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# Modi: Three Years On

*Amb. Husain Haqqani, Director, South and Central Asia  
Dr. Aparna Pande, Director, India Initiative*

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*Ambassador Husain Haqqani, Director, South and Central Asia*

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#### **Hudson Institute**

1201 Pennsylvania Avenue, N.W.  
Suite 400  
Washington, D.C. 20004

P: 202.974.2400  
[info@hudson.org](mailto:info@hudson.org)  
[www.hudson.org](http://www.hudson.org)

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## Overview

Narendra Modi led the Bharatiya Janata Party (BJP) to power during the May 2014 elections, promising radical changes. The party's electoral manifesto outlined numerous problems that threatened Indian society, while promising to protect social values and enact "urgent changes" in the economy, agriculture, energy, education, and governance.<sup>1</sup> Observers from around the world hailed the BJP's victory as a success, and believed that a pro-business government assuring fundamental changes would tap into India's unfulfilled economic potential.

Since the Modi administration entered office, the Indian economy has largely maintained its upward trajectory. Despite recently being eclipsed by China as the world's fastest growing economy, for the past three years India maintained gross domestic product (GDP) growth rates around seven percent, until sinking to 5.7 percent in April-June 2017.<sup>2</sup> The World Bank projected growth will reach 7.5 percent by 2019.<sup>3</sup>

In May 2017, India's foreign direct investment (FDI) inflows reached \$60.1 billion for 2016-2017, continuing to make India more attractive to investors.<sup>4</sup> Since 2014, India has opened 25 domestic sectors to FDI, including pharmaceuticals, railways, and renewable energy. Such rapid improvements were made possible by the Make in India campaign, which the Modi government unveiled in September 2014 to increase domestic capabilities and enhance Indian self-sufficiency.

In addition to emphasizing economic advancements, the Indian government focused on deepening ties with other states. This policy has achieved great success, with Prime Minister Modi taking almost 70 official state visits to other countries since entering office in 2014.<sup>5</sup> Key among these included four stops in the United States, three stops apiece in France, Germany, and Russia, a trip to Iran, and the first official state visit to Israel by a sitting Indian prime minister. Additionally, India has hosted heads of state from countries like Australia, Bangladesh, Turkey, and even Palestine. This signifies a replacement of India's historic foreign policy of international ambivalence with a strategy that emphasizes increased trade and closer ties with nations from all around the world.

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<sup>1</sup> "Election Manifesto 2014: Sabka Saath, Sabka Vikas" *Bharatiya Janata Party*, accessed July 14, 2017

<sup>2</sup> "GDP growth at 3-year low of 5.7% in Apr-June as GST, demonetization bite," *The Times of India*, September 1, 2017, Accessed September 11, 2017, <http://timesofindia.indiatimes.com/business/india-business/gdp-growth-at-3-year-low-of-5-7-in-apr-june-as-gst-demonetisation-bite/articleshow/60315709.cms>

<sup>3</sup> "Indian Development Update: May 2017," *World Bank* video, 1:16, May 31, 2017, accessed July 10, 2017 <http://www.worldbank.org/en/news/video/2017/05/31/india-development-update-may-2017>

<sup>4</sup> Raj Kumar Ray, "India's FDI inflows at record \$60.1 billion in 2016-2017," *Hindustan Times*, May 19, 2017, Accessed September 11, 2017, <http://www.hindustantimes.com/business-news/india-s-fdi-inflows-at-a-record-60-1-billion-in-2016-17/story-7a8pt2u7e8IJtptDQcwhO.html>.

<sup>5</sup> Prabhpreet Singh Sood, "Modi's foreign visits: China and Myanmar to make it 69," *One India*, September 2, 2017, Accessed September 11, 2017, <http://www.oneindia.com/india/modis-foreign-visits-china-and-myanmar-to-makes-it-69-2446557.html>.

India's strong economic performance and increased international engagement are, however, increasingly endangered by the revival of identity politics and communalism. This rise in religious nationalism has corresponded to an increase in violence directed towards minorities. Hindu vigilante groups and individuals have attacked minorities under the guise of protecting the sanctity of cows, an animal deemed sacred by a large number of Hindus. Many observers, both Indian and foreign, believe that the Indian government has not condemned attacks on minorities harshly enough, and that rise of religious vigilantism will have an impact on India's political stability and economic growth.

The economic arena too witnessed disruption with demonetization. In November 2016, the Indian government announced it would pull all 500 and 1,000 rupee notes out of circulation. While the move ostensibly sought to reduce corruption and remove "black money" from the country, removing 86 percent of all paper currency from the economy created panic especially amongst the workers in India's large cash-reliant informal sector. While the immediate implications of demonetization were not as severe as anticipated, the policy largely failed to weed out illicit cash and severely impacted the unorganized sector in terms for job losses and business closures as this sector relies heavily on cash transactions.<sup>6</sup> India's informal sector makes up 80-90 percent of the economy, and makes up half the country's economic output.<sup>7</sup>

India's agricultural sector currently employs 47 percent of India's labor force, it only generates 16.5 percent of its GDP.<sup>8</sup> Demonetization had an adverse impact on this sector which is primarily cash-dependent. In an attempt to ameliorate adverse effects of demonetization the 2017 budget focused attention on rural areas and increased allocation for irrigation and water (~₹300 billion), interest subsidies, and national agricultural markets.<sup>9</sup> The government also sought to encourage a shift from farming to the industrial and service sectors. The government has invested in skill development, infrastructural improvements, and the "smart city" initiative to connect different parts of the country and make industrially oriented policies appealing.

Another initiative rolled out this year whose impact is yet to be fully comprehended is the highly ambitious Goods and Services Tax (GST). Launched July 1, the GST is a massive overhaul of the Indian tax code designed to simplify the system and facilitate the ease of doing business by placing uniform tax rates on goods and services. The GST is a supply-side tax, and only taxes suppliers based on the value they add to the product during the supply chain. However, unlike in other

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<sup>6</sup> Yen Nee Lee, "Ex-RBI Chief Rajan: Demonetization Hit May Not Be Fully Measured," September 8, 2017, <https://www.cnbc.com/2017/09/08/ex-rbi-chief-rajan-demonetization-hit-may-not-be-fully-measured.html>.

<sup>7</sup> "Big Firms in India Face New Competition," *The Economist*, August 24, 2017, Accessed September 12, 2017, <https://www.economist.com/news/business/21727065-it-gets-easier-do-business-it-will-get-harder-earn-huge-profits-big-firms-india>.

<sup>8</sup> "The World Factbook: India," *CIA World Factbook*, September 6, 2017, Accessed September 8, 2017, <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>.

<sup>9</sup> "India Development Update, May 2017," *The World Bank*, May 2017, accessed July 19, 2017, 38. <http://documents.worldbank.org/curated/en/107761495798437741/pdf/115297-WP-P146674-PUBLIC.pdf>.



countries with similar tax codes, not every product will be taxed at the same rate. Instead, depending on the specific item, the government will levy a tax of 5, 12, 18, or 28 percent, with regular goods like chocolate, chewing gum and deodorant being taxed at the highest level to maintain government revenue.<sup>10</sup> Seemingly, this contradicts the goal of simplifying the tax code.

While some estimates predict that the GST will help India reach future GDP growth rates of 8 percent, countries that implemented similar reforms experienced temporary decreases in economic growth. Thus, it is important that the Indian government effectively responds to implementation issues, so that all citizens are protected from economic uncertainty.

Three years after Prime Minister took over power, it appears that contrary to the election promises of 2014, his administration prefers gradual improvements over big-bang fundamental changes. As a piece in *The Economist* in June 2017 titled “Narendra Modi is a Fine Administrator, but Not Much of a Reformer” stated, “the prime minister’s approach is not sweeping reform but the unveiling of small-bore government schemes.”<sup>11</sup> Since coming into office, the Modi administration has appeared hesitant to act on earlier promises to privatize state-owned firms, simplify processes for buying land, or consolidate complicated labor laws, among many others. Instead, it has preferred to aim for reforms at the lower end of the scale.

One area in which the Modi administration has experienced great success is in building closer relations with the United States. PM Modi has undertaken official visits to the United States every year since coming to power, participating in a series of discussions with both the Obama and Trump administrations. Energy, defense and trade appear to be key areas discussed in these talks.

In the past three years, bilateral defense relationship has deepened further. Former Indian defense minister Manohar Parrikar and former U.S. Secretary of Defense Ash Carter met a remarkable six times, promoting the Defense Technology and Trade Initiative (DTTI) and paving the way for increasing military cooperation through a landmark 2016 agreement. These meetings also discussed maritime relations as an essential aspect of Indian-U.S. cooperation, as both countries are wary about the rise of Chinese influence in the South China Sea and Indian Ocean.

Economic ties between the United States and India have also strengthened considerably in recent years. Bilateral trade between the two countries reached \$115 billion last year, and is expected to grow to \$500 billion by 2024.<sup>12</sup>

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<sup>10</sup> “GST launch: short, medium & long-term impact of new tax regime explained,” *Business Standard*, June 30, 2017, accessed July 11, 2017, [http://www.business-standard.com/article/economy-policy/gst-launch-short-medium-long-term-impact-of-new-tax-regime-explained-117063000583\\_1.html/](http://www.business-standard.com/article/economy-policy/gst-launch-short-medium-long-term-impact-of-new-tax-regime-explained-117063000583_1.html/).

<sup>11</sup> “Narendra Modi is a fine administrator, but not much of a reformer,” *The Economist*, June 24, 2017, accessed July 11, 2017, <https://www.economist.com/news/briefing/21723815-tax-reform-does-not-go-far-enough-land-and-labour-reforms-have-barely-been-tried-narendra-modi>.

<sup>12</sup> “India,” *United States Trade Representative*, accessed July 14, 2017, <https://ustr.gov/countries-regions/south-central-asia/india>.

The Modi administration seeks to support a culture of innovation. Last year, the Modi administration unveiled its “Creative India; Innovative India” campaign, which seeks to bolster IPRs in India by increasing awareness and creating a stronger legal framework. Additionally, Indians living abroad are returning home in large numbers to bring their creative skills back to India. These changes led to significant advancements in India’s rank on indicators like the Global Innovation Index, which improved from 81 in 2015 to 60 in 2017.

Despite these improvements, some significant issues remain regarding fostering innovation in India. Research and development (R&D) remains quite low, consisting just 0.63 percent of India’s gross domestic product (GDP) in 2015.<sup>13</sup> In comparison, in that same year R&D spending in both the United States and China was over three times greater than in India.<sup>14</sup> It is essential for India to improve its R&D practices, because businesses are more eager to operate in countries where the government demonstrates a commitment to fostering a creative environment and protecting innovation.

In the realm of defense, India has focused on three major fronts: procurement, production, and personnel. This year, the Indian government demonstrated its massive commitment to defense by allocating \$13 billion from the national budget to procuring military capital. This move intended to update India’s aging military equipment, which is in desperate need of modernization.

Such large arms purchases are meant to compliment India’s burgeoning domestic arms production. The Modi administration hopes to produce 70 percent of India’s total weapons supply domestically by 2020.<sup>15</sup> In order to accomplish this goal, India has opened the defense sector to foreign direct investment (FDI), raising the possible amount of international investment in the industry to 49 percent.

India could make significant cuts to defense spending by cutting personnel, thus freeing up more capital to focus on infrastructural and self-sufficiency concerns. The Indian Army recently announced it would be restructuring its army and would redeploy 57,000 soldiers in combat roles, signaling a focus on personnel reform.<sup>16</sup> Restructuring is expected to continue until December 2019.

In the last fiscal year, India only spent 2.9 percent of its GDP on education, falling well short of its 6 percent target from the 2014 BJP electoral manifesto.<sup>17</sup> This has

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<sup>13</sup> “Science, Technology and Innovation: Gross Domestic Expenditure on R&D as a percentage of GDP,” *UNESCO Institute for Statistics*, updated June 2017, accessed September 8, 2017, <http://data.uis.unesco.org/?queryid=74>.

<sup>14</sup> “Science, Technology and Innovation: Gross Domestic Expenditure on R&D as a percentage of GDP,” *UNESCO Institute for Statistics*, updated June 2017, accessed July 11, 2017 <http://data.uis.unesco.org/?queryid=74>.

<sup>15</sup> Mirren Gidda, “Why India is building up its arms industry,” *Newsweek*, March 6, 2017, Accessed September 12, 2017, <http://www.newsweek.com/india-defense-arms-trade-narendra-modi-pakistan-china-modi-f-35-564542>.

<sup>16</sup> Rahul Singh, “In India’s First Army Overhaul, 57,000 soldiers to be redeployed in combat roles,” *Hindustan Times*, August 30, 2017, Accessed September 11, 2017, <http://www.hindustantimes.com/india-news/in-india-s-first-army-overhaul-57-000-soldiers-to-be-redeployed-in-combat-roles/story-XPNFvPqpKgGpHmrEHu2cgN.html>.

<sup>17</sup> “Election Manifesto”, *Bharatiya Janata Party*.

allowed longstanding problems within the Indian education system to persist, including the “saffronization” of curriculum, lack of quality teachers, and gender inequalities between male and female students.

Similarly, India spent a paltry 1.2 percent of its GDP on healthcare, the lowest recorded portion in its history. Limited spending has exacerbated healthcare issues for rural citizens, who receive less access and lower quality care than their urban counterparts.

An estimated 12 million Indians enter the job market annually.<sup>18</sup> However, since PM Modi entered office in 2014, only 1.51 million new jobs have been created in India, 39 percent less than the previous three-year period.<sup>19</sup> Some of these struggles have been understandable, as India is experiencing growing pains in its shift from an agricultural to an industrial society. Such a shift is necessary, as the agricultural sector, which employs 47 percent of the country, generates just 16.5 percent of India’s GDP.<sup>20</sup>

The Modi administration has invested significant funds and resources into professional development, creating the Ministry of Skill Development and Entrepreneurship and increasing vocational training for teachers. When combined with the \$7.5 billion “smart city” initiative to revitalize and redevelop urban areas, the Modi government is taking steps to help India keep up with a rapidly modernizing world.

With consistent projected growth rates of over 7 percent and a workforce of over 500 million people, by 2030 India is set to surpass Japan, Germany, Great Britain, and France to become the world’s third largest economy.<sup>21</sup> While rapid overhauls are necessary, if the Modi administration attacks domestic issues with the same vigor that it has conducted foreign policy, then India will finally realize its massive potential.

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<sup>18</sup> Archana Chaudhary & Bibhudatta Pradhan, “India Officials Trek Through Villages to Map Rising Joblessness,” *Bloomberg*, July 6, 2017, Accessed September 11, 2017, <https://www.bloomberg.com/news/articles/2017-07-06/rising-tide-of-india-s-jobless-a-risk-for-modi-before-key-poll>.

<sup>19</sup> Shreya Shah, “Three years of Modi govt: Job-creation promise falls short as unemployment rate up,” *Hindustan Times*, May 23, 2017, accessed July 11, 2017, <http://www.hindustantimes.com/india-news/three-years-of-modi-govt-job-creation-promise-falls-short-as-unemployment-rate-up/story-NiJ519kWe56MjNCfMtgEeO.html>.

<sup>20</sup> “The World Factbook: India,” *CIA World Factbook*, September 6, 2017, Accessed September 8, 2017, <https://www.cia.gov/library/publications/the-world-factbook/geos/in.html>.

<sup>21</sup> Raj Kumar Ray, “India’s economy to become 3rd largest, surpassing Japan, Germany by 2030,” *Hindustan Times*, April 28, 2017, accessed July 14, 2017, <http://www.hindustantimes.com/business-news/india-s-economy-will-become-third-largest-in-the-world-surpass-japan-germany-by-2030-us-agency/story-wBY2QOO8YsYcrfK12A4HuK.html>.

## ***India-U.S. Relations***

**U**nder the Modi administration, India and the United States have deepened relations in several sectors. The exchange of dialogue between Prime Minister Modi and U.S. presidents Barack Obama and Donald Trump – five times during the last three years – is a testament to the idea that both nations are and will continue to be close international partners. With joint effort from India and the United States and a commitment to protecting and providing for each other, cultural ties will expand, military partnerships will strengthen, and bilateral trade will increase significantly. As a result, the India-U.S. partnership could become one of the most important and powerful bilateral relationships in the twenty-first century.

## Energy

### *Developments in the last three years*

Many new developments in the India-U.S. energy relationship emerged from the U.S.-India Energy Summits of 2014, 2015, and 2016. The last three years have seen both countries strive to strengthen the Partnership to Advance Clean Energy (PACE) and Promoting Access Through Clean Energy (PEACE) programs.<sup>22</sup> Both programs are highly valued by India and the U.S., who hope to enhance private sector access to India's urban energy infrastructure, and have spent around \$1 billion to facilitate India's transition to renewable sources and clean energy.<sup>23</sup>

Additionally, the 2015 Memorandum of Understanding expanded bilateral cooperation on projects like phasing down hydrofluorocarbons, air quality control, and efficient off-grid appliances for India.<sup>24</sup> India also assured the U.S. of its commitment to fight climate change by ratifying the Paris Climate Change Agreement in 2016, which strengthened ties between the two nations and supported India's goal to produce 40 percent of its electricity with non-fossil fuels by 2030.<sup>25</sup>

### *Natural Gas*

In efforts to reduce carbon emissions due to environmental concerns, in 2004 India stepped away from using coal as a major source of electricity generation, and instead turned to importing natural gas.<sup>26</sup> As a result, India's Liquefied Natural Gas (LNG) imports have increased significantly and will increase by 6 percent over the next five years, as falling LNG import prices fuel the continuous shift away from coal production.<sup>27</sup> While Qatar remains India's largest natural gas supplier, there is an opportunity for the U.S. to position itself as another major exporter to India, as experts predict that the U.S. will increase its natural gas exports by 3.6 percent by 2050.<sup>28</sup> While India should be a prime destination for foreign markets, India's current regulations deter investment. An established natural gas relationship would further build on the energy partnership between the two nations, but can only be done by tackling the existing challenges.

For the U.S., India's strict policies concerning oil and gas production are a major source of concern. The U.S. also exhibits protectionist tendencies that prevent it

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<sup>22</sup> Office of Press Secretary, "U.S.- India Joint Statement," *The White House*, Sept. 30, 2014, accessed July 9, 2016, <https://obamawhitehouse.archives.gov/the-press-office/2014/09/30/us-india-joint-statement>.

<sup>23</sup> Office of Press Secretary, "U.S.- India Joint Statement," *The White House*, Sept. 30, 2014, accessed July 9, 2016, <https://obamawhitehouse.archives.gov/the-press-office/2014/09/30/us-india-joint-statement>.

<sup>24</sup> Office of Press Secretary, "U.S. and India Climate and Clean Energy Cooperation," *The White House*, Jan. 25, 2015, accessed July 9, 2016, <https://obamawhitehouse.archives.gov/the-press-office/2015/01/25/fact-sheet-us-and-india-climate-and-clean-energy-cooperatio>.

