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# Public Sector Enterprises (PSEs) in Post-Privatization: **Evidence from Pakistan**

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#### ABSTRACT

Privatization of public-sector enterprises (PSEs) has generated billions of dollars to support fiscal and macroeconomic imbalances in several developing countries. A limited literature evaluates the recent privatization program impacts on the PSEs. This study empirically investigated the privatization impact on the performance and efficiency of the firms in postprivatization period in Pakistan. Firm-level data are used to evaluate the privatization effects on performance and efficiency of the privatized PSEs. We use difference-in-difference approach that exploits within-firm variation in the outcome variables over time. The regression results show that the performance of only few firms improved while it remains negative or insignificant largely. The efficiency of the firms is also not improved significantly in post-privatization period.

#### **ARTICLE HISTORY**

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#### **KEYWORDS**

Privatization; competition; performance; efficiency; regulation policy; Pakistan

#### 1. Introduction

A large strand of literature has discussed the economic effects of privatization. However, despite selling of public-sector enterprises (PSEs), there is limited recent evidence on the assessment of the effects of privatization in developing countries. In particular, in South Asian economics, privatization of public-sector enterprises (PSEs) has generated billions of dollars in last two decades to support the fiscal and macroeconomic imbalances. The evidence on the impacts of these privatization programs on firm performance and efficiency in south Asian economies is limited. This study exploits the detailed firm-level privatization of non-financial firms to study its impacts in Pakistan.

Considering the privatization since 1991, our investigation is based on the firm-level data of non-financial firms data for the period 1986 and 2014. These data include the privatization transactions and firms' annual balance sheets, and it overlaps the pre- and post-privatization period (before and after analysis). We use difference-in-difference approach that exploits within-firm variation in the outcome variables over time. The firm, year, and year-state fixed effects are included to capture the changes in macroeconomic policy and heterogeneity in firm characteristics. For robustness of the results,

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we conduct an expert<sup>1</sup> (policymakers and experts) opinion survey. This survey collects qualitative information from the key stakeholders and policy makers on the decision to privatization and subsequently effects of privatization on firms' indicators.

In the context of Pakistan, it is worth studying the case of privatization for two reasons. First, Pakistan is one of the developing countries where large number of PSEs has taken place, but the post-privatization effect is yet to be analyzed. Second, rather focusing on one or few sectors, this consider all privatized PSEs. We use detailed firm-level data and staggered timing of privatization that enable us to exploit within-firm variation in the outcome variables over time. Third, it allow us to address the concern of structure of the economy, nature of industries, and timing of privatization that varies over time.

Our main finding is that performance of firms improves in post-privatization period but statistically insignificant. The sectoral heterogeneity suggests that performance of few firms improves in post-privatization period, but largely it is negative. In particular, the privatized PSEs in energy, cement and chemical sectors do not show positive gains in the post-privatization period. However, telecom and textile sector have experienced positive change in the performance of the privatized PSEs. Similarly, results also shows that the efficiency of firms did not increase significantly. These results are robust to different empirical specifications such as the use of firm-level sales, year and industry effects, and the relative importance of the firm. They are also robust to controlling for endogeneity, which might be an issue. The endogenous selection of firms for privatization can occur based on their performance. Our findings are robust to instrumenting the decision to privatization with the financial health of the firm; privatization has positive but insignificant impacts on firms' outcomes.

We also check the robustness through Key Informant Interviews (KIIs). Our assessment through KIIs suggest that the malfunctioning of the regulatory environment led to the market failure that eventually ends up in market exploitation<sup>2</sup> The regulations and the regulators are captured by market, bureaucrats, judiciary, and politicians. An effective regulatory environment does not exist to force the privatized entities to have higher efficiency and develop competitive environment. The government intervention in the regulatory capture is dominant. Every regulatory authority has a board member from the government. This practice is clearly not aligned with the privatization regulations. Government intervention (secretary is setting as board members) creates conflict of interest by having ownership and management altogether.

Prior literature discusses that the privatization in developing countries has improved the performance of the privatized PSEs, but this evidence is not common across the countries (Megginson & Netter, 2001; Estrin, Hanousek, Kocenda, & Svejnar, 2009; Gupta, Ham, & Svejnar, 2008; Clarke, Cull, and Shirley, 2005). Several countries have observed positive effects on the performance and net welfare gains while the others did not. Earlier research on privatization in Pakistan assess the impacts broadly through subjective studies. Kamal and Naqvi (2018) and Pasha (2014) argued that postprivatization performance did not improve in banking and energy sector. The privatized banking and energy sectors failed to bring in benefits of privatization. The process of privatization and rewards distribution favors buyers mostly, while the government faced

<sup>&</sup>lt;sup>1</sup>Selection (see Appendix C) was based on their relationship to privatization subject.

<sup>&</sup>lt;sup>2</sup>Sugar, and Cement Industries.

the risk and cost. Kemal (1996) provides evidence that privatization in Pakistan has improved the performance efficiency of the firms, but it did not improve the competition in the market. Tahir (2014) describes that consequences of mere ownership swap from public to private sector that failed to achieve the desired objectives of reducing fiscal deficits and debts. On the contrary, Iqbal, din, and Ghani (2017) suggest that privatization capitulate significant increase in performance in the post-privatization period. This literature did not delve into the detail empirical analysis to study privatization. Structure of the economy, nature of industries, and reason(s) and time periods of privatization are largely varying. We contribute to this literature by providing an empirical evidence from Pakistan.

