consider it useful to present a comparative position of the prerevised and revised scores for eleven subindicators for 2017 and 2019, as can be seen in figure 2.

---

[10] Organisation for Economic Co-operation and Development, "Trade Facilitation," web page, n.d., https://www.oecd.org/trade/topics/trade-facilitation/.
[11] Email communication received from OECD to the author on 30 August 2020, in response to the email query to the OECD.

Figure 2 TFIs: India's Revised and Prerevised Scores
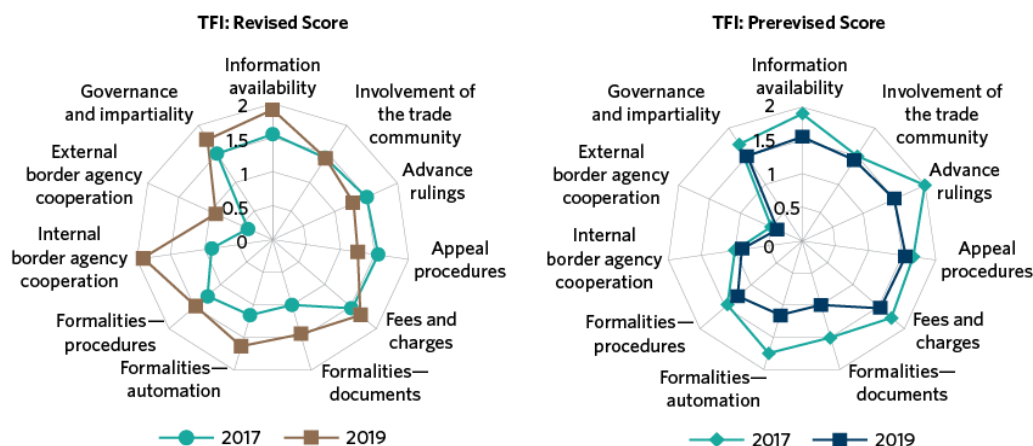
Source: Authors' calculations, based on OECD TFIs for 2017 and 2019 (Paris: OECD), which can be found at "Compare your country: trade facilitation" OECD, Trade Facilitation, accessed 15 March 2021, https://www.oecd.org/trade/topics/trade-facilitation/ and based on data received from OECD vide email.

5.8. The comparative position shows that, according to the prerevised data, India's scores were reported to have surprisingly declined in respect to all the eleven subindicators, and to have fallen even below the 2015 score in respect to nine of the eleven subindicators. Yet, taking into account the revision undertaken by the OECD, India has, during the same period, improved its scores in respect to eight subindicators, remained unchanged for one, and declined marginally for the other two. We consider the revised scores to be better aligned with anecdotal evidence regarding improvement in trade facilitation measures in India, as well as other performance indicators covered in the present paper.

5.9. The results noted herein have been arrived at through a methodology that is summarized by the OECD: "TFIs are based on a detailed questionnaire, with the aim of ensuring factual information that is geographically comparable and consistent over time. Data is collected from three types of sources: (a) publicly available information included in the websites of Customs and other relevant border agencies, official publications such as Customs Codes, annual reports, or public databases; (b) direct submissions from countries; and (c) factual information from the private sector – in particular express industry associations and companies operating worldwide. Discrepancies are verified by the OECD, and completed country datasheets are sent to capitals for validation." Further, "Country datasheets are sent for validation with the assistance of WTO Permanent Delegations in Geneva, the World Customs Organization (WCO) and the ASEAN Secretariat for economies outside the OECD membership."[12]

5.10. The substantive revision in the country score for India by the OECD, much after the publication of earlier scores, suggests, however, that the methodology adopted by the OECD is still in the process of evolution and yet to stabilize. On the basis of information available to the public and responses from the OECD team, it is not clear whether the revisions can be attributed to the process of country data sheet validation included in the OECD's methodology. Be that as it may, we are of the view that the fine-tuning undertaken by the OECD has resulted in evening out various glaring inconsistencies in the scores reported for India, with the revised data being more aligned with the assessment of other major performance indicators.
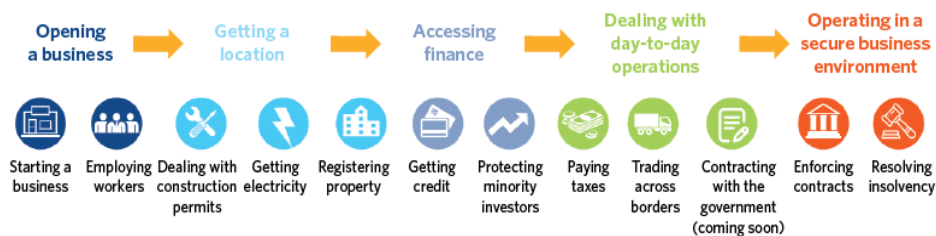
6 THE WORLD BANK'S EASE OF DOING BUSINESS INDEX

6.1. The EODB Index is perhaps the most widely known and tracked performance indicator for which longer time series data regarding wider geographic coverage are available.

---

[12] Organisation for Economic Co-operation and Development, Introducing the OECD Trade Facilitation Indicators (Paris: Organisation for Economic Co-operation and Development, n.d.), https://www.oecd.org/trade/topics/trade-facilitation/documents/trade-facilitation-indicators-methodology.pdf.

6.2. The EODB Index covers ten "Doing Business" topics comprising forty-one indicators. It presents both rank and score, separately for each of the ten topics, as well as at the aggregated level, each assigned equal weight. In figure 3 the coverage of EODB is presented, though it should be emphasized that measurements relating to "employing workers" and "contracting with the government" are presently not included in the composite EODB Index.

Figure 3 What is Measured in Doing Business

Note: The employing workers and contracting with the government indicator sets are not included in the ease of doing-business ranking.

Source: World Bank, Doing Business 2020 (Washington, DC: World Bank, 2020), fig. 0.1, https://www.doingbusiness.org/en/reports/global-reports/doing-business-2020.

6.3. The score combines measures with different units, such as time to start a company or procedures to transfer a property or costs involved in the same. (This is explained in greater detail later in this paper, with reference to "Trading Across Borders" [see figure 15]). The score for any subindicator for an economy represents the gap between an economy's current performance and a measure of the best regulatory practice for that subindicator. Prior to the 2019 Doing Business Report, this score was referred to as the "distance to frontier score"; it has since been changed to the "ease of doing business score." The score, therefore, seeks to reflect an economy's position with respect to the best regulatory practice. Thus, with respect to a particular regulatory practice, the best economy gets a score of 100. For other economies, the higher the score, the better EODB they provide. Lower scores show poorer EODB, with the worst performance being set at 0. The percentage point scores of an economy on the ten different topics are averaged together to obtain the aggregate EODB score. The countries are then ranked according to the score for each subindicator and at the aggregate level.

6.4. In figure 4, India's composite EODB rank and score since 2014 are presented, when a substantive modification in the methodology was carried out.[13] It is worth noting that India's country score has been improving consistently during the entire data period, albeit at a significantly faster pace since 2018. During the early period of sluggish growth in score, India's country rank had slipped or stagnated, which is attributable to the differing relative performance of other countries with similar doing-business scores. But since 2018, India's rank has improved significantly, making it one of the fastest-improving economies in terms of EODB rank.

---

[13] World Bank, "Doing Business: Methodology," web page, https://www.doingbusiness.org/en/methodology.

