Myths in the modes of privatization of distressed state owned enterprises in India:

Role of soft budget constraint

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Abstract

The study evaluates the source of fiscal risks to the state owned enterprises in India by elucidating the existing bottlenecks in the recognition of partial privatization proceeds and why much of it precludes private participation. While budgetary figures reflected a large rise in revenues generated from disinvestment after 2016, a closer look at the modes points out that there is a need to distinguish between notional and actual privatization. By notional privatization, we recognize the particular modes of privatization used and accounted for, even though they were mere transfer of ownership from one government body to the other. The study argues that the soft budget constraint ensures that the state owned enterprises are not allowed to fail and always bailed out through financial subsidies by the Government. Using the restructuring reforms introduced in 2016 in SOEs as a base event, the study examines whether the soft budget constraint plays a role in determining which state owned enterprises are subject to notional privatization. To understand the effect of restructuring further, the liquidity and leverage position of the state owned enterprises was checked and compared between firms which were enjoying softer budget constraint and the ones which had a harder budget constraint. Using the difference in difference model, our results illustrate that firms that were enjoying soft budget constraints held on to their cash reserves primarily driven by precautionary motive and resorted to lower leverage compared to the firms with harder budget constraints.

Key Words: Privatization; Government Policy; Transparency

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1 Introduction

The long standing dilemma on whether to privatize fully or partially the state-owned enterprises has often been driven by political ramifications as the Government has to maintain its balance between economic efficiency and equity. This is further substantiated by the measured nomenclature of "disinvestment" used in India in lieu of the more commonly used term "privatization" in the western countries, (Lok Sabha, 2001a)². Disinvestment also referred to as partial privatization involves gradual and piecemeal sale of minority shares from the state owned enterprises (SOEs) to the private sector. The public and private sector intervention in state owned enterprises both involve substantial delegation of authority causing agency problems but the transaction costs with public sector intervention are higher (Sappington & Stiglitz, 1987). India embarked on its first ride of mixed ownership, through the so-called disinvestment process during the budget session of the liberalization year of 1991 when an announcement to disinvest up to 20% of equity in selected SOEs was made by the-then Government. Till about 1997-98, disinvestment continued in a piecemeal manner, majorly focussing on the "transfer of shares" to the private sector than "transfer of ownership". The paradigm shift came about in 1998-99, when the government decided to reduce government shareholding in the SOEs to 26% in most cases of disinvestment, as was recommended by an earlier formed Disinvestment Commission.

While the year 1999 saw the birth of Department of Disinvestment to push strategic disinvestment in state owned enterprises, the year 2016 witnessed the renaming of the department to Department of Investment and Public Asset Management (DIPAM) with a greater focus on higher disinvestment proceeds and restructuring of state owned enterprises³. The reform was not only aimed at financial restructuring by ensuring prudent use of cash flows and improvement in investor confidence but also devised new procedural frameworks for pushing the otherwise lagging disinvestment targets. However, in the bid towards aggressive disinvestment, some of the modes and mechanisms of disinvestment remained contentious. While budgetary figures reflected a large rise in revenues generated from disinvestment after 2016, a closer look at the modes point out that there is a need to

² Response to questions raised in Lok Sabha during the parliamentary debate on disinvestment of Hindustan Zinc Ltd

³ The Hon'ble Finance Minister mentioned in para 88 of his Budget Speech of 2016-17 as below: "A new policy for management of Government investment in Public Sector Enterprises, including disinvestment and strategic sale, has been approved."

distinguish between notional and actual disinvestment. By notional forms of disinvestment, we refer to those modes where there is no actual transfer of shares to a private enterprise but to another state owned enterprise or group of state owned enterprises. This could involve selling of the shares to the firm employees, to another state-owned enterprise or even to the public sector insurance and financial bodies, while treating it as a successful disinvestment exercise. In other words, the introduction of the notional modes of disinvestment might be aimed to send signals in the private sector about the Government's intent to relax the softbudget constraint, through the reforms related to restructuring.

The theory of soft budget constraint originally formulated by Kornai, (1998) elucidates that the budget constraint of enterprises are often "softened" out by the Government or a Government body through subsidies, credit guarantees and concessions, primarily to bail out the firms in distress, thus ruling out bankruptcy (Maskin, 1999). In other words, the extent of Government ownership which is indicative of the social costs being borne by the SOE is crucial in understanding the soft budget constraint. In such a situation, firms may be reluctant to restructure with the anticipation of government protection and may face tighter bank credit, disturbing their liquidity further (Perotti, 1998). As part of this study, we wish to explore if the restructuring process of the SOEs adopted by the Government are a bid towards promoting harder budget constraints or digging deeper into soft budget constraints. To answer that question, this study attempts to distinguish between the actual and notional modes of disinvestment especially after the restructuring reforms introduced in 2016. Similarly, the distinction between distressed and non-distressed state owned enterprises is necessary to understand the existing financial position of the enterprises and why they might have needed recourse to notional forms of disinvestment. Moreover, the state of distress in the state owned enterprise defines the timing, pace and the pecking order of disinvestment among the firms (Megginson and Netter, 2001). We evaluate the impact of the restructuring reforms of the state owned enterprises-first on the choice of modes of disinvestment to speed up the process and secondly on the financial restructuring aspects of the reforms. In both the scenarios, we make an attempt to distinguish the firms on their severity of soft budget constraint, when the reforms were introduced. We choose to study the impact of soft budget constraint proxied by the evidence of whether the firm has undergone disinvestment before the restructuring process and thus understanding the extent of full or partial state ownership. Similarly, it is expected that firms closer to the point of distress are most likely to be bailed out by the Government in support of the soft budget constraint, and our empirical analysis is

conducted by exploiting firm heterogeneity based on firms' status of being in financial distress.