The remainder of this paper is organized as follows: Stylized facts is described in Section 2. Sections 3 explains data and descriptive analysis, and section 4 discusses the empirical analysis. Section 5 concludes and highlights the recommendations.

#### 2. Stylized facts on Privatization of PSEs

#### 2.1. Privatization: Pakistan stylized facts

The 1990s had gone through major privatization in the economic history of Pakistan. Economy underwent extensive changes in the economic management within a short period of 2 years in the first half of that decade. Significant efforts are made to transform the system from an over-regulated and inward-looking system into a more open, deregulated, and market-oriented economy.

In first phase, government offered 108 PSEs out of 167<sup>3</sup> for privatization. In less than 18 months, 66 had been privatized, leaving 42 for the second phase. In this phase, government privatized 2 of the 5 nationalized large banks and initiated measures to sell in the next phase some of the major infrastructure facilities, telecommunications, and energy sector. In the next phase, from 2002 to 2008, government continued to privatize the units in infrastructure, energy, and engineering sector. Further, 63 PSEs had been privatized during this phase. After 2008, recently government has initiated a fresh program of the privatization; it aims to privatize more than 49 units until 2023<sup>4</sup> (see Figure 1).

Privatization has been carried with the motive to reduce the fiscal burden and increase efficiency of the inefficient PSEs. Following privatization since 1991, the sale of PSEs raised the revenues Rs. 649 billion, which is about US\$ 11 billion<sup>5</sup> (see Figure 2 that presents the revenues earned through the sales of the PSEs over the years).

In non-financial sector, two-third of the revenues was raised from the energy, cement, fertilizer, and telecom sector, see Figure 2. In terms of overall intensity, the two-third of the total revenues has been earned during second phase; from 2002 to 2008. Secondly, prior to privatization public-sector enterprises were given tax exemptions along the subsidies and grants from government. The reduction in tax exemption and subsidies to PSEs was another source of increase in the revenues that reduces the fiscal deficit.

The success of privatization in Pakistan is not clear yet, as shown in Figure 3, that industries experience both rise and fall in the fixed assets. In addition, the study of Khan

<sup>&</sup>lt;sup>3</sup>This number represents the total PSEs along its subsidiaries.

<sup>&</sup>lt;sup>4</sup>https://www.thenews.com.pk/print/440589-govt-to-privatise-49-public-sector-concerns

<sup>&</sup>lt;sup>5</sup>We have calculated this amount by multiplying the revenues from PSEs with the exchange rate in the respective years.



Figure 1. Number of Privatization transactions: 1991–2016. Source: Privatization Commission of Pakistan



Figure 2. Revenue Earned by Sectors Source: Privatization Commission of Pakistan

(2003) argue that "in post-privatization period, about only 22% of the privatized units were performing better than in the pre-privatization period, 44% approximately the same and about the third, i.e., 34% worse than before."

Looking at other neighboring countries, China was the second-large privatizer in 2009, and the first in 2013 and 2014 in world. Approximately half of its state-owned enterprises in 2007 and nearly 60 percent of them have been privatized until 2012. South Asian countries also observed a substantial privatization during 2000–2008. During this period, the proceeds accounted as \$ 17.45 billion. India has contributed 55% followed by Pakistan 43% of the total sale proceeds. Afghanistan, Bangladesh, Nepal, and Sri Lanka



Figure 3. Privatization in South Asian region. Source: World bank Privatization survey

contribute only 2% (see Figure 3). The major privatizations have been carried out in the infrastructure sector, energy, financial, and manufacturing sector (World Bank Privatization Database).

Literature suggesting that the lesson was not always common in developing countries. The consequences of privatization shows that success of privatization depends on the market environment, fair process, and institutional environment (Estrin et al., 2009). Above trends in privatization suggest that privatization is not unique to Pakistan; it is equally happening in both developed and developing countries. However, the consequences of privatization vary greatly across the developing countries.

#### 3. Data and descriptive analysis

We rely on firm-level data that cover the pre- and post privatization period of the privatized Firms. Since financial and non-financial sectors have complete sectoral differences, therefore, we limit our regression analysis to the non-financial firms only that represent more than 90 percent of the government-owned entities.

We use firm's detailed balance sheets, which is collected from the State Bank of Pakistan (SBP). In this data set, we observe 49 out of 65 government-owned firms, which is more than 80 percent of total government-owned firms. We aim to provide preversus post-privatization performance and efficiency of the firms; therefore, we restrict our data to the firms that post-profits at least for 3 years preceding the privatization.<sup>6</sup> Privatization program started in 1991. The data we use in regression analysis start in 1986, which is 5 years prior to the first time launch of the privatization in Pakistan.

Our second main data set covers the privatization transactions from 1991 to 2014. These data come from the Privatization Commission of Pakistan. These data cover the transactions of all manufacturing, services, and utilities sectors and the privatization year

<sup>&</sup>lt;sup>6</sup>We do not have the information for the years 1999 to 2001, as it is not reported by PSEs to the SBP.

(timing). Table 1 provides exploratory analysis and compares pre- and post-privatization outcomes of the privatized firms.

To investigate the effects of political factors, we collect electoral data for each electoral district in Pakistan from all the federal elections held since 1988. We then hand-collect data on the address of the main operations of each firm and match firms to electoral districts with their location. We also collect data on last 12 IMF programs to control for the political and financial characteristics.