Figure 4 India's EODB Rank and Score
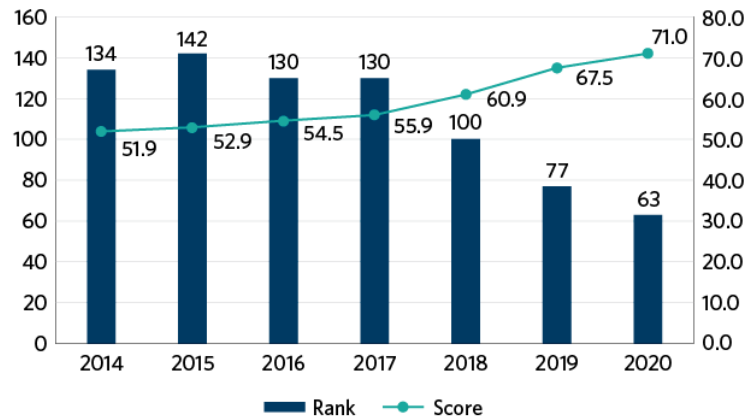
6.5. Taking into account the scope of the subindicators, we expected that the TAB subindicator of EODB would be most closely aligned with OECD TFIs. However, we find that the prerevised version of OECD TFIs was significantly misaligned; and the subsequent fine-tuning by OECD has resulted in directional alignment with EODB and its TAB subindicator. This is discussed in greater detail later in this paper, in the section "Release Time Data."

7 THE WORLD BANK'S LOGISTICS PERFORMANCE INDEX

7.1. In terms of scope, the World Bank's LPI is seen to be more closely related to issues of trade and trade facilitation, measuring rank and score for economies on six dimensions of trade—namely, (1) the efficiency of customs and border management clearance; (2) the quality of trade and transport infrastructure quality; (3) the ease of arranging international, competitively priced shipments; (4) the competence and quality of logistics services (trucking, forwarding, and customs brokerage); (5) the ability to track and trace consignments; and (6) the frequency with which shipments reach consignees within scheduled or expected delivery times.

7.2. The LPI seeks to present the worldwide view on trade logistics performance across more than 160 countries, as seen by the logistics professionals. Using a five-point scale for assessment (from 1, "very low" to 5, "very high") in respect to each of the six aforementioned subindicators, it seeks the opinion of logistics professionals worldwide about trading with the country, to find how easy or difficult it is in these countries to transport general merchandise-typically, manufactured products in unitized form. The data used in the rank and score come from a survey of logistics professionals, who are asked questions about the foreign countries in which they operate. In figure 5 we summarize the average LPI rank and score for India for 2010–2018.

Figure 5 India's LPI Rank and Score
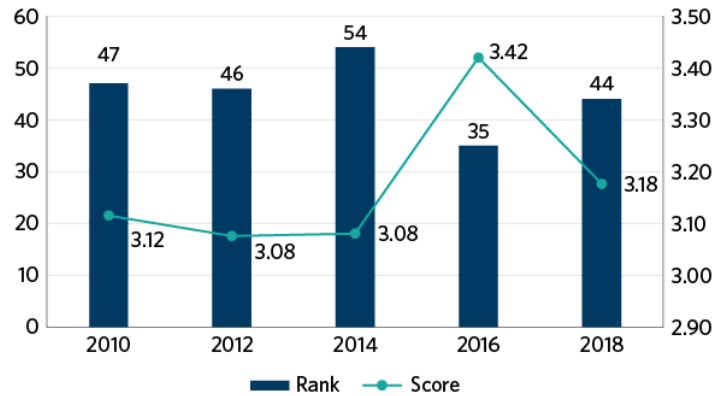
Source: Authors' calculations, based on the World Bank's LPI data sets for 2010, 2012, 2014, 2016, and 2018, at World Bank, "Aggregated LPI 2012-2018," web database, https://lpi.worldbank.org/.

7.3. The 2018 World Bank Report Connecting to Compete: Trade Logistics in the Global Economy helpfully includes its "Appendix 1: Aggregated International LPI Results Across Four Editions: 2012, 2014, 2016, and 2018," wherein India, with a mean LPI score of 3.22, has the mean LPI rank of forty-second among 160 countries. Therefore, notwithstanding the slippage, in 2018, India was ranked second after Viet Nam (whose rank was thirty-ninth) among the top-performing lower-middle-income economies.[14]

7.4. In order to understand and identify the reasons for slippage in rank and score between 2016 and 2018, we present in figure 6 the time series score in respect to each of the six subindicators.

Figure 6 India's Score in the Subindicators of the LPI
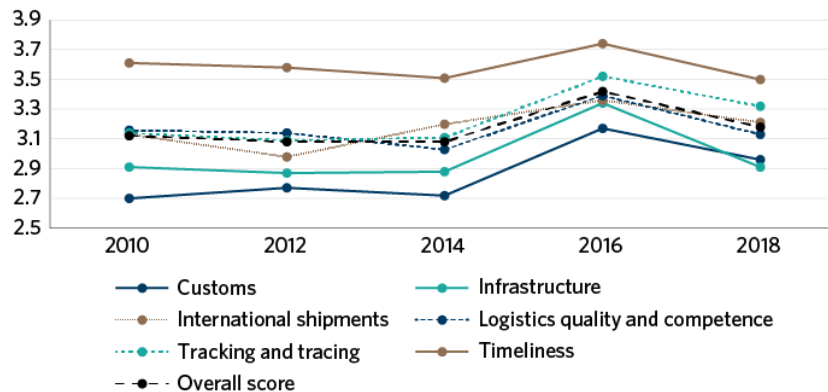
Source: Authors' calculations, based on the World Bank's LPI data sets for 2010, 2012, 2014, 2016, and 2018, at World Bank, "Aggregated LPI 2012-2018," web database, https://lpi.worldbank.org/.

7.5. It is important to note that India's score is found to have improved in respect to all six subindicators between 2014 and 2016; after that, it declined in respect to all the six subindicators. The high degree of positive correlation between the six LPI subindicators is at variance with the earlier two studies, wherein we found the subindicators to follow divergent trends.

8 THE WORLD ECONOMIC FORUM'S GLOBAL COMPETITIVENESS INDEX

8.1. In this section we look at India's GCI rank and score for 2014–2019, even as we note that the latest version of the index, called the GCI 4.0, was introduced in 2018 and covers 141 economies, accounting for about 99% of the world's gross domestic product. The GCI draws inspiration from the

---

[14] Jean-François Arvis, Lauri Ojala, Christina Wiederer, Ben Shepherd, Anasuya Raj, Karlygash Dairabayeva, and Tuomas Kiiski, Connecting to Compete 2018: Trade Logistics in the Global Economy; The Logistics Performance Index and Its Indicators (Washington, DC: World Bank, 2018).

growth accounting economic literature. It aims to measure the drivers of total factor productivity, the part of economic growth that is not explained by the growth in the factors of production but instead how smartly they are combined. Total factor productivity is considered to be the main determinant of long-term economic growth. The GCI 4.0 is the product of an aggregation of 103 individual indicators, derived from a combination of data from international organizations, as well as from the WEF's Executive Opinion Survey.[15]

8.2. An economy's performance on the overall GCI results, as well as each of its components, is rated as a progress score on a 0–100 scale, where 100 represents the "frontier," an ideal state at which an issue ceases to be a constraint to productivity growth.

