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great by
deeds, not by
birth"

-Chanakya

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India's Agrarian Performance: A Comparative Analysis of UPA and NDA Regimes

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India's Agrarian Performance: A Comparative Analysis of UPA and NDA Regimes*

Abstract: The performance of India's agrarian economy under the National Democratic Alliance (NDA)-II government has been a subject of intense public debate in the last few years. Yet, a detailed study on the subject is not available. The objective of this article is to examine the overall performance of the Indian agriculture sector during the NDA-II regime compared to the United Progressive Alliance (UPA) regime. It is found that, contrary to popular perception, the Indian agriculture sector performed pretty well during the NDA-II regime. Despite the poor climatic conditions, the growth of agricultural gross value added was equivalent to the targeted long-term growth rate of 4 percent in the NDA-II regime. The growth of production of food commodities such as cereals, pulses, oilseeds, tea, milk, egg, and fish was higher in the NDA-II regime compared to the whole UPA regime. In contrast, production of sugarcane, cotton, coffee, vegetables, fruits, and meat grew at a lower rate during the NDA-II regime. Importantly, there are clear signs of diversification of food production towards high-value agricultural commodities during the NDA-II regime. There was an improvement in the productivity of cereals, pulses, oilseeds, tea, and sugarcane. The MSP of the majority of the farm products grew at a lower rate during the NDA-II regime compared to the UPA regime. Though this might have hurt the farmers and has triggered farmers' agitation, it helped to reduce the food price inflation to a significant extent compared to the UPA regime. The efficiency of agricultural credit in promoting agricultural growth has come down significantly over the years including the NDA-II regime. This implies that agricultural growth during the NDA-II regime was driven by other factors, and they include higher productivity growth; improvement in the road network; increase in agricultural exports; higher overall budgetary expenditure on agriculture and allied activities, particularly by the state governments and targeting of fertiliser subsidy. It seems the lower growth of MSP and agricultural credit during the NDA-II regime was compensated by these other supportive measures.

1. Introduction:

One of the major economic issues that hogged the national limelight in the last five years of the Narendra Modi led the NDA-II government (hereafter NDA-II government/regime) is agrarian distress. The opposition political parties and the farmer organisations allege that the development of the farm sector has been ignored under the NDA-II regime. For improving their livelihood, among others, the farmers have been demanding remunerative price for their produce, farm loan waivers/debt relief, better crop insurance scheme, improved irrigation facilities and lower fuel and electricity bills. In support of these demands, mass farmer protests have erupted in different parts of the country. Notable among them are the long foot march by farmers in Maharashtra to the city of Mumbai, farmer agitation in Mandsaur, Madhya Pradesh in which six farmers were killed in police firing and

* **Disclaimer:** This article has been written in good faith on the basis of the information available in the public domain. The views and opinions expressed in this article are exclusively of the author and not of Indian Institute of Management Kozhikode. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

the Kisan Mukti March to Parliamentary Street, New Delhi, which saw the participation of a large array of opposition political party leaders.¹

As a consequence of these protests and high decibel campaign by the opposition political parties, a perception has been created that the NDA-II government is ‘anti-farmer’ and that the performance of the farm sector was better during the earlier United Progressive Alliance (UPA) than under the NDA-II regime. The opposition Congress party managed to derive political capital out of this narrative by winning the state assembly elections in the states of Chhattisgarh, Madhya Pradesh and Rajasthan with the promise of farm loan waiver and higher remunerative prices for farm produce (Kumar 2018). The farm distress has been perceived to have adversely affected the electoral prospects of the Bharatiya Janata Party in these states. The Congress party has promised that if elected to power in the 2019 Lok Sabha election, the party would waive the farm loans in all the states (Indian National Congress 2019).² In response to the criticisms against its agrarian policies, the NDA-II government has argued that its policies are aimed at bringing a fundamental transformation in the farm sector by way of addressing the farmers problems relating to agricultural inputs, irrigation, prices, storage, and market access and of promoting allied agricultural activities such as animal husbandry and fishing.³ The NDA-II government rejected the idea of farm loan waiver on the ground that it does not provide a proper solution for the agrarian problems. According to the NDA-II government, schemes promising farm loan waivers were not fully implemented in the past and have benefited largely non-farmers or farmers who had no debt.⁴

Amidst all these developments, one hardly finds a comprehensive or serious analysis of the performance of India’s agrarian economy under the NDA-II regime vis-à-vis UPA regime. To the best knowledge of this author, almost all the analysis which is available in the public domain on this topic is either anecdotal or based on partial information. The questions that beg answer in this context are: How did the Indian agriculture sector perform in the last five years of NDA-II regime compared to the earlier two UPA regimes?; Is there any crisis or distress facing Indian agriculture today?; If so, what is the nature of the distress?; Is the NDA-II governments promise of bringing fundamental transformation in the Indian farm sector working at the ground level?; and Which governmental unit – the centre or states – is to be held responsible for the overall performance of the Indian agriculture and promoting farmers welfare? This article is a modest attempt to answer these critical questions using available macroeconomic indicators relating to India’s farm sector. As the issue of agrarian distress has become one of the major political agenda of the 2019 Lok Sabha elections, it would be of added interest to examine the questions above.

2) Growth in gross value added in agriculture and allied activities:

On an average, India’s gross value added (GVA) in agriculture and allied activities (Base: 2011-12) recorded a compound annual growth rate (CAGR) of 4.03 percent during the NDA-II regime (Figure 1). This is equivalent to the government’s target of achieving and

¹ For details, see ‘30k Maha farmers protest against agrarian distress’, *The Times of India*, March 11, 2018; ‘When Mumbai’s Azad Maidan turned a sea of red’, *The Hindu*, March 12, 2018; ‘Farm friction’, *The Hindu* (Editorial), June 5, 2018; ‘Farmers want response from govt. by June 10’, *The Hindu*, June 6, 2018; and ‘Oppn. rallies behind farmers’, *The Hindu*, December 1, 2018

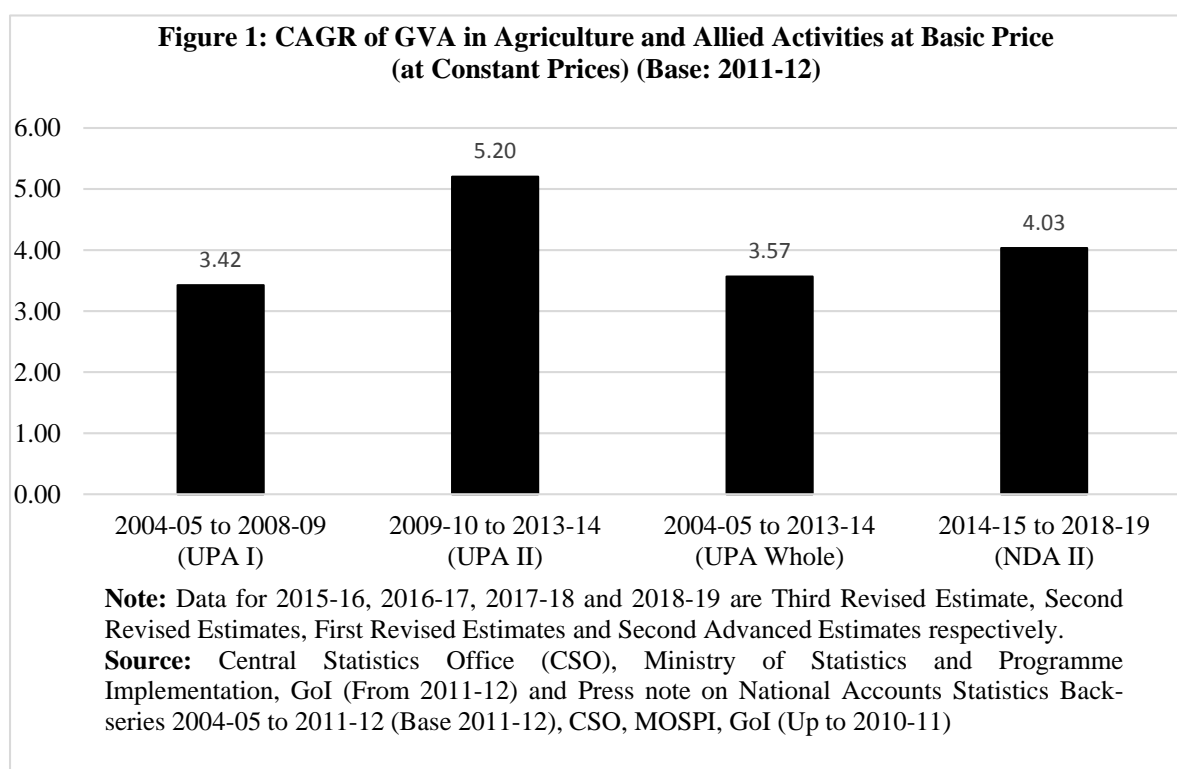
² Also see ‘Modi ignored farmers for five years, says Rahul’, *The Hindu*, January 10, 2019.

³ See ‘Our focus is farm sector: Modi’, *The Hindu*, December 25 2018.

⁴ ‘Loan waivers are lollipops, Cong cheated farmers: Modi’, *The Times of India*, December 30 2018; ‘Why do farmers need more than loan waivers’, *The Hindu*, December 29, 2018.

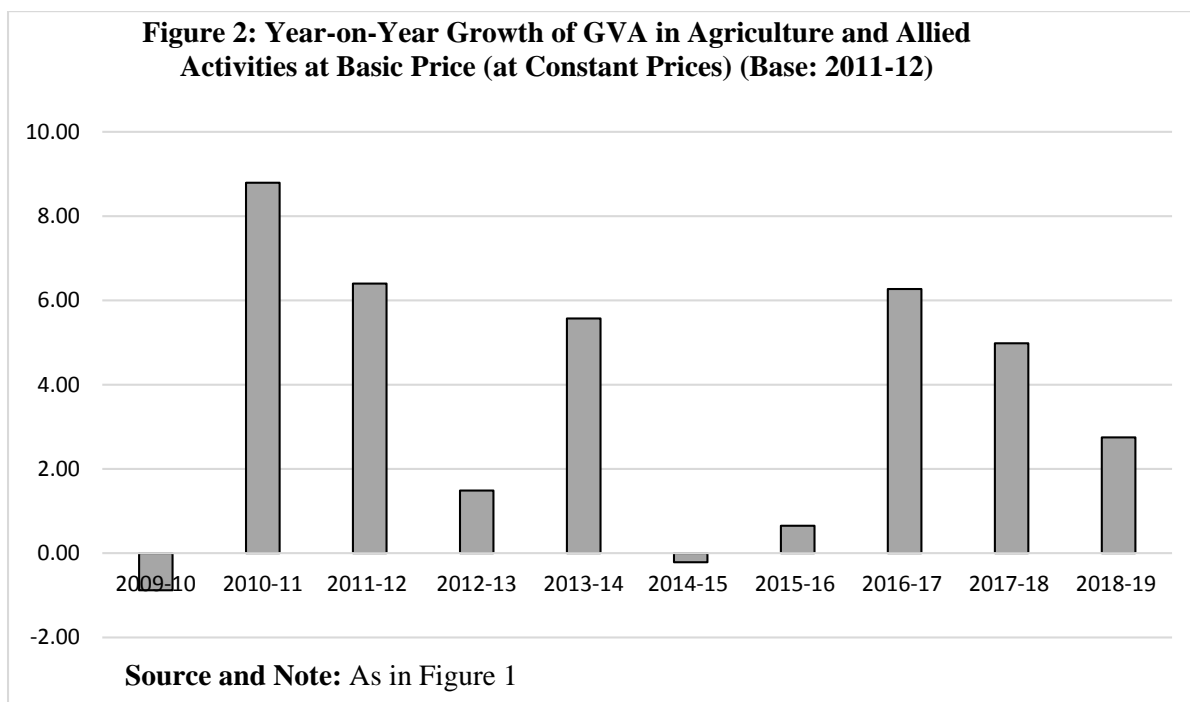
sustaining a 4 percent growth rate in agriculture (GoI 2006a).⁵ In contrast, the GVA in agriculture and allied activities grew at the rate of 3.57 percent during the entire UPA regime (i.e., UPA I and II put together). Thus, the growth rate of agricultural GVA under the NDA-II regime was 0.46 percentage points higher than the entire UPA regime. However, the UPA-II regime witnessed highest agricultural growth (5.20 percent) among all the three regimes. The agricultural growth rate was lower in the entire UPA regime compared to the NDA-II regime because of lower growth experienced during the UPA-I regime. The growth rate of the agricultural sector was lowest (3.42 percent) during the UPA-I regime among all the three regimes.