#### 3.1. Descriptive analysis

Comparing the pre- and post-privatization characteristics of privatized firms, we note several differences. In Table 1, we report that the average annual sales of privatized firms are more than four times larger than the average sales of firms in their pre-privatization period; this difference is significant at the 1% level. This comparison does not capture any performance improvements due to privatization because the privatized companies are included in the sample only until the year in which they first sell equity.

We use two performance measures: the rate of returns and net-profits-to-assets ratio.<sup>7</sup> Table 1 shows that privatized companies also have earned higher rate of return on assets on average compared to their fully government-owned counterparts, as measured by the ratio of the total net-profits to sales, and this difference is statistically significant at 1% level of significance. The higher returns on assets suggest favorable effect of privatization. On the contrary, the profitability or productivity measure (net-profits-to-sales ratio) was relatively higher for privatized firms but statistically insignificant compared to firms when the firms were fully government-owned firms.

Performance does represent whether firms performing well or not; however, the efficiency measures predict the firm's ability to use the resources or its assets effectively to produce output. As suggested by the literature, we use sales to employment ratios as a measure of efficiency of the firms. Comparing the pre- and post-privatization, this ratio suggests that there is small rise in the efficiency in the

	Before Privatized		After Privatized	
Variable	Mean	Std. Dev	Mean	Std. Dev
Performance Indicators				
Sales (Rs. million)	4207.21	11,419.74	14,643.06***	33,872.44
Assets (Rs. million)	3449.14	14,201.71	6613.23**	24,426.81
Net-profits to Sales Ratio	-2.71	29.44	-0.40	2.94
Rate of Return (Net-profits to Assets)	-0.82	4.86	0.29***	2.42
Efficiency Measure				
Sales to Employment Ratio (Efficiency)	0.026	-	0.039	-
Competition				
Competition (concentration Ratio)	0.54	-	0.35	-
Competition (Changes in Relative Prices)	0.99	-	0.98	-
Observation	320		358	
Number of firms	31	33	33	

Table 1. Pre- and post-privatization comparison of the firm outcomes.

<sup>7</sup>Standard measures to evaluate the firm performance

industry in post-privatization period. The privatization does not elevate the efficiency substantially overall.

In addition to firm performance and efficiency, we look at the competition in industry through firm concentrations in sectors and the changes in sector prices. The first measure is firm concentration in the industry. We have calculated the firm concentration at the industry level. Following the study of Ullah et al. (2013), we examine the market concentration by calculating the share of four-firm in the sector. Estimates are reported in Table 1, it suggests, though not substantial, but there is decrease in the concentration, which means there is small gains of competition through privatization in Pakistan.

Further, the competition leads to increase in production and fall in prices. The benefit of privatization in terms of the competitive market must be reflected in the reduction of real prices of the products of the privatized firms. The reduction in the prices also represent the higher level of efficiency. We examined the relative prices of each sector; our estimates in Table 1 suggest the relative prices of the sectors hardly changes in the post-privatization period. It reflects thatthe privatization could not increase the competition and nor the efficiency of the firms.

#### 4. Empirical analysis

The analytical framework is aiming to analyse the performance of privatized SOEs by examining the profitability and efficiency of the privatized SOEs. For the analysis purpose, we examine the pre- and post-performance of the privatized SOEs. This hypothesis tested to state that whether privatization in Pakistan has resulted in the improvement of the performance of the firms. We use the difference in difference analytical method to assess the impact of privatization on the outcome of the interest. It compares the outcome of interest that is the performance and efficiency of the firms in pre and post of the privatized SOEs compared to still under the control of government. Further, literature highlights the endogeneity of the privatization variable (variable of interest). We use instrumental variable technique to address this concern.

In the difference-in-difference setup, we control for the financial and political characteristic to examine the effect of privatization on the performance of PSEs. The regression model is explained as follow:

$$Y_{it} = \propto +\beta \ Privatize_{it} + \gamma X_{it} + \delta FE + \varepsilon_{it}$$
(Eq:1)

where  $Y_{it}$  is the performance and efficiency of firm variables that include the productivity of the firm, sales, net-profits, and rate of returns. *Privatize<sub>it</sub>* is the indicator that denote 1 if firm is privatized and 0 otherwise.  $X_{it}$  is the vector of control variables, and *FE* are the time-invariants. Prior literature (Serdar & Nandani, 2011) suggests that the firms' financial variables and firm characteristics have a significant impact on the government's decision to privatize firm early or late. This raises concern that if government is more likely to privatize profitable firms,<sup>8</sup> then comparing the performance of privatized firms to firms that remain government-owned or when they owned by government may overstate the impact of privatization on profitability.

<sup>&</sup>lt;sup>8</sup>Tribune 31 October 2018: https://tribune.com.pk/story/1837627/1-11-profitable-entities-shortlisted-sell-off/

In developing countries, generally, these sales proceeds from privatization flow to government rather than being reinvested in the privatized firms (Megginson (2005). The government of Pakistan has also used these proceeds to reduce the fiscal deficit rather than reinvested in the other industries. The literature suggests that the privatizing profitable firms first may increase sale proceeds (Megginson, Nash, Netter, and Poulsen (2004) and Gupta et al. (2008)). In this setting, we observe a positive relationship between the profitability and the privatization decision. On the other hand, the literature also suggest that unprofitable enterprises showed a remarkable efficiency improvement in response to privatization. In this setting, we can observe a negative relationship between the profitability and privatization. Hence, the relative importance considered by the government does matter.