<sup>25</sup> Rebecca Hersher, "India Ratifies Paris Climate Change Agreement," *NPR*, Oct. 2, 2016, accessed July 8, 2016, <http://www.npr.org/sections/thetwo-way/2016/10/02/496305658/india-ratifies-paris-climate-change-agreement>.

<sup>26</sup> "Country Analysis: India", *U.S. Energy Information Administration*, June 14, 2016, p. 11.

<sup>27</sup> "Medium-Term Gas Market Report 2016," *International Energy Agency*, 2016 accessed July 17, 2017, 11.

<sup>28</sup> "Annual Energy Outlook 2017", *U.S. Energy Information Administration*, Jan. 5, 2017, accessed July 17, 2017, [https://www.eia.gov/outlooks/aeo/pdf/0383\(2017\).pdf](https://www.eia.gov/outlooks/aeo/pdf/0383(2017).pdf)

from becoming a larger exporter of natural gas.<sup>29</sup> India, while moving towards clean energy, knows that it cannot replace fossil fuels completely with renewable energy sources. What is required is a continuous dialogue between the government and private sector in both countries to improve and promote India's energy infrastructure policies.<sup>30</sup>

## Recommendations

These recommendations seek to make the energy sector a more profitable and attractive venue and to deepen the India-U.S. bilateral energy relationship:

- 1) **Continue to push the Hydrocarbon Exploration Licensing Policy (HELP), which helps India's energy market appear inviting, especially to U.S energy companies.**<sup>31</sup> Implemented in early 2017, HELP is meant to ease the process of obtaining licenses by foreign companies operating in India for free exploration and production of oil and gas resources.<sup>32</sup> As a step towards opening up markets in India, it is imperative that the Indian government monitors rather than managing the program. Heavy government regulations negate the operational flexibility promised by the policy, and make the Indian energy sector severely unattractive to foreign investment.<sup>33</sup> The biggest challenge for India is natural gas pricing. The rigid pricing and allocation methods introduced in 2014 by the Indian government are inefficient in using market factors and the private sector.<sup>34</sup> In return, energy companies are reluctant to invest in a country where the freedom of pricing does not exist. HELP creates a bridge between India's current energy situation and the massive potential the sector holds.
- 2) **Promote the clean energy fund provided by the U.S.** New Delhi has not fully taken advantage of its clean energy fund. The fund was created with the idea that India could shrink its coal industry and promote clean energy research; however, the money is often used for other initiatives.<sup>35</sup> With the strengthening of the India-U.S. energy cooperation, New Delhi would benefit from tools necessary for energy innovation and production.

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<sup>29</sup> Raymond E. Vickery, Jr., *India Energy: The Struggle for Power* (Washington DC: Wilson Center, 2014), 3.

<sup>30</sup> Raymond E. Vickery, Jr., *India Energy: The Struggle for Power* (Washington DC: Wilson Center, 2014), 4.

<sup>31</sup> PTI, "India announces new hydrocarbon exploration policy," *The Indian Express*, Mar. 7, 2017, accessed July 3, 2017, <http://indianexpress.com/article/india/india-announces-new-hydrocarbon-exploration-licensing-policy-4557969/>.

<sup>32</sup> PTI, "India announces new hydrocarbon exploration policy," *The Indian Express*, Mar. 7, 2017, accessed July 3, 2017, <http://indianexpress.com/article/india/india-announces-new-hydrocarbon-exploration-licensing-policy-4557969/>.

<sup>33</sup> PTI, "India announces new hydrocarbon exploration policy," *The Indian Express*, Mar. 7, 2017, accessed July 3, 2017, <http://indianexpress.com/article/india/india-announces-new-hydrocarbon-exploration-licensing-policy-4557969/>.

<sup>34</sup> Vickery Jr., *India Energy: The Struggle for Power*, 4.

<sup>35</sup> "India", U.S. Energy Administration Information, June 14, 2016, accessed July 8, 2017, <https://www.eia.gov/beta/international/analysis.cfm?iso=IND>.



## Defense

### *Developments in the last three years*

The 2014 India-U.S. Declaration on Defense Cooperation marked the strengthening of a strategic partnership between both nations, with the promise of enhancing bilateral and global security.<sup>36</sup> President Obama's 2015 visit to India during celebrations for India's 66th Republic Day further secured the commitment, as the two leaders completed a framework for the U.S.-India Defense Relationship and expanded cooperation for another ten years.<sup>37</sup>

Under the Defense Trade and Technology Initiative (DTTI), India and the U.S. agreed to work on enhancing research and development (R&D) for aircraft carrier technology, and developing closer maritime security cooperation in the Asia-Pacific region.<sup>38</sup> In 2016, India and the U.S. further deepened their defense initiative by signing one of the foundational agreements (LEMOA, Logistics Exchange Memorandum of Agreement) a military logistics pact negotiated by then-Indian Defense Minister Manohar Parrikar and then-U.S. Defense Secretary Ashton B. Carter, which increased military-to-military cooperation in technology, trade, and production.<sup>39</sup>

India's 2016 defense purchases from the U.S., like the \$1 billion deal on anti-submarine warfare (ASW) aircrafts and purchase of 24 turboprop planes, demonstrated the necessity of U.S. partnership in defense trading.<sup>40</sup> Most recently, the 2017 agreement between Lockheed Martin and Tata Advanced Systems Limited to produce F-16 fighter jets in India illustrated efforts by the U.S. defense industry to support the Modi administration's "Make in India" campaign and push for job creation in both India and the U.S.<sup>41</sup>

### *Challenges*

While blossoming, the bilateral defense relationship is not immune to its share of challenges. India and the U.S. have mutual interests when it comes to South Asia – a stable Afghanistan, a terror-free Pakistan – Middle East – counter-terror cooperation and fighting ISIS and Al Qaeda – and the Indo-Asia-Pacific – countering the rise of China and allying with countries like Japan and South Korea.

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<sup>36</sup> "U.S.-India Defense Relationship," *U.S. Department of Defense*, accessed July 10, 2017, <https://www.defense.gov/Portals/1/Documents/pubs/US-IND-Fact-Sheet.pdf>.

<sup>37</sup> "U.S.-India Defense Relationship," *U.S. Department of Defense*, accessed July 10, 2017, <https://www.defense.gov/Portals/1/Documents/pubs/US-IND-Fact-Sheet.pdf>.

<sup>38</sup> "U.S.-India Defense Relationship," *U.S. Department of Defense*, accessed July 10, 2017, <https://www.defense.gov/Portals/1/Documents/pubs/US-IND-Fact-Sheet.pdf>.

<sup>39</sup> Rama Lakshmi, "India and U.S. deepen defense ties with landmark agreement," *The Washington Post*, Aug. 30, 2016, accessed July 11, 2017, [https://www.washingtonpost.com/world/india-and-us-deepen-defense-ties-with-landmark-agreement/2016/08/30/2e7e045b-e3c3-49ff-9b2c-08efaa27b82b\\_story.html?utm\\_term=.830c0f820f3d](https://www.washingtonpost.com/world/india-and-us-deepen-defense-ties-with-landmark-agreement/2016/08/30/2e7e045b-e3c3-49ff-9b2c-08efaa27b82b_story.html?utm_term=.830c0f820f3d).

<sup>40</sup> "Military Expenditure 1949-2016", *SIPRI database*, accessed July 13, 2017, <https://sipri.org/databases/milex>.

<sup>41</sup> Reuters, "Lockheed Martin signs pact with Tata to make F-16 planes in India," *Hindustan Times*, June 19, 2017, accessed July 13, 2017, <http://www.hindustantimes.com/business-news/lockheed-martin-signs-pact-with-tata-to-make-f-16-planes-in-india/story-1Zvju73YPMorAo5d3nrEN.html>.

While there is strategic convergence this has not yet fully translated into the economic arena and has yet to create deep institutional bonding.

## **Recommendations**

The following recommendations aim to strengthen the bilateral defense relationship and address any existing challenges.

- 1) Help the United States follow through with implementing changes in its export controls, and recognizing India as a major defense partner.** The U.S. would benefit by reassuring India that even after significant changes to American export procedures, it will not face troubles with securing licenses for defense purchases.<sup>42</sup> A strong India-US defense trade relationship will help deepen the India-US military partnership.
- 2) Continue to push for joint cooperation on maritime security in the South China Sea. With** New Delhi's realization that the Indian Ocean and South China Sea are linked together, it is an opportune time for maritime cooperation between both countries to deepen, especially given the rise of a militarized China. With joint naval patrols in the region and the annual trilateral Malabar exercises with the United States and Japan, India can send a message to China that measures can and will be taken to deter aggression.
- 3) Emphasize and build upon the shared values within the defense relationship. Building deeper institutional ties between the defense institutions of both countries will bolster the relationship. Accentuating the similarities and shared goals in the strategic visions of both countries is critical.**<sup>43</sup>

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<sup>42</sup> PTI, "US recognises India as 'major defense partner', changes export control laws," *The Indian Express*, Feb. 7, 2017, accessed July 12, 2017, <http://indianexpress.com/article/business/us-recognises-india-as-major-defence-partner-changes-export-control-laws-4511813/>.

<sup>43</sup> Alyssa Ayres, "Three Takeaways on U.S.-India Defense Ties," *Forbes*, Aug. 29, 2016, accessed July 13, 2017, <https://www.forbes.com/sites/alyssaayres/2016/08/29/three-takeaways-on-u-s-india-defense-ties/#6440be511000>.



## **Economy**

### *Bilateral Trade*

With several areas newly available for development in investment and innovation, the India-U.S. trade relationship has grown significantly in the past decade, and represents an essential pillar between the two nations. From 2014 to 2016, U.S. trade with India increased by roughly \$10 billion, to a whopping total of \$115 billion.<sup>44</sup>

Furthermore, some experts hope that this number will reach \$500 billion by 2024. While India is only the U.S.' ninth largest trading partner,<sup>45</sup> its existing trade surplus makes it no surprise that it benefits from American trade. Specifically, trade in the services sector has played a significant role in cultivating their bilateral partnership, with heavy service exports in the IT and travel industries<sup>46</sup> Both countries stress that bilateral trade is increasing dramatically, and facilitates the transmission of culture and friendship.

### *Trade Deficit*

The issue of a trade deficit remains a concern for the U.S. government, and has the potential to disrupt the present bilateral relationship. In 2016, the United States ran a \$24.3 billion trade deficit in goods with India, almost a \$10 billion increase from 2011.<sup>47</sup> In April 2017 President Trump launched an investigation to identify all sources of trade abuse and deficit.<sup>48</sup> While the American government might not act on this inquiry, India still remains wary of the U.S.' history with protectionism.

### *Investment*

The Modi government's move towards a more open market resulted in a 54 percent increase in foreign direct investment (FDI) from 2014 to 2016.<sup>49</sup> Not only has the Modi administration been praised for making India's investment opportunities more attractive by allowing foreign owners greater stakes in Indian companies, but also because the rapid change of pace in FDI flow has encouraged U.S. companies to choose India as the prime spot for investment, making it attractive to invest in India's science, IT, and manufacturing sectors.<sup>50</sup>

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<sup>44</sup> "India," *United States Trade Representative*, accessed July 17, 2017, <https://ustr.gov/countries-regions/south-central-asia/india>.

<sup>45</sup> "India," *United States Trade Representative*, accessed July 17, 2017, <https://ustr.gov/countries-regions/south-central-asia/india>.

<sup>46</sup> "India," *United States Trade Representative*, accessed July 17, 2017, <https://ustr.gov/countries-regions/south-central-asia/india>.

<sup>47</sup> "Trade in Goods with India," *United States Census Bureau*, accessed July 17, 2017, <https://www.census.gov/foreign-trade/balance/c5330.html>.

<sup>48</sup> Yashwant Raj, "Trump orders investigation of countries with trade deficit, India on the list," *Hindustan Times*, Apr. 3, 2017, accessed July 13, 2017, <http://www.hindustantimes.com/business-news/trump-orders-investigation-of-countries-with-trade-deficit-with-us-india-on-the-list/story-RkZjiCzHXvNmte9FbehT3L.html>.

<sup>49</sup> Raymond Zhong, "Foreign Direct Investment Into India Jumps 26%, U.N. says," *Wall Street Journal*, June 23, 2016, accessed July 13, 2017, <https://blogs.wsj.com/indiarealtime/2016/06/23/foreign-direct-investment-into-india-jumps-26-u-n-says/>.

<sup>50</sup> "India," *United States Trade Representative*.

With an expected gross domestic product (GDP) increase of 7.4 percent in the 2017-2018 fiscal year, the Indian market holds great potential.<sup>51</sup> Furthermore, the launch of the “Make in India” campaign served as a stepping stone for U.S. investment in helping India promote domestic capabilities.<sup>52</sup> By persuading U.S. companies to invest in the Indian market, India is moving towards becoming a manufacturing hub, while also creating thousands of jobs for Americans. Improving India’s business environment has also contributed to an increase in FDI, especially the reduction in red tape and the ease in procedures for granting businesses licenses.<sup>53</sup>

## Recommendations

- 1. Encourage dialogue between governments on the issue of H1B visas.** In efforts to change the immigration system, the Trump administration has ordered a proposed cut in the number of H1B visas granted to skilled workers. In 2016, 74.2 percent of H1-B visas went to Indians,<sup>54</sup> and there is concern that the IT industry in the U.S. will suffer without thousands of Indian employees.<sup>55</sup> India’s IT companies will also suffer since they rely heavily on the U.S. for overseas tech business. Nasscom’s President R. Chandrasekhar has stepped up lobbying the United States government since the decision to cut back on H1-B visas, which is the most concerning for tech companies.<sup>56</sup> R. Chandrasekhar commented on the “yawning gap’ between the facts and perception,” and that the Indian tech companies are a major contributor to U.S. jobs and the economy.<sup>57</sup> With a significant decline in the number of visas granted, Indians will be compelled to look for jobs back home, decreasing investment opportunities in the U.S. Therefore, as India seeks to expand exports to the U.S., reassuring dialogue is necessary for the relationship to further blossom.
- 2. Work towards a bilateral investment treaty.** The implementation of a bilateral investment treaty would improve FDI flow into both countries,

<sup>51</sup> “India’s Real GDP growth to average at 7.4% over 2017, 2018: Deutsche Bank,” *The Economic Times*, August 15, 2017, accessed September 8, 2017, <http://economictimes.indiatimes.com/news/economy/indias-real-gdp-growth-to-average-at-7-4-over-2017-2018-deutsche-bank/articleshow/60069795.cms>.

<sup>52</sup> PTI, “India moving forward to become major destination for FDI: US Trade official,” *The Economic Times*, Apr. 19, 2017, accessed July 13, 2017 <http://economictimes.indiatimes.com/news/economy/foreign-trade/india-moving-forward-to-become-major-destination-for-fdi-us-trade-official/articleshow/58255752.cms>.

<sup>53</sup> “Ease of Doing Business,” *Make in India*, accessed July 17, 2017, <http://www.makeinindia.com/eodb>

<sup>54</sup> “Characteristics of H-1B Specialty Occupation Workers: Fiscal Year 2016 Annual Report to Congress,” U.S. Department of Homeland Security, May 5, 2017, Accessed September 12, 2017, <https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/H-1B/h-1B-FY16.pdf>.

<sup>55</sup> Yashwant Raj, “Trump signs executive order on H1-B visas to ‘buy American, hire American’,” *Hindustan Times*, July 12, 2017, accessed July 12, 2017, <http://www.hindustantimes.com/world-news/donald-trump-signs-buy-american-hire-american-order-to-end-misuse-of-h-1b-visa/story-29KeygC3WrSOoZOtgZETnJ.html>.

<sup>56</sup> “IT Industry Body Nassacom Steps Up US Lobbying On Visa Concerns,” *NDTV Profit*, May 22, 2017, Accessed September 12, 2017, <http://profit.ndtv.com/news/tech-media-telecom/article-indian-it-industry-body-nassacom-steps-up-us-lobbying-on-visa-issues-report-1696384>.

<sup>57</sup> “IT Industry Body Nassacom Steps Up US Lobbying On Visa Concerns,” *NDTV Profit*, May 22, 2017, Accessed September 12, 2017, <http://profit.ndtv.com/news/tech-media-telecom/article-indian-it-industry-body-nassacom-steps-up-us-lobbying-on-visa-issues-report-1696384>.

and allow for the protection of investors.<sup>58</sup> A treaty would further open India's market and change the way the Indian government regulates businesses and foreign investment.

3. **Lower Indian tariffs on American goods.** The U.S. has a 2 percent tariff rate on Indian imports, compared to India's 10 percent tariff rate on American imports.<sup>59</sup> Lowering tariffs would help New Delhi deepen ties with the Trump administration for whom trade deficit is an important issue.
4. **Move to grant India membership for APEC.** The U.S. has been supportive of India's admission into the Asia-Pacific Economic Cooperation (APEC), but there is still a need for more of a push to secure its membership. Joining APEC would ensure that India undertakes certain economic reforms and this would benefit both India and the United States.<sup>60</sup>

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<sup>58</sup> Congressional Research Service, "India- U.S. Economic Relations," *Federation of American Scientists*, Sept. 26, 2014, accessed July 12, 2017, <https://fas.org/sgp/crs/row/R43741.pdf>.

<sup>59</sup> Shalabh Kumar, "A Trump- Modi Relationship Could Change the Trade World," *The National Interest*, Feb. 5, 2017, accessed July 12, 2017, <http://nationalinterest.org/feature/trump-modi-relationship-could-change-the-trade-world-19321>.

<sup>60</sup> Congressional Research Service, "India- U.S. Economic Relations," *Federation of American Scientists*, Sept. 26, 2014, accessed July 12, 2017, <https://fas.org/sgp/crs/row/R43741.pdf>.

## ***Innovation and Intellectual Property Rights***

**A**fter coming to power in 2014, Prime Minister Narendra Modi and the Bharatiya Janata Party (BJP) have sought to improve intellectual property rights (IPRs) and provide a conducive environment for innovation in India. Historically, the combination of weak intellectual property (IP) laws and low levels of research and development (R&D) in India has created an atmosphere where businesses have difficulty trusting that their new ideas will be protected.

In 2016, the Modi government unveiled the “Creative India, Innovative India” campaign to solidify IPRs, and foreign direct investment (FDI) has increased considerably during the prime minister’s three years in office. Many experts, however, that the recommendations made by the new IPR framework are insufficient, and have not corrected the larger underlying issues that plague Indian society. They point out that it is important for India to match its strong rhetoric on IPRs with noticeable improvements, or risk losing the innovative spirit necessary to maintain India’s status as one of the world’s fastest growing economies.

