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CHANGING CONTOURS OF POLICY COMMUNICATIONS IN INDIA[1]

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ABSTRACT

Using the keyword frequencies in the headlines of press releases issued by the Ministry of Commerce and Industry Government of India, this article quantifies the shifting focus of India's public policy communications. Our analysis suggests that, in the aftermath of the 2008–09 Global Financial Crisis, India's public policy communications shifted from international trade to innovation and competitiveness, while the emphasis on large infrastructure development, employment, investment, and policy incentives remained. A similar analysis using newspaper headlines from India's three leading newspapers and Google search intensity using Google Trends broadly suggest similar trends. However, media articles about innovations and competitiveness displayed growth trends about three years before there was a similar trend in communications from the ministry. Comparatively, the public interest on innovations, as measured by Google Trends data, lagged ministry communications by almost two years. Therefore, this article suggests that ministry communications aimed at guiding economic agents' decisions towards certain developmental goals are in line with the flow of thoughts in the media and public in India.

Keywords: Public policy; Communication; Trade; Innovation.
JEL Classification: D83; F13; O38.

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I. INTRODUCTION

India has undergone paradigm shifts in policymaking over time. A more recent example is the economic liberalisation that began in 1991, which was initially focused on managing the then-dwindling foreign exchange reserves and mounting pressures on the Indian rupee's foreign exchange rate, but evolved into attracting foreign investment inflows and strengthening export earnings by the turn of the century. Following the 2008-09 Global Financial Crisis (GFC), and the European Debt Crisis, the policy arena took significant turns, leaving fewer opportunities for the external sector. The growing economic conservatism across the globe manifested in moves like the "trade-war", which pushed India towards a policy, prioritizing the domestic sector, such as, amongst others, "Make in India", "Digital India", and "Start-up India". In summary, successive governments have used the public policy tools at their disposal to achieve specific goals that suited the global as well as country-specific circumstances. The evolution of new modes and means have multiplied the avenues of governmental communications worldwide in the last few decades. Crozier (2007) argues that the use of communication and public relations by governments represent more fundamental shift in the nature and objectives of the governance. The management of information and communication, now targets audiences that are increasingly diverse, complex, and active than they were in the last century (Crozier, 2007). Thus, communication has become an indispensable tool in the formation and execution of policy (Ward, 2003). Although the anecdotal evidence does suggest that governments in more recent years have shifted their focus away from the external sector to building more competitiveness, there is hardly any quantitative evidence. In this vein, our aim is to quantify the changing focus of government policy communications over the last two decades in India. To this end, we took all the press releases from the Ministry of Commerce and Industry, Government of India (MCI) and identify the frequently occurring words in the headlines of those releases. Those keywords are then classified broadly under three categories, viz., the external sector, building competitiveness through innovations, and continuing efforts to harness the existing domestic opportunities through a focus on sectors, human capital, building infrastructure, etc. We create quantitative measures based on how frequently those keywords appear in MCI press releases to assess how the emphasis on these categories has changed over time. This gives us a fair view of how the focus of government communications has changed and evolved over time.

According to Ward (2003), public policies are increasingly emphasising securing public support and the integration of government strategies across sectors and agencies. According to Leeuwis (2004), public participation in government policy actions has become an important subject of research. In practice, any policy or innovation requires new social and organisational arrangements, such as new rules, perceptions, procedures, agreements, and social relationships that are possible only when there is coordination between authorities and the public. In this vein, our goal is to further examine how these changing contours of governmental communications have reflected in public spheres in India. We do this in the following ways: First, we use the web scraping technique to see how the keywords from MCI have evolved in the headlines of news items across the three major newspapers in India. Newspapers can consist of two elements. It can

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serve as a direct medium of dissemination of governmental communications to the public, and it can also partly reflect the readers' preferences about economic news. Web-search on these keywords can reveal how the public awareness of these elements of governmental communication has evolved. We have used Google Trends data on the keywords for this purpose. By combining these two methods of analysis, a more comprehensive understanding of public opinion and sentiment can be obtained.

There is a growing body of literature on quantifying text data in economics and finance. The literature shows that simply processing information and applying visual analytics to the outcomes can provide valuable insights to decision-making in financial monitoring (Flood *et al*., 2016), analysis of economic uncertainty (Baker *et al*., 2016), Priyaranjan and Pratap (2020), urban planning (Lerman and Lebedinger, 2017), customer retention (Pépin *et al*., 2017), and crime analysis (Ku *et al*., 2016). There are applications of this technique to the analysis of central banking and government communications. Bruno (2016) provided an empirical application on the Bank of Italy Governor's concluding remarks from 1996 to 2015, reviewing some of the main methodologies used in text mining and for the extraction of sentiment and emotions from textual sources. Bennani (2019) tested whether the People's Bank of China's communication affects the expectations of market participants and matters as a monetary policy instrument, relying also on a computational linguistic tool to measure the tone of speeches and using a high-frequency methodology to estimate the effect of tone on stock prices. Mathur and Sengupta (2019) quantitatively analysed the monetary policy statements of the Reserve Bank of India (RBI) from 1998 to 2017. Arunachalam and Sarkar (2013) presented a model on how citizen sentiment from social media can help the government take decisions. Hubert *et al*. (2018) analysed the sentiment of government-public interaction on social media. Kim and Krishna (2018) analysed the public sentiment on survey data in South Korea.