In this context, it is to be noted that the first two years (2014 and 2015) of the NDA-II regime had witnessed drought followed by below-normal monsoon and devastating floods in parts of India in years 2017 and 2018 respectively.⁶ In contrast, in the ten years of the UPA regime, only two years (2009 and 2012) experienced drought condition (NRAA, 2013; Ray et al. 2015). Thus, except 2016, all the other years under the NDA-II regime experienced climate-induced agrarian risk. Despite this, the agricultural sector has growth at the targeted rate of 4 percent. Though all the drought years in the past have witnessed a lower agricultural growth, the sector grew at a higher rate during UPA-II regime because of high growth rate recorded in 2010-11, 2011-12 and 2013-14 (Figure 2).



⁵ Also see <https://www.livemint.com/Politics/ZlX7ORjc7sHBIOJV45PV0N/Union-Budget-India-targets-4-agriculture-growth-in-201415.html> (Accessed on November 5, 2018).

⁶ <https://www.zeebiz.com/india/news-target-4-agriculture-growth-why-government-of-indias-ambitious-goal-is-a-big-challenge-60305> (Accessed on November 5, 2018).



3) The growth of production of major food commodities:

Echoing the higher growth rate of agricultural GVA during UPA-II compared to UPA-I, the rate of growth of production of the majority of the agricultural commodities increased during the UPA-II regime (Table 1). They include foodgrains, oilseeds, cotton, tea, coffee, fruits, and fish. In the NDA-II regime, the CAGR of production of foodgrains, oilseeds, milk, egg, and fish was higher compared to the two UPA regimes (Table 1). Among foodgrains, at 16.24 percent, the growth of pulses production was significantly larger during the NDA-II regime. The other two farm products which witnessed much higher growth in production during the NDA-II regime are oilseeds (7.64 percent) and Milk (6.42 percent). On the other hand, the growth of output of sugarcane, cotton, coffee, vegetables, fruits, and meat declined substantially during the NDA-II regime compared to UPA 1 and UPA II.

These findings slightly change if we compare the NDA-II regime with the UPA regime as a whole. For six out of twelve major farm products considered for analysis, the CAGR of production was higher during the NDA-II regime compared to the whole UPA regime. The products are foodgrains (both cereals and pulses), oilseeds, tea, milk, egg, and fish. Pulses witnessed largest percentage points (11.77) increase in the output growth in the NDA-II regime, followed by oilseeds (4.84), milk (1.93), fish (0.78) and rest others. Meat production recorded largest decline in the growth rate (by -8.45 percentage points) during the NDA-II regime compared to whole UPA regime, followed by cotton (-8.19), coffee (-3.87), sugarcane (-3.17), vegetables (-3.15) and fruits (-1.85).

Table 1: CAGR of Production of Major Food Commodities

Items	2004-05 to 2008-09 (UPA I)	2009-10 to 2013-14 (UPA II)	2004-05 to 2013-14 (UPA I&II)	2014-15 to 2017-18 (NDA -II Regime)
Foodgrains	4.45	4.50	3.11	4.67
<i>Of which</i>				
Cereals	4.54	4.42	3.01	3.76
Pulses	3.11	5.66	4.47	16.24
Oilseeds	3.26	5.14	2.79	7.64
Sugarcane	5.99	3.76	3.06	-0.11
Cotton (Lint)	9.91	8.76	9.09	0.90
Tea	1.81	5.73	2.70	3.24
Coffee	-1.42	1.54	1.78	-2.10
Vegetables	6.48	5.08	5.53	2.48
Fruits	4.48	5.33	4.93	3.09
Milk	5.04	4.28	4.49	6.42
Egg	5.76	5.09	5.71	5.97*
Fish	4.70	5.02	4.72	5.50*
Meat	20.28	8.62	13.54	5.09*

Source: HSIE, September 15, 2018 (For foodgrains, oilseeds, cotton, tea, and coffee) Annual Report, Department of Animal Husbandry, Dairying and Fisheries, Ministry of Agriculture, Government of India (GoI) (Various Issues) (For Milk, Egg, Fish & meat) Horticulture Statistics at a Glance 2017, Horticulture Statistics Division, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, GoI (For Fruits and Vegetables)
<http://pib.nic.in/newsite/PrintRelease.aspx?relid=175158> (For Vegetables and Fruits production in 2016-17 and 2017-18)
<https://timesofindia.indiatimes.com/business/india-business/milk-production-up-6-6-pc-at-176-35-million-tonne-in-2017-18/articleshow/65160188.cms>

Notes: * From 2014-15 to 2016-17; For foodgrains, oilseeds, sugarcane, cotton, tea, and coffee the data for 2017-18 is Fourth Advanced Estimate; The data for fish and milk is provisional for 2016-17 and 2017-18 respectively; For vegetables and fruits the data for 2017-18 is First Advanced Estimate

The above findings reveal that, in terms of growth of production of major crops, the performance of UPA-I&II and NDA-II regimes was mixed. Whereas the growth of production of foodgrains (both cereals and pulses), oilseeds, tea, milk, egg, and fish was higher during the NDA-II regime compared to the whole UPA regime, the opposite holds in case of sugarcane, cotton, coffee, vegetables, fruits, and meat. The stupendous growth

recorded in the production of pulses, oilseeds, and milk during the NDA-II regime is noteworthy, and it suggests that growth of Indian agriculture during the NDA-II regime was characterised by diversification of the production basket towards these three high-value agricultural products.⁷

4) Growth of MSP for major crops:

One of the key demands made by the farmers in the recent agitations against the NDA-II government was higher minimum support prices (MSP) for their produce. A substantial part of the public debate in recent times on the issue of the agrarian crisis has focused on the question of providing higher MSP for the agricultural produce. Hence, it would be interesting to examine the trends in MSP during the UPA and NDA regimes.

Compared to UPA -I&II regimes, the CAGR of MSP for the majority (10 out of 17 products considered) of the farm products declined during the NDA-II regime (Table 2). They include paddy, wheat, arhar, moong, urad, groundnut, sunflower, niger seed, sesamum, and cotton. However, it is to be noted that, the decline in the growth of MSP of paddy, wheat, moong, niger seed, and cotton (H-4 750 variety) was in continuation of the slow growth recorded during UPA-II regime compared to UPA-I. The only crop which witnessed a higher growth in MSP during the NDA-II regime was copra. For 13 out of 17 products, the rate of growth in MSP was lower during the NDA-II regime compared to the entire UPA regime. The decline in the growth rate was witnessed in all types – cereals, pulses, oilseeds, and cash crops - of crops. It was largest for arhar (-8.91 percentage points) followed by urad (-8.82), groundnut (-7.14), sesamum (-7.09), sugarcane (-7.03), moong (-6.24) and rest others.

Table 2: CAGR of Minimum Support Prices of Food Commodities

	2004-05 to 2008-09 (UPA-I)	2009-10 to 2013-14 (UPA-II)	2004-05 to 2013-14 (UPA- I&II)	2014-15 to 2018-19 (NDA-II)
Cereals				
Paddy (Common)	12.94	6.88	11.05	6.17
Wheat	15.92	6.92	9.24	6.24
Pulses				
Gram	5.09	16.05	10.38	10.29
Masur	5.23	12.36	8.99	10.23
Arhar	8.65	14.42	16.11	7.21
Moong	13.58	12.29	16.45	10.21
Urad	13.58	13.92	15.64	6.82
Oilseeds				
Groundnut	7.17	19.29	12.28	5.14
Rapeseed/mustard	1.98	16.24	6.99	8.16
Sunflower	10.65	15.95	12.82	8.34
Soyabean (Yellow)	7.22	18.10	11.19	7.54
Safflower	1.80	17.37	7.96	12.56
Niger seed	15.68	11.71	15.41	11.45
Sesamum	13.10	13.70	14.69	7.60

⁷ Cow milk (47 percent) and buffalo milk (49 percent) contribute more or less equal share in the total milk production of India. Of these, production of cow milk has grown at a faster rate of 6 percent compared to buffalo milk (4 percent) between 2013-14 and 2017-18 (The Hindu Business Line, 2019).

Cash crops

Sugarcane	1.95	12.32	12.67	5.65
Cotton F-414/H-777	7.51	12.17	9.50	7.15
Cotton H-4 750	9.16	8.74	9.43	6.67
Copra (milling)	1.04	4.78	5.04	9.14
Copra balls	0.97	4.54	4.75	8.74

Source: HSIE, September 15, 2018, and Ministry of Agriculture and Farmers Welfare, GoI.

These findings reveal that during the NDA-II regime the MSP of the majority of the farm products grew below UPA-I and II regimes and the entire UPA regime. Also, it is to be noted that for the majority of the farm products the growth in MSP was higher in UPA-II regime compared to UPA-I. However, the growth rate of MSP of the two important crops namely paddy and wheat declined sharply in the UPA-II regime over UPA-I, and the same trend continued under the NDA-II regime as well. But, the rate of decline in the growth during the NDA-II regime was only marginal compared to the UPA-II regime. Interestingly, the growth rate of output of three major crops namely cereals, pulses and oilseeds were higher during the NDA-II regime compared to the entire UPA regime despite the fall in the growth rate of MSP offered for these crops (Table 1 and 2). This implies that the slower growth experienced in the MSP of cereals, pulses, oilseeds during the NDA-II regime has not adversely affected the production of these crops.

One of the recurring themes of the recent farmer agitations against the NDA-II government was the implementation of the recommendation of National Commission on Farmers (NCF), popularly known as M.S. Swaminathan Commission, on MSP fixation.⁸ It was argued that the NDA-II government had failed to implement the NCF recommendation of hiking the MSP to the tune of 50 percent above the comprehensive cost of production (or) C2 cost.⁹ However, it is interesting to note that the entire public debate centering on the NCF recommendation on MSP was misleading because, as elaborated below, the NCF in its report did not specify which definition of cost of production – A2 or A2+FL or C2 - should be considered while fixing MSP.

The NCF submitted five voluminous reports running up to 1808 pages between December 2004 and October 2006. In its 5th report, the NCF recommended that MSP should be fixed “at least 50% more than the weighted average cost of production.” (GoI 2006b). On this basis, the farmer organisations and opposition political parties have demanded that MSP should be fixed 50% more than the “C2 cost” as they believed that the term cost of production referred in the NCF report represents C2 cost. But the fact is in its recommendations on MSP

⁸ The NCF was set up on February 10, 2004, by the then Atal Bihari Vajpayee-led National Democratic (NDA) government under the chairmanship of the former Agriculture Minister and Planning Commission member, Som Pal. After Manmohan Singh-led United Progressive Alliance I (UPA-I) came into power in May 2004, the NCF was reconstituted under the Chairmanship of Professor M.S. Swaminathan on November 18, 2004, due to which it earned the popular name of M.S. Swaminathan Commission (Swaminathan 2016; The Hindu 2004).