## Background

### *India's Tenuous History with Intellectual Property*

For decades the conventional wisdom in India was that Intellectual Property law favored the developed world over developing countries. For a long time, New Delhi was hesitant to defend IP, and coached its opposition to cracking down on copyright infringement, piracy, and weak patent laws based on the belief that inventions should be used for the public good, regardless of who possesses the IP. In fact, when referring to the Indian medical industry, former Prime Minister Indira Gandhi once said, “the idea of a better-ordered world is one in which medical discoveries will be free of patents and there will be no profiteering from life and death.”<sup>61</sup> Ideas like these have stoked the international perception that India is a poor place for innovation, and discouraged potential innovators from operating in the country.

### *Brain Drain*

Lack of investment in research and development, in entrepreneurship and innovation resulted in a massive “brain drain” of well-educated Indian workers to the United States. The number of Indian engineers and scientists residing in the United States increased by 85 percent from 2003 to 2013, with 950,000 Indian engineers living in the U.S. by 2013.<sup>62</sup> This is problematic, because highly skilled workers like these are essential towards building the knowledge-based economy that the Indian government desires.

In recent years, brain drain to the United States has decreased significantly. In addition to decreased brain drain out of India, in recent years tens of thousands of Indian engineers and technology experts have moved out of Silicon Valley and back home to India for work.<sup>63</sup> A large reason for this “reapora” seems India’s recent economic growth; because India’s average gross domestic product (GDP) growth eclipsed seven percent from 2010 to 2014, workers felt more comfortable returning home and investing in their home nation.<sup>64</sup>

Many Indian innovators also cite a sense of civic obligation when explaining their choice to return home.<sup>65</sup> Syed Mansoor – a biotechnology professor that taught at Yale University before returning to India in 2016 – summed up their sentiments well, saying, “there are many problems in the scientific terrain of India, lack of

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<sup>61</sup> Vandava Shiva, “Living on the Frontline,” *The Guardian*, Sept. 8, 2003, accessed June 29, 2017, <https://www.theguardian.com/environment/2003/sep/08/wto.fairtrade8>.

<sup>62</sup> Vanita Srivastava, “Nearly 85% rise in brain drain from India to US in 10 years,” *Hindustan Times*, Oct. 2, 2015, accessed June 29, 2017 <http://www.hindustantimes.com/india/nearly-85-rise-in-brain-drain-from-india-to-us-in-10-years/story-pYX8O8j5xzUtxg1AgRlyHP.html>

<sup>63</sup> Jay Greene, “India draws tech dreamers back home,” *The Seattle Times*, Nov. 28, 2015, accessed July 6, 2017, <http://www.seattletimes.com/business/technology/india-draws-tech-dreamers-back-home/>.

<sup>64</sup> Jay Greene, “India draws tech dreamers back home,” *The Seattle Times*, Nov. 28, 2015, accessed July 6, 2017, <http://www.seattletimes.com/business/technology/india-draws-tech-dreamers-back-home/>.

<sup>65</sup> Vanita Srivastava, “Why scientists of Indian origin are leaving a better life and returning to India,” *Economic Times of India*, Aug. 14, 2016, accessed July 5, 2017 <http://economictimes.indiatimes.com/small-biz/startups/why-scientists-of-indian-origin-are-leaving-a-better-life-and-returning-to-india/articleshow/53688721.cms>.

funds and resources being the main ones. But I love my country and will never go again to any foreign shore for work.”<sup>66</sup> Hence, many highly skilled workers are returning home to help build its creative infrastructure.

### *Research and Development*

One of the major issues faced by Indian innovators is the low level of investment in research and development (R&D). Historically, R&D spending in India has been inadequate. In 1996, India and China invested similarly low levels of their GDP into R&D, spending 0.63 percent and 0.56 percent, respectively. However, in the past two decades R&D spending in China skyrocketed past India, reaching 2.07 percent in 2015, while Indian investments stagnated at 0.63 percent.<sup>67</sup>

Furthermore, according to the Industrial Research Institute, although India is the sixth ranked country in terms of gross expenditures on R&D, they rate just 29 out of the 40 countries surveyed in terms of R&D spending as a percentage of GDP.<sup>68</sup> Additionally, while the average country spent 1.70 percent of its GDP on R&D in 2014, India spent only 0.85 percent.<sup>69</sup> If India wants to boost its economy, commerce, and encourage innovation it is imperative that India increase its spending on R&D.

In the words of the former director of the Council of Scientific and Industrial Research (CSIR) RA Mashelkar, “we need to create an environment in which innovation flourishes. Otherwise the innovators will either play safe and not innovate, or they will leave to become a part of other societies, which encourage innovation.”<sup>70</sup>

### *Making Improvements: “Creative India; Innovative India”*

Given the tenuous history of IPR in India, the Modi administration’s proposal of a new IPR framework was warmly welcomed. Revealed in May 2016, the “Creative India; Innovative India” national policy is built on seven pillars to help strengthen IPR in India:

1. IPR Awareness: Outreach and Promotion;
2. Generation of IPRs;
3. Legal and Legislative Framework;
4. Administration and Management;

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<sup>66</sup> Vanita Srivastava, “Why scientists of Indian origin are leaving a better life and returning to India,” *Economic Times of India*, Aug. 14, 2016, accessed July 5, 2017 <http://economictimes.indiatimes.com/small-biz/startups/why-scientists-of-indian-origin-are-leaving-a-better-life-and-returning-to-india/articleshow/53688721.cms>.

<sup>67</sup> “Science, Technology and Innovation: Gross Domestic Expenditure on R&D as a percentage of GDP,” *UNESCO Institute for Statistics*, updated June 2017, accessed July 5, 2017, <http://data.uis.unesco.org/?queryid=74>.

<sup>68</sup> “2016 Global R&D Funding Forecast,” *Industrial Research Institute*, Winter 2016, 5. [https://www.iriweb.org/sites/default/files/2016GlobalR%26DFundingForecast\\_2.pdf](https://www.iriweb.org/sites/default/files/2016GlobalR%26DFundingForecast_2.pdf).

<sup>69</sup> “2016 Global R&D Funding Forecast,” *Industrial Research Institute*, Winter 2016, 5. [https://www.iriweb.org/sites/default/files/2016GlobalR%26DFundingForecast\\_2.pdf](https://www.iriweb.org/sites/default/files/2016GlobalR%26DFundingForecast_2.pdf).

<sup>70</sup> Srivastava, “85% rise in brain drain.”

5. Commercialization of IPRs;
6. Enforcement and Adjudication;
7. Human Capital Development.<sup>71</sup>

According to the mission statement provided by the Department of Industrial Policy & Promotion (DIPP), the policy seeks to provide a stable set of laws to encourage creativity and innovation, specifically in areas like healthcare, food security, and environmental protection.<sup>72</sup>

Shortly after announcing the new IPR policy, the Indian government created a section of the DIPP called the Cell for IPR Promotion (CIPAM). Over the next three years, CIPAM has committed to holding 40 programs to train workers to conduct IPR workshops, performing 4,000 such workshops and seminars in schools and businesses across India, completing 270 programs to increase awareness of IPR laws for police officers, customs officials and the judiciary, and running five major workshops to discuss IP and the international community.<sup>73</sup> These events will cost over \$4.5 million.<sup>74</sup> This sizable amount demonstrates the Modi government's desire to raise IPR awareness in India in order to guarantee that the assets and property of businesses are secure.

In addition to this plan, the past three years have seen gradual improvements in India's score on the Global Innovation Index. From 2015<sup>75</sup> to 2017<sup>76</sup>, India's score on the Global Innovation Index improved from 31.74 to 35.47, and its ranking increased from 81 to 60. Since 2015, India experienced significant improvements in human capital & research, market sophistication, and business sophistication, specifically in the categories of tertiary education, trade and competition, and knowledge absorption.<sup>77</sup>

The World Bank's Doing Business report echoed similar sentiments, and stated that India made "a number of substantial improvements" to its commercial environment, including making it easier to pay taxes electronically, and significantly decreasing the time and cost for businesses to receive electricity connections.<sup>78</sup> Some of these improvements were a result of methodological changes, where new categories in which India performs well – like domestic

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<sup>71</sup> "Intellectual Property Facts: Objectives," *Make in India*, accessed July 5, 2017,

<http://www.makeinindia.com/policy/intellectual-property-facts>.

<sup>72</sup> "National IPR Policy: Brief About the Policy," *Department of Industrial Policy & Promotion*, accessed July 5, 2017,

<http://dipp.nic.in/policies-rules-and-acts/policies/national-ipr-policy>.

<sup>73</sup> "Scheme for IPR Awareness: IPR Awareness – Creative India, Innovative India!" *CIPAM*, accessed July 10, 2017.

<sup>74</sup> "Scheme for IPR Awareness: IPR Awareness – Creative India, Innovative India!" *CIPAM*, accessed July 10, 2017.

<sup>75</sup> Cornell University, INSEAD and the World Intellectual Property Organization, *The Global Innovation Index 2015: Effective Innovation Policies for Development*, edited by Soumitra Dutta, Bruno Lanvin, and Sacha Wunsch-Vincent, 2015.

<sup>76</sup> Cornell University, INSEAD and the World Intellectual Property Organization, *The Global Innovation Index 2017: Innovation Feeding the World*, edited by Soumitra Dutta, Bruno Lanvin, and Sacha Wunsch-Vincent, 2017.

<sup>77</sup> "The Global Innovation Index 2015" and "The Global Innovation Index 2017"

<sup>78</sup> "Doing Business 2017: Equal Opportunity for All," *The World Bank*, 2017, 36.



market scale – were added to the Global Innovation Index.<sup>79</sup> It is clear that PM Modi's government is trying to improve India's culture of innovation.

### *Room for Improvement*

Despite the Indian government's bold proclamations and modest improvements of IPR law under "Creative India; Innovative India," many roadblocks still remain. Within the Global Innovation Index, India's business environment scores remain low, and it still rates poorly in the ease of starting a business, ease of resolving insolvency, and the ease of paying taxes.<sup>80</sup>

Similarly, although the Doing Business report praised India for commercial reforms, in 2017 it still only ranked 130 out of 190 countries, with a score of 55.27.<sup>81</sup> As a point of reference, India's rank in 2014 was 134; thus, it is difficult to imagine that significant improvements corresponded with only a four-spot increase in the rankings.<sup>82</sup>

In addition to somewhat contradictory conclusions drawn from these indices, the United States government issued a warning to businesses that might operate in India. India still remains on the United States Trade Representative's Priority Watch List, which identifies countries with poor histories of providing a safe environment for American innovators.<sup>83</sup> Significantly, the report said, "*the pace of reform has not matched the high-level calls to foster innovation and promote creativity.*"<sup>84</sup> Furthermore, a report by the U.S. Department of Commerce's International Trade Administration said, "engagement [by the Government of India] has not yet translated into significant, sustainable progress and/or actions on IPRs that were anticipated earlier in the current administration."<sup>85</sup>

### *Delhi University Copyright Case*

One cautionary tale to international businesses about how their IP will be treated in India is the highly publicized court case pitting Cambridge University Press, Oxford University Press, and Taylor & Francis against the Rameshwari Photocopy Service. In 2012, the publishing companies filed a petition to ban the shop from

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<sup>79</sup> "The Global Innovation Index 2017."

<sup>80</sup> "The Global Innovation Index 2017."

<sup>81</sup> "Doing Business 2017."

<sup>82</sup> "Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises," *The World Bank*, 2013, accessed July 9, 2017, <http://www.doingbusiness.org/~media/WBG/DoingBusiness/Documents/Annual-Reports/English/DB14-Chapters/DB14-Mini-Report.pdf>.

<sup>83</sup> "USTR Releases 2017 Special 301 Report on Intellectual Property Rights," *Office of the United States Trade Representative*, accessed July 10, 2017, <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2017/april/ustr-releases-2017-special-301-report>.

<sup>84</sup> "2017 Special 301 Report," *Office of the United States Trade Representative*, accessed July 5, 2017, 42. <https://ustr.gov/sites/default/files/301/2017%20Special%20301%20Report%20FINAL.PDF>

<sup>85</sup> "India – Protecting Intellectual Property," *Export.gov*, Nov. 3, 2016, <https://www.export.gov/article?id=India-Protecting-Intellectual-Property>.



stealing their IP, because it photocopied and distributed their textbooks to Delhi University college students for lower than market prices.<sup>86</sup>

Delhi University successfully argued that the 1957 Copyright Act legally justified the copy shop's actions, as the law placed exemptions on photocopying materials for educational purposes.<sup>87</sup> Thus, in September 2016, the Delhi High Court ruled against the publishing houses, arguing that, "copyright in a literary work is not an inevitable, divine or natural right," and that copyright law could not hinder the dispersion of knowledge.<sup>88</sup> Although the Delhi High Court reversed its decision to dismiss the case in December 2016,<sup>89</sup> in March 2017 the publishers withdrew their lawsuit.<sup>90</sup>

Reactions to this case were diverse. They ranged from those who argued that the ruling would dissuade other publishers from releasing academic materials in India<sup>91</sup> and that "institutionalized copying" took essential sources of income from publishers.<sup>92</sup> Others hailed the ruling as a success by saying, "we are not going to blindly adhere to western norms."<sup>93</sup>

Although foreign direct investment in India skyrocketed in the past three years – increasing from \$28 billion in 2013 to over \$44 billion in 2015<sup>94</sup> – such growth will be unsustainable if the Indian IP landscape is not overhauled.

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<sup>86</sup> Rocky Soibam Singh, "Publishers lose copyright case against DU's photocopy shop," *Hindustan Times*, Sept. 16, 2016, accessed June 28, 2017, <http://www.hindustantimes.com/delhi-news/publishers-lose-copyright-case-against-du-s-photocopy-shop/story-Yly8FJ1mNjf71snIL8tpvO.html>.

<sup>87</sup> Rocky Soibam Singh, "Publishers lose copyright case against DU's photocopy shop," *Hindustan Times*, Sept. 16, 2016, accessed June 28, 2017, <http://www.hindustantimes.com/delhi-news/publishers-lose-copyright-case-against-du-s-photocopy-shop/story-Yly8FJ1mNjf71snIL8tpvO.html>.

<sup>88</sup> Prashant K. Nanda and Priyanka Mittal, "DU Photocopy case: Oxford, Cambridge to withdraw lawsuit against Rameshwari," *Livemint*, March 9, 2017, accessed June 26, 2017.

<sup>89</sup> Priyanka Mittal, "DU photocopy case: Delhi HC restores copyright suit by publishers," *Livemint*, Dec. 10, 2016, accessed June 26, 2017, <http://www.livemint.com/Education/RyHIGFZjaktMtGakuAFKuK/Delhi-HC-verdict-on-publishers-appeal-in-DU-photocopy-case.html>.

<sup>90</sup> Nanda and Mittal, "Oxford, Cambridge to Withdraw Lawsuit Against Rameshwari."

<sup>91</sup> Aneesha Mathur, "Issues of access and 'fair use' in new High Court copyright judgment," *Indian Express*, Dec. 12, 2016, accessed June 27, 2017, <http://indianexpress.com/article/explained/du-photocopy-case-delhi-high-court-copyright-judgement-4422503/>.

<sup>92</sup> Aneesha Mathur, "Issues of access and 'fair use' in new High Court copyright judgment," *Indian Express*, Dec. 12, 2016, accessed June 27, 2017, <http://indianexpress.com/article/explained/du-photocopy-case-delhi-high-court-copyright-judgement-4422503/>.

<sup>93</sup> Singh, "Publishers Lose Copyright Case."

<sup>94</sup> "Foreign direct investment, net inflows," *World Bank*, accessed July 7, 2017, <http://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?locations=IN>.

## Recommendations

In order to boost economic growth and foreign investment India needs to reassure businesses that their IP will be protected, and create a stronger domestic environment for innovation.

- 1) **Enhance spending on Research & Development.** While India's gross expenditure on R&D are high, its spending as a percentage of GDP pales in comparison to many of the world's other large powers. By setting a modest target of increasing R&D spending to 1.5 percent of its GDP in the next 10 years, India can plot an R&D trajectory similar to China's, and entice both domestic and international innovators to operate in the country.
- 2) **Boost Intellectual Property Law.** Improvements in R&D should correspond with advances in IP law. While India is a contracting party of both the Berne<sup>95</sup> and Rome<sup>96</sup> Conventions on IP, the government has not signed the World Intellectual Property (WIPO) Internet Treaties, which specifically protect innovators of digital technology.<sup>97</sup> These treaties are essential, because they protect computer programmers, scholars, musicians, and other innovators that distribute IP online.<sup>98</sup> Joining the Singapore Treaty on the Law of Trademarks is important, as it sets a standardized framework for trademark registration procedures.<sup>99</sup>

Joining these treaties would help India, because studies show that strong IP protection leads to more direct foreign investment.<sup>100</sup> Signing the treaties will not only enhance India's reputation as a staunch advocate of IP, but also improve its international economic standing.

- 3) **Update Patent and Copyright Law.** Although India ranks in the top seven internationally in number of patent applications, innovators in the United States and China filed 13 and 24 times more patents in 2015, respectively.<sup>101</sup> One way to stimulate an increase in patent applications and close the gap with these countries is to amend Section 3 and Section 84 of the India Patents Act. Section 3 states that patents cannot be granted for

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<sup>95</sup> "WIPO-Administered Treaties – Berne Convention," *World Intellectual Property Organization*, accessed July 10, 2017, [http://www.wipo.int/treaties/en/ShowResults.jsp?treaty\\_id=15](http://www.wipo.int/treaties/en/ShowResults.jsp?treaty_id=15).

<sup>96</sup> "WIPO-Administered Treaties – Rome Convention," *World Intellectual Property Organization*, accessed July 10, 2017, [http://www.wipo.int/treaties/en/ShowResults.jsp?treaty\\_id=17](http://www.wipo.int/treaties/en/ShowResults.jsp?treaty_id=17).

<sup>97</sup> "WIPO Internet Treaties," *World Intellectual Property Organization*, accessed July 10, 2017, [http://www.wipo.int/copyright/en/activities/internet\\_treaties.html](http://www.wipo.int/copyright/en/activities/internet_treaties.html).

<sup>98</sup> "WIPO Internet Treaties," *World Intellectual Property Organization*, accessed July 10, 2017, [http://www.wipo.int/copyright/en/activities/internet\\_treaties.html](http://www.wipo.int/copyright/en/activities/internet_treaties.html).

<sup>99</sup> "Summary of the Singapore Treaty on the Law of Trademarks (2006)," *World Intellectual Property Organization*, accessed July 10, 2017, [http://www.wipo.int/treaties/en/ip/singapore/summary\\_singapore.html](http://www.wipo.int/treaties/en/ip/singapore/summary_singapore.html).

<sup>100</sup> "The Advantages of Adherence to the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT)," *World Intellectual Property Organization*, accessed July 11, 2017, 7.