Secondly, the privatization is not popular among the population. It may have political risks for politicians. Politician may avoid this risk by delaying the privatization process. This is widely evident in Pakistan. We bring the political economy of privatization to test the political determinants of the privatization. It is widely evident that politicians target public funds to regions with swing voters to win elections. Political connected firms and public enterprises often used to create more jobs in those regions (Cox and McCubbins (1986) and Persson and Tabellini (2002)).

In addition to that, the donors conditionalities effects on privatization in Pakistan. Government often used the Fund programs to overcome the economic difficulties. PSEs reforms including the pricing and subsidies, and privatization is one of the Fund conditionality (IMF, 2018). This conditionality perhaps can hasten the privatization process without bringing proper reforms (Breen and Doyle 2013).

Hence, to address these concerns, we run two-stage least square (2SLS) method to measure the effect of privatization on the performance of the firms (results are reported in Table 2). Following the Serdar and Nandani (2011), in first stage, we use financial and political variables as instruments for the privatization, following Wooldridge (2007), we fit a probit model with Privatize as the dependent variable, we then use the fitted probabilities from this model as an instrument for Privatize in a 2SLS estimation. In second stage, we estimate equation 1 (Eq:1) by using the predicted privatization variable to check the impact of the privatization on post-privatization performance. The two-stage estimation reduces the concerns of the selection of firms based on the pre-privatization performance.

#### 4.1. Results

We begin by estimating equation 1 (Eq: 1) to explain the impact of privatization on the performance indicators of firms. In Table 3, we present the alternative outcomes of the firm performance specifically *Profits/Sales*. From columns 1 to 4, we note that privatized firms experience a mild increase in productivity compared to their pre-privatization period. This difference in performance does not statistically significant. All regressions control for the financial and political variables and firm characteristics such as the year, industry, city, and the state fixed effects.

The industry and year fixed effects are included to control the industry level differences and changes in macroeconomic policy. City effects are considered to capture the differences in location of the firms. The political regimes captured by the democracy

	∆ in Profits/Sales	∆ in ROA	Δ in Ln (sales)
Second Stage	(1)	(2)	(3)
Privatization	0.865 (1.491)	0.679* (0.364)	-0.079 (0.074)
Stage 1			
Lag Ln (Sales)	0.100** (0.412)	0.098** (0.382)	0.098** (0.382)
Industry FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
State FE	Yes	Yes	Yes
Number of firm-year	1096	884	884

Table 2. Effects of Privatization on	firm	performance.
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versus non-democracy are insignificant. Similarly, electoral timing and donor conditionalities do not have impact on the performance of the privatized SOEs.

Next we examine the privatization effects on the efficiency of firms. It is measured as the return on assets (*Profits/Assets*). We note that privatization increases the efficiency of the privatized firms compared to government-owned firms, this difference is significant at the 5% level of significance. However, we also look at whether privatization increases the efficiency of the firms in terms of increased sales. Privatization does not enhance the efficiency of the privatized firms in terms of the increased sales. It suggests that efficiency improvement merely coming through the reduction in cost of production.

For consistency in results, we also examine the early post-privatization effects. We restrict data to 5 years before and 5 years after privatization of the PSEs. The results are presented in Table 5. From columns 1 to 3, we note that compared to firms that remain fully government-owned, privatized firms experience a mild increase in productivity, but this differences in performance does not statistically significant. Same is observed for efficiency indicator when we compared firms to the firms remain fully government-owned. Again all regressions alternatively control for the industry and year fixed effects to provide the consistent estimates (see Table 4).

	∆ in Profits/Sales	∆ in Profits/Sales	∆ in Profits/Sales	∆ in Profits/Sales
	(1)	(2)	(3)	(4)
Privatization	0.863 (0.911)	0.863 (0.911)	0.863 (0.911)	0.863 (0.911)
Ln (Sales)	-3.474 (3.652)	-3.474 (3.652)	-3.474 (3.652)	-3.474 (3.652)
Profit/Sales	0.417*** (0.063)	0.417*** (0.063)	0.417*** (0.063)	0.417*** (0.063)
Urbanization	-	-	-	
Firm Size	0.675 (2.278)	0.675 (2.278)	0.675 (2.278)	0.675 (2.278)
Donor Effect		0.004 (0.005)	0.004 (0.005)	0.004 (0.005)
Democracy			7.877 (9.881)	7.877 (9.881)
Competitive Election				15.551 (9.587)
R^2	0.25	0.25	0.25	0.25
Industry FE	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes
Number of firms	48	48	48	48
Number of firm-year	1096	1096	1096	1096

#### Table 3. Effects of Privatization on firm performance.

	Δ in ROA	∆ in ROA	Δ in Ln (sales)
	(1)	(2)	(3)
Privatization	0.740** (0.394)	0.740** (0.394)	-0.088 (0.055)
Ln (Sales)	-0.146 (0.130)	-0.160 (0.130)	0.002 (0.011)
Profit/Sales	0.002 (0.003)	0.002 (0.003)	0.002* (0.001)
Urbanization	-	-	
Firm Importance	-0.139 (0.189)		
Donor Effect	0.003 (0.241)		-0.091 (0.121)
Democracy	-1.064* (0.610)		-0.062 (0.093)
Competitive Election			
R^2	0.12	0.12	0.16
Industry FE	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
City FE	Yes	Yes	Yes
Number of firms	48	48	48
Number of firm-year	884	884	884