⁹ The Commission for Agricultural Costs & Prices (CACP), the statutory body which recommends MSP to the government, defines production costs of crops under three categories. They are A2, A2+Family Labour (FL) and C2. A2 includes all expenses, in cash and kind, incurred by farmers on agri-inputs like seeds, fertilisers, pesticides, hired labour, etc.; rent paid for leased land; interest on working capital, and depreciation on implements and farm buildings. A2+FL includes A2 cost plus an imputed value of unpaid family labour. C2 cost includes the expenses incurred over and above A2+FL. Specifically, C2 incorporates A2 + FL + interest on the value of owned capital assets (excluding land) + rental value of owned land [net of land revenue].

the NCF did not specify that for fixing MSP C2 cost has to be considered. M.S. Swaminathan was quoted as saying that “When we recommended 50% over costs, we meant complete costs called C2, which includes all assumed costs.” (Hindustan Times 2018). Some commentators supported this claim with two arguments (Ramakumar, 2018). First is some remarks made on C2 cost in the Annexure of the 5th report of NCF. Second is the bullet point “Calculation of Minimum Support Price (MSP) – Cost [C2] + at least 50%” included in the PowerPoint presentation given by M.S. Swaminathan for the then Union Minister for Agriculture.

What these arguments overlook is the sub-plot in the NCF saga, which did not get attention in the debate. As part of its 4th report, the NCF submitted a Draft National Policy on Farmers (DNPF) to the government (GoI 2006c). The NCF then revised and elaborated the DNPF based on recommendations provided in all its five reports, extensive consultations throughout the country with farmers, NGOs, bankers, media and scientists, and suggestions and representations received from individuals, institutions, and organisations in writing (GoI 2006b). The revised DNPF (RDNPF) was submitted by NCF separately along with its 5th report (2006b). Based on the RDNPF and after consultations with state governments and the central ministries concerned, the UPA-I government approved a National Policy for Farmers, 2007 (NPF 2007) and placed the same before Parliament in October 2007 (GoI 2007; Swaminathan 2016).

It is important to note that none of those above documents – DNPF or RDNPF or 5th report or NPF 2007 – contained any recommendation linking MSP fixation to C2 cost. Whatever observations the NCF has made on C2 cost were restricted to Annexure 2.2 of its 5th report. Importantly, the observations were silent on the use of C2 cost for fixing MSP. Also, it is well known that Annexure is a supplement to a report which gives additional information. From the point of view of public policy making what matters is the recommendations made in the main text of the report. Above all, the government’s policy action on NCF’s recommendations by way of drafting NPF 2007 was based on RDNPF, which was ambiguous on the question of inclusion of C2 cost. Interestingly, the ambiguity was not addressed at the time of extensive stakeholder consultations held on RDNPF within and outside government and of placing of NPF 2007 before Parliament. Even if one assumes that the NCF “meant” C2 cost when it wrote its recommendations on MSP fixation, the reality is that the government of the day did not incorporate the C2 cost aspect in the NPF 2007.

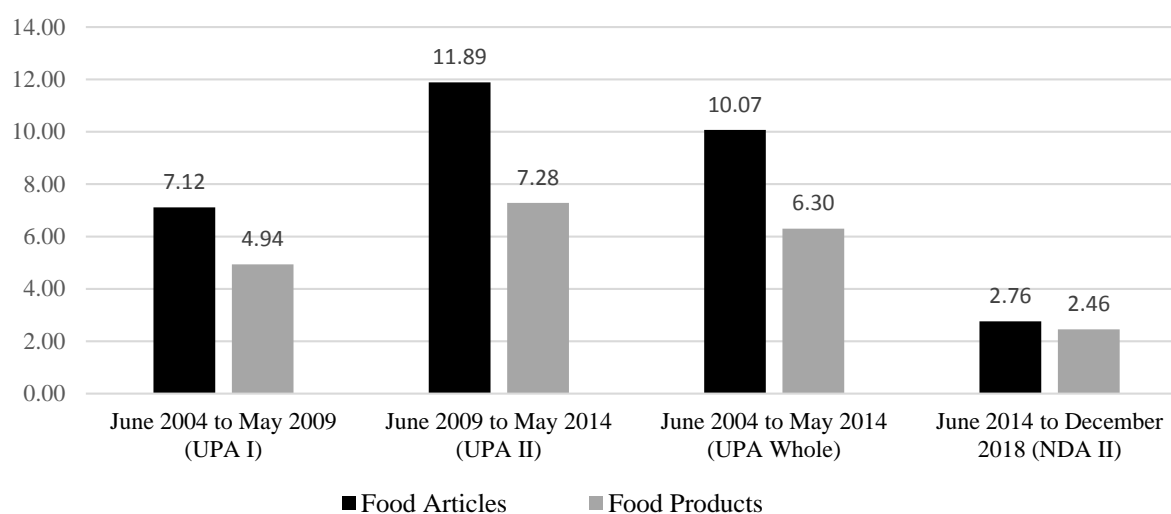
5) Trends in food price inflation:

The relatively high growth in MSP recorded during the UPA regime has caused high food price inflation during the same regime (Figure 3). The wholesale price index (WPI) inflation rate of food articles (Base: 2011-12) increased from an already high of 7.12 percent, on an average, during UPA-I to a whopping 11.89 percent during UPA-II regime.¹⁰ In the case of food products, the increase in the average inflation rate was from 4.94 to 7.28 percent during the same period. The average food articles and food products inflation rate recorded during the entire UPA regime was 10.07 and 6.30 percent respectively. In sharp contrast to these trends, during the NDA-II regime (up to December 2018) the average food price inflation rate was very low: 2.76 and 2.46 percent respectively for food articles and food products.¹¹

¹⁰ The WPI available in 2004-05 and 2011-12 is converted into a common (2011-12) base using linking factor.

¹¹ The other important factors contributing to lower food inflation during the NDA-II regime are reduced government procurement of foodgrains, falling fuel prices, and low global food prices. For details, see Nair and Eapen (2019).

Figure 3: Average WPI Food Inflation Rate (Base: 2011-12)



Source (Basic Data): <http://eaindustry.nic.in/home.asp>

It is well known that one of the important factors contributing to the defeat of the UPA-II government in the 2014 general election was the skyrocketing food prices (Soz 2019, Ch.4). It appears that the high growth in MSP during the UPA regimes has fed into food prices. Past evidence in the context of foodgrains shows that a higher increase in the MSP translates into an increase in the market price and vice versa (Nair and Eapen 2015). This is primarily because the procurement by the government at higher MSP (a) sets a higher benchmark for market prices thereby feeding into food price inflation expectations and (b) edges out private trade thereby reducing the quantum of farm products available for consumption in the open market. It seems, by learning lessons from UPA experience in managing food prices, the NDA-II government has restrained the growth of MSP to keep food price inflation under control.

In general, the welfare impact of changing food prices varies for net food sellers and net food buyers (FAO 2011).¹² A net food seller, who are usually the farmers, is the one whose total value of the food produced exceeds the total value of the food consumed (including for own production). Net food buyers are the ones who purchase food from the market for meeting their consumption needs. All urban population including urban poor and most rural population including landless rural household, small farmers, agricultural labourers and households headed by females are net buyers of food. Small farmers and agricultural labourers are often net food buyers because they do not produce enough food to meet the consumption requirements of their families. A farmer could also become a net food buyer if s/he sells the entire or most of the farm produce at harvesting season and then meet the consumption requirement from the market in the rest of the year.¹³ Since the female-headed households usually have limited access to land and other resources, they tend to be net buyers of food.

Lower food prices would adversely affect the farmers by reducing their income because they earn a major part of their income by selling the food produced by them. The adverse impact would be large on those farmers with a large marked surplus than the ones

¹² The arguments that follow draws heavily on FAO (2011).

¹³ Farmers who consume a major part of their crop produce are considered to be marginal food buyers.

with a small surplus to sell. However, it should be noted that the farmers with large surplus production to sell are not the poorest of the poor. Lower food prices have three more negative effects. First, it reduces the demand for unskilled agricultural labourers thereby resulting in a decrease in rural wages. This would hurt the rural households who are dependent on wage labour from the farm sector for their livelihood. Second, lower food prices reduce private long-term investment thereby adversely affecting agricultural productivity and economic growth and aggravating poverty. Third, lower food prices discourage farmers from adopting improved agricultural technologies.

Net food buyers will normally benefit from lower food prices. Since the poorest 20 percent of the population in most countries are found out to be net food buyers¹⁴, lower food prices have the potential to reduce poverty. Dawe et al. (2010) in their review of a large number of studies relating to rice found that the poorest quintile of the population is usually a net buyer of rice. Empirical studies covering several countries found that higher food prices increases poverty and hurts the poor (Ivanic and Martin 2008; Zezza et al. 2008; Robles and Torero 2010). The other common benefits of lower food prices are the shift in dietary patterns from cheaper/starchy foods to high-value agricultural commodities such as vegetables, fruits, milk, meat and fish¹⁵ and the increase in energy intake of the population including the poorer sections.

Intuitively, from the above discussion, we might conclude that the definite loser and winner of the low food inflationary situation under the NDA-II regime were the farmers and urban consumers respectively. The position of the net food buyers who depend on rural farm and non-farm sector jobs for their livelihood such as agricultural labourers, landless rural households and female-headed rural households is difficult to gauge because of two offsetting factors. The lower food prices under the NDA-II regime has coincided with a significant deceleration in the growth of rural agricultural and non-agricultural real wages starting from November 2014 due to drought-induced slowdown in agricultural growth experienced in 2014-15 and 2015-16, slowdown in the construction sector, decline in employment under the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and indexation of wages paid under MGNREGS to inflation (Kundu 2018, Chart 2). This might have adversely affected the purchasing power of the rural households thereby nullifying or reducing the gain from lower food prices. On the other hand, it must be noted that, since the poorest sections of the Indian population are usually a net buyer of staple food commodities such as rice and wheat, their supply at a highly subsidised rates under the revamped public distribution system (PDS) governed under the National Food Security Act (NFSA), 2013 might have nullified or reduced the adverse effect of depressed rural wages on food consumption and rural poverty.¹⁶

In this context, it is important to note that, Dreze *et. al.* (2019) in an assessment of the performance of the PDS in six poorest states namely Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, and West Bengal immediately after the implementation of NFSA, 2013 concluded that the PDS system “has turned from a morass of leaky and poorly targeted

¹⁴ This is because a large part of the income of the poorer sections of the population is spend on food consumption.

¹⁵ For instance, the increase in the rice prices in Indonesia in the aftermath of the 1997 Asian financial crisis resulted in a reduction in households consumption of more nutritious foods because of the necessity to spend more on the costly rice (Block et al 2004).

¹⁶ National Food Security Act (NFSA) (2013) has the provision to provide subsidised food to more than 800 million people through the PDS, mandatory midday meals for children and maternity benefits for pregnant women.

transfers to a critical form of social support for a vast majority of poor households” and a large part of this transformation was contributed by NFSA, 2013. In the study states, the NFSA, 2013 has helped “to put the PDS on a more solid footing, with lower exclusion errors, enhanced transparency, greater political visibility, and higher operational standards.” In some states, it was observed that post-NFSA, 2013 the market value of the monthly PDS entitlement has become equivalent to one week’s earnings under the MGNREGS. In the light of the two offsetting factors discussed above, it is clear that only through a detailed quantitative analysis one can figure out the net welfare effect of a long stint of lower food prices under the NDA-II regime on those who depend on rural farm and non-farm sector jobs for their livelihood.