To the best of our knowledge, this article is the first attempt to quantify the composition shift in government communications and public discourse in India. As a takeaway, we provide a comparison between the trends in these compositional shifts in government communication and in public discourse. The novelty of this work, however, lies in the fact that it provides the very first quantitative evidence on this topic for India and portrays some commonality between government communication and public discourse. In this article, we divide the period of study in two parts, pre-COVID and post-COVID periods. We find the public discourse and ministry communication has changed in the post-COVID period, where the public discourse on both international trade and innovation was much higher during the pandemic. This may be due to the uncertainty or panic caused by the pandemic; for a survey of this literature, see Narayan (2021) and Phan and Narayan (2020).

The rest of the article is structured as follows: Section II discusses the data and methodology. Section III presents the findings of our analysis during the pre-COVID period. Section IV presents the findings of the post-COVID period and Section V concludes.

II. METHODOLOGY

Our findings are based on the changes in keyword frequencies over time in the press releases by the MCI, Government of India. Among the various ministries within the Government of India, the MCI is entrusted with formulating and implementing foreign trade policies, multilateral and bilateral commercial relations, state trading, export promotion measures, the development and regulation of certain export-oriented industries, and the formulation and implementation of measures for industrial growth in view of the national priorities. We made a list of all nouns, excluding the names of people and places, used in the headlines in all the press releases by MCI since January 1, 2004, from the digital archives of the Press Information Bureau (PIB) by the Government of India. Upon close observation of such keyword nouns[2], we categorized the nouns in broad four groups: International trade, innovation, collaboration on technology and innovation, and policies on commerce and industry which did not explicitly linked with innovation and trade (Chart 1.1 to 1.4). We provided the full forms of the keywords as necessary in Table 1.a and the frequency table for these wordclouds in Table 1.b in the Annex.

Figure 1.
Major Keywords in MCI Press Releases: 2004-2019

This chart represents the wordclouds created using words in different categories of the communication in MCI press releases.

Chart 1.1 International Trade

Chart 1.2 Innovation

Chart 1.3 Collaborations

[2] These words are in the root form obtained after using Stemming and Lemmatization techniques. For more details, please refer to https://nlp.stanford.edu/IR-book/html/htmledition/stemming-and-lemmatization-1.html

Figure 1.
Major Keywords in MCI Press Releases: 2004-2019 (Continued)

Chart 1.4 Industry

Next, we count the number of headlines containing keywords from each category for each month. For instance, we count the number of headlines in each month containing keywords explicitly referring to the external sector (Chart 1.1), since January 1, 2004. Eventually, we get a monthly series on the number of times in a month MCI had come up with press releases on international trade. We normalize these frequencies with the total number of press releases from MCI during that month. We extract an underlying trend by using Hodrick-Prescott (HP) filter for the normalized frequencies for the entire sample period[3]. Finally, we adjust the highest figure of these normalised frequencies to 100 and the minimum to 0, to make it level-neutral using a linear transformation. This serves as an index of public policy communication on *international trade*. In a similar way, we construct an index of public policy communication on *innovation* with the keywords in Chart 1.2. We have combined the keywords from Charts 1.2 and 1.3 to construct a super-set, and accordingly created our third index on "Innovation & collaboration". We build our fourth index based on the keywords in Chart 1.4. For this, first we select all the press release headlines containing these keywords, exclude headlines

[3] We intend to capture the trend-shift in the Government Communications, which indeed is a slow-moving process. Use of an HP filter seemed appropriate in this regard. To our knowledge, during our period of study, viz. 2004-2019, there was no sudden regime-change in the Indian government, although political parties in power have changed, but it has always been through a persistent democratic process taking sufficiently long period. We also noticed no major fluctuation over short period in our un-filtered data. We use HP filter with smoothing parameter 14,400, which is commonly used for monthly data.

that are already counted in the previous indices, and then follow the remaining steps towards building the index. In sum, we build three indices for the focus of public policy communication: communications that focus on international trade; communications focused on innovation and strategies, namely, technical, and strategic collaborations; and third, industry-focused communications that are not explicitly about trade, innovation, and strategies.

We did not include any keywords explicitly referring to the digital economy under any category, e.g., "e-commerce," "e-business," and "digitization," in our search methodology. Including those keywords would certainly have reflected massive growth between 2014 and 2019, merely due to the growth in the technology itself, rather than shifting public policy.

Turning to the public discourse, there are two ways that we could look at it. First, news media serves as a medium of disseminating government communications among the masses and communicating business as well as public opinion to the policy makers. To quantify how media communications have changed on *international trade* and *innovation and collaboration*, we download news headings from the digital archives of India's three leading newspapers using web scraping techniques and build similar indices as above, using the same set of keywords for all three newspapers. Second, to assess how public interest has changed over time on these topics, we use Google Trends data for these two topics. We will discuss these methodologies in turn.

For the index based on news headlines from the newspapers, we repeat the previous exercise on the headlines from three leading newspapers in India from their digital archives[4]. We obtain the number of news items containing keywords in the categories in Charts 1.1, 1.2, and 1.3, relative to the total number of news headlines in a day. Later, we average these figures for a month. In this process, we obtain the count of news headlines in the following categories: international trade, and innovation & collaboration, relative to the total number of news for that month in each of these three newspapers. We construct a dynamic factor[5] to combine these measures within each category across three newspapers. For instance, we had three series on news counts for international trade, one from each of the newspapers. We extract a dynamic factor between these three estimates, following Forni and Lippi (2001) and Stock and Watson (2002). Next, we extract an HP trend from this dynamic factor and rescale it between 0 and 100. This serves as an index of how media communications related to international trade, and innovation & collaboration gained pace. The digital archives of these newspapers were mostly available since mid-2009. Therefore, August 2009 serves as the starting point for our estimates.