Our paper draws comparisons with Megginson et.,al (2014) except for the fact that we make a distinction between actual and notional disinvestment and use the difference-indifferences (hereafter DID) approach to tease out the impact of the recently announced restructuring reforms. We acknowledge several contributions to the existing literature. Firstly, to the best of our knowledge, this is the first paper that uses a causal identification approach to investigate the impact of the restructuring reforms of state owned enterprises on the "notional disinvestment" of firms protected by soft budget constraint. Secondly, we explore the influence of the reforms on liquidity as proxied by the cash holdings. In this context, we evaluate the effectiveness of the reforms based on the differential effect across the state owned enterprises and why the role of soft budget constraint might be minimal. Thirdly, we study the effects of the reforms on firm leverage to reaffirm our findings of cash holdings by state owned enterprises. Overall, we believe addressing these questions is of crucial importance for policy makers in order to draw appropriate conclusions on the effectiveness of the restructuring reforms and also how soft budget constraint might prove to be a hindrance in realising the targets.

The rest of the paper is organised as follows. This introduction is followed by a detailed discussion on what could have triggered the restructuring reforms among the state owned enterprises. and empirical methodologies, and data used in section 2. Section 3 discusses the literature building the hypothesis between the related variables. Section 4 presents the data and the empirical results of the study. Lastly, Section 5 concludes the findings.

2 India's disinvestment programme and the need for reforms

The disinvestment proceeds in India have being rising over the years except for certain obstacles owing to some economic and political events. The rate of disinvestment has been significantly higher post the global economic crisis of 2008-09. The contribution from disinvestment had been about 1-2% of capital receipts in the post-reform period (Kumar, R., & Soumya, A. (2010) but however picked up momentum till until 2007–2008 where the disinvestment receipts were INR 457.50 billion (about 1% of GDP). As Banerjee et. al (2022) depict, India's disinvestment can be summarized in four phases. The first phase commencing from the 1991-92 budget had for the first time announced disinvestment of up to 20% of government equity in selected public-sector enterprises. Finally, out of a total of 244 PSUs, 41 were found eligible for disinvestment and the total amount of INR 3038 crore realized was above the budgeted figures. A tumultuous stock market condition in 1993-94 forced the Government not to continue with its initial budgeted sale of shares and hence there was zero realization. After few years of relatively slow pace of disinvestment, the Government constituted Public Sector Disinvestment Commission in 1996 for a period of three years to oversee the disinvestment process of the PSEs followed by the official formation of the Department of Disinvestment in 1998-99 as the nodal agency for all disinvestment related matters. This was the first move made towards "privatisation" from piecemeal disinvestment with a total of ten privatisation deals occurring in this period between 1999 to 2004. The later part of the next phase marked the onset of the global financial crisis and the SOEs were encouraged to access capital markets and to meet the increased minimum public shareholding requirement. While a new Government was in power between 2004 to 2014, there was no strategic privatisation adopted. The following phase saw a new political party at the helm and some sweeping changes made through restructuring and introducing newer modes of disinvestment. Thus, the policy stance on disinvestment has generally been inconsistent and often affected by the political ideologies at the helm. The political institutions shape the objectives pursued by SOEs which strongly influences both the willingness and the ability of state owners to pursue business and social goals (Aguileraa et., al,2021)

As far as the targeted and actual receipts are concerned, disinvestment proceeds have generally been under achieved as depicted in Figure 1. Though the 1998-99 performance was well above expectations, the next four years saw the usual blip in realization. During 2003-04, the performance was bettered which involved disinvestment through the shape of either strategic sales (involving an effective transfer of control and management to a private entity) or an offer for sale to the public, with the government still retaining control of the management. Even if we ignore the disinvestment performance in the years during the global economic crisis (2005-06-2008-09), disinvestment targets were miserably below the budgeted numbers. Much of the poor achievement is attributed to poor planning and over-enthusiastic budgeted numbers. This could also be linked with electoral outcomes and the pressure of coalition politics and the political environment and enforcement of property rights often determine the preferred method of privatization (Megginson et al., 2004) **Figure 1: Disinvestment achievement against targets in the post crisis period**



Source: BSEPSU database

The 2017-18 tuned out to be a welcome change as far as disinvestment numbers are concerned as the Government managed to generate the target of INR 1 lakh crore. This was possible also due to the fact that the Government reduced its revised estimates compared to the budgetary estimates. As far as the mode of disinvestment is concerned, the newly formed Department of Investment and Public Asset Management identified six different methods of disinvestment namely initial public offering, further public offering, offer for sale of shares by promoters through stock exchange mechanism, strategic sale of shares, institutions placement program and CPSE Exchange Traded Fund. However, there have been some other methods also used in the past among which majority of the SOEs (around 55%) have been disinvested through the offer for sale mechanism.

As far as the magnitude of the disinvested SOEs are concerned, the last financial year 2017-18 saw the maximum number of firms disinvested followed by the liberalization year of 1991-92. The sectoral disaggregation suggests that the SOEs belonging to the transportation sector have seen maximum private participation in the form of foreign parties, financial institutions and other private individuals with SOEs dealing with textile remaining the least

preferred sector for disinvestment. In terms of government support measured through budgetary and planned investment expenditure on the CPSEs and the resultant disinvestment proceeds, receipts have been far less than disbursements putting extra pressure on the government coffers. It is only in the recent past when the Government expenditure on selected SOEs has come down, the ratio of disinvestment to investment is around 25%. This is an indication that the Government is spending far more than what it is receiving. This is indicative of the soft budget constraint that the SOEs enjoy and the financial burden on the Government. Gap between planned and actualized privatizations result of volatile politics in countries attempting to implement large-scale privatizations as political regime changes influence investor perception during privatization (Dastidar et. al, 2008)

2.1 Notional and Actual Disinvestment

Notwithstanding the Government protection of the distressed SOEs and the recent rise in disinvestment proceeds, the lack of private participation in the disinvestment process has forced the Government to engage other public-sector organizations to invest in their peer firms. This section unfurls the illusions of the large-scale disinvestment proceeds that are projected by the Government. As discussed earlier, the Government has often adopted various of modes of transaction to push disinvestment in the country (Figure 2). In some cases, like strategic sale, the mode of transaction itself reflects entire private participation. However, in some others like buybacks, auction to financial investors, CPSE to CPSE sale, there is often a mixture of public sector investment with some private sector intervention. The anomaly is created by the fact that the Government has always accounted for the proceeds from the above-mentioned modes which gives a slightly inflated magnitude of disinvestment in India.