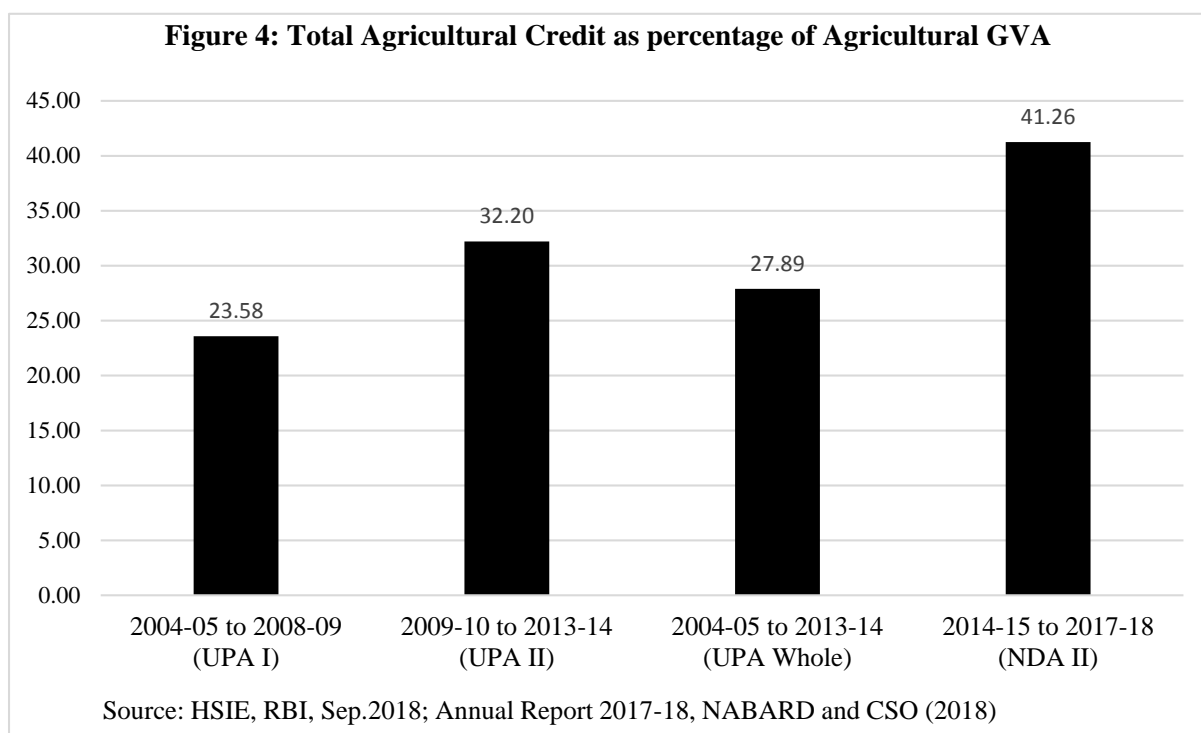
In this context, it is to be noted that, in sharp contrast to the NDA-II regime a substantial part (from October 2007 to October 2013) of the UPA regime witnessed a high growth in rural agricultural and non-agricultural real wages thanks to factors like implementation of MGNREGS on a larger scale and a boom in the construction sector (Kundu 2018). The nominal agricultural and non-agricultural wages grew at the rate of 17 and 15 percent respectively during this period, which was way beyond the 10 percent increase in the rural inflation during the same time. This, along with the subsidised supply of foodgrains under the PDS system, might have reduced the adverse effect of the skyrocketing food prices during the UPA regime on the net food buyers who depend on rural farm and non-farm sector jobs for their livelihood. Besides, as net food sellers, farmers also benefited from higher food prices. The losers under the UPA regime was the urban consumers who were hurt by higher food prices.

The aforementioned contrasting scenarios suggest that whereas under the UPA regime the high food prices translated into transfer of income from higher-income people (read urban consumers, middle and upper-middle sections of the society) to those with lower income (read farmers and rural households), in case of NDA-II regime no such income transfer had occurred due to low food prices. The result: in 2014 general election the UPA government faced the ire of the urban voters, and in the 2019 general election the NDA-II government is perceived to have been facing the risk of losing the support of farmers and rural households. This shows that both the UPA and NDA-II regimes failed to maintain a fine balance as far as managing the food prices is concerned. UPA’s policies on MSP and MGNREGS was skewed highly towards the farmers and rural labourers whereas NDA’s food policy was skewed highly towards the urban dwellers. It seems both the political formations have catered to their respective vote banks.¹⁷ The whole episode draws our attention to the need for maintaining a fine balance between the interests of the net food sellers and buyers while formulating the food price policy.

¹⁷ The statement made by Narendra Modi and Rahul Gandhi in an election meeting in the run-up to the 2019 Lok Sabha election testifies this assessment. In an apparent reference to Congress party promise of providing a Minimum Income Support Programme (MISP) to the poorest 20 per cent families in India, Narendra Modi was reported as saying that the Congress party “wants to implement a programme that will lead to a rise in inflation, cooking expenses, and [the prices of] cooking gas and other fuels” “If the Congress succeeds in its bid, cheap rice and wheat will become expensive... Congress leaders say the middle class is selfish, for which the tax on it needs to be hiked. Will the country prosper by breaking the backbone of the middle class?” On the same day in another election rally, Rahul Gandhi stated that MISP “will jump-start the Indian economy like a vehicle that is started by a key.” He further added that under the MISP “.....we will give money to the poor. We will ensure payment of ₹72,000 per year to each family of the poorest section. In five years, we will provide ₹3,72,000.” See ‘Congress policies will aggravate inflation: PM,’ *The Hindu*, April 6, 2019; ‘NYAY will ‘remonetise’ the economy: Rahul’, *The Hindu*, April 6, 2019.

6) Direct institutional credit for agriculture and allied activities:

On an average, the total direct institutional credit for agriculture and allied activities increased from 23.58 percent of agricultural gross value added (GVA) at current prices (new 2011-12 series) in UPA-I to 32.20 percent in UPA-II to 41.26 percent in the first four years of NDA-II regime (Figure 4). Compared to the UPA-II regime total agricultural credit as a percentage of agricultural GVA was 9.06 percentage points higher during the NDA-II regime. This is slightly larger than 8.62 percentage points increase in agricultural credit to agricultural GVA ratio recorded during UPA-II over UPA-I. More importantly, the average agricultural credit to GVA ratio recorded during the NDA-II regime (41.26) was significantly higher than 27.89 percent recorded during the entire UPA regime. A similar trend was evident when agricultural credit was analysed in relation to GDP.



However, the CAGR of total direct institutional credit (in nominal terms) delivered for agriculture and allied activities declined significantly to 9.61 percent in the first four years of NDA-II regime compared to 22.14 percent and 28.66 percent recorded during the UPA-I and UPA-II regimes respectively (Table 3). The decline in the credit growth was evident in all channels of formal credit flow namely co-operatives, scheduled commercial banks, and regional rural banks. Compared to the entire UPA regime, the decline in the growth of formal credit flowing from scheduled commercial banks was largest (16.02 percentage points) during the NDA-II regime followed by regional rural banks (10.90) and co-operatives (4.29).

Table 3: CAGR of Total Direct Institutional Nominal Credit for Agriculture and Allied Activities

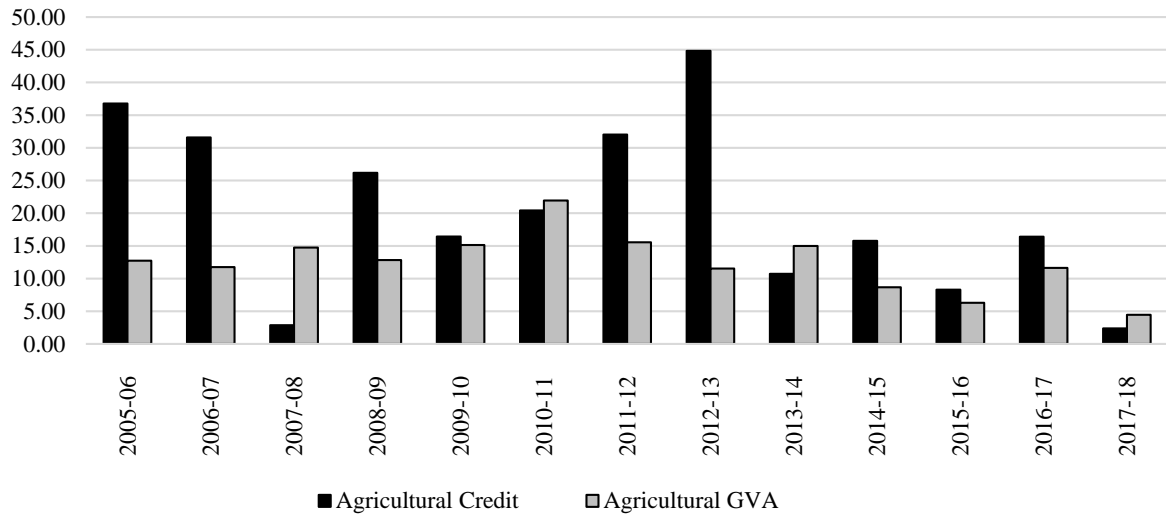
	Co-operatives	Scheduled Commercial Banks	Regional Rural Banks	Total
2004-05 to 2008-09 (UPA I)	9.54	37.07	34.04	22.14
2009-10 to 2013-14 (UPA II)	17.36	31.20	24.68	28.66
2004-05 to 2013-14 (UPA Whole)	10.72	30.02	25.35	23.12
2014-15 to 2017-18 (NDA II)	6.43	14.00	14.45	9.61

Source: HSIE, RBI, September 2018 and Annual Report 2017-18, NABARD (For Scheduled commercial Bank from 2013-14)

The striking increase witnessed in the ratio of agricultural credit to agricultural GVA from UPA-I to UPA-II to NDA-II reveals that the ‘credit intensity’ of agriculture has increased tremendously over the years (Subbarao, 2012). Notably, in percentage points terms, there is not much difference in the increase in the credit intensity of agriculture between UPA-I and UPA-II (8.62) and between UPA-II and NDA-II (9.42). This implies that, over the years, India has required more credit to achieve the same unit of agricultural GVA. In other words, agricultural credit has become less efficient in delivering agricultural growth (Choudhury 2013).¹⁸ This could be because agricultural growth is also influenced by other factors such as productivity increases, expansion of rural infrastructure and government expenditure. In this context, it is important to note that, in a study by Banerjee (2011) covering a longer period from 1988-89 to 2010-11 it was found that there is no statistically significant causal relationship between agricultural growth and credit cycles in India. An analysis of yearly movements in growth of agricultural credit and agricultural GVA in nominal terms from 2005-06 to 2017-18 supports this econometric result (Figure 5). Only in five out of twelve years, a positive relationship between agricultural credit growth and agricultural GVA growth was established. Importantly, three out of these five years (i.e., from 2015-16 to 2017-18) fall under the NDA-II regime. It seems that institutional credit flow to the agriculture sector was more directed during the NDA-II regime to achieve the desired impact on agricultural output growth. In the light of the finding that agriculture sector has become less efficient user of credit overtime and that no significant causal relationship exists between agricultural credit growth and agricultural growth, it may be concluded that the slow down in the rate of growth of agricultural credit during the NDA-II regime might not have caused significant adverse effects in the agrarian economy. The finding also suggests that generalised farm loan waivers are not the answer to the problems faced by the farmers.

¹⁸ Similarly industry has also become less efficient in using credit. For details, see Banerjee (2011).