<sup>101</sup> "Patent – Applications for the top 20 offices," *World Intellectual Property Organization*, accessed July 10, 2017, <https://www3.wipo.int/ipstats/keysearch.htm?keyId=221>.

creating new forms of a substance that do not enhance its current usage or effectiveness.<sup>102</sup>

This is problematic for a number of industries primarily the foreign pharmaceutical industry, because different salts, esters, particles, and isomers of the same substance that do not sufficiently expand upon the existing usage and effectiveness of a product are not considered inventions.<sup>103</sup> Section 84 of the India Patents Act, which states that compulsory licenses – which give companies the right to replicate patented materials without the patent holder’s consent for a fee<sup>104</sup> – can be approved if a product is too expensive, or has not sufficiently satisfied the needs of the general population has also hurt the pharmaceutical sector.<sup>105</sup> The Indian judicial system applied this law in 2012, when it granted Natco a compulsory license to produce a knockoff brand of Bayer’s anti-cancer drug Nexavar, using Section 84 to claim Bayer’s product was too expensive and thus could be legally reproduced as a generic brand.<sup>106</sup>

Therefore, amending patent law would be a welcome step towards encouraging pharmaceutical innovators that India is a hospitable environment for creating new products.

### *Piracy: An Example of Improvement*

One area in which India has succeeded in improving IPR is the curbing of film piracy. According to a 2011 Deloitte report, approximately 40 to 50 percent of revenue in the Indian film industry came from pirated movies.<sup>107</sup> Although film piracy still exists in India, several states have created anti-piracy cells, and attempted to sign bilateral agreements with countries like the United States to stop illegal uploading of Indian films abroad.<sup>108</sup> Since then, the domestic receipts at Indian box offices have increased greatly, almost doubling from \$1.25 billion in 2011 to an estimated \$2.06 billion in 2016.<sup>109</sup> This is important, because it demonstrates the value of protecting intellectual property, and that India can catalyze significant economic progress by strengthening IP laws.

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<sup>102</sup> “The Patents Act, 1970,” *Intellectual Property India*, accessed July 10, 2017, 8.

<sup>103</sup> The Patents Act, 1970,” *Intellectual Property India*, accessed July 10, 2017, 8.

<sup>104</sup> Sally Pipes, “India’s War on Intellectual Property Rights May Bring With it a Body Count,” *Forbes*, Sept. 16, 2013, accessed July 12, 2017, <https://www.forbes.com/sites/sallypipes/2013/09/16/indias-war-on-intellectual-property-rights-may-bring-with-it-a-body-count/#316424cb7c25>

<sup>105</sup> “The Patents Act, 1970,” 65.

<sup>106</sup> Manzoor Elahi, “Natco vs. Bayer (Controller of Patents, 2012) Case Analysis,” *Academia.Edu*, accessed July 10, 2017, [http://www.academia.edu/6744000/Natco\\_vs.\\_Bayer\\_Controller\\_of\\_Patents\\_2012\\_Case\\_Analysis](http://www.academia.edu/6744000/Natco_vs._Bayer_Controller_of_Patents_2012_Case_Analysis).

<sup>107</sup> Nirmal John, “Pirates vs. Movie Makers,” *Fortune*, Oct. 5, 2012, accessed July 12, 2017, <http://fortuneindia.com/2012/october/pirates-vs-movie-makers-1.9723>.

<sup>108</sup> “Indywood: The Indian Film Industry,” *Deloitte*, Sept. 2016.

<sup>109</sup> Brandon Hammer, “Smooth Sailing: Why the Indian Film Industry Remains Extremely Successful in the Face of Massive Piracy,” *Journal of Sports and Entertainment Law*, vol. 5 (2014), 147-187.

By combining the clarification of intellectual property laws with heavy investments in research and development, the Modi government can take several simple steps towards fostering a culture of innovation in India. These quick fixes would go a long way towards stimulating business in the country, and creating an atmosphere where creativity and ingenuity flourishes.

## Defense

India's military budget in 2017 reached \$53.5 billion, a 5.34 percent increase from 2016.<sup>110</sup> India was one of the world's top five largest military spenders, representing 3.3 percent of global military spending,<sup>111</sup> joining a group that also included the U.S., China, Russia, and Saudi Arabia.<sup>112</sup> In comparison with regional neighbors, India is a distant second to China, whose \$215 billion budget is over four times what India spends.<sup>113</sup>

The Indian defense budget is stuck between reliance on foreign weapons and low domestic production. Historically, bloated public-sector firms have dominated India's defense sector,<sup>114</sup> and before 2001 the government controlled all domestic defense production. Foreign direct investment (FDI) in Indian defense is low, ranking 61 of 62 major Indian domestic industrial sectors.<sup>115</sup> Despite inefficiencies, the sheer size of the Indian market still makes it the largest buyer of foreign weapons from around the world.<sup>116</sup>

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<sup>110</sup> Laxman Behera, "India's Defense Budget 2017-18: An Analysis," *Institute for Defense Studies*, Feb. 3, 2017, accessed July 17, 2017,

[http://www.idsa.in/issuebrief/india-defence-budget-2017-18\\_lkbehera\\_030217](http://www.idsa.in/issuebrief/india-defence-budget-2017-18_lkbehera_030217).

<sup>111</sup> Laxman Behera, "India's Defense Budget 2017-18: An Analysis," *Institute for Defense Studies*, Feb. 3, 2017, accessed July 17, 2017, 3,

[http://www.idsa.in/issuebrief/india-defence-budget-2017-18\\_lkbehera\\_030217](http://www.idsa.in/issuebrief/india-defence-budget-2017-18_lkbehera_030217).

<sup>112</sup> "Trends in World Military Expenditure, 2016." *SIPRI*, Apr. 2017, accessed June 19, 2017, 2.

<https://www.sipri.org/sites/default/files/Trends-world-military-expenditure-2016.pdf>

<sup>113</sup> "Trends in World Military Expenditure, 2015." *SIPRI*, p 5 <http://books.sipri.org/files/FS/SIPRIFS1604.pdf>.

<sup>114</sup> "Defence and Security Sector Profile- India," *Canadian Trade Commissioner Service*, Oct. 2013, accessed July 17, 2017, <https://www.enterprisecanadanetwork.ca/uploads/resources/Defence-and-Security-Sector-Profile-India.pdf>.

<sup>115</sup> Abhishek Vyas "An Analytical Study of FDI in India" *International Journal of Scientific and Research Publications*, vol. 5(10) Oct. 2015, accessed July 17, 2017, 23. <http://www.ijsrp.org/research-paper-1015/ijsrp-p4631.pdf>.

<sup>116</sup> "Foreign Manufacturers Can Benefit from India's Military Needs," *Washington Post*, Nov. 29, 2015, accessed July 17, 2017, <http://www.washingtonpost.com/sf/brand-connect/wp/enterprise/indias-defense-industry-opens-doors-for-foreign-investors/>.

## Background

### *Procurement and Modernization*

India is making progress on a decades long procurement and modernization process.<sup>117</sup> Modernization is important for any military to maintain a credible fighting force, practice deterrence, and improve bargaining positions.<sup>118</sup> Unfortunately, only 30 percent of India's current equipment is state-of-the-art.<sup>119</sup> India's procurement inefficiencies will force the army to cut combat ready aircraft by a third in the next two decades. Recently, the government admitted that its ammunition stocks would only last 20 days of combat.<sup>120</sup>

To modernize its military, India has ordered a number of new weapons systems. The 2016-17 national budget includes \$13 billion for procuring military capital.<sup>121</sup> This includes \$1 billion in tank equipment from Russia,<sup>122</sup> \$2 billion in Israeli surface to air missiles and communications technology,<sup>123</sup> and a large order of British Ultralight Howitzers.<sup>124</sup> Moreover, India ordered \$720 million worth of South Korean artillery,<sup>125</sup> and is planning to construct a second aircraft carrier<sup>126</sup> as China does the same.<sup>127</sup>

Many modernization efforts are geared towards India's air force. The Indian Air Force currently relies on Russian MiG-21 and 27 aircraft that are being retired.<sup>128</sup> However, India is modernizing its fleet with the highly rated French Dassault Rafael<sup>129</sup> and the Russian Sukhoi Su-30 MKI.<sup>130</sup> Major improvements have also

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<sup>117</sup> "The Indian Military's March Toward Modernity." *Stratfor Worldview*, Feb. 15, 2017, accessed July 17, 2017. <https://worldview.stratfor.com/article/indian-militarys-march-toward-modernity>.

<sup>118</sup> Mike Turner, Daniel McCarthy, Thomas Meaney, and Michael Lind, "Congress Needs to Make Army Modernization A Priority," *The Center for the National Interest*, Sept 26, 2016.

<sup>119</sup> "India's Military Might: The Real Truth." *Indian Defence Review*, June 18, 2017, accessed June 19, 2017, <http://www.indiandefencereview.com/news/indias-military-might-the-real-truth/>

<sup>120</sup> Franz-Stefan Gady. "India's Military Cannot Fight Wars Lasting Longer than 20 Days." *The Diplomat*, May 15, 2015, accessed July 17, 2017, <http://thediplomat.com/2015/05/indias-military-cannot-fight-wars-lasting-longer-than-20-days/>.

<sup>121</sup> John Pike, "Military Budget," *Global Security*, <http://www.globalsecurity.org/military/world/india/budget.htm>.

<sup>122</sup> Alexander Korablinov, "India Spends Close to \$1 Bn in Urgent Arms Deals with Russia," *Russia & India Report*, Feb. 6, 2017, accessed July 17, 2017, [https://in.rbth.com/economics/defence/2017/02/06/india-spends-close-to-1-bn-in-urgent-arms-deals-with-russia-report\\_696133](https://in.rbth.com/economics/defence/2017/02/06/india-spends-close-to-1-bn-in-urgent-arms-deals-with-russia-report_696133).

<sup>123</sup> "India, Israel Ink Nearly \$2bn Weapons Deal," *DAWN*, Apr. 7, 2017, accessed June 19, 2017.

<sup>124</sup> Vivek Raghuvanshi, "India Signs \$737M Ultralight Howitzer Contract." *Defense News*, Nov. 30, 2016, accessed June 20, 2017. <http://www.defensenews.com/articles/india-signs-737m-ultralight-howitzers-contract>.

<sup>125</sup> Rahul Singh, "India World's 5th Largest Military Spender: 7 Weapon Systems Govt Is Buying," *Hindustan Times*, Apr. 25, 2017.

<sup>126</sup> IANS, "Indian Navy May Soon Approach Government for Second Indigenous Aircraft Carrier." *Economic Times*, Apr. 18 2017, accessed July 17, 2017, <http://m.economictimes.com/news/defence/indian-navy-may-soon-approach-government-for-second-indigenous-aircraft-carrier/articleshow/58245582.cms>.

<sup>127</sup> Mihir Sharma, "Why China's New Aircraft Carrier Should Worry India," *Bloomberg*, Apr. 24, 2017, accessed July 17, 2017, <https://www.bloomberg.com/view/articles/2017-04-24/why-china-s-new-aircraft-carrier-should-worry-india>.

<sup>128</sup> "The Indian Military's March Toward Modernity," *Stratfor Worldview*.

<sup>129</sup> Rahul Singh, "Dassault Sets Sights on Supplying 200 Rafale Jets to India over next Decade," *Hindustan Times*, Feb. 15, 2017, accessed July 17, 2017, <http://www.hindustantimes.com/india-news/dassault-sets-sights-on-supplying-200-rafale-jets-to-india-over-next-decade>.

<sup>130</sup> Ajai Shukla, "Air Force Likely to Get Entire Sukhoi-30MKI Fleet by 2019," *Business-Standard*, Apr. 21, 2014, accessed July 17, 2017, [http://www.business-standard.com/article/current-affairs/air-force-likely-to-get-entire-sukhoi-30mki-fleet-by-2019-114042200138\\_1.html](http://www.business-standard.com/article/current-affairs/air-force-likely-to-get-entire-sukhoi-30mki-fleet-by-2019-114042200138_1.html).

been made with a series of agreements to import American Apache and Chinook Helicopters.<sup>131</sup>

India has also been diversifying its arms purchases from its traditional supplier, Russia.<sup>132</sup> Russia supplied 75 percent of Indian weapons imports over the last decade, but recent purchases have shifted to include U.S., Israel, and France.<sup>133</sup> India has wanted to diversify weapons imports since the 1999 Kargil conflict over Kashmir, when Russian weapons delivery proved unreliable.<sup>134</sup> The U.S. now has as many new weapons deals with Indian military as Russia, and other western nations have also expanded their market share. Last year, India eased restrictions on negotiating with foreign arms dealers accused of corruption, making agreements with more foreign companies possible.<sup>135</sup>

### *Make in India Initiative*

India's dependence on foreign weapons underscores its desire to create a reliable supply of domestic armaments. The Modi administration's Make in India initiative plans to make private sector growth and foreign investment easier in 25 business sectors, including defense.<sup>136</sup> For defense, Make in India has ambitious goals: first, creating a more agile and advanced internal defense industry. Second, attracting more private sector investment.<sup>137</sup> The Indian government plans on increasing domestic weapons production to 70 percent of India's total weapons supply,<sup>138</sup> about double what it is now.<sup>139</sup>

Make in India has not yet fully translated to more powerful domestic firms. More than half of the last 25 defense contracts have not met 'offset' requirements that attempt to help domestic firms grow and develop technology by forcing foreign firms to enter joint ventures with Indian partners.<sup>140</sup> <sup>141</sup> In reality, forced partnerships with Indian firms that lack industrial capacity and technology slow

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<sup>131</sup> Laxman Behera, "India's Defense Budget 2017-18."

<sup>132</sup> IANS, "Russia Still India's Largest Defence Partner," *The Economic Times (India)*, Feb. 22 2017, accessed July 17, 2017, <http://economictimes.indiatimes.com/news/defence/russia-still-indias-largest-defence-partner/articleshow/57290157.cms>.

<sup>133</sup> Franz-Stefan Gady, "Russia Remains India's Largest Arms Supplier (For Now)," *The Diplomat*, Mar. 1, 2016.

<sup>134</sup> Rajat Pandity, "US Pips Russia as Top Arms Supplier," *The Times of India*, Aug. 14, 2014, accessed July 17, 2017, <http://timesofindia.indiatimes.com/india/US-pips-Russia-as-top-arms-supplier-to-India/articleshow/40142455.cms>.

<sup>135</sup> Neeta Lal, "India Eases Defense Blacklist Ban," *Asia Sentinel*, Nov. 26, 2016.

<sup>136</sup> Gaurav Choudhury, "Look East, Link West, Says PM Modi at Make in India Launch," *Hindustan Times*, Sept. 25, 2014, accessed July 17, 2017, <http://www.hindustantimes.com/business/look-east-link-west-says-pm-modi-at-make-in-india-launch/story-mGj6f6mlUmos0BAi27R11O.html>.

<sup>137</sup> Jeff M. Smith, "Waking the Beast: India's Defense Reforms Under Modi," *The Diplomat*, Dec. 16, 2016.

<sup>138</sup> Rakesh Sood, "A Blueprint for the Defence Industry," *The Hindu*, July 9, 2014.

<sup>139</sup> "Opportunity Strikes," *The Economist*, Apr. 16, 2016, accessed July 17, 2017, <https://www.economist.com/news/business/21696959-countrys-conglomerates-are-throwing-themselves-arms-making-opportunity-strikes>.

<sup>140</sup> N.C. Bipindra, "Skirting the Rules Leaves India's Defense Industry Short-Changed," *Bloomberg*, Sept. 27, 2016, accessed July 17, 2017, <https://www.bloomberg.com/news/articles/2016-09-27/skirting-the-rules-leaves-india-s-defense-industry-short-changed>.

<sup>141</sup> N.C. Bipindra, "Skirting the Rules Leaves India's Defense Industry Short-Changed," *Bloomberg*, Sept. 27, 2016, accessed July 17, 2017, <https://www.bloomberg.com/news/articles/2016-09-27/skirting-the-rules-leaves-india-s-defense-industry-short-changed>.



production.<sup>142</sup> Indian producers are smaller than their foreign counterparts, often making partnerships inefficient or costly.<sup>143</sup>

The Make in India program has resulted in mixed domestic weapons production. The domestically produced Tejas LC Aircraft took 33 years to create, and was *still* rejected by the Indian Navy.<sup>144</sup><sup>145</sup> India's indigenously produced Pinaka rocket launcher system has also been criticized for being accident-prone and having a shorter range than its peers.<sup>146</sup> At the same time, there have been some success stories; India has had successful missile defense tests<sup>147</sup> and designed a working long-range ballistic missile.

### *One Rank One Pension*

Following procurement and production, the third component of the military budget is personnel. Here, the most significant development is Modi's "One Rank One Pension" (OROP) program, which overhauls how the government deals with military pensioners.

OROP is a scheme designed to ensure the "same pension, for same rank, for same length of service, irrespective of retirement date."<sup>148</sup> OROP is meant to correct the arbitrariness of one's pension being determined by the political climate in which they served.<sup>149</sup> The rollout of the OROP has been a longstanding demand of veteran and military groups.<sup>150</sup>

The OROP dramatically increases the military's personnel spending, which will reach up to 50 percent of the military budget.<sup>151</sup> Pension costs alone balloon 37 percent due to OROP.<sup>152</sup> Increased pension costs could hamper the Indian government's modernization and procurement priorities, and leave equipment and research funding flat.

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<sup>142</sup> N.C. Bipindra, "Skirting the Rules Leaves India's Defense Industry Short-Changed," *Bloomberg*, Sept. 27, 2016, accessed July 17, 2017, <https://www.bloomberg.com/news/articles/2016-09-27/skirting-the-rules-leaves-india-s-defense-industry-short-changed>.

<sup>143</sup> "SIPRI Arms Industry Database," *SIPRI*, accessed July 17, 2017, <https://www.sipri.org/databases/armsindustry>.

<sup>144</sup> IANS, "View: Navy's Rejection of Tejas Is a Lesson, Failure of DRDO," *Economic Times (India)*, Feb. 8, 2017.

<sup>145</sup> Dave Zalmay, Majumdar Khalilzad, Rob Givens, and Dov S. Zakheim, "India Took a Shocking 33 Years to Develop a Jet Fighter (And It's Still Not Ready for Combat)," *The National Interest*, Nov. 23, 2016.

<sup>146</sup> Vivek Raghuvanshi, "India Floats Repeat Tender for Homemade Rocket Launchers Valued at \$2B," *Defense News*, May 11, 2017, accessed July 17, 2017, <http://www.defensenews.com/articles/india-floats-repeat-tender-for-homemade-rocket-launchers-valued-at-2b>.