Next, we look at how public interest has evolved around these themes. We look at Google Trends data which provides a combined estimate of the number of times a specified set of keywords are being searched in Google over time for any region.

[4] We used the headlines of each digital news item in the online newspaper archive and converted into machine readable format using automated programs. We checked the robots.txt file of these newspapers which did not show any explicit restriction on their archives directory, as on June 1, 2022. They don't provide permission to copy their opinion pieces using bot.

[5] Dynamic factor observes common or underlying element with which several other variables are correlated.

So, in Google Trends, first we see how the keywords in Chart 1.1 have appeared in India since 2004. The Google Trends provide the count of Google searches on these keywords relative to the total number of searches on Google. Like the previous exercises, we extract the HP trend from the data extracted from Google Trends and normalise this trend between 0 and 100. This normalised HP trend serves as an index of how public interest about international trade has evolved over time. Next, we see how the keywords in Chart 1.2 have appeared in Google searches from India since 2004. We extract the HP trend from the Google Trends data and normalise between 0 and 100. This serves as an index of how public interest about innovation and collaboration has evolved over time.

In the following sections, we discuss our findings based on these indices, as discussed above, from MCI, newspapers, and Google Trends.

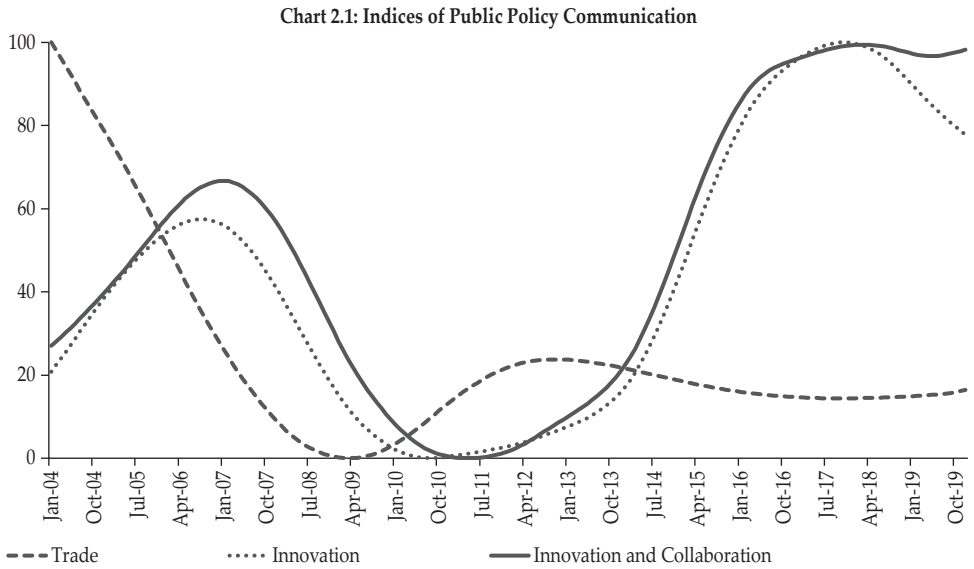
III. PRE-COVID ANALYSIS

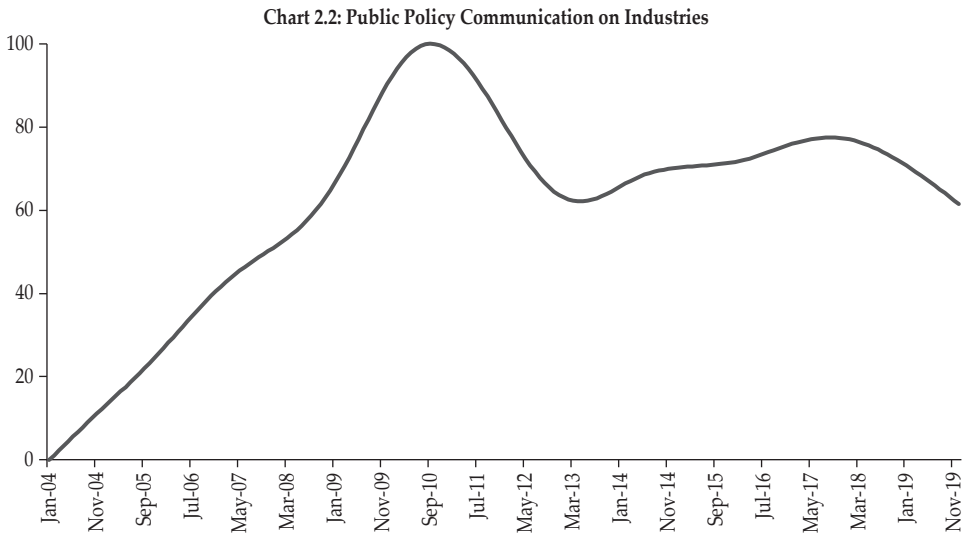
A. Communication by the Ministry

We plot the indices of public policy communications in Charts 2.1 and 2.2. Chart 2.1 suggests that the government's communication on *international trade* has significantly reduced between 2004 and the middle of 2008, even before the onset of the GFC-induced slowdown in international trade. It increased between 2009 and 2012 and remained broadly stable afterwards. However, the focus on international trade in the government's communication remained less than what it was between 2004 and 2006. In contrast, policy communications on *innovation and collaboration has* increased since the end of 2011 and reached at record high in 2016. There was an increase in communications related to innovation and collaboration between 2004 and early 2007, but it fell afterwards. Broadly, these patterns suggest that, while at the beginning of this century, public policy communication put a lot of emphasis on international trade, the focus has shifted more towards building innovative and competitive capacities later. Between early 2007 and mid-2009, both communications regarding international trade and innovations declined. This period displays significant rise in communications on the growth of industry and commerce which did not explicitly refer to international trade, innovations, or collaborations (Chart 2.2). It declined between 2010 and early 2013, reflecting focus on recovery from the crisis (as focus on trade and innovations were on rise), but remained stable afterwards. In a nutshell, it appears that policy communication focused on international trade has drastically fallen between 2004 and 2009, while communications relating to innovations and competitive strategies have reached an unprecedented high since 2012. Policy communications focused on commerce and industry excluding their trade and innovation aspects gained prominence between 2004 and 2010, broadly remained stable afterwards.