Figure 5: Year-on-Year Growth of Agricultural Credit and GVA (Nominal Terms)



Source: As in Table 4

Then what explains the higher growth of agricultural GVA and output of cereals, pulses, oilseeds, tea, milk, egg, and fish during the NDA-II regime compared to the whole UPA regime. To answer this, let us focus on other factors that could drive agricultural growth. In this article, we explore the role of five factors namely area and productivity growth, expansion of infrastructure, agricultural exports and government expenditure on agriculture.

7) Area and Yield:

Table 1 and 4 present the growth rate of the area, yield and production of major crops during the entire UPA and NDA-II regimes. It is revealed that in the case of three crops namely pulses, oilseeds, and tea the higher rate of growth of output during the NDA-II regime was caused by an improvement in both area and yield. In the case of cereals, the same was due to an improvement in the growth rate of yield. Thus, higher productivity growth has contributed to the higher production of cereals, pulses, oilseeds, and tea during the NDA-II regime.

Table 4: CAGR of Area and Yield (%)

Food Items	Area		Yield	
	2004-05 to 2013-14 (UPA Whole)	2014-15 to 2017-18 (NDA -II Regime)	2004-05 to 2013-14 (UPA Whole)	2014-15 to 2017-18 (NDA -II Regime)
Cereals	0.09	-0.28	2.92	4.05
Pulses	1.12	9.97	3.32	5.64
Oilseeds	-0.04	0.49	2.87	8.53
Sugarcane	2.31	-3.48	0.69	3.76
Cotton (Lint)	4.25	-2.76	4.75	3.17
Tea	0.38	0.70	2.26	2.32

Coffee	1.95	2.56	0.31	-4.36
Vegetables	3.57	2.70	1.90	-0.38
Fruits	3.92	2.06	1.87	1.71

Note: The data for 2017-18 is the Third or Fourth Advance Estimate

Source: HBIE, RBI, September 2017 and Horticulture Statistics at a Glance 2017.

The yield growth of sugarcane has also increased significantly during the NDA-II regime (Table 4). But it did not translate into higher output growth due to a negative rate of growth of area under sugarcane. The decrease in the growth rate of the area, yield and production of cotton, vegetables, and fruits under the NDA-II is a cause for serious concern. In fact, there has been a secular decline in the rate of growth of the area, yield and output of vegetables from UPA-I to UPA-II to NDA-II regimes. A trend closer to this is visible in the case of fruits as well.

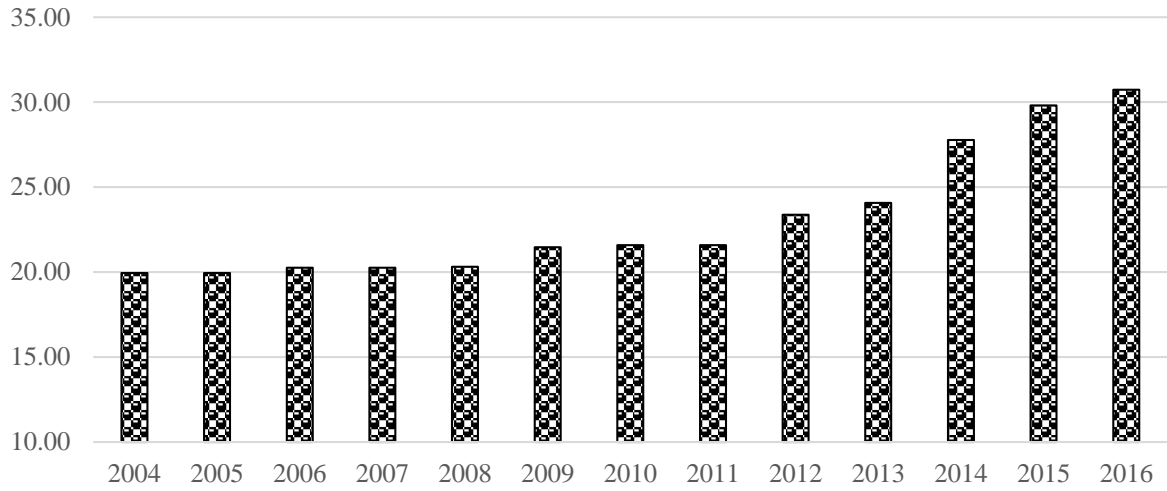
8) Road infrastructure:

Expansion of road infrastructure, particularly rural roads, contributes to growth in agricultural production in several ways (Fan, Gulati and Thorat 2007; Verma, Gulati and Hussain 2017). First, it improves the connectivity to rural areas thereby enhancing efficiency in production, distribution, and consumption of food. Second, it allows farmers to transport their produce to the markets without delay. Better market access would help the farmers to reduce the role of intermediaries to some extent which, in turn, would fetch better prices for the farm produce. Third, better roads improve the farmers' access to agricultural inputs and incentivise the farmers to diversify into high-value crops. In a study in the context of the state of Uttar Pradesh, Verma, Gulati, and Hussain (2017) established that a one percent increase in total road density increases the state GDP from agriculture by 0.5 percent.

Figures 6 and 7 present the trends in road density measured as the length of roads (in kilometer) per 1000 square kilometer of geographical area. It is evident that there is a significant upward shift in the density of national highways and rural roads constructed under JRY and PMGSY after 2011 and 2012 respectively.¹⁹ The shift started during the UPA-II regime and then carried forward under the NDA-II regime. In the first three years of NDA-II regime, the increase in density of national highways was faster than the rural roads.

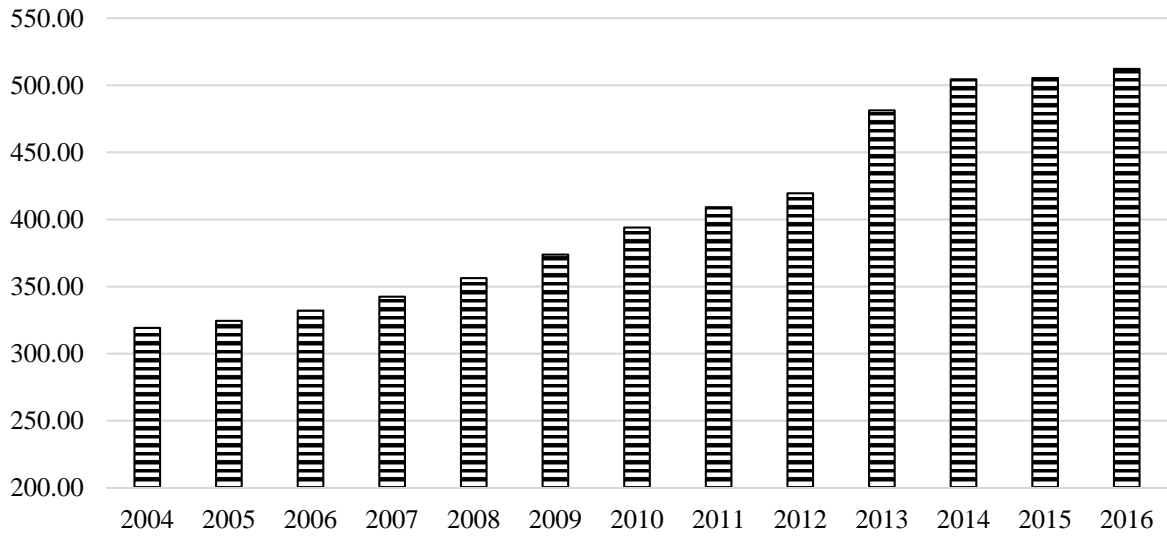
¹⁹ For computing density of national highways and rural roads, the total geographical area and rural land area are used respectively.

Figure 6: National Highways Density



Source: Basic Road Statistics of India 2015-16, Ministry of Road Transport and Highways, GoI and World Bank.

Figure 7: Density of Roads built under Jawahar Rozgar Yojna (JRY) and Pradhan Mantri Gram Sadak Yojna (PMGSY)



Source: As in Figure 6

9) Agricultural Exports:

As a percentage of total exports and agricultural GVA, the export of agricultural and allied products (in rupee terms) was higher on an average during NDA-II regime compared to UPA-I, UPA-II and entire UPA regimes (Table 5). As a percentage of GDP, agricultural exports were equivalent to the entire UPA regime.

Table 5: Export of Agriculture and Allied Products

	As percentage of Total Exports	As percentage of Agricultural GVA	As percentage of GDP
2004-05 to 2008-09 (UPA I)	9.56	7.36	1.26
2009-10 to 2013-14 (UPA II)	8.90	8.23	1.40
2004-05 to 2013-14 (UPA Whole)	9.23	7.79	1.33
2014-15 to 2017-18 (NDA-II)	10.38	8.17	1.33

Source: HSIE, RBI (Various Issues)

10) Budgetary allocation on agriculture:

10.1. The share of expenditure on agriculture in total expenditure:

As a percentage of the total expenditure of the central government, the expenditure on agriculture and allied services was 6.05 percent in the first three years of NDA-II regime (Table 6). This is slightly higher than the allocation under the two UPA regimes (5.62 and 5.66 percent respectively in UPA-I and II) and the entire UPA (5.64 percent) regime. The share of expenditure on rural development and irrigation were also slightly higher during the first three years of the NDA-II regime compared to UPA regimes. However, the share of expenditure on fertiliser subsidy in the total expenditure of the central government declined to 3.96 percent in the first three years of NDA-II regime compared to over 5 percent recorded during the UPA period.

Table 6: Expenditure on Agriculture and Allied Services as a percentage of Total Expenditure of the Central Government

Period	Total Agriculture & Allied Services	<i>of which</i> Rural Development	Fertiliser Subsidy	Major, Medium and Minor irrigation
2004-05 to 2008-09 (UPA I)	5.62	3.52	5.20	0.05
2009-10 to 2013-14 (UPA II)	5.66	3.43	5.22	0.05
2004-05 to 2013-14 (UPA Whole)	5.64	3.47	5.21	0.05
2014-15 to 2016-17 (NDA-II)	6.05	3.89	3.96	0.07

Note: The data for 2015-16 and 2016-17 are Revised Estimates and Budget Estimates respectively.

Source: Indian Public Finance Statistics (Various Issues)

10.2. Expenditure as a percentage of agricultural GVA:

As a percentage of agricultural GVA, the central government's budgetary expenditure on agriculture and allied services was 4.81 percent during the first three years of NDA-II

regime. This is equivalent to the expenditure level recorded during the entire UPA regime but slightly lower than the UPA-II level (Table 7). Among all the three regimes, expenditure on rural development and irrigation was highest during the NDA-II regime as a percentage of agricultural GVA. However, the expenditure on fertiliser subsidy was lowest in the NDA-II regime.

Table 7: Expenditure on Agriculture and Allied Services as a percentage of agricultural GVA

Period	Total Agriculture & Allied Services	<i>of which</i> Rural Development	Fertiliser Subsidy	Major, Medium and Minor irrigation
2004-05 to 2008-09 (UPA I)	4.68	2.94	4.36	0.04
2009-10 to 2013-14 (UPA II)	4.96	3.01	4.57	0.04
2004-05 to 2013-14 (UPA Whole)	4.82	2.98	4.47	0.04
2014-15 to 2016-17 (NDA-II)	4.81	3.10	3.15	0.05

Source and Note: As in Table 6 and Figure 1.

10.3. The growth of expenditure on agriculture:

The CAGR of total central government expenditure on agriculture and allied services declined significantly during the UPA-II period to 2.48 percent from a high 40.48 percent recorded during the UPA-I regime (Table 8). Though the expenditure growth recovered during the first three years of NDA-II regime, it was far below the UPA-I regime and the entire UPA regime. A similar trend applies to the growth of rural development expenditure. The growth of the fertiliser subsidy was negative during the first three years of NDA-II regime. However, the growth of expenditure on irrigation was significantly higher during the NDA-II regime compared to two UPA regimes and the entire UPA regime.