Figure 2 : Variation in actual and notional disinvestment

Source : BSEPSU database

Before we discuss the magnitude of actual proceeds, it is important to understand why the private participation has been poor. Two aspects can be attributed to the low private interest-perception and pricing. As far as perception is concerned, whenever a large stake in a SOE is sold off, there is often an impression that there could be labour unrest fearing job loss, with fear of protests and demonstrations (Chhibber and Gupta, 2017) especially in a multiparty system in India. Thus, a negative vibe is created among the incumbent investors as they realize the bureaucratic hassles of running the SOE. Since disinvestment is as much an economic decision as it is a political masterstroke, its repercussions also might determine electoral outcomes. Jain, R. (2016) observe that political orientation towards the right pushes higher partial privatization along with lesser ideological spread in the coalition and lower ideological difference between the center and the state in which the public enterprise is located. Another aspect which often affects the private investors is to gauge the return on investment in the PSUs. This is even more pertinent as generally the shares are sold at a premium. Considering the volatile nature of PSUs in India, the private investors are often worried of putting their bets on them. As far as public-sector intervention in disinvestment is concerned, the public-sector insurance companies and the profit-making PSUs have often come to the rescue of the Government. Through the following sections, we argue that such a mechanism is nothing but a transfer of ownership from one Government entity to other, thus negating privatization in disinvestment.

The popular modes of notional disinvestment include public offer, CPSE to CPSE sale, auction to financial investors apart from some others like sale to employees, block deals and the recently introduced exchange traded fund mode. However, the notional modes of disinvestment include the SOE to SOE sale, auction to financial investors which are Government owned and the buyback option (Table 1). In buybacks, the company buys its own shares and reduces the number of shares outstanding. If the owner of the SOE is the Government, what changes is the proportion of shares held as otherwise, the measure is just a transfer from one Government department to the other. Similarly in the process cross equity holding among SOEs, transfer of funds from one SOE to the other maintains a status quo position for the promoter of the SOEs (which is the Government). Hence an opacity is created in understanding whether the proceeds as stated can be termed as "privatization" proceeds and if not, it actually becomes a fiscal deficit neutral move. On a similar note, India's public insurer The Life Insurance Corporation of India has been regularly rescuing the Government of India whenever it has fallen short of the targeted disinvestment receipts. Since 2011-12,

more than 40% of the government's receipts through sale of stakes in SOEs has come through LIC. Historically in the last quarter of every year, LIC sits on a pile of cash which is later used to finance the fiscal deficit majorly because the salaried earners make their tax saving investments by buying a new policy or paying premium to the old ones during this time.

Modes of disinvestment	Frequency of	Number of	Disinvestment	Average % of
between 2015-20	transactions	SOEs	proceeds (crore)	shares sold
Public offer	37	32	98405	10
Buyback Mode of	36	23	40354	8.34
Disinvestment			10001	
Sale to employees	21	15	938	0.138
Exchange Traded Fund	10	18	98949	1.09
CPSE to CPSE sale	8	8	66712	77.15

Table 1: New modes of disinvestment

Source: BSEPSU database and Author's calculations

Among the public-sector organizations, LIC leads the race in the maximum amount of equity participation in as many as 33 enterprises and along with other insurance companies the average holding is close to 7% of total disinvestment. As far as buybacks are concerned, there have been 36 buyback arrangements between the Government and the SOE, with some of them going on to subsequently sell the minority shareholding between 2015 to 2020. To estimate extent of public sector participation in disinvestment, we extracted data (as much available) for public sector enterprises which are listed and have done their filings under Bombay Stock Exchange. As depicted in Table 2, around 43% of disinvestment proceeds comes from non-private participation based on a limited set of data available for selected PSUs. However, the surprising trend that has emerged is that 70% of non-disinvestment has occurred post 2010. One major reason behind the same could be the intentions of the Government to shed off bulk shares as part of disinvestment which actually dissuade private investors from participating. Our data is based on recognizing those modes of disinvestment where there is no clear transfer of shares from public sector organization to the private sector organization, which could ideally have improved the efficiency of the SOEs.

Modes of investment	Amount (in crores)
Exchange traded fund of PSUs (a)	1074.4
Cross-PSU sale (b)	101949.1
Buybacks (c)	81411.93
Sale to employees (d)	47357.45
Public sector Financial investors (e)	11263.34
A) Total notional disinvestment proceeds (a+b+c+d+e)	243056.2
B) Total disinvestment proceeds	564859.6
Proportion of non-disinvestment (A/B)*100	43.02%

Table 2 : Estimating of proceeds from notional disinvestment from 1991-2022

Source: BSEPSU database and Author's calculations

2.2 The reforms on restructuring

The year 2016 saw a fresh issue of guidelines by the newly formed Department of Investment and Public Asset Management, Government of India, relating to the capital restructuring of the Central Public Sector Enterprises (CPSEs). The nomenclatural change indicates a paradigm shift in the thinking process of the Government on its strategy to manage its investment in Indian CPSEs from the usual divestment strategy. The guidelines put forward binding conditions for enabling distribution of free cash flow to its shareholders through cash dividends, bonus shares, share buyback and stock split, primarily to ensure productive use of the cash balances, that many CPSEs had accumulated. This was expected to not only improve investor confidence but also minimize the cost of capital, resulting from a change in capital structure. However, most of the large scale SOEs were already paying large dividends in the absence of the guidelines and in turn benefitting the Government's sources of funds. The mandated 30% of profit after tax or 5% of net worth announced to be paid as dividends only reinforced the productive use of cash among shareholders, notwithstanding an underinvestment problem for capital investment in future. Thus even though firms might be able to reduce their cash balances, they would have to rely more heavily on external finance to meet their capital expenditure targets. Similarly, the mandate to issue further bonus shares would mean that SOEs have to bear the burden of even more future dividends. Thus the focus on dividends would also allow the Government to improve its budgetary resources and deepen its presence in the capital market.