8.3. Under the earlier methodology, we find that for 2014–2017 (as shown in figure 7), India's score increased consistently, albeit gradually, from 4.21 to 4.59. Under the revised methodology, even as India has the best rank of South Asian nations for 2019, at sixty-eighth, it has lost in terms of both rank and score over 2018. With a 2019 GCI score of 84.8 out of 100, Singapore is the country closest to the frontier of competitiveness.

Figure 7 India's GCI Rank and Score
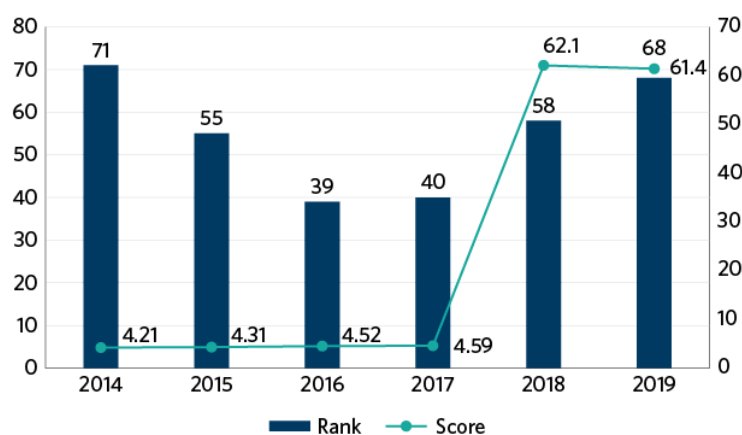
Note: Methodology revision resulted in the scoring change from 2017 to 2018.

Source: Authors' calculations, based on World Economic Forum, Global Competitiveness Reports for 2014-2019 (Geneva: World Economic Forum), at https://www.weforum.org/reports.

8.4. India, in the sixty-eighth position in 2019, has lost ground in the ranks of South Asian nations despite a relatively stable score, mostly due to faster improvements in several countries previously ranked lower. It is followed by Sri Lanka (the most improved country in the region, at eighty-fourth), Bangladesh (105th), Nepal (108th), and Pakistan (110th).

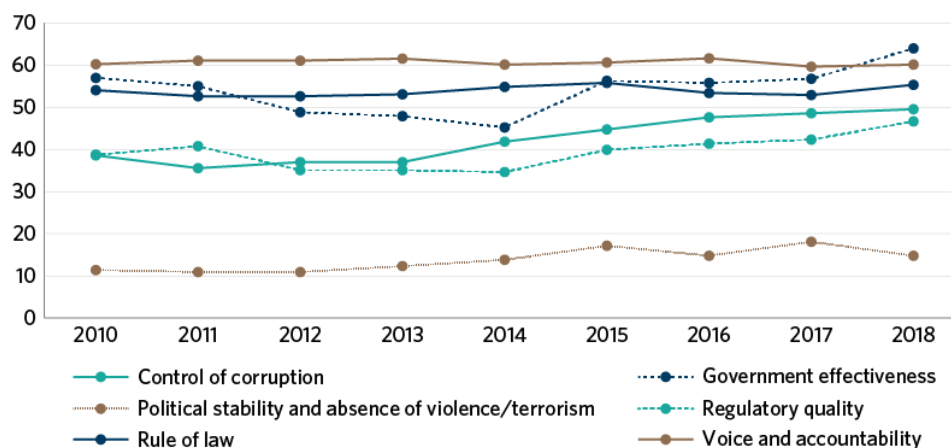## 9 THE WORLD BANK'S WORLD GOVERNANCE INDICATORS

9.1. The World Bank's WGIs are composite governance indicators based on over thirty data sources, covering six dimensions of governance: (1) voice and accountability; (2) political stability and absence of violence/terrorism; (3) government effectiveness; (4) regulatory quality; (5) rule of law; and (6) control of corruption. These aggregate indicators combine the views of a large number of enterprises, from both citizen and expert survey respondents, in industrial and developing countries. The data sources used for preparation of WGIs are produced by a variety of survey institutes, think tanks, non-governmental organizations, international organizations, and private-sector firms. The four different types of source data are (1) surveys of households and firms; (2) commercial business information providers; (3) non-governmental organizations; and (4) public-sector organizations.

9.2. Though annual data for over 200 countries and territories are available for 1996–2018, in figure 8 we present the data for India for 2010–2018 only. We have noted that during this period the data

---

[15] World Economic Forum, "Shaping the Future of the New Economy and Society," web page, last updated 2021, https://www.weforum.org/platforms/shaping-the-future-of-the-new-economy-and-society.

sources and methodologies have undergone certain changes. Yet since our intention in this paper is to highlight the broad trends suggested by WGIs, we have ignored these changes in the methodologies. In doing so, we also concur with the view expressed at the World Bank's WGI web page that "changes in governance over short year-to-year periods are difficult to measure with any kind of data, and are typically quite small."[16] We highlight that government effectiveness, control of corruption, and regulatory quality, which would have significant correlation with trade facilitation or EODB, have shown perceptible improvement since 2015 even as the other dimensions do not show such clear improvement, with voice and accountability showing the most negligible results.

Figure 8 India's WGI Percentile Rank

Source: Authors' calculations, based on the World Bank WGIs for 2010-2018, at World Bank, "World Governance Indicators," web page, https://info.worldbank.org/governance/wgi/.

10 THE UNITED NATIONS REGIONAL COMMISSIONS' GLOBAL SURVEY ON TRADE FACILITATION AND PAPERLESS TRADE IMPLEMENTATION

10.1. The last survey report that we consider in this section is the GSTF-PTI, jointly carried out by the five United Nations Regional Commissions. The GSTF-PTI covers 120 economies from eight regions, and we take into account the three data points for 2015–2019 that are available for ninety-nine countries. India is included in the South Asia region, along with Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan, and Sri Lanka.

10.2. This indicator focuses on measures related to the WTO's TFA, as well as to paperless trade and the United Nations Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific[17], through a survey questionnaire covering forty-seven questions under four main areas: (1) general trade facilitation measures, with subindicators of transparency, formalities, and institutional arrangement and cooperation; (2) paperless trade, through a set of ten questions seeking to assess the implementation of innovative, technology-driven measures aimed at enabling trade using electronic rather than paper-based data and documentation; (3) transit facilitation; and (4) inclusiveness in trade facilitation, with subindicators focused on specific trade facilitation measures targeted at small- and medium-size enterprises (SMEs), the agricultural sector, and women.

10.3. Each of the trade facilitation measures included in the survey was scored as "fully implemented" (3), "partially implemented" (2), "on a pilot basis" (1), or "not implemented" (0) to calculate implementation across countries, regions, or categories. The survey follows a three-step data collection and validation process. The first step involves data submission by experts, collected through a questionnaire sent to trade facilitation experts and publicly available online. The second step involves data verification by the United Nations Regional Commissions Secretariats. The

---

[16] See Klaus Schwab, "Appendix B: The Executive Opinion Survey: The Voice of the Business Community," in The Global Competitiveness Report 2018 (Geneva: World Economic Forum, 2018), https://reports.weforum.org/global-competitiveness-report-2018/.

[17] World Bank, "World Governance Indicators," web page, n.d., https://info.worldbank.org/governance/wgi/Home/Documents.

third step involves data validation by national governments. It has also been stated that the feedback from national governments was incorporated to finalize the data set.