Figure 2.
Indices based on MCI Press Releases: 2004-2019

This chart shows the indices of MCI press releases on Trade, Innovation, Innovation and Collaboration and Industries. Authors' Calculations based on Press Information Bureau, Government of India.





B. Communication by Media

Our estimates suggest that communication on international trade increased between mid-2009 and mid-2012, consistent with the increase in communication from the ministry (Chart 3.1). Since 2009, it has experienced large swings between mid-2012 and end-2019, with a low in early 2016 and a high around mid-2019.

However, the average focus on international trade in newspaper communication remained broadly aligned with that of the ministry. For innovation and collaboration, communication increased sharply between mid-2009 and mid-2012, much before the sharp rise in ministry communication (Chart 3.2). The communication focus increased less rapidly between mid-2012 and mid-2015 but declined afterwards. However, this phase of newspaper communication focused on innovation and collaboration between mid-2009 and mid-2015, which closely resembled the ministry's communication between end-2012 and end-2019, with a 39-month gap. This is also collaborated with T period ahead correlation analysis with correlation of almost 1 (Chart 3.4). This means, business, industry and media had already started discussing on innovation related topics with the turn of the last decade, while the ministry communication has picked up roughly after 3 years of business and media started discussing (Chart 3.3).

Figure 3.
Indices of Public Policy Communication in Newspapers

This chart shows the indices based on newspaper coverage as well as ministry communication on Trade, Innovation and Collaboration.

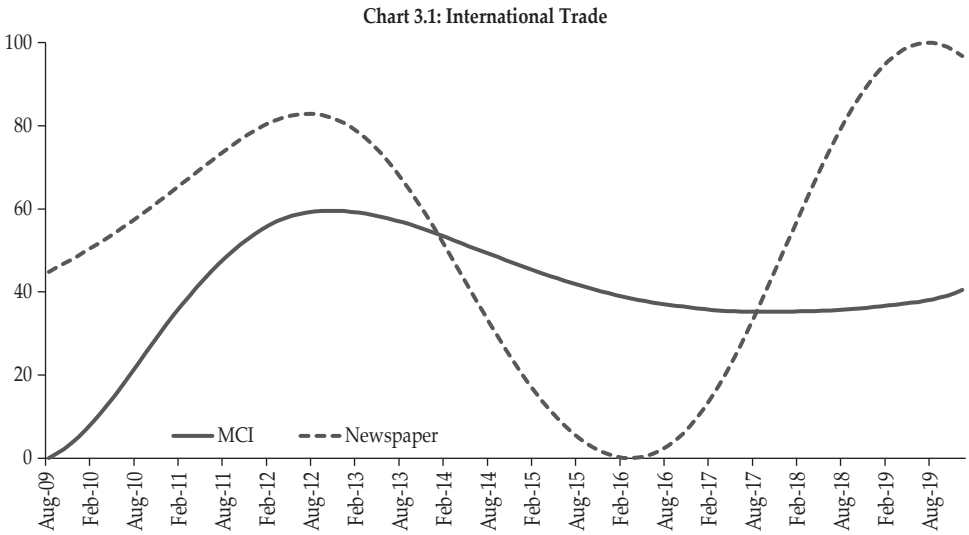
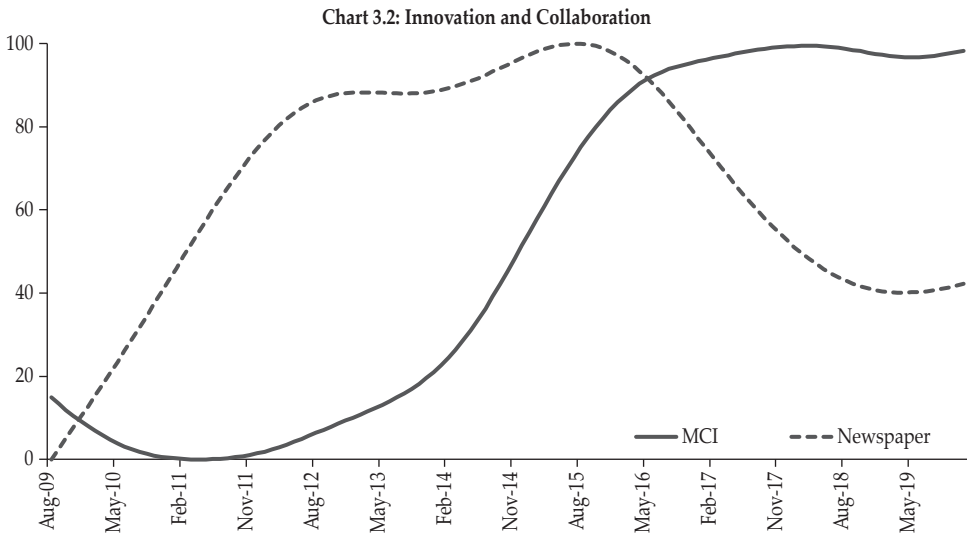