#### Table 4. Effects of Privatization on firm performance.

#### 4.2. Robustness of the results

#### 4.2.1. Instrumental variable approach

In the methodology section, we have discussed that the financial variables and firm characteristics have a significant impact on the government's decision to privatize firm early or late. This raises concern that if government is more likely to privatize profitable firms, then comparing the performance of privatized firms to firms that remain government-owned may overstate the impact of privatization on profitability. Secondly, the privatization is not popular among the population; it may have political risks for politicians, which might delay or hasten the privatization. We perform two analysis to deal with this concern. First, we look at whether financial and political factor influence on the decision to privatization. Second, using the instrumental variable method, we run two-stage least square to address the endogeneity of privatization.

In Table 6, we present the analysis that examine the effect of the financial and political factors. In columns 1–3, we note that the more profitable firms less likely to privatize, but insignificantly, it suggests that the productivity does not significantly delay or make decision quick. Similarly, national importance firms (ratio of a firm's

penoa.							
	ΔProfits/ Sales	ΔProfits/ Sales	ΔProfits/ Sales	ΔROA	ΔROA	∆Ln (sales)	∆Ln (sales)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Privatization	0.326 (1.462)	0.187 (2.110)	0.507 (0.814)	0.089 (0.499)	0.410 (1.042)	-0.033 (0.021)	-0.106 (0.133)
Industry FE	Yes	Yes	Yes	Yes	No	Yes	No
Firm FÉ	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Years FE	Yes	Yes	Yes	Yes	No	Yes	Yes
Number of firms	48	48	48	48	48	48	48
Number of firm- year	777	777	777	509	509	777	777

 Table 5. Early Post-Privatization effects: assessment using data restricted to 5 years before–after period.

sales to the total sales of all government-owned firms) affect the privatization decision. The higher national importance firm is less likely to privatize. Results are consistent with the current stories of the National Importance firms such as the PIA, etc. Government faced strong resistance for these organizations; it could not privatize them after several attempts.

On the contrary, the results in columns 4–5 show that political factors effect is statistically insignificant. The competitive elections and government vote share do not have significant effects on privatization. We find that the government decision to privatize some firms while not others, it does not depend significantly on the electoral concerns. Further, we look at the role of donor (Fund) programs and the democratic institutions in the privatization of the PSEs. Fund conditionalities often include the condition of the privatization of the PSEs whenever government went for the loan from IMF (Table 6). Here, the variable Donor Conditionality Effect represents the dummy; it takes value 1 if country having IMF program in the previous and current year zero otherwise. Similarly, the democratic regimes and the donor conditionalities do not have contemporaneous effects on the privatization decision. This result is consistent with the result reported by the IMF (2019), in which they have assessed that Fund's PSEs reform conditionality was either unmet or delayed mostly.

Finally, our first analysis suggest that financial health of the firm has positive and significant effects, while political variables do not have any impact on the privatization decision. Therefore, using the profitability of firms as an instrument, we estimate a two-stage regression.

In first stage, we estimate instrument effects on privatization including the firmspecific and demographic controls. Results are presented in Table 2. The result estimated in the second stage are consistent with our baseline results.

#### 4.3. Sectoral heterogeneity

Privatization may have differences in effects across the sector. Results are presented in Table 7. This analysis provides an interesting view about the success and failure of

	(1)	(2)	(3)	(4)	(5)
Ln (Sales)	0.406** (0.195)	0.397** (0.193)	0.385** (0.193)	0.406** (0.187)	0.406** (0.187)
Net-profit/Sales	-0.016** (0.006)	-0.016** (0.006)	-0.015** (0.006)	-0.016** (0.006)	-0.016** (0.006)
Urbanization	-0.135 (0.127)	-0.130 (0.127)	-0.131 (0.127)	-0.162 (0.132)	-0.162 (0.132)
Firm Importance	-11.326 (10.803)	-11.372 (10.850)	-10.301 (10.398)	-9.539 (9.564)	-9.539 (9.564)
Donor Effect		-0.0003 (0.0003)	-0.0003 (0.0003)	-0.0003 (0.0003)	-0.0003 (0.0003)
Democracy			0.220 (0.508)	0.390 (0.729)	0.390 (0.729)
Competitive Election					0.392 (0.729)
Gov Vote share				-3.459 (2.501)	-3.459 (2.501)
Industry FE	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes
Number of firms	47	47	47	47	47
Number of firm-year	1096	1096	1096	1096	1096

Table 6. Privatization? Financial and political factors effects.

This table represents results from estimating a Cox proportional hazard regression covering the time period from 1986 to 2014. The firm-specific variables are lagged 1-year. Heteroskedasticity-robust standard errors are clustered at the state level. The standard errors are presented in the parentheses. \*, \*\*, and \*\*\* denote the statistical significance at the 10%, 5%, and 1% level, respectively.

privatization at sector level. Using within-firm variation, we analyze the change in returns on assets ( $\Delta$ ROA) to assess the performance of the PSEs after the privatization. Columns 1–8 show that five sectors experienced (on average) positive effects of privatization in which the effect was significant only for the Telecom and Textile sector.