Further, the disinvestment modes were supplemented by new instruments including the buy-back of shares by large SOE having huge surplus; - compulsory buybacks, SOE to SOE sales; and launch of exchange traded funds (ETFs). Further, there was a renewed focus on

strategic sale of SOEs with the government approving for strategic sales of 34 firms, out of which 8 SOEs have been sold to another SOE. As part of this study, while we evaluate the effect of the guidelines, it is quite clear that the Government has attempted to relax its soft budget constraint. But owing to lack of private participation, it has ended up in owning sending signals of relaxing soft budget constraint without implementing it in reality. Moreover, ensuring privatization may not necessarily eliminate Government interference especially if the latter faces the pressure of other stakeholders of several policy changes or a populist agenda to drive its policies (Perotti, 1995).

3 Related Literature

Research on privatization gathered force significantly after the countries around the world resorted to major economic reforms. While earlier it was perceived to be an intra-firm measure of improving efficiency, its effects on the economic and social fabric of the various countries have been realized in the recent past. Further, the focus has also shifted from "why to privatize" to "when to privatize" and now to "how to privatize". The theoretical framework to privatization was provided by Sappington and Stiglitz (1987) where they explained the important considerations in the public and private provision of a good and when privatization fails to work. The resulting theorem states that with a properly designed auction, public production cannot improve upon private production. However, the authors argue that the theorem is seldom true because of difficulties in rent extraction from the producer, contracting costs and institutional restrictions on feasible contracts and hassles in implementation of contracts. As far as the empirical research on privatization is concerned, it is structured around its impact on the firms undergoing reforms, macroeconomic position and financial markets across developed and developing countries with major contributions from American economist William L. Megginson. In one of the papers authored by Guriev, S. & Megginson, W. (2005), the major research areas have been succinctly highlighted. The Megginson, Nash and van Randenborgh (MNR) methodology has been widely recognized for comparing privatized firms in different industries, countries and even time periods by analyzing pre and post privatization performance for three years. As far as India is concerned, studies on disinvestment have picked up pace only in the recent decade as it is still a novel movement in India especially in the framework of multi-party and coalition politics.

There have been numerous studies depicting better efficiency in public sector enterprises due to disinvestment measures. Chhibber, A., & Gupta, S. (2017) have done a thorough study of 235 Public Sector Undertakings concluding that performance contracts through Memorandum of Understandings (MoUs) have affected the returns on capital of the firms. The results also show that larger SOEs known as Maharatnas appear to perform better than smaller PSUs and even better than private firms of similar size while the smaller PSU – Navratnas and Mini-Ratnas perform worse than private companies and hence should be subject to strategic disinvestment. Gupta, et al (2011) measure the financial performance of the SOEs before and after privatization on the basis of select profitability, efficiency, liquidity, leverage and productivity ratios used in the accounting context. The authors infer that most of the dimensions under study did not show significant improvement due to high costs, non-competitive industrial structure, operational inefficiency due to high governmental interference, environment restrictions and partial disinvestment in the unlisted firms while the listed firms showed better results. Gupta et al (2002) argue that find that partial privatization has a positive and highly significant impact on firm sales, profits, and labor productivity using the dataset of Indian SOEs. Special focus has been given to partial privatization as the authors argue that full privatization makes it difficult to distinguish between the political and managerial perspectives because both ownership and control shift to the private sector at the same time. Thus the context of partial privatization that exists in India allows us to distinguish between the political view of governments pursuing electoral and social objectives and managerial view of principal agent problems (Gupta, 2005).

Megginson et al (2004) discuss the choice between raising funds in public versus private capital markets using a sample of 2477 privatizations from 108 countries between 1977 and 2000. The techniques of privatization through asset sales to a small group of investors, shareissue privatizations (SIP) through capital market or the voucher privatizations (as was seen in formerly Communist Eastern European nations such as Russia, Poland, and the Czech Republic) have been briefly discussed. It was observed that the political environment and enforcement of property rights often determine the preferred method of privatization. As property rights and enforcement become more supportive, the SOEs are likely to be privatized via asset sales since the risk-taking investors are assured of better protection. On the other hand, the profitable enterprises were found to be privatized through SIPs since it allows the governments to gain political support by privatizing the most profitable firms. However, Governments might want SOEs to undergo corporate governance reforms before actually facing privatization. Thus restructuring the internal governance without disturbing the state ownership could land up improving the value and performance of the SOEs, eventually leading to successful privatizations and higher revenue generation for the Government (Aivazian, et. al, 2005).

As far as the modes of privatization, Brada (1996) list out three of them namely privatization through restitution, through sale of state property, voucher privatization and privatization from below. The first method relates to return of land ownership to the original owners while the second relates to either direct sale of assets of SOEs or partial share offerings and the third method relates to the usage of vouchers to bid for stakes in the respective SOEs. The next question that arises is to understand the selection process behind privatization which often lacks transparency as it is driven by economic, social, and political risks. The selection, staging, and sequencing in privatization often follow an inverted-U structure as has been observed in China where the best and worst performing SOEs and undergo either lesser privatization or delayed privatization if they have been privatized before (Du and Liu, 2015). Moreover, the sequencing of privatization helps selective disbursal of firm information to investors and very often the government chooses privatize the least efficient firms first. Further, while the Government attempts to maximize privatization revenues, the presence of asymmetric information between the government and prospective investor create scope for opacity (Gupta, et. al, 2008). In this context, we use the restructuring reforms to determine our first hypothesis of what determines the firms to go for notional disinvestment.

