3. Research Gaps
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Existing theories on saving (life-cycle theory; precautionary motives theory) were developed for household individuals. Life-cycle theory (Modigliani, 1986) is subject to the assumption that an individual has two life stages: in the first stage he earns income and saves, while in the last stage, because he/she does not earn income, he/she consumes his/her savings from the previous stage. The theory of precautionary motives (Deaton, 1989; 1990) suggests that an individual saves because of future uncertainties, e.g. he/she might face volatility in his/her income stream or he/she might face some family/social emergency. This theory focuses on individuals in developing countries where macroeconomic environment is unstable, jobs are unsecure and financial markets are not developed, so individuals tend to hoard some precautionary buffers for future uncertainty. Later Carrol (1997) explained the difference between the precautionary saving motive and impatient behaviour as there is income uncertainty. He proposed ‘Buffer Stock Model’ as a better way to capture the impatient household in an uncertain environment than the life-cycle hypothesis.

The theoretical framework of life cycle theory cannot be applied to corporate entities that do not have two life stages similar to individuals. Household individuals and firms differ largely on the financing constraints and the accessibility of market credit (Bernheim, 2002; IMF study, 2006). Firm has a perpetual life and it never stops its business until it shuts down. Also, firms do not face constraints of two life-stages like one full-period of profit generation followed by one period of nil profits; however, firms do have business cycles. However, for these firms there could be precautionary saving motives. Also as Keynes (1936) suggested that in the presence of financing frictions, firms will exhibit precautionary demand for cash holding. Firms perform cost-benefit analysis of financing sources (Trade-off theory) and
prioritise between internal funds, generated from previous periods and external funds from capital markets (debt or equity) (Modigliani & Miller, 1958).

Firm’s investment decision depends on the firm’s ability to access the external sources of financing. In other words if a firm faces financing constraints, its investment behaviour will be quite different from the firm that is not financially constrained. If firms face financing constraints due to asymmetric information in capital markets then their external financing will be costly (e.g. Fazzari, Hubbard, & Petersen, 1988; Kaplan & Zingales, 1997). In such a scenario, it is useful for financially constrained firms to save for future investment activities. Pecking order theory also suggests that firm’s internal funds (retained earnings) are the least costly source for financing (Myers & Majluf, 1984). Thus there are incentives for firms to hold precautionary saving and utilise the internal funds for future investments.

Recently there has been a surge of corporate cash management studies focussed on understanding the corporate saving in the form of cash (cash & cash equivalent) hoarding in relation with financial constraints. ‘Precautionary motives’ has been found useful in explaining the cash holding behaviour of corporates in the presence of financial constraints (e.g. Almeida, Campello, & Weisbach, 2004; Bates, Kahle, & Stulz, 2009; Boubakri, Martinez, & Perez Artica, 2013; Gao, Harford, & Li, 2013). These studies found that the propensity to save cash out of cash-flow is positive for financially constrained firm. However, to the best of our knowledge, no study has attempted to understand the recent trend of rising corporate saving (defined as retained earnings plus depreciation) by controlling the firm’s financially constrained status.
There have been studies explaining determinants of total saving (e.g. Grigoli, Herman, & Schmidt-Hebbel, 2014) and private savings (household plus corporate saving) (e.g. Loayza et al., 2000). There are established theories (Carroll, 1997; Deaton, 1989; Modigliani, 1986) and multiple studies that may explain the determinants of household saving (e.g. Ang, 2009; Horioka & Wan, 2007). However, research is scant on determinants of corporate saving in emerging economies.

Karabarbounis and Neiman (2014) found a global trend of rising share of corporate saving in the total savings; they mentioned that share of corporate saving exceeded 20% of total saving. They found in their sample of 44 countries with more than 10 years of data, 30 countries exhibited increasing trend in the share of saving due to the corporate sector and 22 of these trends are statistically significantly greater than zero. However, only a few studies namely Hsieh and Parker (2006) for Chile, Bayoumi, Tong, and Wei (2011) for China, Armenter and Hnatkovska (2013) for the United States, and Brufman et al. (2013) for developed countries, have focussed to understand this recent trend of rising corporate saving (gross savings as retained earnings plus depreciation). This definition of firm-level corporate saving matches closely with that of the aggregate corporate saving in the national accounting calculations.

In the Indian context, in recent times, only Bhole and Mahakud (2005) and Jangili and Kumar (2011) have attempted to understand the determinants of corporate saving; both have considered retention ratio (retained profit divided by profit after tax). Their focus was on how corporate saving could be increased because at that time it constituted a minimal portion of total private saving. Corporate saving in India started rising only in the early 2000s. Their
objective was also to identify the firm level determinants that might increase the retention ratio, which might infuse high investment activities in the economy.

Apart from these two studies, to the best of our knowledge, there has not been any attempt made to understand the recent trend of corporate saving in India. Even these two studies are not consistent with the definition of corporate saving used by Central Statistical Organisation, Government of India (CSO) and Reserve Bank of India (RBI). The visible trend is about rising aggregate corporate saving that has been estimated at the national level using the definition as ‘retained earning plus depreciation adjusted by non-operating surplus/deficit’. The proposed study is the first of its kind to understand the determinants of corporate saving using the definition used by CSO/RBI.

In India, there has not been any attempt made to understand the macroeconomic level variables that might determine corporate saving. However, the IMF (2006) considered macroeconomic level variables for developed economies and Ozmen, Sahinoz, and Yalcin (2012) have also looked at the same for Turkey. There are studies which have considered macroeconomic level variables for explaining the determinants of total domestic saving or private saving (see e.g. Athukorala & Sen, 2004; Grigoli et al., 2014; Loayza et al., 2000). Recently, Gao et al. (2013) found significant differences in the corporate cash holding policies of U.S. private and public firms\(^8\). However, Bayoumi et al. (2011) did not find any significant difference between gross saving pattern of Chinese state owned firms and non-state owned firms. IMF study (2006), Horioka and Terada-Hagiwara (2013) and Ozmen et al. (2012) have examined the industry level differences of corporate saving by capturing the industry dummies. Service sector firms have higher level of intangible assets as compared to

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\(^8\)In the Indian context, we found 31 companies in manufacturing sector and 14 companies in services sector, that were publicly listed, government owned and whose data were available but this data was insufficient for further econometric analysis.
manufacturing sector firms. It may be interesting to explore the differences in determinants of corporate saving between manufacturing and services firms in India by separating the two sectors. Horioka and Terada-Hagiwara (2013) have defined firm-level corporate saving as change in stock of cash and cash equivalent and found that propensity to save cash has declined after the global financial crisis (2007-8). The proposed study will be the first of its kind that a) integrates firm-level and macroeconomic determinants of corporate saving in India, b) explores the differences in determinants of the corporate saving of manufacturing and services sectors in India, c) examines the effect of global financial crisis (2007-8) on the firm-level corporate saving in India.

The overall objective of the proposed study is to understand the behaviour of corporate saving in India. These are the research questions for the proposed study –

1. What are the firm-level variables that determine corporate saving in India?
2. What are the macroeconomic variables that determine corporate saving in India?
3. Is there sector (Manufacturing and Services) level differences in determinants of corporate saving and if so why?
4. What is the impact of the global financial crisis on the corporate saving and its determinants in India?