<sup>147</sup> Franz-Stefan Gady, "India Successfully Tests Prithvi Defense Vehicle, A New Missile Killer System," *The Diplomat*, Feb. 15, 2017, accessed July 17, 2017, <http://thediplomat.com/2017/02/india-successfully-tests-prithvi-defense-vehicle-a-new-missile-killer-system/>.

<sup>148</sup> Surjit Singh, "One-Rank One-Pension: CLAWS ISSUE BRIEF," *Center for Land Warfare Studies*, no. 4, 2008, accessed July 18, 2017 [http://www.claws.in/images/publication\\_pdf/2059542219\\_CLAWSIssuebrief,No.4,2008.pdf](http://www.claws.in/images/publication_pdf/2059542219_CLAWSIssuebrief,No.4,2008.pdf).

<sup>149</sup> Surjit Singh, "One-Rank One-Pension: CLAWS ISSUE BRIEF," *Center for Land Warfare Studies*, no. 4, 2008, accessed July 18, 2017 [http://www.claws.in/images/publication\\_pdf/2059542219\\_CLAWSIssuebrief,No.4,2008.pdf](http://www.claws.in/images/publication_pdf/2059542219_CLAWSIssuebrief,No.4,2008.pdf).

<sup>150</sup> Tribune News Service, "Ex-servicemen to gherao Modi over OROP," *Tribune News*, May 29, 2015, accessed July 17, 2017, <http://www.tribuneindia.com/news/himachal/community/ex-servicemen-to-gherao-modi-over-orop/87085.html>

<sup>151</sup> "One Rank One Pension: Its Impact on the Defence Budget." *Observer Research Foundation*, 127 (2015) <http://www.orfonline.org/wp-content/uploads/2016/02/Issue-Brief-127.pdf>

<sup>152</sup> "The Indian Military's March Toward Modernity," *Stratfor Worldview*.



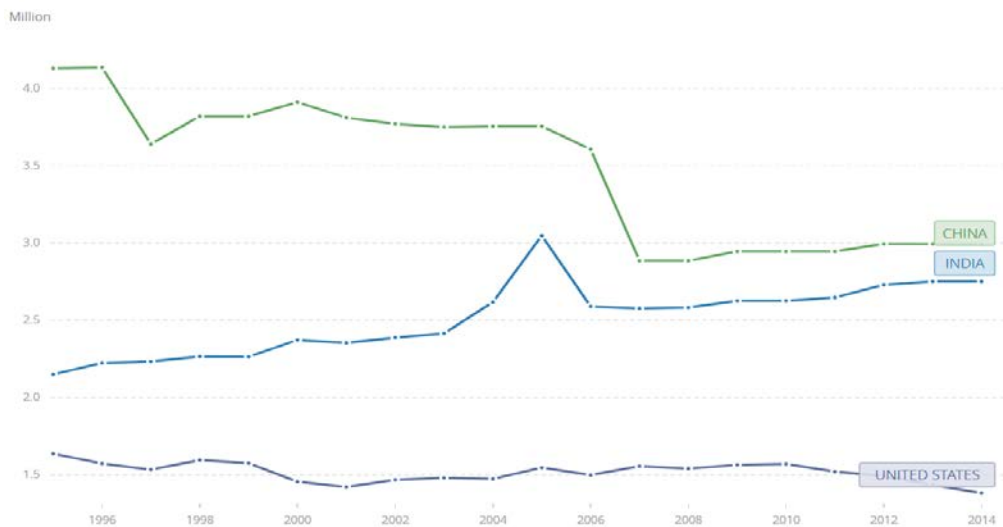
## Recommendations

### Personnel Reform

When accounting for active duty, reservist, and paramilitary personnel, India hosts the world's fourth largest military by size.<sup>153</sup> Notably, India's peers — China, Russia, and the U.S. — all employ fewer soldiers.<sup>154</sup> While India's force structure is larger than that of its peers, its budget is smaller.<sup>155</sup> A bloated personnel budget coupled with ambitious modernization plans creates tension in the Indian budget, where funding pensions and payroll trades off with procurement and modernization.

Personnel costs are an ongoing problem for the Indian military. As mentioned earlier, the OROP program increases pension costs by 37 percent, and personnel costs have steadily risen over the last decade.<sup>156</sup> At the same time, new weapons systems that require fewer operators have been staffed with the same number of people as their older, more personnel-intensive counterparts. The Indian military is also accused of having a poor 'teeth to tail' ratio, with too much support for few active personnel.<sup>157</sup> The budget is zero-sum, and these inefficiencies eat into stagnant procurement budget.

### Armed Forces Personnel, in Millions



The downsizing of major military forces since 1996. Source: World Bank Data

<sup>153</sup> "The Military Balance," *IISS*, 2017, accessed July 18, 2017, 289, <http://www.iiss.org/en/publications/military-s-balance>.

<sup>154</sup> "The Military Balance," *IISS*, 2017, accessed July 18, 2017, 289, <http://www.iiss.org/en/publications/military-s-balance>.

<sup>155</sup> Rezaul H Laskar, "India Is Fifth Largest Military Spender with Outlay of \$55.9 Bn: SIPRI," *Hindustan Times*, Apr. 24, 2017.

<sup>156</sup> "The Indian Military's March Toward Modernity," *Stratfor Worldview*.

<sup>157</sup> Rajat Pandit, "Army's Non-operational Flab Will Be Cut: Parrikar," *The Times of India*, May 23, 2016, accessed July 17, 2017, <http://timesofindia.indiatimes.com/india/Armys-non-operational-flab-will-be-cut-Parrikar/articleshow/47391311.cms>.

In 2015, the Chinese military announced a cut of 300,000 military personnel.<sup>158</sup> At the same time, the United States embarked on its 'third offset' program, which downsizes personnel to focus on readiness and modernization.<sup>159</sup> The subtext of these moves is that a modern force structure relies less of physical bodies, and more on state-of-the-art technology, tactics, and training. India should learn from its peers and find ways to cut personnel costs, including by downsizing the armed forces.

India would benefit by substantial personnel cuts. China's recent downsizing is seen as a pivot towards spending more on strategic avenues like naval power projection.<sup>160</sup> In May 2016, then Defense Minister Manohar Parrikar admitted to the need for downsizing, citing an overemphasis on 'unrealistic' holdings.<sup>161</sup>

Following up on that, in August 2017, India announced it would be restructuring its army redeploying 57,000 soldiers to combat roles and thus lowering revenue expenditures.<sup>162</sup> This will free up substantial funding for new capital expenditures, such as revitalizing India's aging air force. In the 1990s, cutting personnel by 50,000 - a small fraction of India's overall armed forces - freed up \$5 billion for additional spending.<sup>163</sup> Spending on modernization could create opportunities for savings down the road, because newer systems require fewer soldiers for management and upkeep.<sup>164</sup>

Second, India should focus on reducing redundancies in its military bureaucracy. A former general was interviewed last year as saying, "in most major locations where there are tri-service units [army, navy, air force], each runs its own logistics establishment. If these are joint or unified, there would be considerable saving on manpower."<sup>165</sup> The U.S. and China both operate with unified commands between the different branches of the armed forces, which allows their respective militaries to cut overlapping costs and better coordinate force deployment.<sup>166</sup> Proposals to

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<sup>158</sup> Edward Wong, Jane Perlez, and Chris Buckley. "China Announces Cuts of 300,000 Troops at Military Parade Showing Its Might," *The New York Times*, Sept. 2, 2015, accessed July 17, 2017, <https://www.nytimes.com/2015/09/03/world/asia/beijing-turns-into-ghost-town-as-it-gears-up-for-military-parade.html>.

<sup>159</sup> Mackenzie Eaglan, "What Is the Third Offset Strategy?" *RealClearDefense*, Feb. 16, 2016, accessed July 17, 2017, [http://www.realcleardefense.com/articles/2016/02/16/what\\_is\\_the\\_third\\_offset\\_strategy\\_109034.html](http://www.realcleardefense.com/articles/2016/02/16/what_is_the_third_offset_strategy_109034.html).

<sup>160</sup> Wong, Perlez, and Buckley, "China Announces Cuts of 300,000 Troops," *The New York Times*.

<sup>161</sup> Anil Chopra, "USA and China Cutting down Army Strength, Will India Follow Suit," *DNA India*, May 24, 2016, accessed July 17, 2017, <http://www.dnaindia.com/india/report-usa-and-china-cutting-down-army-strength-will-india-follow-suit-2216197>.

<sup>162</sup> Rahul Singh, "In India's First Army Overhaul, 57,000 soldiers to be redeployed in combat roles," *Hindustan Times*, August 30, 2017, Accessed September 11, 2017, <http://www.hindustantimes.com/india-news/in-india-s-first-army-overhaul-57-000-soldiers-to-be-redeployed-in-combat-roles/story-XPNFvPqKgGpHmrEHu2cgN.html>.

<sup>163</sup> Rahul Singh, "In India's First Army Overhaul, 57,000 soldiers to be redeployed in combat roles," *Hindustan Times*, August 30, 2017, Accessed September 11, 2017, <http://www.hindustantimes.com/india-news/in-india-s-first-army-overhaul-57-000-soldiers-to-be-redeployed-in-combat-roles/story-XPNFvPqKgGpHmrEHu2cgN.html>.

<sup>164</sup> Rajat Pandit, "Army's Non-operational Flab Will Be Cut," *The Times of India*.

<sup>165</sup> Vivek Raghuvanshi, "India May Downsize Army to Pay for Weapons," *Defense News*, May 26, 2016, accessed July 17, 2017, <http://www.defensenews.com/story/defense/international/asia-pacific/2016/05/26/india-army-downsizetrim-army/84965368/>.

<sup>166</sup> Rajat Pandit, "India May Soon Get a Tri-service Chief," *The Times of India*, Jan. 22, 2017, accessed July 17, 2017, <http://timesofindia.indiatimes.com/india/india-may-soon-get-a-tri-servicechief/articleshow/56710710.cms>.

integrate the armed forces – including calls for a tri-service chief – should be taken seriously.

### *Offset Reform*

Offsets are regulations that force foreign manufacturers to work with domestic firms in fulfilling a contract.<sup>167</sup> The 2016 Indian military procurement offset policy required a 30 percent minimum contribution of domestic production for weapons production. A restriction of foreign investment also caps the share of business that can be done through FDI at 49 percent. While well intentioned and theoretically useful, the offset program needs to be more narrowly tailored to help domestic weapons production.

The offset program pairs large multinational firms with much smaller Indian weapons manufacturers.<sup>168</sup> Owing to inefficiency and red tape, Indian firms do not realize the full potential of foreign partnerships. The end result of offset requirements is often foreign firms offloading production or low-skilled labor to Indian firms without sharing technology.<sup>169</sup> This stands in contrast to the Modi administration's goal of close technology transfer. The small relative size of Indian contractors leads to waste and slow production, as domestic firms struggle to keep pace with the influx of foreign funds.<sup>170</sup> The government's policy for awarding contracts is unclear, and preferential treatment has been given to favored vendors<sup>171</sup>. Thus, FDI in defense manufacturing is among the lowest of Indian industrial sectors.

Offset reform is needed to help India grow a self-sufficient defense industry while maintaining fast-paced production. India must balance its desire to build a self-reliant defense industry with pro-growth policies that encourage competition and attract international firms with advanced technology. The status quo makes building an autonomous defense industry harder by discouraging firms from sharing technology with their Indian counterparts. Past improvements include the decision to allow technology transfers to count as offsets,<sup>172</sup> and raising the cap on FDI. These reforms have given foreign firms an incentive to share their best practices with their Indian counterparts.<sup>173</sup>

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<sup>167</sup> Thomas Mathew, "Essential Elements of India's Defence Offset Policy - A Critique," *IDSA*, accessed July 17, 2017, [http://www.idsa.in/jds/3\\_1\\_2009\\_EssentialElementsofIndiaDefenceOffsetPolicy\\_TMthaweh](http://www.idsa.in/jds/3_1_2009_EssentialElementsofIndiaDefenceOffsetPolicy_TMthaweh)

<sup>168</sup> "Arms Industry Database," *SIPRI*.

<sup>169</sup> "The Indian Military's March Toward Modernity," *Stratfor Worldview*.

<sup>170</sup> S. Amer Latif, "Defense Offsets in India," *Center for Strategic and International Studies*, Aug. 12, 2012, accessed July 17, 2017, <https://www.csis.org/analysis/defense-offsets-india>.

<sup>171</sup> Ajai Shukla, "Private firms miss out on Rs 2,400 crore armoured vehicle upgrade deal," *South Asia at Hudson*, July 11, 2017, accessed July 17, 2017, <http://www.southasiaathudson.org/blog/2017/7/11/private-firms-miss-out-on-rs-2400-crore-armoured-vehicle-upgrade-deal>.

<sup>172</sup> Bikramdeep Singh, "Indian Defence Offset Policy— Does it Help Boost Indigenisation," *Center for Land Warfare Studies*, Nov. 2014, accessed July 17, 2017, [http://www.claws.in/images/publication\\_pdf/1795136496\\_MP51BikramdeepSingh.pdf](http://www.claws.in/images/publication_pdf/1795136496_MP51BikramdeepSingh.pdf).

<sup>173</sup> Latif, "Defense Offsets in India," *Center for Strategic and International Studies*.

First, the Indian government's offset policy should be tailored to encourage capacity building in specific target areas. Nations like Israel and South Korea have historically used targeted offsets to build domestic production.<sup>174</sup> India could diminish general offsets and allow for faster weapons production, while simultaneously increasing the offset in sectors that need foreign technology, such as jet engines.<sup>175</sup> By focusing on building core capacities, India can maintain domestic growth in critical areas while encouraging FDI across the board. In the long run, reducing offsets to yield more foreign investment will strengthen India's military and increase the willingness of international manufacturers to collaborate with Indian business.

Second, expanding private sector control of the defense space would make procurement faster and more efficient. Indian public sector enterprises have delayed the infrastructure and facilities needed to house and manufacture weapons, such as the India's submarine modernization project which suffered years of delays.<sup>176</sup> Privatization has been an integral part of the Modi administration's agenda,<sup>177</sup> as India's public-sector firms struggle to remain afloat in an increasingly competitive marketplace.<sup>178</sup> In fact, as many as one in three public firms posted significant losses in 2016.<sup>179</sup> State-owned firms are accused of being overly bureaucratic, unwilling to take risks, slow, and bloated. By streamlining and privatizing industry, India can hold slow manufacturers accountable and strengthen the defense industry.

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<sup>174</sup> Rajat Dhawan and Brajesh Chhibber, "A Bright Future for India's Defense Industry," McKinsey, 2016, accessed July 17, 2017,

[http://www.mckinsey.com/~media/mckinsey%20offices/india/pdfs/a\\_bright\\_future\\_for\\_indias\\_defense\\_industry.ashx](http://www.mckinsey.com/~media/mckinsey%20offices/india/pdfs/a_bright_future_for_indias_defense_industry.ashx).

<sup>175</sup> Vivek Raghuvanshi, "Rolls-Royce, India Could Still Cooperate on Jet Engine Tech, despite Bribery Allegations," *Defense News*, Apr. 13, 2017, accessed July 17, 2017,

<http://www.defensenews.com/articles/rolls-royce-india-could-still-cooperate-on-jet-engine-tech-despite-bribery-allegations>.

<sup>176</sup> Bharat Verma, "End the Neglect of the Military," *Indian Defence Review* 28. 1: Jan-Mar 2013, accessed July 17, 2017, <http://www.indiandefencereview.com/news/end-the-neglect-of-the-military/>.

<sup>177</sup> PTI, "Narendra Modi Favours Privatization, Modernization of Railway Stations," *The Times of India*, Nov. 19, 2014, accessed July 17, 2017, <http://timesofindia.indiatimes.com/india/Narendra-Modi-favours-privatization-modernization-of-railway-stations/articleshow/45319370.cms>.

<sup>178</sup> "Most of India's State-owned Firms Are Ripe for Sale or Closure." *The Economist*. June 1, 2017, accessed July 17, 2017, <https://www.economist.com/news/business/21722860-privatisation-and-politics-sit-poorly-together-most-indias-state-owned-firms-are-ripe>.

<sup>179</sup> "Most of India's State-owned Firms Are Ripe for Sale or Closure." *The Economist*. June 1, 2017, accessed July 17, 2017, <https://www.economist.com/news/business/21722860-privatisation-and-politics-sit-poorly-together-most-indias-state-owned-firms-are-ripe>.

## **Economy**

### **Trade**

**I**ncreasing India's trade volume has been a main focus of the Modi administration. The Bharatiya Janata Party (BJP) manifesto stated, "the modern era is an era of exchange."<sup>180</sup> The Indian government has called for rolling back over-regulation, streamlining supply chain issues, and building trade-friendly infrastructure.<sup>181</sup> The Modi administration has also supported opening up the Indian market, and substantially increasing the overall volume of trade. The administration is seeking to double trade with Brazil, Russia, China, and South Africa by 2020.<sup>182</sup> India also wants to improve trade relations with Germany,<sup>183</sup> the US,<sup>184</sup> and Israel.<sup>185</sup>

Recently, India has made remarkable progress with trade liberalization. From a relatively closed economy in 1990s, the Indian trade regime completely abolished import licensing and brought the highest level of tariffs down from 400 percent to 45 percent.<sup>186</sup> In 2015, India's total volume of trade stood at an impressive \$758 billion.<sup>187</sup>

In the last three years, the Modi administration has pushed for an expansion of trade infrastructure. These reforms included deepening ports to accommodate larger ships, improving rail access for faster cargo transport, and simplifying the bureaucratic process for trade vessels.<sup>188</sup> Markets have responded to recent pushes at trade liberalization; 2017 saw rapid increases in the Indian volume of trade. Exports grew by 3.94 percent and imports are 15.42 percent higher for July 2016-

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<sup>180</sup> "Election Manifesto 2014," *Bharatiya Janata Party*, accessed July 11, 2017, [http://www.bjp.org/images/pdf\\_2014/full\\_manifesto\\_english\\_07.04.2014.pdf](http://www.bjp.org/images/pdf_2014/full_manifesto_english_07.04.2014.pdf).

<sup>181</sup> "Election Manifesto 2014," *Bharatiya Janata Party*, accessed July 11, 2017, [http://www.bjp.org/images/pdf\\_2014/full\\_manifesto\\_english\\_07.04.2014.pdf](http://www.bjp.org/images/pdf_2014/full_manifesto_english_07.04.2014.pdf).

<sup>182</sup> IANS, "Narendra Modi calls for intra-BRICS trade target of \$500 billion by 2020," Oct. 16, 2016, accessed July 18, 2017, <http://economictimes.indiatimes.com/news/economy/foreign-trade/narendra-modi-calls-for-intra-brics-trade-target-of-500-billion-by-2020/articleshow/54884972.cms>.

<sup>183</sup> Damien McGuinness, "India's Narendra Modi Aims to Improve Trade with Germany," *BBC News*, Apr. 13, 2015, accessed July 11, 2017, <http://www.bbc.com/news/av/business-32291328/india-s-narendra-modi-aims-to-improve-trade-with-germany>.