Since we evaluate the effectiveness of the policy reform, we dig deeper into how the SOEs might have acted differently from the perspective of liquidity and leverage. This is where we make a distinction between firms which are having a higher soft budget constraint to the rest. In the case of a SOE, the prevailing view has been that of a positive relation between cash holdings and soft budget constraint which states that firms with higher state ownership hold less cash in spite of being distressed and low external funding caused by the state guarantees (Megginson et. al, 2014). However, firms might also keep high amount of cash holdings due to precautionary motives especially when external financing may be difficult to achieve (Myers and Majluf, 1984). This could be attributed to the interpersonal trust between the managers and shareholders which is the Government in the case of a SOE. If the potential creditors become distrustful about the prospects of the firm or if the firms with managers are perceived to be trustworthy by the outsiders, a firm might resort to have a higher amount of cash holdings (Dudley and Zhang, 2016). They have further shown that shareholders in low trust countries often pressurize the managers to distribute the cash through higher amount of dividends and other restructuring measures like bonus shares and stock splits. Apart from trust, higher cash holdings could also be attributed to the variability in average volume of receipts and disbursements, costs of illiquidity and to finance future investments. (Whalen, 1966). Similarly, information asymmetry and agency problems could drive SOEs to have more cash holdings in the quest for higher capital expenditures and acquisitions, and note necessarily higher R&D investments (Chang et. al, 2018). We use the restructuring reforms as an exogenous variation to study how cash holdings have been

affected and whether it can be attributed to debt access or availability among the soft budget constraint and hard budget constraint firms.

4 Data and empirical results

4.1 Data

The data involved for the course of the study are financial indicators of around 132 centrally owned non-financial state owned commercial enterprises which include profitability, debt indicators, asset size, sales growth and privatization and their details of modes. The data related to profit and loss and balance sheet information was procured from the financial database of Centre for Monitoring Indian Economy (CMIE) Pvt. Ltd. called Prowess. CMIE is a private research organization in India that collects data and makes it available through Prowess database comprising over 40,000 Indian companies of different sizes, ownership groups, and operating in a wide variety of sectors, such as manufacturing, utilities, resources, and services. The details of the modes of privatization were extracted from the http://www.bsepsu.com/ website which is a repository of all disinvestments in India along with the relevant annual reports of the firms. Companies with missing information on the debt, cash balance and performance measures have not been considered as part of the sample. To avoid the effect of spurious outliers driving our results, all the control variables used in the regression models have been winsorized at 1% level and the summary statistics have been provided accordingly.

To provide a visual representation of the impact of the reforms, we first explore the cases of notional disinvestment during the period of the study. Interestingly enough we see a sudden rise in the cases of notional disinvestment as newer modes were introduced. While we shall evaluate the econometric relationship between soft budget constraint and the choice of disinvestment mode in the subsequent section, it is important to recognize how the Government benefits have varied between the firms benefitting from soft budget constraint more than the ones who are relatively more privatized. We see evidence of a similar phenomenon where fiscal benefits to the un-disinvested firms being significantly higher than the disinvested firms especially after the restructuring reforms (Figure 3 and Figure 4). This motivates us to seek answer to the question that whether the Government may be keen to notionally disinvest some of the firms such that it is freed from the pressure of releasing resources and benefits for the higher soft budget constraint firms.

Figure 3 : Cases of notional disinvestment



Source : BSEPSU Database and Author's calculations



Figure 4 : Fiscal benefits extended to disinvested and non-disinvested firms

Source : BSEPSU Database and Author's calculations

Apart from the manadate on the modes of disinvestment the reforms also emphasized the need among the state-owned enterprises to freed up excess cash among shareholders through dividends, bonus shares and buybacks. We therefore make an assessment of the state owned firms figuratively by checking the impact on the cash balance and also the leverage or debt taking propensity amng the state owned enterprises. Quite contrary to popular literature, the soft budget constraint firms have been circumspect in releasing cash which could be driven by precautionary motive and also limitation of resources. We substantiate the result by finding the effect on the debt taking capacity between the two types of firms and the after the reforms , the firms with harder budget constraint have gone on to borrow more and expand further possibly to meet greater capital expenditure. In both the representation, we have treated the disinvested firms as on 2016 with a relatively harder budget constraint as their Government shareholding is limited whereas the un-disinvested firms represent the softer budget constraint firms (Figure 5 and Figure 6).



Figure 5 : Borrowings among disinvested and non-disinvested firms

Source : BSEPSU Database and Author's calculations



Figure 6 : Cash holdings among disinvested and non-disinvested firms

Source : BSEPSU Database and Author's calculations

The summary statistics further show that cash balances of the state owned enetrprises has generally been quite diverse among state owned enterprises (Table 3). With some firms remaining distressed for a considerable period of time, their cash balance has depleted. While most of the firms have been access to secured borrowings, their average value is less than the combined debt, which also shows the reluctance of the creditors to lend money to state owned enterprises even after being backed by sovereign guarantees. Most of the state owned enterprises are quite experienced ones with them having an average act of around forty-five years since their existence. Therefore, to sumamrize we have used time since the year of incorporation as a proxy indicator of age, profitability by return on assets, size by the logarithm of assets, total leverage by long term debt to assets, Government backed debt by secured borrowings, cash balance by cash to sales and cash to assets, sales growth to account for its general business activity, net change in cash flow to control for cash flow volatility and capital expenditure through net change in investment related cash flow following Megginson et., al(2014).