The effect on the PSEs in Automobile, Ghee & Edible Oil industries was also positive but statistically insignificant. Compared to their pre-privatized period, the PSEs in these sectors performed better. In contrast, energy, cement, and chemical industries experienced negative effects in their productivity in terms of the returns on the assets. The effects of privatization on the cement sector were worst compare to the energy and chemical sector.

#### 4.4. Assessment through key informants interviews (KIIs)

The qualitative part was comprehend after discussion or interviews of the key informants. To align the qualitative results with qualitative observations, we ask three questions to the top-notch key informants<sup>9</sup> who either involved in the process of privatization or they served at the board of the SOEs. First we asked, what factor leads to privatization in Pakistan? Second, was privatization successful in Pakistan? Third, what is role of regulator for the failure or success of the privatization?

We have discussed the specific examples of privatization in Pakistan financial sector, steel mill, and electric Company. We concluded findings on these privatizations in the following paragraphs.

First, in financial sector, equity considerations remain one of the big pushers for privatization in Pakistan. The politicians care more about the constituencies rather than economy to decide about privatization in Pakistan. To correct the fiscal imbalances, the donors' organizations at the beginning do ask for improving the performances of the PSEs, otherwise, suggest to privatize those entities that incurring huge losses to the national exchequer. Strong political commitment and political ideology has delayed the privatization in Pakistan. These observations are consistent with our empirical results in previous section.

Second example, the Pakistan Telecommunication (PTCL) deregulation happened in 1996. In pre-privatization period, PTCL was earning 19.5% return on assets on average. It was the biggest contributor to the National exchequer, approximately RS. 45 billion noted in 2004. Further, the tariff was reduced to more than half after the emergence of the

	Energy Sector	Engineering Sector	Cement Sector	Telecom Sector	Textile Sector	Ghee Indus	Chemical Sector	Automobile Sector
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Privatization	-0.159 (0.244)	0.387 (0.307)	-0.242* (0.145)	1.023*** (0.183)	9.759*** (0.948)	2.491 (2.800)	-0.099 (0.245)	0.053 (1.587)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R-squared	0.26	0.26	0.40	0.83	0.86	0.27	0.44	0.21
Observations	203	88	112	19	19	131	74	133

Table 7. Effects of Privatization: sector-specific success versus failure stories.

<sup>9</sup>Selection (see the Appendix D) was based on their relationship to privatization subject.

technological changes in sector. However, the service delivery was inordinate. It was a sovereign deal as it involved special treatment to Etisalat by transferring ownership by selling 26% against the rule, which require 51% shares. Government preferred Etisalat over the Singaporean experienced and well credible bidder.

BOX 4.1: What factors decide privatization in Pakistan?

- Fiscal imbalances in general, subsidies burden, and bad financial health of the PSEs in particular was the one aspects of privatization.
- Politician cares more about their constituencies instead of the economy.
- Donors conditionalities can influence deregulation and privatization.

**BOX 4.2:** Why Privatization Failed?

- Liberal market-oriented framework provision was not present
- Complementary reforms are required to reap the benefits of privatization
- Macroeconomic efficiency or sustainability was not maintained.
- Lingering controls of regulations and regulatory mechanism.
- Both product and factor market needed to work
- Subsidies & distortion also affect efficiency
- Lack of professionalism, integrity, technical capacity, and political interference led not to perform privatization in Pakistan

The Singapore company offered \$1.8 billion, while Etisalat offered 2.6. Government sold PTCL to Etisalat for \$2.6 billion. For this deal, government received only \$1.8 billion, the remaining \$800 million never been paid by the Etisalat. After deregulation, the post-privatization telecom sector services improved.

Rural areas were connected; universal fund was established to increase tele density. Access to connectivity, and profitability went huge. Unfortunately, the regulator Pakistan Telecommunication Authority (PTA) did not influence PTCL, and other related entities to work in a regulated market environment. PTA is even not determining the prices. The prices are set by the communication entities themselves.

The role of the regulator (PTA) is limited to oversee the determination of market prices. PTCL deregulation was not a fair deal. It lost \$800 million, and also, it did not improve the market failure in terms of competition. The selling of PTCL involves special treatment. Government sold 26% shares to Etisalat and also transferred the management which is against the rule, which requires 51% shares. Government of Pakistan had agreed that Etisalat would pay \$2.6 billion by making \$1.4 billion upfront payments and the remaining \$1.2 billion in nine installments of US\$ 133 million. For this deal, government received only \$1.8 billion, the remaining \$800 million never been paid by the Etisalat. Further, Government also provided 100% properties of the PTCL to the Etisalat. However, this property remained disputed because the property sold out was owned by the provincial governments and Pakistan Railways. A prior consultation was with the provincial governments and organizations who own were not consulted. In addition, it

#### BOX 4.3: Performance of the Financial Institutions

In post-privatization period, though branch networks and private sector banks increase substantially, but equity concentration toward urban centers has increased.

- It was expected that government holding with banks would decrease in post-privatized era. However, it did
  increase.
- The competition in the market would decrease the interest rate spread. However, the spread continued to remain high.
- The following structure issues in the economy do influence spread
- The influence of the trade unions
- Social reasons
- Over-staffing
- Policy changes may cause bad debt.