<sup>184</sup> Express Web Desk, "Narendra Modi in US, Day 2: PM Dines with Donald Trump, Discusses Terrorism and Trade," *The Indian Express*, June 27, 2017, accessed July 11, 2017, <http://indianexpress.com/article/india/prime-minister-narendra-modi-in-us-day-2-pm-dines-with-us-president-donald-trump-discusses-terrorism-and-trade-4724347/>.

<sup>185</sup> Isabel Kershner, and Ellen Barry, "Indian Premier, in Israel Visit, Seeks to Break Barriers in Trade and History," *The New York Times*, July 4, 2017, accessed July 11, 2017, [https://www.nytimes.com/2017/07/04/world/middleeast/india-israel-narendra-modi-benjamin-netanyahu.html?\\_r=0](https://www.nytimes.com/2017/07/04/world/middleeast/india-israel-narendra-modi-benjamin-netanyahu.html?_r=0).

<sup>186</sup> Arvind Panagariya, "India's Economic Reforms," *Columbia University*, Nov. 2001, accessed July 18, 2017, <http://www.columbia.edu/~ap2231/Policy%20Papers/OPB2.pdf>.

<sup>187</sup> "Total Trade," *Indian Department of Commerce*, 2015–16, accessed January 29, 2017, [commerce.nic.in](http://commerce.nic.in).

<sup>188</sup> "Seven steps taken by Modi government to improve business at major ports," *Economic Times (India)*, Mar. 19, 2015, accessed July 18, 2017, [http://economictimes.indiatimes.com/articleshow/46621824.cms?utm\\_source=contentofinterest&utm\\_medium=text&utm\\_campaign=cppst](http://economictimes.indiatimes.com/articleshow/46621824.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst).

2017 fiscal year.<sup>189</sup> Since demonetization and the Goods and Services Tax rollout, India's GDP slipped to a three year low of 5.7 percent from April to June of 2017, but is expected to grow at 6.4 percent for 2017 overall.<sup>190</sup>

The Modi administration made major strides in facilitating trade by cutting government red tape. The government has deregulated diesel pricing in order to expand private sector production. The government has also eased rules dictating private sector involvement in construction, and expanded the cap on foreign direct investment (FDI) in railways to 100 percent. By streamlining bankruptcy and other bureaucratic hurdles, the Modi administration is likely to attract more foreign business to India.<sup>191</sup>

One of the most significant changes to the trade landscape India's new Goods and Services Tax (GST). The precise effects of the GST will remain unclear for at least the next year.<sup>192</sup> Experts predict that GST will improve exports by increasing the ease of doing business. Firms with an easier time making and transporting goods within India will be more competitive in the export market. After Australia implemented a similar program, its exports grew at a rate of 7.9 percent.<sup>193</sup>

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<sup>189</sup> "Press Release: India's Foreign Trade: July 2017," *Ministry of Commerce and Industry*, August 14, 2017, Accessed September 8, 2017,

[http://commerce.gov.in/writereaddata/UploadedFile/NTESCL\\_636383291693872401\\_PRESS\\_RELEASE\\_July\\_2017.pdf](http://commerce.gov.in/writereaddata/UploadedFile/NTESCL_636383291693872401_PRESS_RELEASE_July_2017.pdf).

<sup>190</sup> "India's GDP growth to re-accelerate as GST impact fades: Morgan," *Hindu Business Line*, September 6, 2017, Accessed September 8, 2017, <http://economictimes.indiatimes.com/news/economy/finance/india-gdp-growth-to-re-accelerate-as-gst-impact-fades-morgan-stanley/articleshow/60389295.cms>.

<sup>191</sup> "The Modi Government's Reform Program: A Scorecard," *Center for Strategic and International Studies*, accessed July 11, 2017, <http://indiareforms.csis.org/>.

<sup>192</sup> Syeedun Nisa, "The Impact of GST on India's Foreign Trade," *SSRN*, Apr. 18, 2017, accessed July 18, 2017, <https://ssrn.com/abstract=2954353>.

<sup>193</sup> Syeedun Nisa, "The Impact of GST on India's Foreign Trade," *SSRN*, Apr. 18, 2017, accessed July 18, 2017, <https://ssrn.com/abstract=2954353>.



## Recommendations

- 1) **Support Regional Trade.** India has continued with trade liberalization over the last three years. However, while the overall volume of trade increased, India's share of trade with other South Asian nations remains relatively low compared to other regions.<sup>194</sup> Trade with India's neighbors makes up only 5 percent of South Asian global trade, the lowest of any regional trading scheme.<sup>195</sup> The low volume of trade is a missed opportunity, because economic engagement with neighboring countries provides naturally low transport and production costs.

In order to enhance the volume of trade, India would benefit by harmonizing its customs and regulations with those in its neighboring countries. Right now, irregular standards and regulations cause confusion and result in added costs for cross-border trade. To alleviate this problem, India could financially support the South Asian Regional Standards Organization, and commit to its mission of creating a single set of standards for business practices.<sup>196</sup> Standardizing protocols would enhance India's regional supply chain, allowing it to cooperate with neighbors to manufacture goods.

The Modi administration could also use its plans to expand rail access to facilitate regional trade.<sup>197</sup> Focusing rail expansion on integrating regional transport networks would make transit substantially cheaper and intra-regional trade significantly faster. Looking at other regional economic groupings, like the European Union, uninterrupted rail access facilitated economic prosperity for producers, because it streamlined logistics and lowered costs.

- 2) **Enact Tariff Reform.** While India has made significant progress in tariff reduction, there are still meaningful improvements to be made. In 2016, the World Bank suggested that India's current import taxes reduce the competitiveness of manufacturing and stymie the development of a strong export industry.<sup>198</sup> India has notably high tariffs for automobiles,

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<sup>194</sup> James M. Roberts, "South Asia: Regional Integration and Greater Economic Freedom Will Boost Growth and Prosperity," *The Heritage Foundation*, accessed July 11, 2017, <http://www.heritage.org/international-economies/report/south-asia-regional-integration-and-greater-economic-freedom-will>.

<sup>195</sup> James M. Roberts, "South Asia: Regional Integration and Greater Economic Freedom Will Boost Growth and Prosperity," *The Heritage Foundation*, accessed July 11, 2017, <http://www.heritage.org/international-economies/report/south-asia-regional-integration-and-greater-economic-freedom-will>.

<sup>196</sup> *Regional Integration in South Asia*, edited by Mohammad A. Razzaque and Yurendra Basnett, (The Commonwealth, 2014), [http://www.thecommonwealth-ilibrary.org/commonwealth/trade/regional-integration-in-south-asia\\_9781848599147-en](http://www.thecommonwealth-ilibrary.org/commonwealth/trade/regional-integration-in-south-asia_9781848599147-en).

<sup>197</sup> PTI, "Narendra Modi Highlights Faster Rail Network Expansion in I-Day Speech," *The Hindu*, Aug. 15, 2016, accessed July 12, 2017, <http://www.thehindu.com/news/national/Narendra-Modi-highlights-faster-rail-network-expansion-in-I-Day-speech/article14571302.ece>.

<sup>198</sup> Kirtika Suneja, "World Bank Advises India to Cut Subsidies, Import Tariffs to Boost Exports," *Economic Times (India)*, Nov. 9, 2016, accessed July 12, 2017, <http://economictimes.indiatimes.com/news/economy/policy/world-bank-advises-india-to-cut-subsidies-import-tariffs-to-boost-exports/articleshow/55336581.cms>.

motorcycles, coffee, alcoholic beverages, and textiles.<sup>199</sup> Furthermore, the Indian import tax system is needlessly complex; Indian tariffs are imposed via an intricate combination of duty drawback, duty exemption, and duty remission policies for imports.<sup>200</sup>

India has certainly embraced a series of pro-trade policies under the Modi administration, but by eliminating barriers to trade, it could *triple* regional export productivity in the next two decades.<sup>201</sup> The Indian government implements a number of nontariff barriers that function much like tariffs, but without the formal imposition of taxes. These obstacles include government procurement, licensing, and certifications required for foreign firms to participate in the Indian market. Streamlining the bureaucracy to deal with these inefficiencies would help India increase its exports and grow domestic industry.

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<sup>199</sup> "India," *United States Trade Representative*, May 2013, accessed July 18, 2017, <https://ustr.gov/sites/default/files/2013%20NTE%20India%20Final.pdf>.

<sup>200</sup> "India," *United States Trade Representative*, May 2013, accessed July 18, 2017, <https://ustr.gov/sites/default/files/2013%20NTE%20India%20Final.pdf>.

<sup>201</sup> Suneja, "World Bank Advises India to Cut Subsidies," *Economic Times (India)*



## ***Education and Skill Development***

Education is one of the key indicators of a country's development, and a crucial component in creating the skilled labor force necessary for economic growth. With the government promising more jobs and greater economic prosperity, it is necessary to analyze how India intends to prepare the labor pool for its proposed opportunities.

### ***Background***

The education sector in India is in urgent need of reform across all levels – from primary school to higher education. In 2009, India passed the Right to Education Act, which gave every child from 6 to 14 years old the right to a quality elementary education.<sup>202</sup> Since then, primary school enrollment has gradually improved, rising to 92 percent nationwide.<sup>203</sup> Progress in this area, however, has not translated into higher education levels at the same rate, and the nationwide literacy rate stands at just 71 percent.<sup>204</sup> Public schools in India, while rising in number, need infrastructural upgrades and improved education standards to make them competitive with private schools. Currently, students in both urban and rural areas demonstrate below average reading levels and mathematical abilities for their ages.<sup>205</sup> The quality of teachers is also concerning, as teacher training is lacking and government schools are short of 1 million teachers.<sup>206</sup> Gender inequality in education remains a core issue, with the gender gap in adult literacy standing at 19.5 percent; 85.7 percent of male adults are literate, compared to just 68.4 percent of women.<sup>207</sup>

Furthermore, education completion does not guarantee employability. Research conducted by the Associated Chambers of Commerce and Industry of India (Assocham) revealed that only 7 percent of B-grade business school graduates are employable.<sup>208</sup> Government reports further highlight problems in higher

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<sup>202</sup> "Right to Education Overview," *Department of School Education & Literacy*, updated Apr. 3, 2016, accessed July 18, 2017, <http://mhrd.gov.in/rte>

<sup>203</sup> "Net enrollment rate, primary, both sexes," *The World Bank*, accessed July 18, 2017, <http://data.worldbank.org/indicator/SE.PRM.NENR?locations=IN>

<sup>204</sup> "The World Factbook: Literacy," *CIA*, accessed July 18, 2017, <https://www.cia.gov/library/publications/the-world-factbook/fields/2103.html#in>

<sup>205</sup> "Annual Status of Education Report (Rural) 2016," *ASER*, Jan. 18, 2017, accessed July 18, 2017, [http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%202016/aser\\_2016.pdf](http://img.asercentre.org/docs/Publications/ASER%20Reports/ASER%202016/aser_2016.pdf)

<sup>206</sup> Abhishek Waghmare, "India's education crisis: Government schools short of 1 million teachers," *Economic Times (India)*, Dec. 12, 2016, accessed July 18, 2017, <http://economictimes.indiatimes.com/industry/services/education/indias-education-crisis-government-schools-short-of-1-million-teachers/articleshow/55936703.cms>

<sup>207</sup> "National Family Health Survey for 2015-16: India Fact Sheet," *Ministry of Health and Family Welfare*, Accessed September 8, 2017, <http://rchiips.org/NFHS/pdf/NFHS4/India.pdf>

<sup>208</sup> "B and C category B-schools producing un-employable pass-outs," *ASSOCHAM*, Apr. 27, 2016, accessed July 18, 2017, <http://www.assochem.org/newsdetail.php?id=5651>

education, including lack of quality teachers and political interference in appointing high-level university administrators.<sup>209</sup>

With regard to skill development, as of 2012, the percentage of skilled labor in the country was a dismal 2 percent.<sup>210</sup> As India looks to increase its manufacturing output and transition labor away from the agricultural sector, it is imperative to increase the proportion of skilled labor across the gender spectrum in order to achieve consistently high levels of economic growth.

### *Developments in the last three years*

Over the past 3 years, the Modi administration has launched multiple schemes to facilitate education and skill development. In education, these include plans related to streamlining higher education financing;<sup>211</sup> training secondary and university teachers; reducing teacher shortages in elementary education; internationalizing academia; enhancing service delivery tracking; using Massive Open Online Courses (MOOCs); and supporting women's education. The government also collected inputs for its draft of the New Education Policy, but the final version is yet to be released. The education sector has seen a fair amount of private and foreign investment in the past year, with online education, MOOCs, and training initiatives receiving boosts through private investment.

The government also accorded special emphasis to the skill development, and in 2014 created the Ministry for Skill Development and Entrepreneurship. Since then, proposed schemes have included fostering youth entrepreneurship; launching the 2015 Skill India Campaign; promoting apprenticeships; enhancing skill development in rural areas; and unveiling the ministry's flagship Pradhan Mantri Kaushal Vikas Yojana (Prime Minister's Skill Development Scheme, PMKVY) program, which aims to set up skill training centers across the country, while providing youth with affordable training and monetary reimbursement.

While the government has displayed admirable efficiency and ambition in terms of creating policy, its budgetary priorities do not represent the same level of commitment. Expenditure on education for the 2016-17 year was estimated at 2.9 percent of the gross domestic product (GDP),<sup>212</sup> which falls short of the government's stated target of 6 percent from its 2014 Electoral Manifesto.<sup>213</sup> Research and development (R&D) spending has also remained stagnant at 0.8

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<sup>209</sup> Mohammad Umar, "Erosion of public universities' autonomy: Is education on the way to become a privilege in India?" *FirstPost*, June 13, 2017, accessed July 18, 2017 <http://www.firstpost.com/india/erosion-of-public-universities-autonomy-is-education-on-the-way-to-become-a-privilege-in-india-3591119.html>.

<sup>210</sup> Dr. Aparna Pande and Amb. Husain Haqqani, "Modi: 2 Years On," *Hudson Institute*, Fall 2016, accessed July 10, 2017.

<sup>211</sup> For a full list of initiatives developed by the Indian government, see Appendix 1.0

<sup>212</sup> "Economic Survey of India 2016-17," *Indian Department of Economic Affairs*, Jan. 2017, accessed July 18, 2017, <http://indiabudget.nic.in/es2016-17/echapter.pdf>.

<sup>213</sup> "Election Manifesto 2014: Sabka Saath, Sabka Vikas" *Bharatiya Janata Party*, accessed July 14, 2017.

percent of GDP, despite repeated promises of increasing it to 2 percent.<sup>214</sup> While funding to higher education increased by 12 percent in the latest budget, most of the allocations – including the announced PM Research Fellowships – are limited to students of the Indian Institutes of Technology (IITs) and National Institutes of Technology (NITs). This is problematic, because it reduces available funds towards other central and state universities specializing in different academic disciplines.<sup>215</sup> Additionally, “saffronization” of education remains an issue in the Indian education system, as public school syllabi distort facts with ideological rhetoric, which leads to communalized agitations at universities.<sup>216</sup> The government’s flagship Beti Bachao, Beti Padhao scheme, which aims at women’s empowerment through education and increased awareness of gender issues, has also suffered from an improper diversion of funds and inability to meet targeted expenditure goals.<sup>217</sup>

Though the government has displayed an impressive level of commitment towards skill development and vocational skills, the impact of these instituted programs is yet to be seen. Initial indications are mixed, as the flagship PMKVY has fallen short of its initial expectations, due to compromises in training quality, assessment, and certification.<sup>218</sup> While the latest budget reemphasizes the focus on skill development, the efficacy of these initiatives is highly dependent on dedicated implementation.<sup>219</sup>

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<sup>214</sup> T.V. Padma, “Fears for fundamental science after India’s latest budget,” *Chemistry World*, Feb. 2, 2017, accessed July 18, 2017, <https://www.chemistryworld.com/news/fears-for-fundamental-science-after-indias-latest-budget/2500347.article>.

<sup>215</sup> Thomas Manuel, “IITs and NITs Gobble Up 87% of Hike in Higher Education Budget,” *The Wire (India)*, Feb. 2, 2017, accessed July 18, 2017, <https://thewire.in/105054/education-budget-iit-hefa/>.

<sup>216</sup> Express Web Desk, “Turning a page: How textbooks are used to teach (a new) history,” *The Indian Express*, July 22, 2016, accessed July 19, 2017, <http://indianexpress.com/article/india/india-news-india/school-textbooks-rajasthan-jawaharlal-nehru-changes-in-books-school-curriculum-2790373/>.

<sup>217</sup> PTI, “90% of Funds From ‘Beti Bachao Beti Padhao’ Programme Remain Unused, Says Parliamentary Panel,” *Huffington Post India*, Mar. 21, 2017, accessed July 19, 2017, [http://www.huffingtonpost.in/2017/03/21/90-of-funds-from-beti-bachao-beti-padhao-programme-unused\\_a\\_21904301/](http://www.huffingtonpost.in/2017/03/21/90-of-funds-from-beti-bachao-beti-padhao-programme-unused_a_21904301/).

<sup>218</sup> Anuj Srivas, “How Modi’s Flagship Skill India Project Stumbled Hard in Its First Year,” *The Wire (India)*, May 11, 2017, accessed July 18, 2017, <https://thewire.in/134440/modi-skill-india-stumbled/>.

<sup>219</sup> Smriti Kak Ramachandran, “Budget 2017: Focus on skill development to continue, says FM Arun Jaitley,” *Hindustan Times*, Feb. 1, 2017, accessed July 18, 2017, <http://www.hindustantimes.com/union-budget/budget-2017-focus-on-skill-development-to-continue-says-fm-arun-jaitley/story-dxAW92EtwWrSsu52IoV19N.html>.

## Recommendations

- 1) **Release the New Economic Policy (NEP).** The government needs to release its New Education Policy, as it will serve as a national guideline and define various priorities related to improving educational quality standards and reducing educational disparities. While a draft input document has been released, the final document will clearly demonstrate the government's vision for education, and establish concrete benchmarks that will define nationwide performance in this sector.
- 2) **Prioritize education in the national budget and work closely with states to ensure effective implementation of national schemes.** While the government has rolled out many ambitious schemes, their effective implementation largely hinges on the financial resources it provides. The Modi administration should meet its proposed target of spending 6 percent of the GDP on education, and hold state governments accountable to meeting education quality standards.
- 3) **Reform expenditure patterns at the school, university, and research levels.** Current budgets for school programs allocate most of the money towards building physical infrastructure and purchasing teaching equipment.<sup>220</sup> While this is necessary, increased expenditure on learning programs will ensure that the quality of education increases. At the university level, most of the budget gets allocated towards creating and funding premier engineering institutions like IITs and NITs. This neglects lower level engineering colleges, central universities that focus in areas other than engineering, and research institutions like Indian Institutes of Science Education and Research (IISERs), which churn out comparable quantities of research to engineering schools.<sup>221</sup> If the government wants to see uniform growth in skill levels and employability across the labor pool, it needs to invest more equally in all fields of education.
- 4) **Ensure quality control in skill development programs.** The government's focus on skill development is admirable, and necessary to help transition the Indian labor force away from an agrarian economy. However, improper training and inefficient rollout can damage the government's well-intentioned initiatives. Therefore, India needs to establish stricter parameters and quality controls, with more regular oversight of these programs to ensure that the outcomes are positive.