Figure 3.
Indices of Public Policy Communication in Newspapers (Continued)



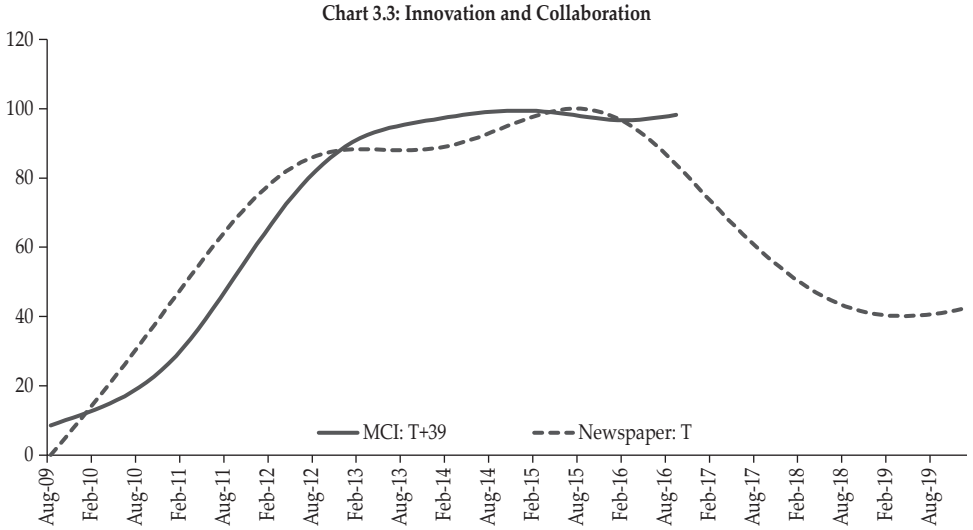
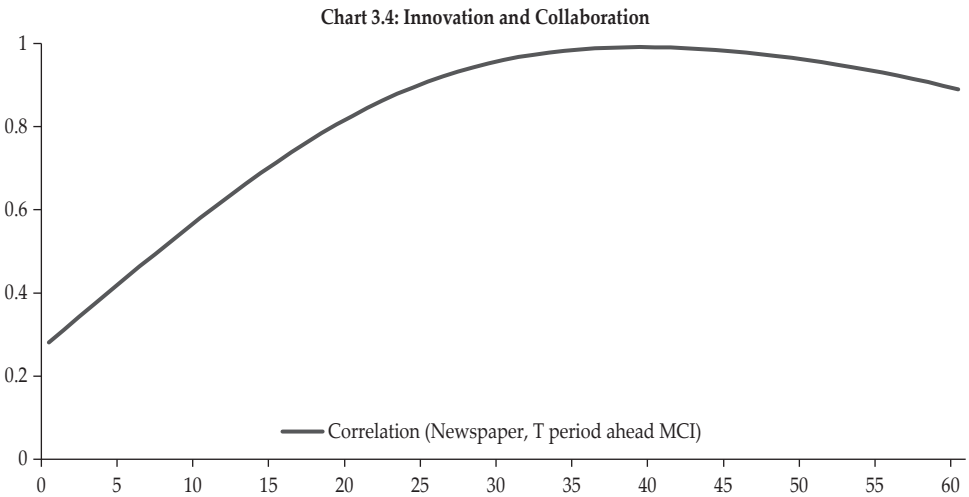


Figure 3.
Indices of Public Policy Communication in Newspapers (Continued)

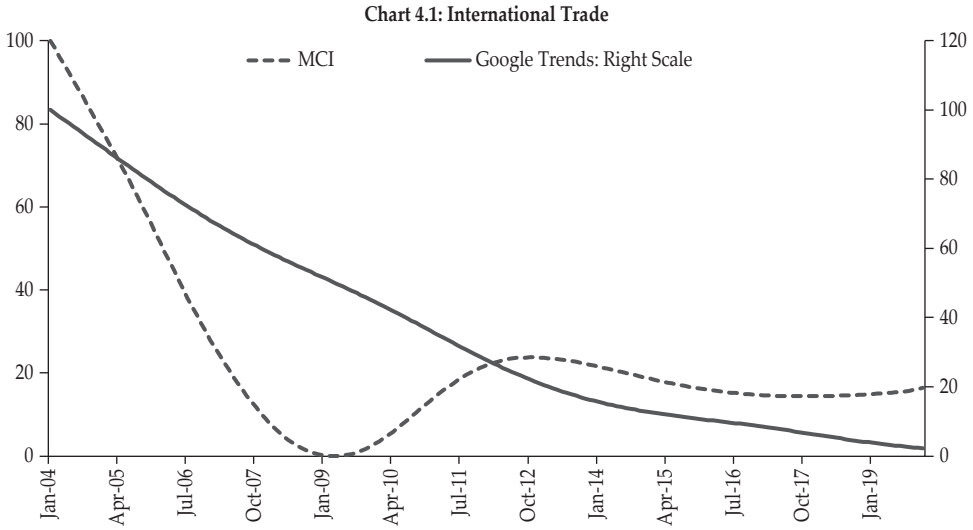


C. Public Discourse

The search intensity of topics related to international trade on Google has steadily fallen since 2004 (Chart 4.1). This is broadly consistent with the trend observed in ministry communication between 2004 and 2019. The Google search intensity related to innovation steadily fell between early 2004 and early 2013 and started increasing afterwards (Chart 4.2). The trend is broadly similar with the ministry communication, except that the ministry communication reached its lowest point in 2011 and has started rising since early 2012, roughly 2 years before the uptick shown by the Google search intensity. When we match the lowest points in ministry communications with the lowest points in Google search intensity on innovations, we see that Google search intensity picks up the broad trend in ministry communications with a lag of roughly 24 months, or two years (Chart 4.3).