 Table 3 : Summary statistics for the listed variables

Variable	Mean	Standard deviation	Minimum	Maximum
LogAge	3.75	0.32	2.77	4.24
Return on Assets	-0.11	8.64	-19.4	10.48
Log Assets	10.09	2.20	6.66	13.42
Debt to Assets	0.31	0.39	0	1.16
Secured borrowings	0.17	0.18	0.002	0.570
Sales growth	0.04	0.19	-0.28	0.35
Cash to sales	0.16	3.39	0	93.33
Cash to assets	0.001	0.01	0	0.29
Net change in cash flow	0.02	0.63	-3.72	20.95
Capital expenditure	-0.04	0.71	-12.59	5.64

Source : Author's calculations

4.2 Empirical methodology and results

4.2.1 Methodology

In this section, we examine the impact of the restructuring reforms on the notionality of disinvestment, cash balance and total borrowings. We measure the nationality of disinvestment by collating those firms which have undergone disinvestment but from oen public sector to another public sector. The cash balance would be measured by cash to assets and cash to sales respectively while we measure the borrowings by debt to assets and secured borriwings primarily to represent Government backing of debt. The study shall involve a Difference-in Difference approach with 2016 being the year of contention when the new department of disinvestment was formed along with large scale restructuring reforms. Hence

the period from 2017-2020 would be assigned through the dummy variable 1 or the treated year and O otherwise beginning 2010-16. Our study begins from 2010 just after the Global financial crisis and ends at 2020 just before the beginning of the Covid-19 pandemic. We shall consider two forms of treatment and control variables. The first treatment group would check for the stressed nature of the state-owned firms by defining a dummy for distressed firms, which takes value 1 if a firm in a year has accumulated losses equal to or exceeding 50% of its average net worth in the immediately preceding four financial years, and 0 otherwise (based on the definition of distressed or sick firms from the Companies (Second Amendment) Act, 2002 that was enacted with the objective of determining the sickness in industrial units) and Bose et. Al, (2021). The other treatment group considered is the state of disinvestment as on 2016 when the reforms were undertaken. Both the treatment and control categories are aimed to capture the soft budget constraint - first based on finances and the other based on state of ownership. It is expected that firms which have experienced disinvestment before would have limited government support and hence harder budget constraint than the non-disnvested firms, as proven by the level of Government ownership (Megginson et., al. 2014). Similarly, the higher distressed firms would ideally be under the protection of the Government through various restructuring and recapitalization measures, thus enjoying higher soft budget constraint. To test our first hypothesis, we estimate the following model:

Hypothesis 1

A: Notional Disinvestment_{it} = $\alpha_0 + \alpha_1$ Reform * Disinvested_{int} + α_2 Disinvested_{int} + α_3 Controls_{int} + e_{int} B: Notional Disinvestment_{it} = $\alpha_0 + \alpha_1$ Reform * Distressed_{int} + α_2 Distressed_{int} + α_3 Controls_{int} + e_{int}

Here i=1,2,...,n refers to the cross-section of units (firms in this case) in industry n at time t. We have controlled for firm, time and industry fixed effects in all our hypotheses to control for firm level heterogeneity, macroeconomic uncertainties and industry specific volatility. The main variable of interest is the DID coefficient of 'Reform * Disinvested' and 'Reform * Distressed', that captures the impact of the restructuring reforms on the probability of notional disinvestment of soft budget firms compared to hard budget firms. We have used the Linear Probability model to account for our dichotomous dependent variable to allow for the OLS method to be applicable, for the usage in Difference in Difference approach. We have also controlled for size by logarithm of assets, profitability indicated by return on assets, leverage by debt to assets, sales growth and age of the firm.

Hypothesis 11

A: Cash to Assets_{it} = $\alpha_0 + \alpha_1$ Reform * Disinvested_{int} + α_2 Disinvested_{int} + α_3 Controls_{int} + e_{int} B: Cash to Assets_{it} = $\alpha_0 + \alpha_1$ Reform * Distressed_{int} + α_2 Distressed_{int} + α_3 Controls_{int} + e_{int}

In our next hypothesis, we evaluate the next objective of the reforms which is related to the cash balances of the firms. To measure cash balances, we use cash to assets as our dependent variable and make the same distinction between soft budget and hard budget firms as before. Thus, this hypothesis will enable us to capture whether the soft budget firms in the post-reform period are able to improve their cash balances relative to their hard-budget counterparts.

Hypothesis III

A: Long Term Debt_{it} = $\alpha_0 + \alpha_1$ Reform * Disinvested_{int} + α_2 Disinvested_{int} + α_3 Controls_{int} + e_{int} B: Secured Debt_{it} = $\alpha_0 + \alpha_1$ Reform * Disinvested_{int} + α_2 Disinvested_{int} + α_3 Controls_{int} + e_{int}

Finally we check how the state owned enterprises are actually making use of their cash resources especially after they were mandated to release cash to the shareholders. Since most of the enterprises are created to manage large scale Government projects, we wished to understand whether these firms have actually resorted to higher borrowings leading to higher capital investment or have been reluctant to have external sources of funds. Here, we use two different versions of debt namely –long term debt and secured broowings following Bose et. al, (2021). The reason we use the two different definitions of debt that it not only allows us to capture higher magnitude of debt which is required for capital expenditure and hence having higher maturity. But by understanding the level of secured borrowings, we not only run a robustness check of our results on a restricted sample but also understand how firms with soft budget constraint are treated relative to their hard budget counterparts when it comes to boorwings which are generally guaranteed by the Government.