10.4. In figure 9 we present the time series subindicator score for India, noting the general trend of improvement over time. We note that the government initiatives toward simplification of customs procedures, a significant push toward digitization, and a reduction in paper-based processes are reflected in improved scores in respect to cross-border paperless trade, formalities, and transparency.

Figure 9 India's GSTF-PTI Subindicator Score
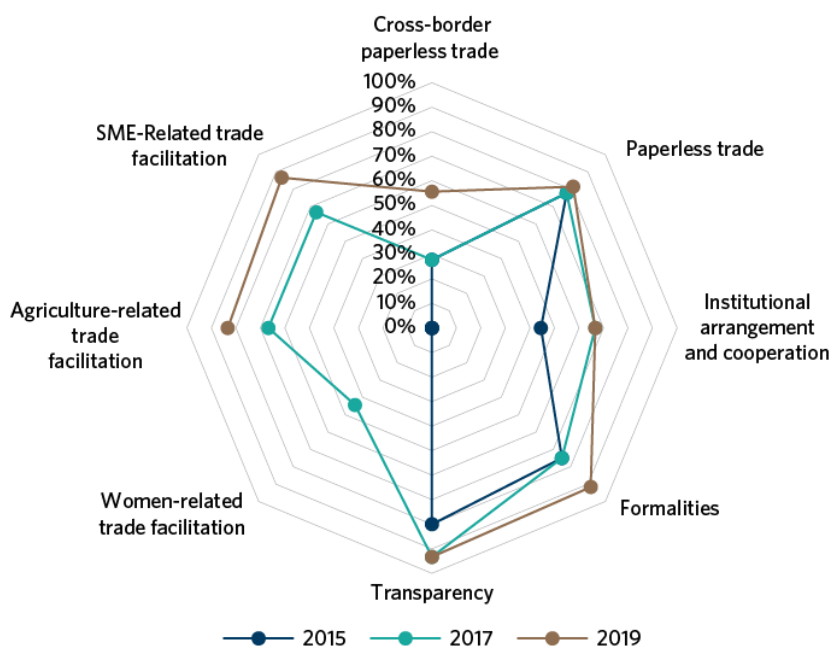
Source: Authors' calculations, based on the GSTF-PTIs for 2015, 2017, and 2019, at United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific, "UN Global Survey on Trade Facilitation and Paperless Trade Implementation," web page, https://unnext.unescap.org/content/un-global-survey-trade-facilitation-and-paperless-trade-implementation.

10.5. We conclude that for India the review of the time series rank and score, where available, presents a mixed picture for 2015–2019. The country has shown relatively consistent improvement according to some indicators, but in the case of other indicators the trend has been uneven. This unevenness becomes more pronounced when we look at the scores at the level of subindicators, even as we recognize that the scores may depend on the methodology adopted as much as the actual performance of the country on each subindicator. Therefore, if the null hypothesis is to be posited as India's performance showing consistent improvement in scores reported by the different composite indicators, this is not proven. The country rank, where reported, is found to be further impacted by the relative performance of economies belonging to the same cohort, even as EODB has reported consistent improvement in rank since 2016.

11 COMPARISONS BETWEEN SELECT INDICATORS AND SUBINDICATORS

11.1. In the previous section, "India's Performance as Measured by Global Indicators," we presented the scope, methodology and coverage of the six composite performance indicators, highlighting the significant differences therein. In view of these differences, it was expected that the intertemporal performance measurement reported might not be similar, particularly with reference to the pace of reforms, as captured by the changes in scores.

11.2. Having observed that it was not just the pace of reform but also its direction that was found to vary between the six composite indicators, in this section we present the results of certain comparisons between select indicators and subindicators.

11.3. In view of the aforementioned differences in scope, methodology, and coverage, including the difference in scoring patterns (which were also modified during the study period in a few cases), we recognize that these comparisons should not be viewed with statistical precision but only as broad subjective indicators of trends.

11.4. Recognizing that the theme of this paper is performance measurement, with TFA at its core, we take OECD TFIs as the primary performance measurement indicators. Therefore, the first comparison that we make is between OECD TFIs and the EODB since 2015–2016, thus approximating the period after which the TFA gained momentum. During this period India improved its average EODB score from 54.5 in 2016 to 71.0 in 2020, an improvement of 30.3%. In line with the EODB scores, India's scores in OECD TFIs, after the revision of the methodology, is found to have increased from 1.253 in 2017 to 1.524 in 2019, an improvement of 21.6%.

11.5. It can be noted that the GSTF-PTI bears close similarity with the OECD TFIs in terms of scope, frequency, and data points. According to the OECD TFIs, India's composite score improved from 1.253 in 2015 to 1.534 in 2019; according to the GSTF-PTI, India's score has shown an improvement from 64.52% in 2015 to 79.57% in 2019.

11.6. In addition, we find that it is possible to identify and group together performance indicators as regards to four subindicators: (1) transparency; (2) formalities; (3) automation; and (4) institutional cooperation and arrangement. The "transparency" indicator of the GSTF-PTI measures aspects of publications, stakeholder consultations, notification of new regulations, advance rulings, and appeal mechanisms, and this corresponds to the indicators of "information availability," "involvement of the trading community," "advance rulings," and "appeal procedures" of the OECD TFIs; hence, both can be grouped under "transparency." The "formalities" indicator of the GSTF-PTI is compared with the indicators of "formalities (documents)," "formalities (procedure)," and "fees and charges" in the OECD TFIs, and they can all be grouped under "formalities." The GSTF-PTI indicators of "paperless trade" and 'cross-border paperless trade' are correlated with the OECD TFI indicator "formalities (automation)," and can be grouped under "automation." And "institutional cooperation and arrangement" in the GSTF-PTI is comparable with the OECD TFIs' "internal border agency cooperation" and "external border agency cooperation" and can be grouped under "institutional cooperation and arrangement."

11.7. In figure 10 we present the comparative performance reported in respect to these combined subindicators of the OECD TFIs and the GSTF-PTI.

Figure 10 India's Performance in OECD TFIs and the GSTF-PTI
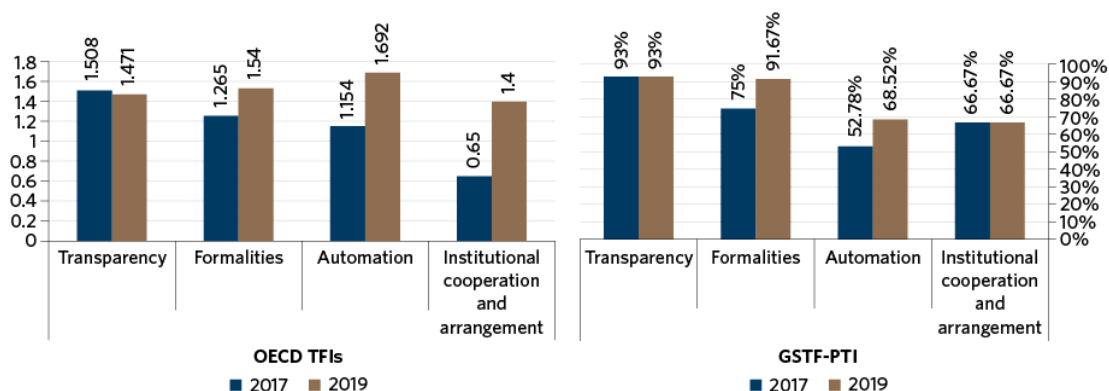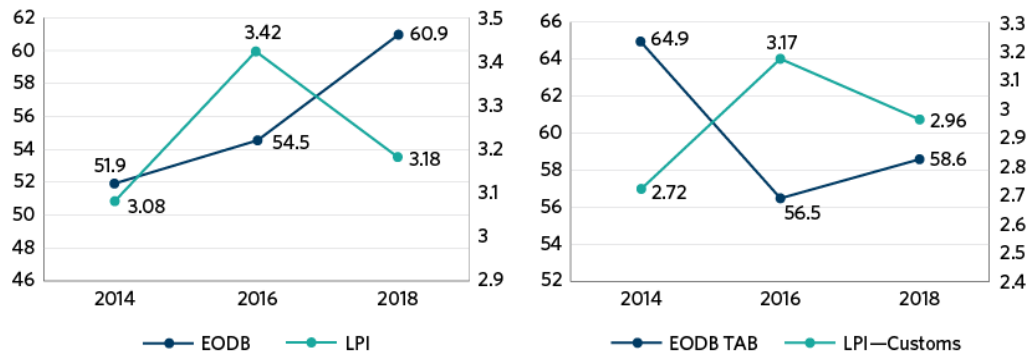