Figure 4.
Indices of Public Policy Communication in Public Discourse

This chart shows the indices based on google trends (google search) as well as ministry communication on Trade and Innovation. Authors' Calculations based on Google Trends and Press Information Bureau, Government of India.



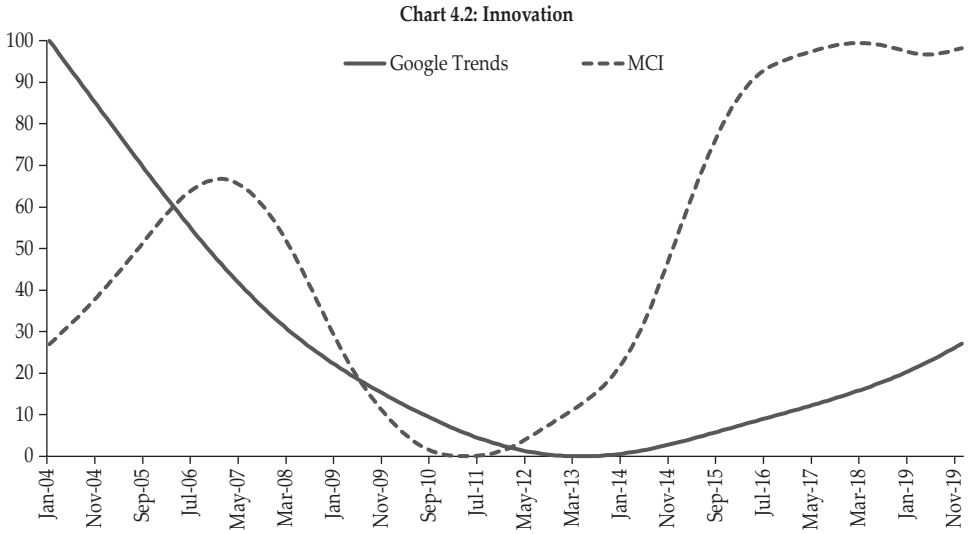
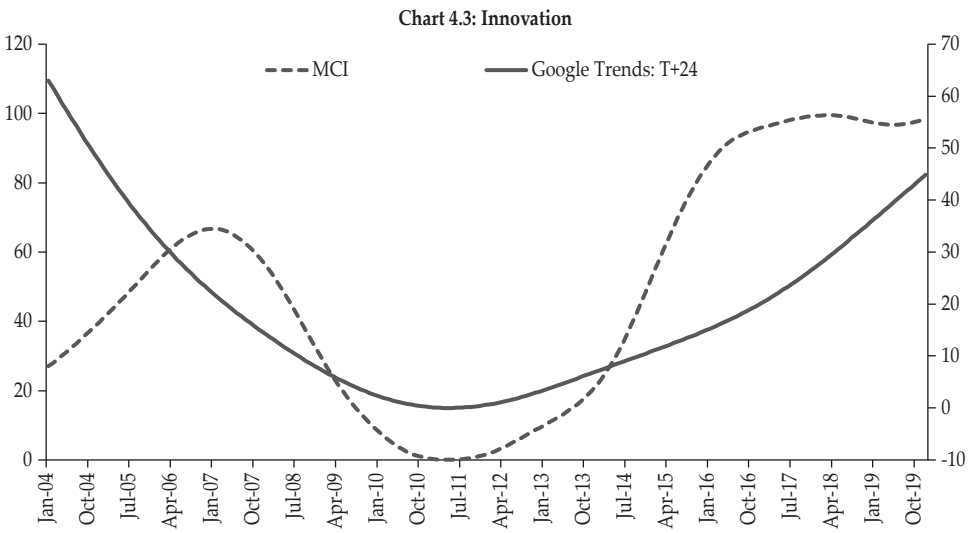


Figure 4.
Indices of Public Policy Communication in Public Discourse (Continued)