4.2.2 Effect on notional disinvestment

In the first table, we make an attempt to evaluate the impact of the reforms on the usage of notional modes of disinvestment among the soft budget firms relative to hard budget ones. The main variable of interest is 'Reform * Distressed' and 'Reform*Disinvested' which measures the direct impact of the restructuring reforms usage of notional modes of disinvestment. We find a significant impact of the policy in both cases. When we measure soft budget constraint using the ownership categorization or by the level of distress , we find the magnitude of notional disinvestment is more for firms which are protected by soft budget

constraint by around 10.24 or in the other case 10.62 per cent. The two treatment variables enable us to get a robustness check on the results as disinvested firms represent harder budget constraint and hence the coefficient is negative whereas the distressed firms in the alternate case represent softer budget constraint and hence the coefficient is positive. These coefficients are statistically significant at the 1% level of significance. This result indicates that after the restructuring reforms, softer budget SOEs firms were nudged for actual disinvestment but when they failed to attract private bidders, they underwent notional disinvestment (Table 4)

Treatment Variable:	Coefficient	Treatment Variable:	Coefficient
Disinvested (Lower SBC)		Distress (Higher SBC)	
Reform*Disinvested	-0.1024***	Reform*Distressed	0.1062***
	(0.0235)		(0.0512)
Reform	0.0986**	Reform	-0.0031
	(0.0506)		(0.0510)
Disinvested as on 2016 or	-0.031	Distressed as on 2016 or	0.0309*
not	(0.0232)	not	(0.0613)
Age	-0.2494*	Age	-0.0973**
	(0.1971)		(0.1806)
Return on Assets	0.0004	Return on Assets	0.0002
	(0.005)		(0.0005)
Debt to Assets	-0.0052	Debt to Assets	-0.0037**
	(0.0155)		(0.0154)
Size	-0.0002	Size	-0.0003
	(0.0029)		(0.0028)
Sales Growth	0.0155**	Sales Growth	0.0107**
	(0.0247)		(0.0246)
Time, Firm and Industry	Yes	Time, Firm and Industry	Yes
effects		effects	
Observations	1228	Observations	1228

Table 4 : Factors affecting notional disinvestment

Source: Author's calculations (Note: ***, ** and * denote 1, 5 and 10% levels of significance respectively, while values in () are standard errors)

Secondly, governments may be reluctant to subsidize the SOE for long to enable them to maintain their fiscal deficit projections and hence is consistent with the findings of Desai and Olofsgård, (2006). In such instances, there may be a motivation to use implicit with less transparent forms of enterprise support such as notional disinvestment. However, these implicit form of support could have only short-term effects and may not be feasible in the

long run (especially when it becomes common knowledge and the actions of the Government are under scrutiny and monitored as is often done by the Comptroller and Auditor General of India. As far as other control variables are concerned, we find that the lower asset sized firms and having less profitability have generally been nudged for notional disinvestment. These are generally the firms which undertake less capital investment as well as reflected in the table. Thus, the motivation towards notional disinvestment could be driven not only by anecdotal evidence of lack of private participation but also Government's efforts to provide implicit support to the firms in distress without affecting its own fiscal deficit directly.

4.2.3 Effect on cash holdings

Next we evaluate the impact of the reforms on the liquid holdings of soft budget constraints against their counterparts after the financial restructuring reforms which mandated firms to reduce their excess cash holdings. While we find that the reforms has led to a very minimal drop in cash holdings, but surprisingly enough the soft budget constaint firms hold on to cash by a slightly more proportion than the hard budget constraint firms (Table 5). This also shows that even though firms are having soft budget constraint, they hold on relatively more cash especially because of precautionary motives and increase the probability of survivorship (Poti, et. Al, 2020). Thus this may be attempt by the firms to insure themselves against adverse shocks especially when they have been running operational losses and meet liquidity requirements.

Treatment Variable:	Coefficient	Treatment Variable:	Coefficient
Disinvested (Lower SBC)		Distress (Higher SBC)	
Reform*Disinvested	-0.0002**	Reform*Distressed	0.0006*
	(0.0001)		(0.0001)
Reform	-0.00002	Reform	-0.001
	(0.0001)		(0.002)
Age	-0.0003	Age	-0.00003
	(0.0007)		(0.007)
Size	-0.0004***	Size	-0.0004***
	(0.0001)		(0.0001)
Sales Growth	-0.0002*	Sales Growth	0.0002
	(0.0001)		(0.0001)
Profitability	-0.0013**	Profitability	-0.0014
	(0.0003)		(0.0003)
Net change in cash flow	-1.999	Net change in cash flow	0.0012

 Table 5 : Impact of the reforms on the cash holdings of CPSEs

Treatment Variable:	Coefficient	Treatment Variable:	Coefficient
Disinvested (Lower SBC)		Distress (Higher SBC)	
	(0.0003)		(0.003)
Capital expenditure	-0.0001*	Capital expenditure	-1.3782*
	(0.0006)		(0.0006)
Time, Firm and Industry	Yes	Time, Firm and Industry	Yes
effects		effects	
Observations	998	Observations	998

Source: Author's calculations (Note: ***, ** and * denote 1, 5 and 10% levels of significance respectively, while values in () are standard errors)

Further to the liquidity motives of the firms, it is often difficult for some firms to change their investment, dividend, debt and equity policies like the restructuring mandate, quite easily because of some adjustment costs (Boileau and Moyen, 2010). In addition, when the firms find it difficult to access external sources of funding, they may resort to the internal sources like cash which we will explore in the next section. Thus, the difficulty in accessing capital and credit markets due to high transaction costs might be pushing the firms to hold on to more cash and is consistent with Opler et, al.(1999). Once again consistent with the soft budget hypothesis, the larger sized, profitable and firms engaged in large scale capital expenditure hold on to lower cash, which fulfils the objectives of the restructuring reforms, at least based on the financial thresholds. To confirm our findings on the cash holdings and check whether the reforms had any effect on the borrowings of the soft budget firms relative to hard budget ones, we move on to the next section. While we recognize that debt management was never a mandate of the reforms, but checking the effect on the same, we would have an impression of whether firms faced higher costs in gaining access to external funds to meet their cash flow volatility.