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<sup>220</sup> Yamini Aiyar, "Three Years On, the Modi Government Still Has Gaping Holes in its Social Policy," *The Wire (India)*, Feb. 1, 2017, accessed July 18, 2017, <https://thewire.in/102937/social-policy-three-years-modi-government/>.

<sup>221</sup> Manuel, "IITs and NITs Gobble Up 87% of Hike," *The Wire (India)*

## ***Labor and Employment***

As of 2016, India's labor force consisted of 510,053,514<sup>222</sup> individuals, with the total labor force participation rate at 50.3 percent.<sup>223</sup> While the government has made important progress on certain fronts, core issues regarding employment and gender parity in labor force participation still need to be addressed.

### ***Background***

One of India's main issues with the labor market is the number of individuals employed in the informal economy. Informal workers make up a large percentage of the Indian workforce, and often suffer from a lack of a social safety net. More concerning is that the contractual labor in the formal sector has denied workers the benefits that come with working in the formal economy, namely receiving rights accorded by national labor laws.<sup>224</sup>

India must also deal with a significant unemployment problem; youth unemployment remains high,<sup>225</sup> and gender disparities in the labor market are still a major concern. While the female labor force participation rate (LFPR) remains low at 27 percent,<sup>226</sup> women hold incredible potential for the Indian economy. In fact, the World Bank's India Development Update estimated that India's GDP growth could accelerate to over 9 percent, "if India closed half the female LFPR with Nepal."<sup>227</sup>

The World Bank Update posited that the principle driver of low female LFPR is increasing urbanization, since nearly two-thirds of working women in India are employed in the agricultural sector.<sup>228</sup> Efforts towards advancing women's education and removing social barriers like conservative family values and high crime rates against women should be enhanced, and more jobs need to be created for women in manufacturing and other industries.

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<sup>222</sup> "Labor force, total," *The World Bank*, accessed July 18, 2017, <http://data.worldbank.org/indicator/SL.TLF.TOTL.IN?locations=IN>.

<sup>223</sup> "Economic Survey of India 2016-2017," *Indian Department of Economic Affairs*.

<sup>224</sup> "ILO Labour Market Update," *International Labour Association*, July 2016, accessed July 12, 2017, [http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new-delhi/documents/publication/wcms\\_496510.pdf](http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---sro-new-delhi/documents/publication/wcms_496510.pdf).

<sup>225</sup> Harsha Jethmalani, "More than 30% of India's youth not in employment, shows OECD report," *Livemint*, Mar. 7, 2017, accessed July 19, 2017, <http://www.livemint.com/Money/JYalqNRTotaQCIU4EuXGRO/More-than-30-of-Indias-youth-not-in-employment-shows-OECD.html>.

<sup>226</sup> "Labor force participation rate, female," *The World Bank*, accessed July 19, 2017, <http://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=IN>.

<sup>227</sup> "India Development Update: May 2017," *World Bank*, accessed July 12, 2017, 3, <http://documents.worldbank.org/curated/en/107761495798437741/pdf/115297-WP-P146674-PUBLIC.pdf>.

<sup>228</sup> "India Development Update: May 2017," *World Bank*, accessed July 12, 2017, 63, <http://documents.worldbank.org/curated/en/107761495798437741/pdf/115297-WP-P146674-PUBLIC.pdf>.

From a business perspective, India's labor market suffers from strict employment protection restrictions, especially in manufacturing,<sup>229</sup> which hamper job creation in the formal sector. The complexity of the laws restricts the ease of doing business and deters investment in India. Thus, reducing the complexity of labor codes would be beneficial for India's growth.

### *Developments in the last three years*

So far, the Modi government has faced an uphill battle in its attempts to ease labor laws, with multiple strikes by unions and strong opposition to such policies in Parliament.<sup>230</sup> Despite the opposition, it has managed to "reduce requirements for complying with existing labor laws and has increased transparency in the day-to-day interactions between firms and the administration."<sup>231</sup> It has also succeeded in launching schemes and passing legislation that enhance workers rights, such as Payment of Bonus Amendment Act, Payment of Wages (Amendment) Act, The Maternity Benefit (Amendment) Act, and The Employee Compensation (Amendment) Act.<sup>232</sup>

In terms of employment, apart from the flagship Make in India Initiative, which seeks to create jobs by growing various manufacturing-based industries, the government has announced the Pradhan Mantri Rojgar Protsahan Yojana (Prime Minister's Scheme to Encourage Employment) to incentivize employers to hire new workers. Previously announced digital initiatives to measure labor law compliance and assist in job searches include the Shram Suvidha Portal and the National Career Service.

Despite some progress, key issues still need to be addressed. The Bharatiya Janata Party (BJP) promised to end the 'jobless growth' of the UPA government in its 2014 electoral campaign, and to create 100 million jobs.<sup>233</sup> However, the Economic Survey of 2016-17 reported sluggish job growth in the past year and estimated unemployment at 5 percent.<sup>234</sup> It also highlighted a shift from formal, permanent employment to informal, contract-based employment. Furthermore, the India Exclusion Report 2016 noted that while 12 million people were added to the workforce last year, only 1.35 lakh (135,000) new jobs have been created.<sup>235</sup> The report also showed increasing trends in labor migration from the formal to the informal sector, and that jobless growth primarily affected socio-economically subjugated castes, women and Muslim communities. The government thus needs

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<sup>229</sup> "Economic Survey of India, 2017," *OECD*, Feb. 2017, accessed July 19, 2017, <http://www.oecd.org/eco/surveys/economic-survey-india.htm>.

<sup>230</sup> T.T. Ram Mohan, "Labour's Lost Love," *The Hindu*, Sept. 12, 2016, accessed July 19, 2017, <http://www.thehindu.com/opinion/lead/Labour%E2%80%99s-love%E2%80%99s-lost/article14634831.ece>

<sup>231</sup> "Economic Survey of India 2017," *OECD*.

<sup>232</sup> For a full list of initiatives developed by the Indian government, see Appendix 1.0

<sup>233</sup> "Election Manifesto 2014," *Bharatiya Janata Party*,

<sup>234</sup> "Economic Survey of India 2016-17," *Indian Department of Economic Affairs*

<sup>235</sup> Indian Cultural Forum, *Indian Exclusion Report 2016*, (New Delhi: Yoda Press, 2017), accessed July 19, 2017, <http://indianculturalforum.in/2017/07/07/indian-exclusion-report-2016/>.



to assess the efficacy of its efforts, aim for more inclusivity in the labor market, and start delivering on its promises.

## Recommendations

- 1) **Identify potential areas of job creation, and incentivize them to create more jobs.** Combining Make in India's push to stimulate employment in the manufacturing with further efforts in the construction, tourism and healthcare sectors can also stimulate jobs growth.<sup>236</sup> The Economic Survey also identified apparel, leather and footwear as labor-intensive industries that could spur job creation.<sup>237</sup> Some methods of facilitating jobs creation include tax breaks and loosening labor laws in these sectors.
- 2) **Create laws to empower contractual and construction workers, and thus reduce the share of informal labor.** Employers tend to favor contracted workers over formal labor (usually union affiliated), because they are cheaper and less protected by labor regulations. This contributes towards the informalization of the official economy, as employers are able to exploit contracted laborers – who are not protected as adequately as formal laborers – and make them work longer hours for lesser pay. While loosening labor regulations on dismissal policy will be an uphill battle against unions and left-wing politicians, the government can simultaneously strive to extend contractual worker protections and benefits to improve their conditions.
- 3) **Reduce gender disparities in employment.** Multiple studies have indicated that India's growth remains under potential because of lower female workforce participation rates. The government should incentivize female education, entrepreneurship, and skill development through targeted schemes for women and increased scholarship opportunities. Doing this will help facilitate the shift in labor from agriculture to the manufacturing and service sectors. Working towards employing more females in law enforcement and other governmental leadership positions will also help stimulate a societal change in mindsets towards working women.

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<sup>236</sup> Rozelle Laha, "India can create 5 million jobs every year: CII," *Livemint*, May 4, 2017, accessed July 19, 2017, <http://www.livemint.com/Industry/GaNx5tZxhMSGUpQUxHV6iM/India-can-create-5-million-jobs-every-year-CII.html>.

<sup>237</sup> Prashant K. Nanda, "Reform labour laws, give tax breaks to create jobs: Economic Survey 2017," Feb. 1, 2017, accessed July 19, 2017, <http://www.livemint.com/Politics/Xpis5n4ekkC7tBXknm6SdO/Economic-Survey-2017-identifies-apparel-leather-sectors-to.html>

## **Agriculture**

India ranks as one of the top producers of wheat, rice, legumes, sugarcane, and cotton in the world. It produces the most milk, and the second highest number of fruits and vegetables.<sup>238</sup> According to the International Food Policy Research Institute, “India has one of the best-staffed agricultural research and development systems in the world.”<sup>239</sup> However, despite innovations in technology and extensive research, agriculture in India is still largely monsoon dependent. The Modi government has encouraged less dependence on agriculture, greater urbanization via smart cities, and increased digitalization in every sphere. However, to facilitate this transition, there must be a dramatic transformation in agricultural activities, and more jobs in manufacturing to absorb people leaving the agricultural sector.<sup>240</sup>

### *Background*

As a sector, agriculture employs around 51 percent of India’s labor force,<sup>241</sup> but generates only 17.5 percent of the country’s GDP.<sup>242</sup> Major problems in the agriculture sector include the decreasing size of landholdings, inequality in access to latest technologies, inadequate access to formal sources of credit for small farmers, improper storage infrastructure for crops, and systemic failures leading to unsustainable remuneration patterns for cultivators.<sup>243</sup> Existing irrigation facilities are inadequate, with only 37 percent of land under cultivation being irrigated.<sup>244</sup> Furthermore, because farmers have not been trained in using modern techniques and lack of proper storage, yields have become largely weather dependent. This leads to price instability for agricultural produce, which in turn affects farmers’ income security.

Another large problem is agricultural sustainability; as the aftermath of the Green Revolution demonstrated, current patterns of chemical use and irrigation have led to soil and water pollution, which in turn negatively impact the quality of arable

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<sup>238</sup> Tanvi Deshpande, “State of Agriculture in India,” *PRS Legislative*, Mar. 2017, accessed July 10, 2017,

<http://www.prsindia.org/uploads/media/Analytical%20Report/State%20of%20Agriculture%20in%20India.pdf>

<sup>239</sup> “New Data Examines Landscape of India’s Agricultural Research and Development,” *IFPRI*, Aug. 17, 2016, accessed July 19, 2017, <https://www.ifpri.org/news-release/new-data-examines-landscape-indias-agricultural-research-and-development>

<sup>240</sup> Jayshree Sengupta, “Making agriculture attractive, a major challenge Modi Govt,” *ORF*, Apr. 24, 2015, accessed July 19, 2017, <http://www.orfonline.org/research/making-agriculture-attractive-a-major-challenge-for-modi-govt/>.

<sup>241</sup> “Employment in agriculture,” *The World Bank*, accessed July 19, 2017,

<http://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=IN>.

<sup>242</sup> Deshpande, “State of Agriculture in India,” *PRS Legislative*.

<sup>243</sup> Deshpande, “State of Agriculture in India,” *PRS Legislative*.

<sup>244</sup> “Agricultural irrigated land,” *The World Bank*, accessed July 19, 2017, <http://data.worldbank.org/indicator/AG.LND.IRIG.AG.ZS?locations=IN>



land.<sup>245</sup> There is also a need to conserve indigenous seed varieties for crops that are better adapted to the Indian climate, compared to current HYV varieties being used.<sup>246</sup> While it is essential to advance innovation in agriculture, the process should not disregard traditional wisdom.

### *Developments in the last three years*

While the government has come up with several agricultural schemes, overall, the sector has received less attention from the Modi government than manufacturing and services. Agriculturally focused schemes launched by the Modi government have focused on crop insurance, indigenous cattle breed protection, irrigation, and soil analysis.<sup>247</sup> In terms of irrigation, while the government came up with new schemes and collaborated on the international level with countries like Israel to import modern technologies, there is an urgent need for even more expansion. Over the last 3 years, various parts of the country have faced debilitating droughts, and farmer suicides continue, with over 6,600 suicides in the last year alone.<sup>248</sup>

Demonetization also had an adverse impact on farmers, since the agricultural sector largely depends on cash transactions. In the immediate aftermath, it brought transport, selling, marketing, and distribution networks to a standstill, and caused price fluctuations for various products.<sup>249</sup> Furthermore, because small farmers rely on informal, cash-based sources of credit, taking large amounts of cash out of circulation cut off their credit supply and rendered their cash holdings worthless.<sup>250</sup> Thus, to some extent demonetization caused the recent wave of farmer protests and the subsequent loan waivers taking place across various states of India.<sup>251</sup> In Mandsaur in the state of Madhya Pradesh, protests turned violent and police officers killed five farmers in the ensuing struggle.<sup>252</sup>

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<sup>245</sup> Saidur Rahman, "Green Revolution in India: Environmental Degradation and Impact on Livestock," *Asian Journal of Water, Environment and Pollution*, vol. 12, no. 1, 2015, accessed July 19, 2017, <http://content.iospress.com/articles/asian-journal-of-water-environment-and-pollution/ajw12-1-11>.

<sup>246</sup> Bharat Dogra, "Did India's Green Revolution Strategy Take Into Account Research on Traditional Varieties of Rice?" *The Wire (India)*, July 11, 2017, accessed July 19, 2017, <https://thewire.in/156550/india-green-revolution-varieties-rice/>.

<sup>247</sup> See Appendix 1.0

<sup>248</sup> "Farmer Suicide Trends in India," *The Wire (India)*, accessed July 19, 2017, <https://thewire.in/wp-content/uploads/2017/04/Annex-1-%E2%80%93-Farmer-suicides-2016-and-2017.pdf>.

<sup>249</sup> Renu Kohli, "Demonetization: The impact on agriculture," *Livemint*, Nov. 22, 2016, accessed July 19, 2017, <http://www.livemint.com/Opinion/B1vFTOgwgHjdM5nkmg2CxJ/Demonetization-The-impact-on-agriculture.html>.

<sup>250</sup> Parag Wanknis, "Demonetisation and Cattle Slaughter Ban May Have Exacerbated India's Cyclical Agrarian Crisis," *The Wire (India)*, July 7, 2017, accessed July 19, 2017, <https://thewire.in/153497/demonetisation-cattle-slaughter-ban-india-agrarian-crisis/>.

<sup>251</sup> Nupur Anand and Madhura Karnik, "All the losers in the great Indian game of farm-loan waivers," *Quartz*, June 14, 2017, accessed July 19, 2017, <https://qz.com/1004554/all-the-losers-in-the-great-indian-game-of-farm-loan-waivers/>.

<sup>252</sup> Padmapriya Govindarajan, "Indian Farmer Protests Show No Signs of Abating," June 22, 2017, accessed July 19, 2017, <http://thediplomat.com/2017/06/indian-farmer-protests-show-no-signs-of-abating/>.

## **Recommendations**

- 1) Improve access to formal sources of credit for farmers.** One of the positive impacts of demonetization was that it led to many bank accounts being opened in rural areas; however, many now lie dormant. As the government moves forward with its Digital India initiative, it should invest in giving farmers the digital skills need to access formal credit sources online, thus removing multiple intermediaries and preventing rising indebtedness.
  
- 2) Prioritize reforms in the agriculture sector.** While the government is focusing on making India a more advanced industrial economy, it cannot neglect the fact that more than half the country still works in the agrarian sector. While still focusing on transitioning some of this labor to other sectors, the government should work towards solving the systemic problems of land reform and modernization that plague the agriculture sector. A focus on agricultural skill development and infrastructure building in rural areas will help to modernize the sector and increase productivity.

## ***Industry and Manufacturing***

Manufacturing in India has been on a high growth trajectory.<sup>253</sup> As of 2016, it contributed 17 percent of the value added to India's GDP.<sup>254</sup> Advancements in this sector are encouraging, as they have the potential to generate further economic growth and much needed employment.

### ***Background***

Manufacturing in India has undergone a series of evolutions, from an initial phase of industrialization and the period of license raj to the current phase of global competitiveness. By the end of 2020, India is expected to become the fifth largest manufacturing country in the world.<sup>255</sup> However, long-term areas that require systemic reforms include education, skill development, labor regulations, and the business permit environment. The manufacturing sector is also viewed as an avenue for increased job creation that can absorb the increasing size of the labor force. However, given the size of India's labor force, there are concerns that advances in high tech manufacturing with considerable automation will not create enough jobs.<sup>256</sup> This, however, can be offset by further expansion of India's cottage industries and other labor-intensive industries.

### ***Developments in the last three years***

The Modi government has placed a strong emphasis on domestic manufacturing and foreign investment in manufacturing through its flagship Make in India program. Under Make in India, foreign direct investment (FDI) inflows in India's manufacturing sector grew by \$16.13 billion (82 percent) from April to November 2016.<sup>257</sup> India is the world's top most destination for FDI, in terms of inflow of foreign investment,<sup>258</sup> and recently struck deals for manufacturing products with multiple American and Chinese companies like Boeing, Huawei, LeEco, Apple, and Coca Cola.<sup>259</sup> Make in India also laid down clear targets to improve the ease of

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<sup>253</sup> "Indian Manufacturing: Overview and Prospects," *IBEF*, accessed July 19, 2017, <https://www.ibef.org/download/Indian-Manufacturing-110512.pdf>.

<sup>254</sup> "Manufacturing, value added," *The World Bank*, accessed July 19, 2017, <http://data.worldbank.org/indicator/NV.IND.MANF.ZS?locations=IN>.

<sup>255</sup> "Manufacturing Sector in India," *IBEF*, updated July 2017, accessed July 19, 2017, <https://www.ibef.org/industry/manufacturing-sector-india.aspx>.

<sup>256</sup> Vikram Mansharamani, "Make In India" promises manufacturing jobs for millions. Here's why it won't work," *PBS*, Feb. 18, 2016, accessed July 19, 2017, <http://www.pbs.org/newshour/making-sense/make-in-india-promises-manufacturing-jobs-for-millions-heres-why-it-wont-work/>.