BOX 4.4: Performance of Pakistan Telecommunication Limited (PTCL)

- The tele density increased, also service delivery become efficient in the post-privatization period
- Ignoring a competitive firm. Etisalat had no experience to work in a competitive environment. The Singaporean company could had brought up competitive environment.
- Deregulating the market and introduction of cellular companies do affect Etisalat profitability and performance.

has been noted that the monopoly of the telecom sector persisted despite the privatization and drove away billions of dollars.

Third, the inability of the WAPDA and KESC to meet the growing energy demand the World Bank asked the government to privatize the energy sector instead of increasing production capacity. First power policy was announced in 1994, later with amendments in 2002, and in 2013–14, respectively. The power policy agreement with Independent Power Producers (IPPs) was so generous. The power policy guaranteed, capacity and energy payments, and internal rate of return (US \$ 15–18 % per year for the 25–30 years). On top of this the operational cost was also covered by the government. No negotiation on the usages of the type of the fuel which means investor can use expensive furnace oil because the government was bound to cover these expenses.

The privatization of the KESC was privatization of the leading public-sector electricity supplying organization in the energy sector in Pakistan. Experts opinion suggest that two objectives were on the table for the privatization of this organization. First, control the fiscal burden that was caused by mounting losses stemming in part from very high line losses. Second, bring the efficient management and new investment to provide the supply of electricity to Karachi.

Prior to the privatization, KESC was running in loss for the last thirteen consecutive years. The loss was accounted as 12 to 15 billion annually, and the line losses was as higher as 40% of the total transmission. Government had injected Rs. 147 billion into KESC, RS 109 billion before privatization and more than Rs.38 billion after the privatization. KESC was receiving approximately 700 MW from PEPCO. After privatization,

government paid more than Rs. 31 billion to PEPCO as the partial payments due on the KESC. Contemporary, part of the problem of the circular debt in the power sector arises from the non-payment of KESC dues to PEPCO, and the PEPCO is not able to pay the IPPs and so on.

#### BOX 4.5: Energy Sector Dynamics

The IPP contracts in 1990s were generous, expert admitted that it was suicidal for the economy of Pakistan.
This generous deal damagingly changed the energy mix hydro and thermal (60:40) to (30:70) by the end of 2010

The KESC is privatized in 2005 when government of Pakistan sold 74% shares of the company including the management control transfer the private enterprise. Though the main reason of the privatization of KESC was to get rid of this loss-making enterprise, but unfortunately government is paying more after privatization. With having generous deal the objective of the privatization to engender efficiency, and competition in the market did not occur. This generous deal damagingly changed the energy mix hydro and thermal (60:40) to (30:70) by the end of 2010 [Kamal and Naqvi (2018)].

Unfortunately, like other regulators NEPRA failed to determine prices and tariff based on market scenarios. These are totally based on political choices that come from the cabinet.<sup>10</sup> The presence of the provincial members in the NEPRA board also hurts the performance because every provincial members do not operate for a country as a single entity but operating to benefit their respective provinces.

The prevailing regulatory structure of the regulatory authorities<sup>11</sup> is unfortunately does not favor to improve post-privatization performance, efficiency, and competition. The government intervention in the regulatory capture is dominant. Every regulatory authority has a board member from the government. This practice is clearly not aligned with the privatization regulations. Government intervention (secretary is setting as board members) creates conflict of interest by having ownership and management altogether. Government intervention compromised autonomy and independence when you own regulators and issue guidelines simultaneously. Hefty amount is paid to these board members to attend board meeting. These board meetings are also organized at attractive touristic destinations.

Most of the regulators are based in Islamabad, while the markets do not exist in Islamabad. A disconnect exists between markets and regulators. Outreach of the sub offices of few regulators do exist across provinces, but how much these sub offices are powerful to regulate the markets is questionable. It's an indication of bureaucratic capture to host most of the regulators in Islamabad.<sup>12</sup>

<sup>&</sup>lt;sup>10</sup>Economic Coordination Committee (ECC) approves Power Act 1997 despite NEPRA reservation (The News, 7 January 2020). In this amendment ECC is empowered over NEPRA. The ECC can impose a surcharge over and above proposed by NEPRA.

<sup>&</sup>lt;sup>11</sup>List of regulatory authorities are provided in Appendix E

<sup>&</sup>lt;sup>12</sup>Discussion with experts (see Appendix D)

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Corporate Board Members behavior in term of their professional competency is questionable. Corporate Board Members lack technical professionalism, integrity, and technical capacity and are hand-picked. In case where corporate board have provincial members, the board represents less the regulators and more the provincial interest. The board members trying protecting provinces interest and not representing a policy board.

#### **BOX 4.6:** Regulators failed to regulate.

Chinese Railways were running under their relevant Ministries. These two entities were incurring losses, but the Chinese government separated these entities from the Ministries so that management and ownership remain separate. Now these two entities are generating profit. Unfortunately, our Civil Aviation Authority works under the Ministry of Defense, and Railway is his own Ministry e.g., Ministry of Railways. Management and ownership should be separate to make have prescribed privatization objectives. Regulators are disconnected from their respective markets. Most of the regulators are housed in Islamabad. Provincial representation in the corporate board as a member support their respective provinces interest

instead to support country objective(s).