IV. POST-COVID ANALYSIS

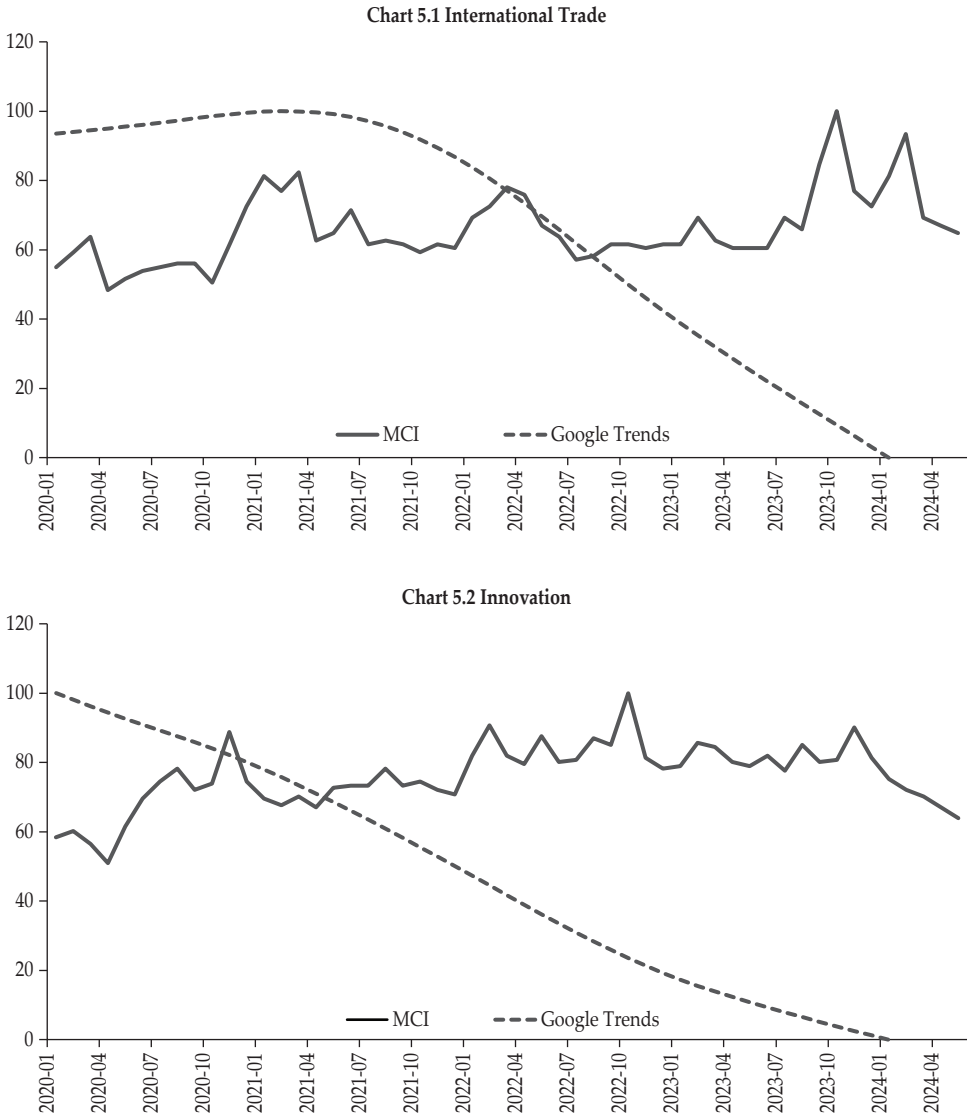
During the post-COVID period, media communications predominantly centered on pandemic restrictions, economic ramifications, and vaccine advancements. Trade references primarily revolved around vaccines and medical supplies, lacking substantial long-term policy insights. Consequently, we opt to disregard media coverage from our study during this period due to the scarcity of articles pertinent to our study's subject matter and its correlation with trade policies. However, we do conduct analyses based on ministry communication and Google trends in the post-COVID period.

A. Ministry Communication and Public Discourse

The search intensity of topics related to international trade on Google has seen little rise post pandemic but has significantly decline thereafter (Chart 5.1). The Google search intensity related to innovation fell consistently post pandemic (Chart 5.2). The trend is in contrast with the ministry communication, which may be due to sharp increase in search of both trade and innovation during pandemic for medical and other healthcare supplies. Ministry communication is secularly increasing for both International Trade and Innovation post pandemic. This is clearly not visible in the public discourse, which can be seen as a measure of panic or change in the trade priority during the pandemic period. This may imply that the search intensity of public can be much higher during the time of uncertainty and can be potential topic for further study.

Figure 5.
Indices of Public Policy Communication in Public Discourse (post-covid)

This chart shows the indices based on google trends (google search) as well as ministry communication on Trade and Innovation post outbreak of COVID-19. Authors' Calculations based on Google Trends and Press Information Bureau, Government of India.



V. CONCLUSION

In this article, we quantify the shifting focus of India's public policy communications. We first chose major (influential) keywords from the headlines of press releases issued by the Ministry of Commerce and Industry of the Government of India between 2004 and 2024. The frequency of those keywords in press release headlines is then used to build our indices. Our estimates identify three areas where policy

communications from the ministry have been rebalanced over time in accordance with changes in global economic scenarios. First, since 2004, the ministry's communications on international trade and related institutions have significantly decreased. These communications increased slightly again around mid-2012, but then stabilized at a lower level than before 2008. In contrast, communications centered on innovation and strategic collaborations reached an all-time high after 2014. This broad shift in the ministry's communication mix occurred at a time when global trade flows remained muted due to increasing economic conservatism in major economies around the world. Third, we observe that communications that are primarily focused on the development of general as well as industry-specific infrastructures, employment, fiscal incentives, and growth but do not explicitly refer to international trade, innovation, and competitiveness increased dramatically between 2004 and 2010, and then remained stable. This broadly implies that, in the aftermath of the 2008-09 GFC, policy communications replaced international trade with domestic enterprise innovation and competitiveness, while the focus on growth was maintained through large infrastructure development, employment, investment, and policy incentives. According to a similar analysis using newspaper headlines from India's three leading newspapers and Google search intensity data from Google Trends, the discussions on international trade and the institutions that promote it have broadly followed the trends of ministry communication, both in newspaper discussions and in public discourse. However, discussions about innovations and competitiveness in the newspaper increased roughly three years before similar trends in ministry communications. Public discourse on innovations, measured using the data from Google Trends, in contrast, has shown similar trends roughly with a lag of two years from the ministry's communication. However, these trends may change significantly during times of uncertainties, as can be seen in the post-pandemic period.

Data on public discourse (Google Trends data) offer valuable insights to policymakers. By analyzing the trends in search queries, policymakers can gauge the interests and concerns of the public, thereby prioritizing the policies accordingly. Moreover, Google Trends can also serve as a measure for assessing the effectiveness of existing policies by tracking how they resonate with the public over time. Additionally, this data can aid policymakers in redesigning their policies to align more closely with the language and terminology used by the general public, enhancing communication and fostering greater public engagement and understanding.