4.2.4 Effect on borrowings

Since we explore the effect of the reforms on the debt position of the state-owned enterprises, we would get an understanding of why soft budget constrained firms may be holding on to cash. Here we focus primarily on the long-term debt as that would also gives us an understanding of the motivation towards higher capital investment among state owned enterprises, subsequently fulfilling many of the state budgetary targets. Further, we recognize that access to debt for government owned firms is significantly eased out owing to the sovereign backing that they receive. In India's context, most of the creditors are the public sector banks which underscores the role of the Government in obtaining borrowed money. We find out that hard budget firms tend to borrow more by around 6% compared to the soft budget counterparts, after the reforms (Table 6).The same effect is observed when we use secured borrowings as the dependent variable. In either cases, it reaffirms the precautionary motive behind cash holdings of soft budget constraint firms. The government often uses SOEs as vehicles to pursue socio-political objectives, which works to further reduce firm performance (Boubakri and Saffar, 2019). Collateralization also increases creditors' monitoring incentives, especially if the borrowing firm faces distress, as observed in the rise in secured borrowings.

Dependent Variable:	Coefficient	Dependent Variable:	Coefficient
(Long Term Debt)		(Secured borrowings)	
Reform*Disinvested	0.0604**	Reform*Disinvested	0.0497**
	(0.0349)		(0.0195)
Reform	-0.0983	Reform	0.0454
	(0.0700)		(0.0400)
Age	0.3494	Age	0.1472*
	(0.2529)		(0.0996)
Size	-0.0191***	Size	0.0021
	(0.0054)		(0.0031)
Sales Growth	0.0298	Sales Growth	-0.0196**
	(0.0578)		(0.0354)
Profitability	-0.8296***	Profitability	-0.4357***
	(0.1434)		(0.0983)
Liquidity	0.0984**	Liquidity	-0.1289***
	(0.0413)		(0.0224)
Time, Firm and Industry	Yes	Time, Firm and Industry	Yes
effects		effects	
Observations	710	Observations	838

 Table 6 : Impact of the reforms on the long term debt of CPSEs

Source: Author's calculations (Note: ***, ** and * denote 1, 5 and 10% levels of significance respectively, while values in () are standard errors)

The relationship between ownership and debt could be looked into either perspectives where one claims higher state ownership is associated with lesser bank debt to signal commitment to market-oriented policies or the other where higher state ownership acts as a guarantee to bailout the firms in distress leading to higher borrowing (Boubakri and Saffar, 2019). In our context, we connect the literature with Li et. al, (2009) who claim that higher long term financing makes the firms better prepared for long term investments. On the other, the

managers of the firms with softer budget constraint may be playing safe after the restructuring reforms and hence resorting to lower debt and instead piling on cash.

4.2.5 Placebo test

This section presents an additional robustness check for a placebo test to establish the validity of our primary results. Therefore we choose a random year of the restructuring reforms namely 2014 and try and check the results. This procedure helps to rule out if the effect fof any other economic events surrounding the reform shock which may be influencing the result. We do not find any significant impact on our main DID variables for any of the three hypothesis and most of our control variables come out to be insignificant (Table 7). Thus, the placebo test again strengthens the validity of our main results.

Placebo test for	Coefficient	Placebo test for	Coefficient	Placebo test for	Coefficient
hypothesis I – Effect		hypothesis II –		hypothesis III –	
on notional		Effect on cash		Effect on debt	
disinvestment		holdings			
Reform*Disinvested	0.10	Reform*Disinvested	0.001	Reform*Disinvested	-1.127
	(1.49)		(0.0007)		(1.099)
Reform	-1.43	Reform	-0.007*	Reform	-0.301
	(4.98)		(0.001)		(0.411)
Disinvested as on	0.64	Age	0.01***	Age	2.642
2014 or not	(0.19)		(0.005)		(4.085)
Age	34.46	Size	0.00001	Size	0.000783
	(26.88)		(0.000014)		(0.000629)
Return on Assets	0.11*	Sales Growth	-0.0003	Sales Growth	-0.001
	(0.63)		(0.0005)		(0.057)
Debt to Assets	3.12	Profitability	0.00399	Profitability	-0.007*
	(4.54)		(0.000354)		(0.001)
Size	-0.0002*	Net change in cash	0.004***	Liquidity	0.004*
	(0.0029)	flow	(0.0002)		(0.359)
Sales Growth	-0.09	Capital expenditure	-0.001***	Time, Firm and	Yes
	(0.25)		(0.0003)	Industry effects	
Time, Firm and	Yes	Time, Firm and	Yes		•
Industry effects		Industry effects			

 Table 7 : Placebo test results for the difference in difference estimates

Source: Author's calculations (Note: ***, ** and * denote 1, 5 and 10% levels of significance respectively, while values in () are standard errors)

5 Conclusion

The study aims to elucidate the soft budget constraint that state owned enterprises often using the reform as a policy exercise. The soft budget constraint ensures that the state owned enterprises are not allowed to fail and always bailed out through financial subsidies by the Government. We use the restructuring reform policy exercise to examine how the state owned enterprises cash resources and liquidity have changed and varied between disinvested and non-disinvested state owned enterprises. The privatized or partially privatized enterprises are clubbed as firms which have a relatively harder budget constraint than the rest. Further we check whether the notional investment is driven by level of soft budget constraint that firms face and their level of stressedness. Based on these broad themes, the study shall try and understand how notional privatization affects the relationship between the firm financial parameters and its level of stressedness or its initial state of privatization. This shall allow the policymakers to have an understanding of whether such myopic exercises yield beneficial results with state-owned enterprises and why privatization just for budgetary compulsions may be a political but not a prudent exercise. India's soft budget constraint for SOEs is limited after the restructuring reforms and could be related to the social objectives that firms wish to pursue. On the other hand, disinvested firms resort to higher credit after the reforms, probably to pursue long term investment projects. This is further substantiated by the move towards notional privatization post the reforms especially by the higher distressed firms and the completely state owned firms, indicative of less transparent means of budgetary support. Overall the study reemphasizes how the Government has moved steadily towards supporting the hard budget constraint firms than soft constraint ones-in a bid towards stronger privatization

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