<sup>257</sup> "Manufacturing Sector in India," *IBEF*.

<sup>258</sup> PTI, "India retains world's highest FDI recipient crown, says report," May 25, 2017, accessed July 19, 2017, <http://www.livemint.com/Money/odjTv4DqAFAMfT0zqQ1XSM/India-retains-worlds-highest-FDI-recipient-crown-says-repo.html>.

<sup>259</sup> "Manufacturing Sector in India," *IBEF*.

doing business and cooperation with Indian states.<sup>260</sup> However, industry growth registered 5.2 percent this year, down from 7.4 percent last year.<sup>261</sup> This was probably due to the impact of demonetization on the informal sector and on small- and medium-sized industries.<sup>262</sup> Moreover, the manufacturing sector is still bogged down by underperforming Public Sector Undertakings (PSUs). While the Modi government has disinvested<sup>263</sup> to improve the situation, it can do more to bring privatization into key sectors of the economy.

### *Recommendations for the future*

The main hurdles manufacturing businesses and industries – especially large industries – face in India are labor regulations and the complex procedures required to start a business. The World Bank Doing Business report pointed out that it takes at least 14 procedures – not all of them simultaneous – to start a business, and that the timeline for those processes is extensive.<sup>264</sup> While labor market reform is an uphill task, the government can work towards reducing procedures, improving bureaucratic efficiency, and eliminating corruption, which will help to improve turnaround times for starting manufacturing endeavors. Additionally, in a populous nation like India, manufacturing needs to be a source of employment, which is difficult in highly automated sectors like aviation, automobiles, and electronics. Thus, labor intensive cottage industries and the textile and apparel sectors require more stimuli. The government has shown interest in this area, as indicated by the rise in turnover in the Khadi and Village Industries Commission. Currently India has 2,346 functional khadi units in the country.<sup>265</sup> Creating similar units for different cottage industries could absorb incoming labor from the agriculture sector, and spur job creation in India.

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<sup>260</sup> Chandrajit Banerjee, “Three years of the Modi government: Staying right on track,” *Economic Times (India)*, May 24, 2017, accessed July 19, 2017, <http://blogs.economicstimes.indiatimes.com/et-commentary/87266/>.

<sup>261</sup> Jyotika Sood, “Economic Survey 2017: Industrial growth seen slowing to 5.2% in FY17,” *Livemint*, Feb. 1, 2017, accessed July 19, 2017, <http://www.livemint.com/Politics/RDXOicZEExdoBvXI8UbpumO/Economic-Survey-2017-Industrial-sector-growth-to-decline-to.html>.

<sup>262</sup> Jyotika Sood, “Economic Survey 2017: Industrial growth seen slowing to 5.2% in FY17,” *Livemint*, Feb. 1, 2017, accessed July 19, 2017, <http://www.livemint.com/Politics/RDXOicZEExdoBvXI8UbpumO/Economic-Survey-2017-Industrial-sector-growth-to-decline-to.html>.

<sup>263</sup> Puja Mehra, “It is disinvestment, not privatization,” *The Hindu*, May 21, 2016, accessed July 19, 2017, <http://www.thehindu.com/opinion/columns/it-is-disinvestment-not-privatisation/article8586358.ece>

<sup>264</sup> “Ease of Doing Business in India,” *The World Bank Doing Business*, accessed July 19, 2017, <http://www.doingbusiness.org/data/exploreeconomies/india#starting-a-business>.

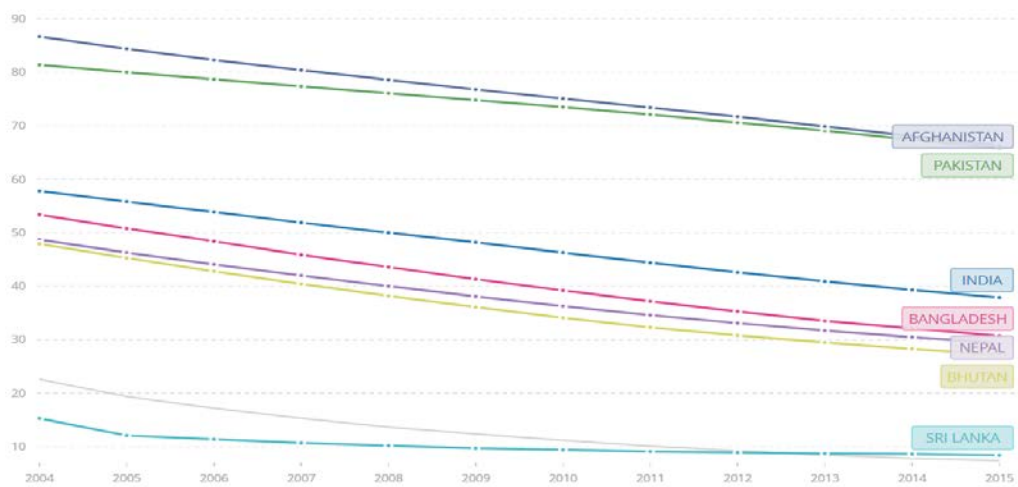
<sup>265</sup> Moushumi Das Gupta, “To take khadi abroad, govt writes to UN refugee agency,” *Hindustan Times*, May 31, 2017, accessed July 19, 2017, <http://www.hindustantimes.com/india-news/to-take-khadi-abroad-govt-writes-to-un-refugee-agency/story-57i4Bxig0YKR8YiVgyo1NL.html>.

## Healthcare

While the Indian healthcare landscape improved significantly in the past decade, there is still room for improvement. Lagging behind its peers, India ranked 154 out of 195 countries in the Global Burden and Disease Study 2015.<sup>266</sup> While average national expenditure on healthcare is 5.4 percent of GDP, last year India spent only 1.2 percent — the lowest figure recorded in Indian history.<sup>267</sup> The 2017 budget increased healthcare spending to 2.27 percent, still a far cry from the level of spending afforded by others.

The problems in government spending are reflected in the healthcare sector's shortcomings. Out of all South Asian nations, India is only above Afghanistan and Pakistan in terms of life expectancy and infant mortality. Indian contraceptive usage is behind many of its regional neighbors as well, including Bhutan and Bangladesh.<sup>268</sup>

### South Asia Child Mortality Rates



India's infant mortality per 1000 births lags behind that of neighboring countries. Source: World Bank Data

The Modi administration has publicly claimed that healthcare is a priority. The BJP party manifesto promised a number of initiatives, including facilitating hospital modernization and encouraging pharmaceutical growth.<sup>269</sup> The Indian

<sup>266</sup> S.S. Lim, K. Allen, Z.A. Bhutta, L. Dandona, M.H. Forouzanfar, N. Fullman, P.W. Gething, E.M. Goldberg, S.I. Hay, M. Holmberg, Y. Kinfu, M.J. Kutz, et. al, "Measuring the health-related Sustainable Development Goals in 188 countries: a baseline analysis from the Global Burden of Disease Study 2015," *The Lancet*, Sept. 2016, 1813-1850, [http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736\(16\)31467-2.pdf](http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)31467-2.pdf) "Healthcare Access and Quality Index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990-2015: a novel analysis from the Global Burden of Disease Study 2015," *The Lancet*, May 18, 2017, Accessed September 8, 2017, [http://dx.doi.org/10.1016/S0140-6736\(17\)30818-8](http://dx.doi.org/10.1016/S0140-6736(17)30818-8).

<sup>267</sup> "Healthcare Budget 2017: To Fight against Disease, Spending on Healthcare Must Go up," *India.com*, Jan. 30, 2017, accessed July 12, 2017, <http://www.india.com/news/india/healthcare-budget-2017-to-fight-against-disease-spending-on-healthcare-must-go-up-1783048/>.

<sup>268</sup> "India," *World Health Organization*, Accessed September 13, 2017, <http://www.who.int/countries/ind/en/>.

<sup>269</sup> "Ek Bharat Shreshtha Bharat: Election Manifesto 2014," *Bharatiya Janata Party*, accessed Sept. 27, 2016, [http://www.bjp.org/images/pdf\\_2014/full\\_manifesto\\_english\\_07.04.2014.pdf](http://www.bjp.org/images/pdf_2014/full_manifesto_english_07.04.2014.pdf).

government has also advocated for a number of new healthcare initiatives, including a National Dialysis Services Program that reduces the price of equipment to make dialysis treatment more affordable and accessible. Unfortunately, a number of health initiatives have seen cuts under Modi, as the desire to balance the budget creates tension with increasing healthcare spending.<sup>270</sup>

## Recommendations

- 1) **Increase Healthcare Spending.** The Modi administration promised a number of encouraging healthcare initiatives, but inadequate funding threatens the very architecture of Indian public health. Increasing the health budget from existing levels to match other countries would help many Indians improve their quality of life. The Modi administration has demonstrated that it can craft and deploy innovative healthcare schemes, but they must be complemented with funds.

The 2015 National Health Policy (NHP) planned to increase coverage and quality of care across India. The report underscored the importance of increasing healthcare funding, and proposed “a potentially achievable target of raising public health expenditure to 2.5 percent of the GDP.”<sup>271</sup> The NHP demonstrates that affordable care is not beyond reach for India; the question is whether or not the funding will be available.

- 2) **Focus on Medical Infrastructure.** Spending is also needed to close the massive gap in quality of healthcare between urban and rural areas. 70 percent of Indians have historically lived in isolated areas with little to no formal healthcare access, and many rural Indians travel upwards of 100 kilometers to receive quality medical care.<sup>272</sup> This disparity is caused by a budgetary skew towards urban sectors, where over 70 percent of healthcare money is spent.<sup>273</sup>

For these areas, expanding coverage is not merely a question of crafting low-cost insurance plans, but rather a matter of building health infrastructure from the ground up. Hospitals, clinics, and other forms of accessible care need to be constructed in peripheral areas; however, it is unclear how Modi administration can accomplish that without additional funding. The Indian government should raise healthcare spending in an effort to match the NHP target of 2.5 percent, and close the gap towards the worldwide average of 5 percent.

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<sup>270</sup> Aditya Kalra, “India Slashes Health Budget,” *Reuters*, Dec. 23, 2014, accessed Sept. 24, 2016, <http://in.reuters.com/article/india-health-budget-idINKBNOK10Y020141223>.

<sup>271</sup> “National Health Policy (NHP) 2015,” *Ministry of Health and Family Welfare*, Dec. 2014, accessed September 26, 2016, 15, <http://www.mohfw.nic.in/showfile.php?lid=3014>.

<sup>272</sup> “Healthcare in India Whitepaper,” *Columbia University*, accessed July 18, 2017, <http://assets.ce.columbia.edu/pdf/actu/actu-india.pdf>.

<sup>273</sup> “2016 Global Healthcare Outlook,” *Deloitte*, accessed September 27 2016, <http://www2.deloitte.com/content/dam/Deloitte/global/Documents/Life-Sciences-Health-Care/gx-lshc-2016-health-care-outlook.pdf>.

- 3) **Expand Medical Training.** Rural areas also suffer from a shortage of doctors.<sup>274</sup> While nations like China have 1.5 doctors for every 1000 people, India's proportion of doctors to citizens is 0.7 per 1000 people.<sup>275</sup> The lack of trained medical professionals has taken its toll on Indian society: it is estimated that 600 million people totally lack access to quality medical care.<sup>276</sup> The lack of access to medical care results in detrimental medical outcomes, with life expectancy in India falling short of most developing countries. In order to catch up to its peers in terms of healthcare, India can invest more money into training health professionals.

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<sup>274</sup> Samanth Subramanian, "Shortage of Doctors in India Takes a Toll on Public Health," *The National*, July 10, 2016, accessed July 17, 2017, <https://www.thenational.ae/world/shortage-of-doctors-in-india-takes-a-toll-on-public-health-1.157390>

<sup>275</sup> "How India Can Overcome the Doctor Shortage and Exorbitant Costs of Healthcare," *Quartz*, Sept. 22, 2014, July 17 2017, <https://qz.com/269392/how-india-can-overcome-the-doctor-shortage-and-exorbitant-costs-of-healthcare/>

<sup>276</sup> "How India Can Overcome the Doctor Shortage and Exorbitant Costs of Healthcare," *Quartz*, Sept. 22, 2014, July 17 2017, <https://qz.com/269392/how-india-can-overcome-the-doctor-shortage-and-exorbitant-costs-of-healthcare/>.

## Appendix A

<b>List of relevant laws, schemes and initiatives launched by the Modi government since 2014</b>				
<b>Law/Scheme / Initiative</b>	<b>Year Launched/ Announced</b>	<b>Sector</b>	<b>Key Issues Addressed</b>	<b>Source Link</b>
Beti Bachao, Beti Padhao	2015	Women and Child Development , Education	Child Sex Ratio, women's empowerment and education	<a href="http://wcd.nic.in/BBBPScheme/main.htm">http://wcd.nic.in/BBBPScheme/main.htm</a>
Vidyalakshmi Online Education Portal	2015	Education, Human Resource Development (HRD)	Education Financing, Loans	<a href="https://www.vidyalakshmi.co.in/Students/">https://www.vidyalakshmi.co.in/Students/</a>
Higher Education Financing Agency	2016	Education, HRD	Project Financing, Infrastructure Development	<a href="http://indianexpress.com/article/education/cabinet-approves-setting-up-of-higher-education-financing-agency-3027148/">http://indianexpress.com/article/education/cabinet-approves-setting-up-of-higher-education-financing-agency-3027148/</a>
The Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching	2015	Skill Development , Education, HRD	Teacher Training	<a href="http://mhrd.gov.in/pm mmmntt">http://mhrd.gov.in/pm mmmntt</a>
Vidyanjali Volunteer Programme	2016	Education, HRD	Teacher Shortages	<a href="http://vidyanjali.mygov.in/index.php/frontend/guideline">http://vidyanjali.mygov.in/index.php/frontend/guideline</a>
Global Initiative of Academic Networks (GIAN)	2015	Education, HRD	International Academic Cooperation	<a href="http://www.thehindu.com/todays-paper/tp-in-school/theres-a-lot-to-gian/article7102700.ece">http://www.thehindu.com/todays-paper/tp-in-school/theres-a-lot-to-gian/article7102700.ece</a>
Shala ASMITA Yojana	2016	Education, HRD	Student Tracking	<a href="http://indianexpress.com/article/india/india-news-india/hrd-ministry-student-tracking-system-shala-asmita-yojana-smriti-irani-2817574/">http://indianexpress.com/article/india/india-news-india/hrd-ministry-student-tracking-system-shala-asmita-yojana-smriti-irani-2817574/</a>
Swayam and Swayam Prabha	2017	Education, HRD	Televised Education, Online Education, MOOCs	<a href="https://swayam.gov.in/About">https://swayam.gov.in/About</a> , <a href="https://www.swayamprabha.gov.in/">https://www.swayamprabha.gov.in/</a>
Skill India Initiative	2015	Skill Development	Umbrella Project	<a href="http://pib.nic.in/newsite/PrintRelease.aspx?relid=123296">http://pib.nic.in/newsite/PrintRelease.aspx?relid=123296</a>
Pradhan Mantri Kaushal Vikas Yojana	2015	Skill Development	Skill Certification	<a href="http://www.pmkvyofficial.org/Index.aspx">http://www.pmkvyofficial.org/Index.aspx</a>



National Apprenticeship Promotion Scheme	2016	Skill Development , Education, HRD	Apprenticeship Promotion	<a href="http://www.skilldevelopment.gov.in/assets/images/announcements/FAQ-NAPS.pdf">http://www.skilldevelopment.gov.in/assets/images/announcements/FAQ-NAPS.pdf</a>
National Apprenticeship Training Scheme	2016	Skill Development , Education, HRD	Graduate Skill Training	<a href="http://mhrdnats.gov.in/">http://mhrdnats.gov.in/</a>
Pradhan Mantri Yuva Yojana	2016	Skill Development	Youth Entrepreneurship	<a href="http://pib.nic.in/newsite/PrintRelease.aspx?relid=153429">http://pib.nic.in/newsite/PrintRelease.aspx?relid=153429</a>
Deen Dayal Upadhyay Grameen Kaushalya Yojana	2014	Rural Development , Skill Development	Skilling of Rural Youth	<a href="http://ddugky.gov.in/">http://ddugky.gov.in/</a>
Payment of Bonus (Amendment) Act	2015	Labor	Widening Eligibility for Bonus Payment	<a href="http://www.mondaq.com/india/x/457680/employee+rights+labour+relations/Khaitan+Co">http://www.mondaq.com/india/x/457680/employee+rights+labour+relations/Khaitan+Co</a>
Payment of Wages (Amendment) Act	2017	Labor	Increasing Eligible Methods of Wage Payment	<a href="http://www.prsindia.org/billtrack/the-payment-of-wages-amendment-bill-2017-4602/">http://www.prsindia.org/billtrack/the-payment-of-wages-amendment-bill-2017-4602/</a>
Maternity Benefit (Amendment) Act	2017	Labor	Increased duration of Paid Maternity Leave	<a href="http://www.prsindia.org/billtrack/the-maternity-benefit-amendment-bill-2016-4370/">http://www.prsindia.org/billtrack/the-maternity-benefit-amendment-bill-2016-4370/</a>
Pradhan Mantri Rojgar Protsahan Yojana	2016-17	Labor, Employment	Incentivize employment generation	<a href="http://pib.nic.in/newsite/mbErel.aspx?relid=148134">http://pib.nic.in/newsite/mbErel.aspx?relid=148134</a>
Shram Suvidha Portal	2016	Labor, Employment	Labor Law Compliance	<a href="https://shramsuvridha.gov.in/objective.action">https://shramsuvridha.gov.in/objective.action</a>
National Career Service Portal	2015	Labor, Employment	Career Search	<a href="https://www.ncs.gov.in/Pages/default.aspx">https://www.ncs.gov.in/Pages/default.aspx</a>
Pradhan Mantri Fasal Bima Yojana	2016	Agriculture	Crop Insurance	<a href="http://agri-insurance.gov.in/Pmfby.aspx">http://agri-insurance.gov.in/Pmfby.aspx</a>
Rashtriya Gokul Mission	2014	Agriculture	Indigenous Cattle Breed Preservation	<a href="http://pib.nic.in/newsite/PrintRelease.aspx?relid=107580">http://pib.nic.in/newsite/PrintRelease.aspx?relid=107580</a>
Pradhan Mantri Krishi Sinchai Yojana	2015	Agriculture	Irrigation	<a href="http://pmksy.gov.in/">http://pmksy.gov.in/</a>
Soil Health Card Scheme	2015	Agriculture	Soil Analysis	<a href="http://www.soilhealth.dac.gov.in/">http://www.soilhealth.dac.gov.in/</a>

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**Hudson Institute**

1201 Pennsylvania Avenue, N.W.  
Suite 400  
Washington, D.C. 20004

P: 202.974.2400  
info@hudson.org  
www.hudson.org