Source: Authors' calculations, based on OECD TFIs for 2017 and 2019 (Paris: OECD), which can be found at "Compare your country: trade facilitation" OECD, Trade Facilitation, accessed 15 March 2021, https://www.oecd.org/trade/topics/trade-facilitation/ and the GSTF-PTIs for 2017 and 2079, at United Nations Network of Experts for Paperless Trade and Transport in Asia and the Pacific, "UN Global Survey on Trade Facilitation and Paperless Trade Implementation," web page, https://unnext.unescap.org/content/un-global-survey-trade-facilitation-and-paperless-trade-implementation.

11.8. The third comparison we present is between the two indicators prepared by the World Bank: the broader and more widely tracked EODB and the more narrowly focused LPI. In addition, we note

that the TAB subindicator of EODB and the customs subindicator of LPI relate more directly to cross-border movement of goods.

11.9. Therefore, in figure 11, we compare the two sets of indicators for 2014, 2016, and 2018; the composite EODB score shows consistent improvement, whereas the average LPI score initially improves but thereafter declines between 2016 and 2018; and the TAB subindicator shows initial decline and then improvement, whereas the customs subindicator of the LPI shows initial improvement and then decline.

Figure 11 India's Performance in the World Bank EODB and the World Bank LPI

Source: Authors calculations, based on the World Bank's EODB, at
https://www.doingbusiness.org/en/doingbusiness; LPI at World Bank, "Aggregated LPI 2012-2018,"
web database, https://lpi.worldbank.org/; EODB TAB, at
https://www.doingbusiness.org/en/doingbusiness; and LPI-Customs data, at World Bank,
"Aggregated LPI 2012-2018," web database, https://lpi.worldbank.org/.

11.10. We conclude this section by summarizing the results of the six composite indicators, combining the annual rank and score on a line in figure 12, with four indicators showing improvements to the right and three showing decline to the left. The indicator on the extreme right shows maximum improvement and the one closest to "No Change" shows minimum improvement. Analogously, the indicator on the extreme left shows maximum decline. The distance between the indicators does not have any quantitative implication. In this figure, we include two versions of the OECD TFIs—revised and prerevised—to highlight the substantive shift in the reported performance of India, subsequent to the revision by the OECD. Overall we find that the composite indicators present an improvement in India's performance in EODB, paperless trade, trade facilitation, and governance, whereas it shows declining performance in logistics performance and competitiveness.

Figure 12 Summary of India's Performance
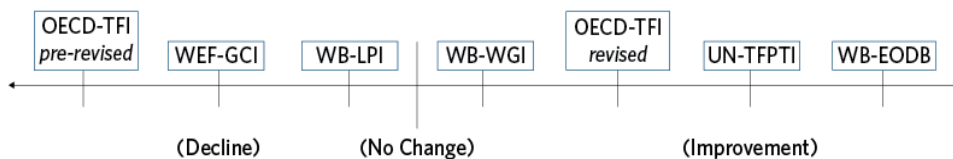
Source: Authors' presentation.

12 RELEASE TIME DATA

12.1. Article 7 of the TFA contains specific provisions for facilitating release and clearance of goods, including subarticle 7.6.1 for the establishment and publication of average release time, which reads as follows: "Members encouraged to measure and publish their average release time of goods periodically and in a consistent manner, using tools such as, *inter alia*, the Time Release Study of the World Customs Organization."[18] India has made subarticle 7.6.1 a category A commitment.

---

[18] United Nations, Framework Agreement on Facilitation of Cross-border Paperless Trade in Asia and the Pacific, 20 December 2020, https://www.unescap.org/resources/framework-agreement-facilitation-cross-border-paperless-trade-asia-and-pacific.

12.2. The NTFAP has, accordingly, prescribed the conduct of the TRSs for both import and export cargo at all seaports, air cargo complexes, ICDs, integrated check posts, and land customs stations.

12.3. The TRS has long been advocated by the WCO as "an internationally accepted strategic tool to measure the actual time taken for the release and/or clearance of goods – from the time of arrival until the physical release of cargo – as well as the effectiveness and efficiency of border procedures relating to imports, exports and transit movements of goods. It helps in identifying associated bottlenecks objectively, and in addressing them in an efficient and effective manner."[19]

12.4. In this section we review the literature available on the average release time data, with reference to sea cargo imports through the JNPT and cleared through its associated custom house, the JNCH.

12.5. We first present the intertemporal average import release time, using a bill of entry (a statutory import document) as the unit, computed from the time stamps obtained from the customs automation system. We then present average import release time, using a cargo container as the unit, computed by using RFID technology. Finally, we present the average release time culled from two survey-based studies—namely, the TAB subindicator of the EODB Index and Total Transport and Logistics Cost (TTLC), published by the Global Alliance for Trade Facilitation (GATF).[20]

13 RELEASE TIME BASED ON TIME STAMPS FROM THE CUSTOMS AUTOMATION SYSTEM

13.1. Since July 2015 the Central Board of Indirect Taxes and Customs (CBIC) has published monthly dwell time data in respect to import cargo through two major seaports (Chennai and the JNCH), three air cargo complexes, and one ICD on its website.[21] Here, however, we look at the time series data since January 2017, taking note of the methodology revision to factor in the impact of prearrival processing, one of the major initiatives to promote EODB and facilitate trade. We further note that pursuant to the revision of the methodology, the terms dwell time and release time could be used interchangeably, seeking to measure, in the case of imports, the time taken between the arrival of the cargo at the seaport to the completion of the customs clearance process, enabling the importer or its representative to take delivery of the cargo.

13.2. CBIC dwell time data have been presented for two categories of imports: green channel cargo and red channel cargo. Green channel cargo refers to the majority of the consignments that are allowed clearance on the basis of scrutiny of the details provided under the self-declaration process by the information-technology-driven risk management system, without human intervention for verification of the details or documents (submitted online) or actual physical examination of the goods. All other consignments that are subjected to examination are put together as red channel cargo. Here we examine aggregate monthly import dwell time for the JNCH, assigning a constant 60% weight to green channel cargo. This percentage of weight is arrived at from the average share of fully facilitated cargo reported by the JNCH TRSs, recognizing that green channel and fully facilitated cargo have broadly the same connotation in customs parlance. These dwell time data are a simplistic post facto performance indicator, based on the time stamps drawn from the customs information technology (IT) system, given that almost 100% of all cargo clearance processes through these customs formations take place through an electronic medium.