Table 8: CAGR of Expenditure on Agriculture and Allied Services

Period	Total Agriculture & Allied Services	<i>of which</i> Rural Development	Fertiliser Subsidy	Major, Medium and Minor irrigation
2004-05 to 2008-09 (UPA I)	40.48	42.07	43.59	12.31
2009-10 to 2013-14 (UPA II)	2.48	-2.02	3.51	5.21
2004-05 to 2013-14 (UPA Whole)	17.91	16.85	18.82	13.16
2014-15 to 2016-17 (NDA-II)	6.77	1.79	-0.76	21.88

Source: As in Table 6

The above analysis of the trends in central government expenditure on agriculture and allied services reveals that, as a percentage of total central government budgetary expenditure and agricultural GVA, the centre's expenditure on agriculture and allied services, rural development and irrigation was higher or same in the NDA-II regime vis-à-vis entire UPA

regime. On the other hand, the budgetary allocation on fertiliser subsidy has declined in the NDA-II regime. In terms of the growth of central government expenditure on the agriculture sector, the performance of the UPA government was impressive in its first term (2004-05 to 2008-09). However, in its second term, the expenditure growth was slow. Though the NDA-II government managed to reverse this trend in its first three years except in case of expenditure on irrigation, it was way below the level recorded during the UPA-I regime.

The reduction in the fertiliser subsidy during the NDA-II regime might be the result of the three important reforms initiated in the fertiliser sector since 2014. The reforms include neem-coating of urea, gas-pooling and introduction of direct benefit transfer (DBT) in fertiliser subsidy (GoI 2016; Sekhri and Suri 2018). Fertiliser subsidy mechanism in India suffered from three major sources of leakage (GoI 2016). First, since the supply of urea was subsidised only for agricultural purposes, there was a rampant diversion - 41 percent of urea subsidy - of subsidised urea to non-agricultural purposes and across the border. Second, nearly one-fourth of the urea subsidy was spent on inefficient urea producers. Third, another one-fourth of the urea subsidy was cornered by larger/richer farmers. As a result of these leakages, only 35 percent of the total urea subsidy was reaching the intended beneficiaries, i.e., small and marginal farmers. The reforms above were expected to reduce the leakages by way of reducing the diversion of fertiliser meant for agricultural purposes (due to neem-coating and DBT)²⁰, increasing the efficiency in urea production (due to gas-pooling) and targeting of the beneficiaries (due to DBT). It seems that these reforms have helped the government to reduce the fertiliser subsidy burden. Food subsidy is the second largest contributor to fiscal subsidies in India after food subsidy.

11) Budgetary allocation on agriculture – Role of States:

Since agriculture is a state subject as per the Indian Constitution, in addition to the central government, the state governments also share the responsibility of developing the agriculture sector by way of spending their budgetary resources. A key feature of the Constitutional assignment of responsibilities and tax powers between the centre and states has been the in-built imbalances between expenditure requirements and revenue sources of the central and the state governments. While the centre has excess revenues over expenditure needs, the states, in general, have revenue shortages. The presence of such “vertical fiscal imbalance” is a characteristic feature of the Indian federation and occurred because of historical and political factors.²¹ Besides, there exist horizontal imbalances²² among the states, because of differences among states in their levels of development (due to differences in endowment of natural resources), and standards of public services (due to their historical backgrounds and other factors).

To meet the twin objectives of correcting the vertical and horizontal imbalances in resource availability, the central government transfers funds to the states through two channels namely tax devolution and grants-in-aid. Whereas tax devolution is aimed at correcting both vertical and horizontal imbalances, grants are primarily targeted towards

²⁰ Black marketers would find it difficult to divert neem-coated urea to industrial consumers. Also, the usage of neem-coated urea would provide additional nutrient to the soil which, in turn, would reduce nitrogen losses and urea usage.

²¹ The historical-cum-political rationale that shaped the Constitutional arrangements was the need to ensure and protect the ‘unity, integrity and sovereignty,’ of the country which, owing to historical circumstances, the framers of the Constitution believed could be ensured only by a functionally and financially strong centre (Government of India, 1988). Moreover, the Government of India Act, 1935, based on which the many aspects of Constitutional assignments were decided upon, was designed to keep firm administrative control of the country with the centre (Rao and Sen, 1996).

²² Horizontal imbalance implies differences between the states in their ability to raise revenues.

reducing horizontal imbalance (Rangarajan and Srivastava 2011; RBI, 2017). In addition to taxes and grants, states receive funds from the central government under central plan schemes and centrally sponsored schemes (CSS). To encourage the states to implement schemes of national interest, the central government through its Ministries/Departments funds fully or partially various schemes on items listed in the State list in the Constitution of India. Such schemes are called CSS, and they are generally implemented by the states or their agencies. The basis of states' share in tax revenues of the Centre, i.e., tax devolution is determined by the official body namely Finance Commission (FC) appointed by the President of India once in every five years. Central transfers through FC awards are called statutory transfers. Grants-in-aid are provided to the states in various forms. They include Gadgil-Mukherjee formula-based untied transfers for meeting annual plans of states, additional central assistance for specific-purpose schemes and transfers, special central assistance for special category states and special plan assistance (RBI, 2015).

In recent years, two major changes were effected in the above system of central government transfers to states. First is the implementation of the path-breaking recommendations of the Fourteenth Finance Commission (hereafter FC-XIV) recommendations, covering the period from April 2015 to March 2010. Second is the restructuring of the CSS. The FC-XIV has recommended a sharp ten percentage points increase in the tax devolution from 32 percent of the divisible pool recommended by FC-XIII to 42 percent. The divisible pool includes the entire gross tax revenue of the centre exclusive of surcharges and cesses. This has been the largest increase in tax devolution recommended by the FC ever since the FC-XI changed the formula of determining states' share in central taxes from the previous system of limiting the share to tax-specific transfers to the system of granting a fixed percentage share of the entire gross tax proceeds of the centre to the states. Following this significant policy change, the tax devolution recommended by the FC-XI, FC-XII, and FC-XIII respectively were 29.5 percent, 30.5 percent and 32 percent of the central divisible pool. Compared to these marginal increases recommended by the previous FCs, the recommendation of FC-XIV was radical. The core objective of this major shift in tax devolution arrangement is to increase the flow of unconditional and statutory fiscal transfers to states (RBI, 2015). The central government started implementing the FC-XIV recommendation to increase the states' share in the divisible pool/tax devolution from 2015-16 onwards (RBI, 2017).

For many years, the states had been raising several concerns about the CSS.²³ They include the imposition of central government's policy agenda and priorities on states, the absence of flexibility for states in designing and implementing the schemes, fiscal burden on states due to counterpart funding requirement, and proliferation of schemes with thinly allotted funds. To address these concerns of the states, a sub-committee was constituted by the erstwhile Planning Commission in March 2011 under the chairmanship of B.K. Chaturvedi. The Committee was mandated to suggest measures to restructure CSS to enhance its flexibility and efficiency. Based on the Planning Commission's proposal following the recommendations of the Chaturvedi Committee and consultation with the states, in 2014, the then UPA government merged 147 CSS and brought them down to 66 schemes. Also, since

²³ The discussion that follows on CSS draws heavily on the following sources: <https://www.clearias.com/centrally-sponsored-schemes-css/>; <https://www.thehansindia.com/posts/index/Hans/2017-03-23/Demystifying-Centrally-Sponsored-Schemes/288496>; http://www.arthapedia.in/index.php?title=Central_Sector_and_Centrally_Sponsored_Schemes; <https://www.livemint.com/Opinion/UK43YqSSqr32dMqSPmI27N/Beyond-rationalization-of-centrally-sponsored-schemes.html>

2014-15 the entire transfer of funds from the centre to the states for CSS has been routed through the states through their consolidated funds (RBI, 2015). Prior to 2014-15, this mode of transfers was also effected through direct transfer of funds to implementing agencies at the district level (RBI, 2017). The state governments had their reservation against this system of direct transfer on the ground that it had bypassed the state budgets thereby weakening their role in monitoring the utilisation of funds (RBI, 2017).

The enhanced share of the states in the central divisible pool as a result of the FC-XIV recommendations had three two major consequences. First, the fiscal capacity of the central government to fund the CSS at their previous levels reduced. This is due to the reduced fiscal space of the centre as a result of the FC-XIV recommendations. Second, the capacity and flexibility of the states to finance schemes according to their development priorities increased. As a result, the NDA-II government made further changes in the contours of the CSS, and they include the following:

(a) The number of CSS schemes was further brought down to 28 (from existing 66) by clubbing multiple schemes together to arrive at one umbrella scheme under each sector.²⁴ The 28 schemes are divided into three categories namely Core of the Core schemes, Core schemes, and Optional schemes. Of these, the first category comprises six umbrella schemes of utmost priority²⁵; the second one consists of twenty schemes, the expenses of which would be shared between the centre and the states in 60:40 ratio²⁶ and the last category includes two schemes, which is left to the choice of the states to implement. While effecting this restructuring, the CSS that are meeting national priorities, required by legal obligations, funded by cess collection and targeted to benefit socially disadvantaged groups were retained.

(b) Many CSS on the state subjects were delinked from central support.

The implementation of the FC-XIV recommendations and the restructuring of the CSS have major implications for the finances of the states. For reasons such as reduction in the size of the divisible pool due to increased levy of cesses and surcharges by the centre, falling share of outlays for state plans and the growing expenditure requirements of the states in the social and economic sectors, the states had been demanding an increase in their share in the divisible pool of central taxes (RBI, 2017). Therefore, the substantial increase in the states' share of central taxes awarded by the FC-XIV would not only increase the fiscal autonomy of the states but also improves their capacity to spend more on the crucial social and economic services such as health, education and infrastructure or to meet their state-specific development priorities (RBI, 2015). The recommendation of FC-XIV has also reduced the share of non-statutory or discretionary transfers in favour of statutory transfers, which has been the long-pending demand of the states. This would also increase the spending autonomy of the states (RBI, 2015). The restructuring of CSS and the change in the mode of fund transfers to the states under the same would reduce the fiscal burden of the states on the CSS and improve the utilisation of funds allotted for various CSS.