### 5. Concluding remarks and policy recommendations

Performance, efficiency, and competition of privatization<sup>13</sup> are the key objectives of the privatizations. Our findings suggest that intended objectives performance, and efficiency have increased in the post-privatization period. The fundamental reason of the privatization in lack of enabling environment and the malfunctioning of the regulatory environment led to market failure that eventually ends up in market exploitation.<sup>14</sup> Over regulations, and lingering controls of regulations, and regulatory mechanism also not supported the success of privatization in Pakistan. The regulations and the regulators are captured by market, bureaucrats, and politicians. Unfortunately, an effective regulatory environment does not exist to force the privatized entities to have higher efficiency and develop competitive environment. Regulations are tilted to protect markets gains instead of correcting market failure.

Based on the literature and expert opinion survey, this paper proposes following key policy suggestions for the effective privatization in Pakistan.

• First, the management should be separated from the ownership of PSEs. It is general belief that "it is not the business of the government to run the businesses." The management of PSEs should be tasked to the private sector while government can retain ownership of the PSEs and regulate them through the effective regulators. The giant Civil Aviation of China is an excellent

<sup>&</sup>lt;sup>13</sup>".... a transaction by virtue of which any property, right, interest, concession or management thereof is transferred to any person (entity) from the Federal Government or any enterprise owned or controlled, wholly or partially, directly or indirectly, by the Federal Government". (*PC Ordinance 2000*)"

<sup>&</sup>lt;sup>14</sup>Sugar, and Cement Industries

example of this model. The Chinese government has transferred the operations and management of this institution to the private sector, while ownership has retained with the government.

- Second, the design of regulation and the role of regulator are extremely important in the post-privatization period. The determination of prices and the utilization of capacity of the privatized units should be determine by the regulator. This would decrease the risk of cartel and monopolies.
- Third, instead of separate authorities for the public utilities (OGRA, NEPRA etc.) why we do not have a single authority for the public utilities.
- Fourth, Withholding companies Khazana (Malaysia) and Temaset (Singapore) models are under consideration for a successful (improve performance, efficiency, and competition) privatization, but its detailed practical underpinning need to be explored before opting these two models.
- Finally, governments sequence privatizations strategically, often leading the most profitable firms to be privatized early. The instantaneous privatization may also lead to costly unemployment; hence, the optimal privatization path may be sequential.

A comprehensive privatization policy is needed to set the pre-conditions and postprivatization monitoring and evaluations. In pre-privatization period, the need of regulations experts in the cabinet is necessary. Unfortunately, the technical expert had not been involved in the discussion in past. The regulation expert at the cabinet can confront the discussion on the design of regulation policies.

The privatization policy should include framework for the monitoring and evaluation to assess the achievement of the goals in post-privatized years. The post-privatization monitoring would increase the credibility of the privatization in Pakistan and may build the way forward for future privatization.

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Industries	Firms/sub-sector	Industries	Firms/sub-sector
Ghee Industries	Associated Indus	Chemical	Sindh Alkal
	Burma oil		Wah-Nobles
	Fazal Veg Ghee		Bela Industries
	Kakakhel Indus		PVC Ltd
	Kohinoor oil	Energy	Attock refinery
	Maqbool Company		Bosicor Pak
	Morafco Indus		KESC
	Sh.Fazal Rehamn		National refinery
	Wazir Ali Industries		OGDCL
	Universal oil and ghee		PPL
Automobile	Al-Ghazi		Pakistan Oilfield
	Dewan Auto		Pakistan State Oil
	Millat		Sui Northern gas
	National motors		Suraj Ghee
	Pak Suzuki Motorcycles		Sui southern gas
	Bolan	Engineering	Hinopak
	Suzuki		Metropolitan
Cement	Danot Cement		Pakistan eng
	Gharibwal		Quality Steel
	Javedan cement	Telecom	PTC
	Mustehkam		Pak Datacome
	Zeal Pak	Ailines	PIA
Shipping	Pakistan Shipping	Other	Thal Industries
Textile	Harnai Woolen		Security Paper
	Ravi.rayon		

# Appendix A List of Industries and Firms (sub-sectors)

Sector	Transactions	Value (Rs. Million)
Banking	7	41,023
Capital Market Transaction	26	303,494
Energy	15	54,273
Telecom	4	187,024
Automobile	7	1102
Cement	17	16,177
Chemical	16	1643
Engineering	7	183
Fertilizers	7	40,281
Ghee Mills	24	842
Rice	8	236
Roti Plants	15	91
Textile	4	371
Newspapers	5	271
Tourism	4	1805
Others	6	158
Total	172	648,972

## **Appendix B**





## Appendix C

List of Experts

- Asad Umar, Federal Minister for Planning, Development, Reforms and Special Initiatives and former Finance Minister of Pakistan
- Haroon Sharif, former Federal Minister for Board of Investment
- Wajid Rana, Former Federal Secretary for Finance
- Ahmad Qadir, Director General, Competition Commission of Pakistan
- Mr. Zafar Iqbal Sobani, Member, Privatization Commission of Pakistan
- Dr. Khaqan Babar, Additional Secretary, Privatization Commission of Pakistan
- Muhammad Arif Sargana, Director, Pakistan Telecommunication Authority
- Ishrat Hussain, Ex-Governor, State Bank of Pakistan
- Shamsul Mulk Ex-Chief Minister Khyber Pakhtunkhwa

#### **Appendix D**

Regulatory Bodies in Pakistan

- Pakistan Telecommunication Authority (PTA)
- Oil & Gas Regulatory Authority (OGRA)
- National Electricity and Power Regulatory Authority (NEPRA)
- State Bank of Pakistan (SBP)
- Securities & Exchange Commission of Pakistan (SECP)