13.3. Since the signing of the TFA, the JNCH has led the way among Indian customs formations in conducting in-house annual TRS using the WCO guidelines for the purpose. Here we examine the results of the four JNCH TRSs, providing the average import release time for all imports made during the first week of January of each calendar year from 2017 to 2020. These annual TRSs have been conducted as a live preannounced study-cum-outreach initiative, urging the stakeholders to put their "best foot forward."[22] Therefore, some concerns have been expressed that this method of approaching TRSs may impact the release time for the weekly consignments covered by the annual

---

[19] World Trade Organization, Agreement on Trade Facilitation, subarticle 7.6.1.

[20] World Customs Organization, Guide to Measure the Time Required for the Release of Goods, version 3 (Brussels: World Customs Organization, 2018), http://www.wcoomd.org/-/media/wco/public/global/pdf/topics/facilitation/instruments-and-tools/tools/time-release-study/trs-guide_en.pdf?db=web.

[21] Global Alliance for Trade Facilitation, Total Transport and Logistics Cost (TTLC): Methodological Note, version 1.0 (Paris: Global Alliance for Trade Facilitation, 2020).

[22] Central Board of Indirect Taxes and Customs, "Dwell Time," web table, last updated January 2021, https://www.cbic.gov.in/htdocs-cbec/dwell_time.

JNCH TRSs. Here we attempt to ascertain whether these concerns are borne out by the release time data obtained from other sources.

13.4. CBIC dwell time data provide the monthly average import release time data, based on all documents filed during the month, excluding specific categories for clearly stated reasons (for example, those interdicted for infringement and delayed on account of consequent statutory procedure). The average release time reported under the JNCH TRSs is based on all documents filed during the first week of January of every calendar year since 2017.[23] We note that the JNCH TRSs are more detailed studies that also include export TRSs. For the purposes of this paper, however, we note that the data source for the CBIC dwell time and the JNCH TRSs is the same; thus, the methodology adopted for computation of average release time is entirely consistent.

13.5. For fuller compliance with the NTFAP, the CBIC has coordinated the first ever national TRS covering fifteen major customs formations, including the JNCH, during the months of August and September 2019. The data source and the methodology adopted by the national TRSs are also entirely consistent with the JNCH TRSs insofar as they relate to sea cargo import release time. Therefore, the average release time data provided in the national TRSs for the JNCH for the first week of August 2019 has provided an additional data point, albeit one adversely impacted by severe weather conditions: a monsoon deluge during the study period.

13.6. The data source for these three studies is the customs automation system, which handles 100% of the cargo clearance through the JNCH. Further, the digital mode of working enables tracking of each consignment, represented by a bill of entry, and every step in the cargo clearance process has a precise time stamp. Based on the time stamp reflecting the arrival of the cargo at the seaport and out of charge reflecting the completion of the cargo clearance process, the precise release time is calculated.[24] In figure 13 we present the monthly average import release time data for the JNCH as obtained from the CBIC dwell time report and superimpose the average release time reported by the JNCH on national TRSs.

Figure 13 Monthly Average Release Time for the JNCH
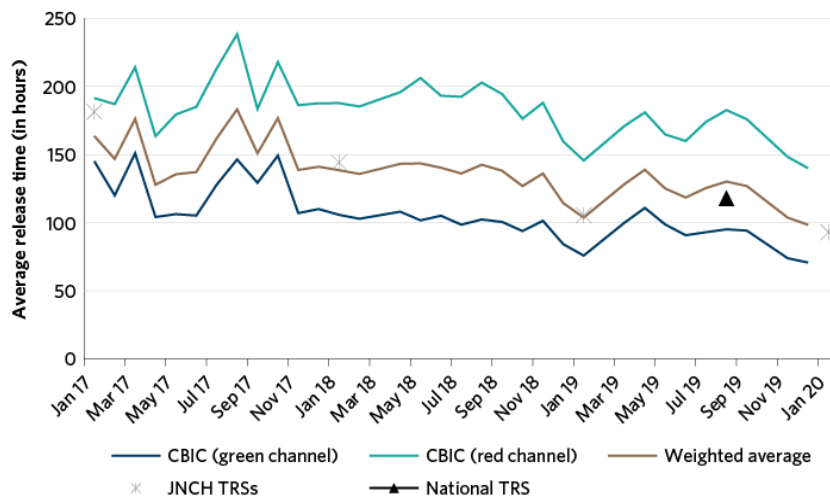
Source: Authors' calculations, based on dwell time data, at Central Board of Indirect Taxes and Customs, "Dwell Time," web table, last updated January 2021, https://www.cbic.gov.in/htdocs-cbec/dwell-time/archived_dwell_time; the JNCH TRSs for 2017-2020, at Jawaharlal Nehru Custom House, "Time Release Study," web database, http://www.jawaharcustoms.gov.in/information.aspx?Page1D=3836; and the national TRSs.

13.7. Our analysis suggests (1) a trend of improving monthly release time; (2) consistent improvement in the release time reported by annual TRSs; (3) a pronounced increase in the release time of both green and red channel cargo during July-September 2017 coinciding with the

---

[23] Jawaharlal Nehru Custom House, Time Release Study 2018, Foreword p. 9, webpage, n.d., http://www.jawaharcustoms.gov.in/pdf/TRS2018-Jan-June.pdf.
[24] Jawaharlal Nehru Custom House, Time Release Study 2017, webpage, n.d., http://jawaharcustoms.gov.in/pdf/TRS2017-Jan-June.pdf.

introduction of Goods and Services Tax; and (4) better release time during the TRS months, attributable perhaps to outreach efforts.

14 DWELL TIME BASED ON RADIO-FREQUENCY IDENTIFICATION TRACKING

14.1. The Logistics Data Bank (LDB) analytics reports are products of NICDC Logistics Data Services (DLDS), which is a joint venture between the government of India's National Industrial Corridor Development and Implementation Trust and a major Japanese IT concern, NEC Corporation. Using RFID technology, which involves placing a tag or a label on containers, LDB seeks to capture, store, and analyze the dwell time of containers through ports, container freight stations (CFSs) and ICDs across the country to help improve operational efficiency, compliance across systems, and better coordination among different stakeholders.

14.2. We extracted the monthly data since April 2017 pertaining to the JNPT as a port, and the CFSs pertaining to the same, as a proxy for the cargo that is customs cleared through the JNCH. The LDB presents segregated data, for export and import, for the overall JNPT region, port to CFS delivery time, and overall CFS dwell time. Adding the time taken under these three categories, it is possible to arrive at the overall import dwell time / release time of the cargo for the JNCH calculated on the basis of RFID-based physical tracking of the consignment from the time of its arrival at the port to its departure from the JNPT CFS zone.

14.3. In figure 14 we superimpose the LDB time series data on the graph showing the average release time from the customs automation system, wherein a broad consistency in the monthly data from the customs automation system and RFID-based tracking is observed.