12) Central transfers to states:

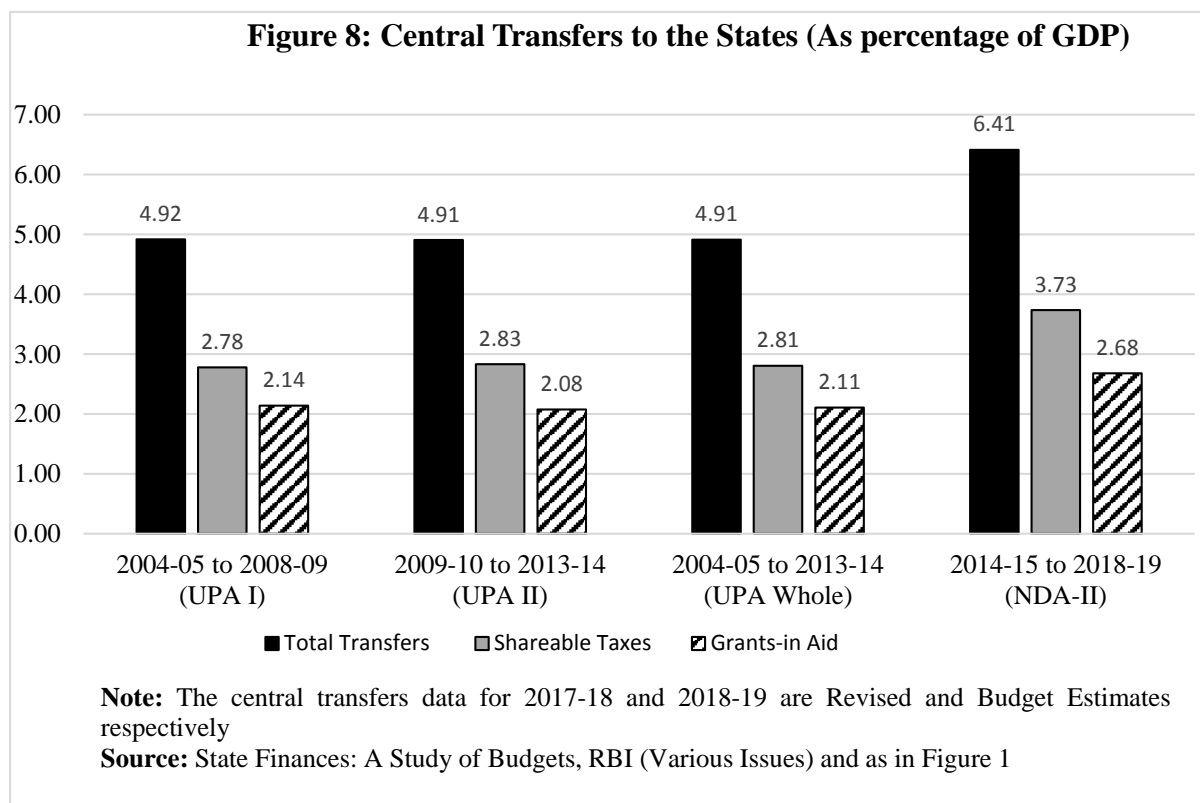
What was the impact of implementation of the FC-XIV recommendations on the transfer of resources from the centre to the states? As a percentage of GDP (at current 2011-

²⁴ This reform was made based on the recommendations given by the sub-group of chief ministers (CMs) on the rationalisation of CSS constituted by NITI Aayog in March, 2015. Interestingly, out of 9 CMs in the sub-group six were from the opposition ruled states.

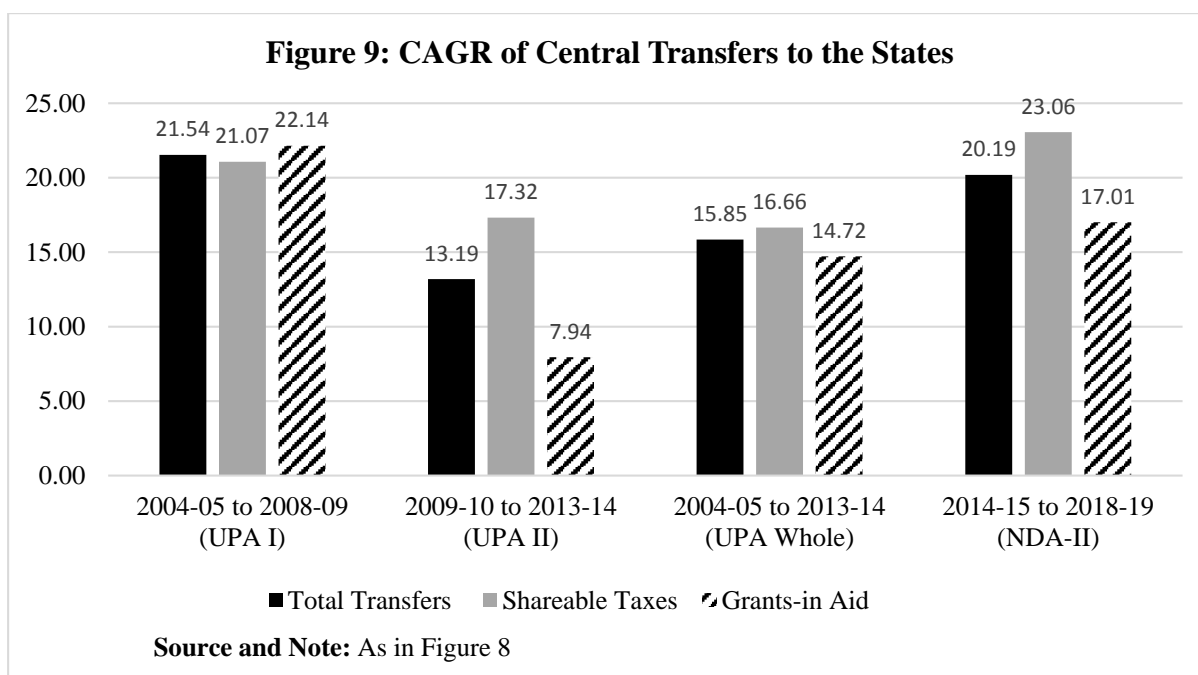
²⁵ The schemes included under the 'core of the core' scheme are pension schemes, Mahatma Gandhi National Rural Employment Guarantee Act, and four umbrella schemes targeting "vulnerable sections" of the population.

²⁶ For the eight North Eastern and three Himalayan states the ratio is 90:10.

12 prices), the total central transfers, shareable taxes, and grants-in-aid were notably higher during the NDA-II regime compared to the UPA regimes (Figure 8). The total central transfers increased by 1.5 percentage points from 4.91 percent of GDP in the entire UPA regime to 6.41 percent in the NDA-II regime. The increase was contributed largely by shareable taxes component of central transfers.



The growth of total central transfers and its two components was also significantly higher in the NDA-II regime compared to the entire UPA regime (Figure 9). The total central transfers grew at the rate of 20.19 percent during NDA-II regime compared to 15.85 percent recorded during the entire UPA regime. The increase in the growth rate of total central transfers in the NDA-II regime was contributed primarily by the higher growth in shareable taxes from 16.66 percent during the entire UPA regime to 23.06 percent during the NDA-II regime. In fact, the growth of total central transfers declined from 21.54 percent during UPA-I to 13.19 percent during UPA-II. The decline in the growth rate of grants-in-aid was drastic from 22.14 percent to 7.94 percent during the same period. The growth of total central transfers recovered during the NDA-II regime and reached almost the UPA-I level. In the case of shareable taxes, the growth rate during the NDA-II regime has surpassed the UPA-I level. However, in case of grants-in-aid, the recovery in the growth rate during the NDA-II regime was way below the level of UPA-I.



In the light of the significant upward revision witnessed in the quantum of central transfers to the states starting from 2014-15, it would be of interest to see if the increased transfers have resulted in a noticeable change in the budgetary spending of the state governments in the agriculture sector.

13) Budgetary allocation on agriculture by States:

An analysis of states budgetary expenditure on agriculture and allied activities from 2004-05 reveal that, as a percentage of the total expenditure of states and agricultural GVA, the states' budgetary expenditure on agriculture and allied activities increased from UPA-I to UPA-II to NDA-II regimes (Table 9). However, in terms of percentage points, the increase in the expenditure was higher during NDA-II compared to UPA-II with respect to these indicators. Also, compared to the UPA regime as a whole, the states have spent much more on agriculture and allied activities during the NDA-II regime. As a percentage of total expenditure and agricultural GVA, the states' expenditure on agriculture increased by 0.91 and 2.09 percentage points respectively during the NDA-II regime compared to the entire UPA regime. A similar trend emerges if we analyse the states budgetary expenditure on agriculture as a ratio of GDP.

Table 9: Expenditure on Agriculture and Allied Activities by State Governments

Period	As percentage of Total Expenditure	As percentage of Agricultural GVA	CAGR
2004-05 to 2008-09 (UPA I)	5.21	4.50	18.99
2009-10 to 2013-14 (UPA II)	5.55	4.80	13.89
2004-05 to 2013-14 (UPA Whole)	5.38	4.65	16.60
2014-15 to 2018-19 (NDA II)	6.29	6.74	19.82

Note: The data for the years 2017-18 and 2018-19 are Revised and Budget Estimates respectively
Source: State Finances: A Study of Budgets, RBI (Various Issues)

The CAGR of state government expenditure on agriculture and allied activities declined notably during the UPA-II regime compared to the UPA-I regime (Table 9). However, during the NDA-II regime, the CAGR of state government expenditure under this head has increased significantly and bypassed UPA-I level. Compared to the entire UPA regime, the state government expenditure on agriculture and allied activities grew at a significantly higher rate during the NDA-II.

Table 10 and 11 present trends in states budgetary expenditure on rural development and irrigation. As a percentage of states' total expenditure and agricultural GVA, the expenditure incurred by the states on rural development declined during the UPA-II regime over UPA-I and then increased significantly during the NDA-II regime (Table 10). Compared to the UPA-regime as a whole, the states' expenditure on rural development was significantly larger during the NDA-II regime. It doubled as a percentage of agricultural GVA. A similar trend was evident in terms of CAGR of states expenditure on rural development (Table 10) and of expenditure to GDP ratio.

Table 10: States Budgetary Expenditure on Rural Development

Period	As a Percentage of Total Expenditure	As the percentage of Agricultural GVA	CAGR
2004-05 to 2008-09 (UPA I)	3.93	3.39	14.90
2009-10 to 2013-14 (UPA II)	3.71	3.20	13.31
2004-05 to 2013-14 (UPA Whole)	3.82	3.30	13.90
2014-15 to 2018-19 (NDA-II)	5.94	6.35	16.07

Source and Note: As in Table 9

Table 11: States Budgetary Expenditure on Irrigation and Flood Control

Period	As a Percentage of Total Expenditure	As the percentage of Agricultural GVA	CAGR
2004-05 to 2008-09 (UPA I)	7.11	6.14	18.60
2009-10 to 2013-14 (UPA II)	5.74	4.97	7.35
2004-05 to 2013-14 (UPA Whole)	6.43	5.55	10.90
2014-15 to 2018-19 (NDA-II)	4.41	4.72	16.09

Source and Note: As in Table 9

On the other hand, states' expenditure on irrigation and flood control declined consistently as a percentage of states total expenditure and agricultural GVA from UPA-I to UPA-II to NDA II (Table 11). In percentage point terms, the decline was largest during the UPA-II regime. However, the expenditure on irrigation and flood control was higher during the entire UPA regime compared to the NDA-II regime, and this is due to better performance

during the UPA-I regime.²⁷ Yet, in terms of CAGR, the states' expenditure on rural development and irrigation and flood control was higher during the NDA-II regime compared to the whole UPA regime (Table 11). And this is due to the significant drop recorded in the expenditure growth during the UPA-II regime.

14) Summary and Policy Conclusions

The objective of this article is to assess the performance of the Indian agriculture sector during the rule of two major political formations in the recent history namely UPA and NDA-II using the available macroeconomic indicators relating to India's farm sector. The major conclusions and policy implications emerging from the analysis presented in the article are as follows:

1. Despite the adverse climatic condition prevalent during the major part of the NDA-II regime, agricultural GVA grew at a healthy 4.03 percent in the NDA-II regime compared to 3.57 percent recorded in the entire UPA regime. However, in the UPA-II regime, agricultural GVA growth was the highest (5.20 percent) among the three regimes.

2. The performance of UPA and NDA regimes was mixed in terms of the growth of output of major agricultural crops. The growth of production of cereals, pulses, oilseeds, tea, milk, egg and fish has improved in the NDA-II regime over the whole UPA regime. On the other hand, output growth of sugarcane, cotton, coffee, vegetables, fruits, and the meat was higher during the whole UPA regime compared to the NDA-II regime.

3. An encouraging feature of agricultural growth during the NDA-II regime was the diversification of the production basket towards three high-value agricultural products namely pulses, oilseeds, and milk. There was a remarkable increase in the growth of production of these food commodities during the NDA-II regime.

4. As regards the sources of growth of output of various agricultural commodities, the higher growth of production of pulses, oilseeds, and tea in the NDA-II regime was caused by an improvement in both area and yield. In the case of cereals, the same was due to an improvement in the growth rate of yield.