This article, apart from documenting the key stylized facts in the public policy communications, also poses a significant question concerning communication amidst uncertainties, viewing it as a crucial subject for further studies. This article suggests that the communication by the MCI in India during the pre-COVID period is generally in line with the flow of thoughts in the media and in public, which ultimately aim to guide economic agents' decisions towards certain specific developmental goals.

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APENDIX

Table 1a.
List of Abbreviations

These are the abbreviation used in the wordcloud.

Keyword	Full form
APEDA	Agricultural and Processed Food Products Export Development Authority
CECA	Comprehensive Economic Cooperation Agreement
CEPA	Comprehensive Economic Partnership Agreement
DEPB	Duty Entitlement Pass Book
DGFT	Directorate General of Foreign Trade
DIPP	Department of Industrial Policy and Promotion
ECGC	Export Credit Guarantee Corporation
EEPC	Engineering Export Promotion Council
EPC	Export Promotion Council
EXIM	Export-Import Bank
FDI	Foreign Direct Investment
FTA	Free Trade Agreement
GDP	Gross Domestic Product
IPR	Intellectual Property Right
ITPO	India Trade Promotion Organization
MMTC	Metals and Minerals Trading Corporation
NMCC	National Manufacturing Competitiveness Council
MOU	Memorandum of Understanding
PTA	Preferential Trade Arrangements
RCEP	Regional Comprehensive Economic Partnership
SAFTA	South Asian Free Trade Area
SEZ	Special Economic Zone
UNIDO	United Nations Industrial Development Organization
WIPO	World Intellectual Property Organization
WPI	Wholesale Price Index
WTO	World Trade Organization

Table 1b.
Word frequency for Wordcloud

The wordcloud in the article is made using the following frequency Table. The word with frequency more than 50 has been restricted to 50, and the words with frequency less than 10 has been restricted to 10 to control for the size of the words in the wordcloud. The word used in the wordcloud are in the root form after stemming and lemmatization.

International Trade

International Trade	Frequency	Frequency Wordcloud
trade	1019	50
export	907	50
import	226	50
wto	182	50
port	5	10
duti	36	36
dutyfre	1	10
tariff	18	18
nontariff	4	10
fta	33	33
ftas	13	13
dgft	25	25
dipp	25	25
preferenti	15	15
exim	9	10
ecgc	14	14
safta	14	14
ceca	14	14
rcep	15	15
eepc	10	10
depb	8	10
pta	8	10
ptas	1	10
epc	8	10
itpo	7	10
apeda	47	47
tradeshow	1	10
cepa	21	21
mmtc	19	19

Table 1b.
Word frequency for Wordcloud (Continued)

Innovation

Innovation	Frequency	Frequency Wordcloud
startup	93	50
startupindia	1	10
patent	61	50
ipr	41	41
wipo	6	10
innov	29	29
intellectu	26	26
iprintellectu	1	10
design	26	26
trademark	9	10
technolog	42	42
hightechnolog	2	10
capacitybuild	1	10
capac	11	11
human	4	10
busi	111	50
smart	5	10
fdi	230	50

Collaboration

Collaboration	Frequency	Frequency Wordcloud
foreign	313	50
bilater	133	50
multilater	15	15
world	69	50
global	87	50
globalis	6	10
mou	52	50
mous	8	10
partner	34	34
partnership	53	50
memorandum	5	10
memoranda	1	10
collabor	23	23
pact	3	10

Table 1b.
Word frequency for Wordcloud (Continued)

Industry

Industry	Frequency	Frequency Wordcloud
industri	797	50
price	397	50
wholesal	344	50
commerc	351	50
core	163	50
sector	260	50
invest	343	50
develop	233	50
sez	176	50
power	131	50
manufactur	156	50
fuel	115	50
primari	112	50
econom	207	50
product	231	50
infrastructur	114	50
growth	158	50
scheme	124	50
new	181	50
govern	125	50
polici	273	50
ministeri	88	50
joint	120	50
corridor	62	50
project	81	50
agricultur	106	50
special	57	50
committe	86	50
board	72	50
gem	64	50
confer	62	50
agreement	135	50
lubric	40	40
market	68	50
servic	93	50
fund	55	50

Table 1b.
Word frequency for Wordcloud (Continued)

Industry

Industry	Frequency	Frequency Wordcloud
grant	44	44
session	53	50
packag	35	35
leather	42	42
spice	40	40
park	30	30
zone	45	45
farmer	32	32
subsidi	28	28
strategi	44	44
progress	24	24
announc	47	47
retail	58	50
tobacco	22	22
dialogu	25	25
domest	27	27
reviv	18	18
investor	27	27
centr	36	36
jewelleri	28	28
incent	28	28
textil	29	29
gdp	17	17
reform	23	23
licens	15	15
standard	21	21
wpi	11	11
oil	27	27
drug	15	15
transport	12	12
farm	17	17
gas	12	12
nmcc	9	10
unido	13	13
pharma	23	23
certif	19	19

Table 1b.
Word frequency for Wordcloud (Continued)

Industry

Industry	Frequency	Frequency Wordcloud
produc	16	16
petroleum	12	12
medicin	18	18
gold	19	19
health	8	10
rural	8	10
trader	10	10
engin	27	27
footwear	13	13
suppli	17	17
buyer	19	19
seller	16	16
agri	39	39

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