Figure 14 Average Release Time from the BCIC and the LDB
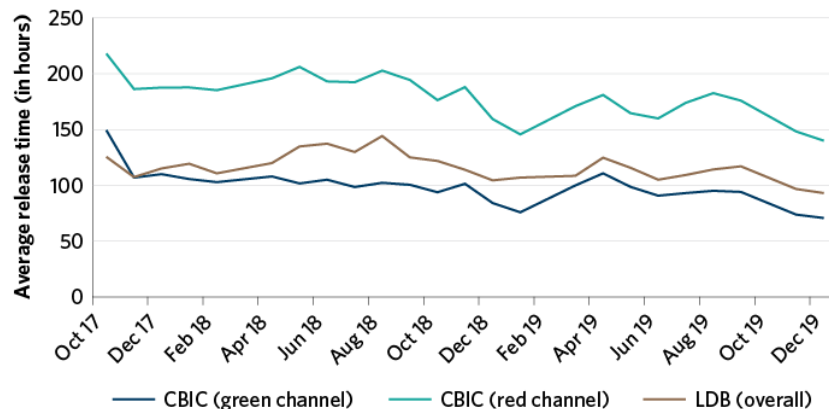
Source: Authors' calculations, based on dwell time data for 2017-2019, at Central Board of Indirect Taxes and Customs, "Dwell Time," web table, last updated January 2021, https://www.cbic.gov.in/htdocs-cbec/dwell-time/archived_dwell_time; and LDB data for 2017-2019, at NICDC Logistics Data Services, at https://nldsl.in/our_services.aspx?mpgid=10&pgidl=ll&pgidtrail=71.

15 AVERAGE RELEASE TIME BASED ON SURVEY STUDIES

15.1. In the earlier section, "India's Performance as Measured by Global Indicators," it was mentioned that one of the subindicators covered under the EODB Index is TAB, which takes into account the time taken and costs incurred in import and export clearance, which can be broken down further into border compliance, documentary compliance, and domestic transport. For imports, it measures the release time for a standardized shipment of 15 metric tons of containerized auto parts from India's import partner, South Korea. Since 2015, TAB had covered the JNPT, representing Mumbai and ICDs; and Tughlakabad, representing Delhi. The TAB Index follows the same EODB methodology and presents both country rank and score. In figure 15 the time series country rank and score for TAB is presented. The trend reflects a gradual improvement in India's rank and score since 2016 and a drastic improvement since 2019, coinciding with the period since the TFA efforts gained momentum.

Figure 15 India's TAB Rank and Score
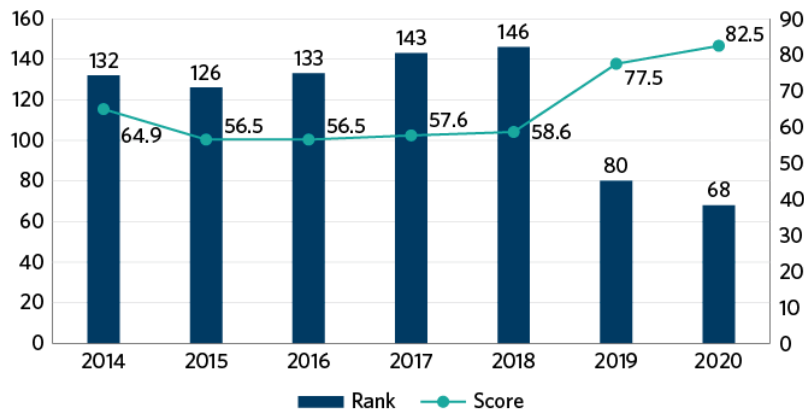
Source: Authors' calculations, based on World Bank, Doing Business Reports for 2014-2020
(Washington, DC: World Bank), which can be found at "Data," World Bank, Doing Business accessed
15 March 2021, https://www.doingbusiness.org/en/custom-query.

15.2. In figure 16 we have extracted the time taken under border compliance and documentary compliance at the JNCH since the 2015 EODB report (reporting data for 2014). Since it is possible and increasingly quite likely for the process of documentary compliance and border compliance to proceed simultaneously, it would not be appropriate to add the time taken for the two sets of processes. Therefore, we present the time series data for 2015–2020, reflecting a sudden improvement in the time taken in TAB (particularly since 2018), which is more drastic when compared with the release time data presented by the dwell time / release time studies.

Figure 16 EODB: Time Taken for Border Compliance and Documentary Compliance at the JNCH
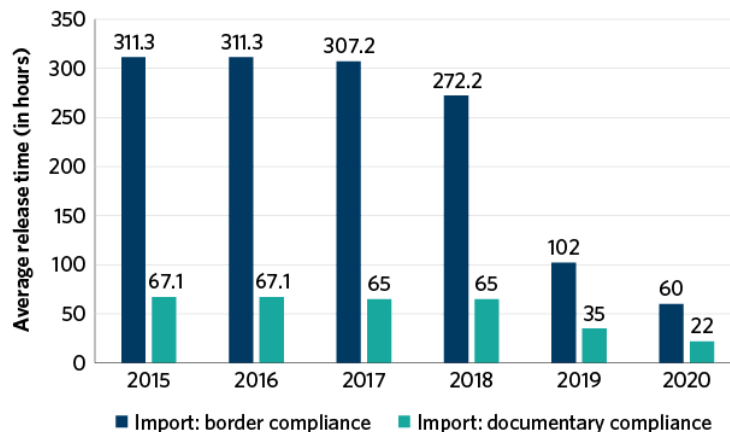
Source: Authors' calculations, based on World Bank, Doing Business Reports for 2015-2020
(Washington, DC: World Bank), which can be found at "Data," World Bank, Doing Business accessed
15 March 2021, https://www.doingbusiness.org/en/custom-query.

15.3. It is worth noting that the improvements in release time reported by the actual data-based studies, which started in 2017, are more gradual than the survey-based EODB TAB; the latter initially failed to report the improvements in 2018, but then saw a marked improvement in 2019. Based on our ground-level understanding of the situation, we consider it plausible that the survey respondents in 2019 "corrected" their responses, being made aware of the actual release time through the data-based studies.

15.4. The GATF works to support governments in developing and least-developed countries implementing the TFA. From July to December 2018, the Alliance conducted the TTLC study in India to measure the cost of import and export processes to help target trade facilitation reforms. TTLC measures the total cost of transport and logistics in cross-border trade, broken down

into two components: direct costs are those incurred by an importer or exporter to complete an import or export process through a given point of entry or exit, excluding duties and taxes; indirect costs are defined as costs related to time, which include the average lead time, delays, and time variance in completing an import or export process.

15.5. The TTLC diagnostic in India considers imports of full 40-foot containers by sea and truck transport through the three terminals in Nhava Sheva Port near Mumbai and includes four import products: chemicals, electronics, general goods, and auto parts. All products are selected based on their trade volume and their dependence on trade facilitation. The study sample includes importers located within 700 kilometers of Mumbai. Final results are based on interviews with twelve importers, fourteen clearing and forwarding agents, and one terminal operator.

15.6. For this paper we have extracted only the average transit time of imports for border clearance, which is 113.6 hours. The report presents average transit times for three different modes of cargo clearance: CFS, direct port delivery (DPD), and a combination of the two (DPD-CFS), showing the lowest time for DPD clearances, at 80.9 hours, and the highest for DPD-CFS, at 119.4 hours, which includes time that the cargo may dwell at the CFS, even after "out of charge" has been granted by customs, at the discretion of the importer or the broker.