5. During the NDA-II regime, a higher productivity growth was achieved in the cultivation of cereals, pulses, oilseeds, tea, and sugarcane.

6. The decline in the growth rate of production of cotton, vegetables, and fruits during the NDA-II regime was caused by a fall in the growth rate of both area and yield. This is a cause for concern.

7. The growth of MSP of the majority of the farm products was lower during the NDA-II regime compared to the UPA regime. However, the growth rate of MSP of the two important crops namely paddy and wheat declined sharply in the UPA-II regime over UPA-I, and the same trend continued under the NDA-II regime. But, the rate of decline in the growth during the NDA-II regime was only marginal compared to the UPA-II regime.

8. The slow growth of MSP offered for cereals, pulses, and oilseeds during the NDA-II regime did not cause an adverse impact on the production of these crops. This implies that the production of these crops was not driven by the changes in MSP in the NDA-II regime but by other factors such as area and productivity growth.

²⁷ Similar trends were evident when expenditure was measured as a ratio of GDP.

9. The relatively lower growth in MSP recorded during the NDA-II regime has helped to control the rise in the food prices. This should have caused welfare losses to the farmers and gains to urban consumers. The welfare effect of lower food prices on the vulnerable sections of society such as agricultural labourers, landless rural households and female-headed rural households is complex to gauge due to two offsetting factors namely falling growth of rural wages and subsidised supply of food through the newly improved PDS.

10. The growth rate of total direct institutional credit delivered for the agricultural sector was considerably lower during the NDA-II regime compared to the UPA regime. However, the agricultural credit to agricultural GVA ratio has increased significantly over the years from UPA-I to UPA-II to NDA-II, implying that agricultural credit had become less effective in delivering agricultural growth overtime. Viewed from this angle, the lower agricultural credit growth doesn't seem to have adversely affected agricultural growth during the NDA-II regime.

11. The factors that contributed to healthy agricultural growth during the NDA-II regime are higher productivity growth in cereals, pulses, oilseeds and tea; improvement in the road network; increase in agricultural exports; and higher overall budgetary expenditure on agriculture and allied services, rural development and irrigation. It seems the falling growth of agricultural credit under the NDA-II regime was compensated with gains through higher productivity, improved road infrastructure for farmers, increase in agricultural exports and increased budgetary expenditure on agriculture. Also, there are signs of more focused institutional credit flow to the agriculture sector under the NDA-II regime.

12. The higher budgetary expenditure on agriculture and allied services, rural development and irrigation during the NDA-II regime was majorly due to the significant increase in the budgetary expenditure of the state governments on these heads. As a percentage of agricultural GVA, the central government's budgetary expenditure on agriculture remained at the same level both under the UPA and NDA-II regimes. The growth of central government expenditure on agriculture during the NDA-II regime was way below the UPA regime except in case of irrigation.

13. One notable achievement of the NDA-II regime was the reduction in the fertiliser subsidy burden. This seems to be the outcome of the important reforms initiated in the fertiliser sector since 2014. The reforms include the supply of neem-coated urea, gas-pooling, and the introduction of DBT in fertiliser subsidy.

14. The paradigm shift in the domain of public expenditure on agriculture from the central government to the states was caused due to the significant changes introduced in the system of central government fund transfers to the states starting from 2014. Following the recommendations of the FC-XIV, the tax devolution from the centre to the states increased from 32 percent of the divisible pool to 42 percent. This landmark reform together with the radical restructuring of CSS reduced the fiscal space of the centre and increased the capacity, flexibility, and autonomy of the states to finance schemes according to their development priorities. This is evident from the significant upward revision witnessed in the quantum of central transfers to the states starting from 2014-15. And it is this increase in the central transfers that has translated into a remarkable increase in the budgetary spending of the state governments in the agriculture sector.

15. Thus, from the point of view of developing India's agriculture sector through the important public policy instrument namely public expenditure, the role of the central government has diminished after the recent reforms introduced in the centre-state transfer mechanism. It is high time that the stakeholders involved in the Indian agricultural system

including the policy makers give equal or more attention to the role of state governments in promoting agricultural growth and farmers' welfare. In the current public debate, excessive focus is given on the role of the central government in shaping the destiny of India's agriculture sector. This should change in the larger interest of the agriculture sector and farmers well-being. After all, as per the Indian Constitution, agriculture is a state subject. In the light of the increased fund allocation to the states under the centre-state transfer scheme and the expected higher revenue flow to the states under the goods and services tax (GST) system, the state governments share greater responsibility in developing India's agriculture sector. Therefore, the states also need to be held accountable for the performance of the agriculture sector in India instead of focusing excessively on the impact on the centre's policies on the agriculture sector.

References:

- Banerjee, K (2011). Credit and Growth Cycles in India: An Empirical Assessment of the Lead and Lag Behaviour, RBI Working Paper Series WPS (DEPR): 22/201, Department of Economic and Policy Research, December.
- Block, S. A., Kiess, L., Webb, P., Kosen, S., Moench-Pfanner, R., Bloem, M. W., & Timmer, C. P. (2004). Macro shocks and micro outcomes: child nutrition during Indonesia's crisis. *Economics & Human Biology*, 2(1), 21-44.
- Central Statistics Office (CSO) (2018). Press Note on National accounts statistics Back-series 2004-05 to 2011-12, Ministry of statistics & programme implementation, Government of India.
- Choudhury, D (2013). The declining growth efficiency of credit, *The Mint*, April 24 (Available at <https://www.livemint.com/Opinion/DQgw1bzht5EZj2coXU7S7M/The-declining-growth-efficiency-of-credit.html>; accessed on March 27, 2019).
- Dawe, D., Block, S., Gulati, A., Huang, J., & Ito, S. (2010). Domestic rice price, trade, and marketing policies. *Sushil Pandey et al, Rice in the Global Economy: Strategic Research and Policies Issues for Food Security*. IRRI. Manila, Philippines.
- Drèze, J., Gupta, P., Khera, R., & Pimenta, I (2019). Casting the Net: India's Public Distribution System after the Food Security Act. *Economic and Political Weekly*, 54(6), 36-47.
- Fan, S., Gulati, A., & Thorat, S. (2008). Investment, subsidies, and pro-poor growth in rural India. *Agricultural Economics*, 39 (2), 163-170.
- FAO, I. (2011). WFP, "The State of Food Insecurity in the World: How does international price volatility affect domestic economies and food security?". *Food and Agriculture Organization of the United Nations*, 99.
- Government of India (2016). Reforming the Fertiliser Sector. In *Economic Survey 2015-16*. Ministry of Finance.
- Government of India (GoI) (1988). *Report of the Commission on Centre-State Relations* (Chairman, Justice R.S. Sarkaria), Part I.
- Government of India (GoI) (2006a). Towards Faster and More Inclusive Growth: An Approach to the 11th Five Year Plan (2007-2012), Planning Commission.

- Government of India (GoI) (2006b). Towards Faster and More Inclusive Growth of Farmers' Welfare, Fifth and Final Report, National Commission on Farmers, Ministry of Agriculture, October 4.
- Government of India (GoI) (2006c). Jai kisan: A Draft National Policy for Farmers, Fourth Report, National Commission on Farmers, Ministry of Agriculture, April 13.
- Government of India (GoI) (2007). National Policy for Farmers, Department of Agriculture and Cooperation, Ministry of Agriculture, September 11.
- Hindustan Times (2018). MS Swaminathan says use of 'C2' costs for MSPs better than giving farm loan waivers. February 20. Available at <https://www.hindustantimes.com/india-news/ms-swaminathan-says-use-of-c2-costs-for-mgps-better-than-giving-farm-loan-waivers/story-O2UawH79uHRYHbr8avNNYL.html> (Accessed on January 12 2019).
- Indian National Congress (2019). Congress Will Deliver, Manifesto, Lok Sabha Elections 2019. Available at <https://manifesto.inc.in/pdf/english.pdf> (Accessed on April 8, 2019).
- Ivanic, M., & Martin, W. (2008). *Implications of higher global food prices for poverty in low-income countries*. *Agricultural Economics*, 39: 405–416.
- Kumar, S. (2018). On the Learning Curve, *The Hindu*, December 13.
- Kundu, S. (2018). Rural wage dynamics in India: What role does inflation play?. Reserve Bank of India Working Paper Series (WPS (DEPR): 03/2018.
- Nair, S. R., & Eapen, L. M. (2015). Agrarian Performance and Food Price Inflation in India: Pre-and Post-economic Liberalisation. *Economic and Political Weekly*, 50(31), 49-60.
- Nair, S. R., & Eapen, L. M. (2019). Food Inflation in India: An Analysis of Recent Trends, Indian Institute of Management Kozhikode Working Paper, IIMK/WPS/306/ECO/2019/10.
- National Rainfed Area Authority (NRAA) (2013). Contingency and Compensatory Agriculture Plans for Droughts and Floods in India- 2012, Position paper No.6, National Rainfed Area Authority, Planning Commission, Government of India.
- Ramakumar R. (2018). There's No Reason to Be Confused on How to Calculate the Right MSP, *The Wire*. February 13. Available at <https://thewire.in/agriculture/msp-agriculture-cost-swaminathan-c2> (Accessed on January 12 2019).
- Rangarajan, C., & Srivastava, D. K. (2011). *Federalism and fiscal transfers in India*. Oxford University Press.
- Rao, M. G., & Sen, T. K. (1996). *Fiscal federalism in India: theory and practice*. Macmillan India.
- Ray, S. S., Sai, M. S., & Chattopadhyay, N. (2015). Agricultural Drought Assessment: Operational Approaches in India with Special Emphasis on 2012. In *High-Impact Weather Events over the SAARC Region* (pp. 349-364). Springer, Cham.
- Reserve Bank of India (RBI) (2015). State Finances A Study of Budgets of 2014-15.
- Reserve Bank of India (RBI) (2017), State Finances A Study of Budgets of 2016-17.
- Robles, M., Torero, M., & Cuesta, J. (2010). Understanding the Impact of High Food Prices in Latin America [with Comment]. *Economia*, 10(2), 117-164.
- Sekhri, D.G. and Suri, Y. (2018). Fixing delivery: on direct benefit transfer in fertilizers. *The Hindu*. February 20.

Soz, S. A. (2019). *The Great Disappointment: How Narendra Modi Squandered a Unique Opportunity to Transform the Indian Economy*. Penguin Random House India Private Limited.

Subbarao, D (2012). Agricultural Credit - Accomplishments and Challenges. *Speech delivered at the thirty years anniversary celebration of NABARD* at Mumbai on July 12, 2012. (Available at https://www.rbi.org.in/scripts/BS_SpeechesView.aspx?id=702; accessed on March 27, 2019).

Swaminathan, M.S. (2016). National Policy for Farmers Ten Years Later, Review of Agrarian Studies, Vol.6, No.1, January–June.

The Hindu (2004). ‘National Commission on Farmers set up’, February 11. Available at: <https://www.thehindu.com/2004/02/11/stories/2004021105901100.htm> (Accessed on January 6, 2019)

The Hindu Business Line (2019). India’s Milk Story. March 27.

Verma, S., Gulati, A., & Hussain, S. (2017). *Doubling agricultural growth in Uttar Pradesh: sources and drivers of agricultural growth and policy lessons* (No. 335). Indian Council for Research on International Economic Relations (ICRIER) Working Paper 335, March.

Zeza, A., Davis, B., Azzarri, C., Covarrubias, K., Tasciotti, L., & Anriquez, G. (2008). *The impact of rising food prices on the poor*. ESA Working Paper 08-07. Rome, FAO (available at <ftp://ftp.fao.org/docrep/fao/011/aj284e/aj284e00.pdf>).

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