15.7. Our analysis of the JNCH data for the period since 2017 shows that an improvement in release time is evident from all three sets of studies: those based on actual clearance data taken from the customs automation system, the RFID tracking of the physical movement of the containers, and the survey methodology adopted by the EODB Index. Further, the one-off survey data presented by the GATF are also found to be consistent with other data sets.

15.8. We find, however, that the improvement in release time according to TRSs and the LDB are more gradual than the survey-based TAB, which shows a distinct break in the trend in 2019 – a break that is not noticed in the studies based on data sourced through technology. This leads us to wonder whether the launch of live conduct of TRSs at the JNCH, and their findings, resulted in significant and sudden improvement in the stakeholder perception about the reality of a more impressive release time.

16 CONCLUSION

16.1. During the course of our research, we found an impressive amount of data on trade facilitation performance indicators – for India at the country level and the JNCH at the local level – that is available to the public. As is mentioned in the NTFAP, there is a commitment to measure the release time of import and export cargo and a need to carefully monitor key composite indicators and benchmark India's goals.

16.2. In this paper we have first reviewed India's performance over a longer period of time and stacked up the intertemporal performances reported by the key composite country-level indicators. The six key composite indicators covered in the section titled "India's Performance as Measured by Global Indicators" aim to present statistical measurement of multiple variables, some of which are not readily amenable to such measurement. Given the scope and global coverage, the survey methodologies adopted for the purpose would be expected to have their limitations. Yet even after factoring in differences in scope and methodology, we are surprised by the diversity of the results regarding India's performance during the period since the enactment of the TFA. Our studies show that these indicators have not necessarily been moving in agreement with each other, and some of the trends are clearly counterintuitive. Determining the reasons for these varying trends or providing probable explanations by delving deeper into their respective methodologies, sample size, and sample selection, has not been attempted in this paper, recognizing these as topics for a separate research project.

16.3. Further, much caution should be exercised in interpreting these results, since limiting availability of time series data to three to five annual or biennial data points would suggest that one must wait for a longer period to reassess the trends reported by these indicators.

16.4. We have, however, found significantly more consistent results while looking at the performance measurement (the release time of import cargo) that has been specifically recommended in the TFA. These findings, covered in the section titled "Release Time Data," show a clear and consistent result for a more precise indicator: import cargo release time for a limited

geographic location such as the JNCH. In case of this specific indicator, for which monthly data are available from the customs automation system and RFID-based container tracking, we have found a high degree of consistency and improved performance. We have also noted that the survey-based performance measurement results are also aligned with IT-based release time, albeit with a lag.

16.5. The findings regarding consistent improvement in the release time trends is limited to one seaport, the JNCH, and only for import cargo. The simple reason for limiting the scope of our study is that similar data are not available for other major customs formations; and even for the JNCH, export release time data of equal robustness are still not available for a significant period of time. The conducting of national TRSs initiated by the CBIC is a step in the right direction, as it would provide import and export cargo release time data for various customs formations in the country, enabling a more comprehensive study of trade facilitation performance measurement, as required under the TFA.

16.6. We conclude by noting that it is generally recognized that the release time analysis of import and export cargo is, by far, the most meaningful metric that encapsulates the performance of border management agencies and processes, assuming that the quality of compliance ensured by the border agencies is not compromised due to focus on expeditious release. Further, we think that deeper adoption of automated processes for customs clearance of goods makes it possible to quantify this metric objectively, both over a period of time and across jurisdictions. In other words, such release time measurement need not be influenced by any plausible biases and prejudices that the respondents in a survey-based measurement may have. This paper has established that all three release time measures relying on technology-based time stamps—the CBIC dwell time study, the LDB dwell time report, and TRSs—produce similar results, at least in terms of trends over a period of time, if not the actual time taken (in hours) at a particular point in time. We also find that the improvements reported by these three measures find correlation in the survey-based EODB TAB (albeit with a lag) and, thereafter, a sharp correction that is aligned with all three measures.

16.7. The story is, however, different in the case of indicators that seek to measure the availability and implementation of enablers that are meant to assure this improvement in cargo release time. The enablers that have been covered in this paper could be the specific trade facilitation measures specified in the TFA, the level of automation, the quality of physical infrastructure at the ports and airports, the efficiency of the logistics supply chain dealing with international cargo, or the overall quality of governance. The measurement of the degree to which these have either been implemented (if they are trade facilitation measures) or the extent to which they obtain in the economy (if they relate to infrastructure or governance) is inherently subjective and based on the individual assessment or perception of the respondents. Further, the challenges relating to the specific methodology of the survey-based studies are evident from the belated "fine-tuning" of the results by the OECD, as discussed in this paper, and the recent decision of the World Bank to conduct "a systematic review and assessment of data changes that occurred subsequent to the institutional data review process for the last five Doing Business reports" following certain irregularities in the reports for 2018 and 2020.[25]

16.8. In summary, we have found some dissonance both in the movement exhibited by the composite indicators inter se, as well as between the composite indicators and the release time indicators. We have found that composite indicators, with their ambitious objective of measuring the performance of enablers of trade facilitation and EODB, among other aspects, are still grappling with various methodological and data challenges. The indicators based on technology-driven release time data have more modest objectives but present more credible and consistent results. Further, it is likely that there is an intertemporal relationship between availability and implementation of such enablers as the creation of infrastructure and a reduction in formalities and their effect on release time. More sophisticated statistical research would need to be undertaken, with data for a longer period, to ascertain and quantify such a linkage.

16.9. Moving forward, we are of the view that similar studies for other economies or groups of economies will give policymakers and administrators associated with trade facilitation and EODB greater insights into the performance of their economies, even as we acknowledge the present limitations of such studies. Such studies would also indicate whether the mixed results obtained in the case of India are particular to the nation or similar results can be found for other economies. In

---

[25] World Bank, "Doing Business—Data Irregularities Statement," press release, 27 August 2020, https://www.worldbank.org/en/news/statement/2020/08/27/doing-business---data-irregularities-statement.

the event of the latter, it would become imperative to revisit the methodology of the study and strengthen the coordination with the concerned nations' representatives. As noted earlier in this paper, both the OECD TFIs and World Bank EODB are being subject to review. We expect these issues to be resolved over time with more robust methodologies and greater recourse of technology-based data sourcing in preference to survey-based analyses.

ABBREVIATIONS

CBIC	Central Board of Indirect Taxes and Customs
CFS	container freight station
DFD	direct port delivery
CRAR	Credit Rating Agencies Regulation
EODB	ease of doing business
GATF	Global Alliance for Trade Facilitation
GCI	Global Competitiveness Index
GSTF-PTI	Global Survey on Trade Facilitation and Paperless Trade Implementation
ICD	inland container depot
IT	information technology
JNCH	Jawaharlal Nehru Custom House
JNPT	Jawaharlal Nehru Port Trust
LDB	Logistics Data Bank
LPI	Logistics Performance Index
NCTF	National Committee on Trade Facilitation
NTFAP	National Trade Facilitation Action Plan 2017–2020
OECD	Organisation for Economic Co-operation and Development
RFID	radio-frequency identification
SMEs	small- and medium-size enterprises
TAB	Trading Across Borders
TFA	Trade Facilitation Agreement
TFI	trade facilitation indicator
TRS	Time Release Study
TTLC	Total Transport and Logistics Cost
WCO	World Customs Organization
WEF	World Economic Forum
WGI	World Governance Indicator
WTO	World Trade Organization

_____