

Quantitative Easing and Corporate Surplus Hoarding in Japan

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Abstract

Beginning in 2012 the Bank of Japan embarked on an internationally unprecedented quantitative easing (QE) program of Japan government bond purchases, the goal of which was to motivate firms to buy riskier assets such as corporate bonds and equities, therefore lowering the cost of accessing credit on private markets and increasing household wealth. However, Japanese firms have responded by raising surplus hoarding behaviour to an unprecedented level with corporate assets in cash and deposits reaching a record high of 246 trillion yen (2.2 trillion USD) by 2015 (Fujioka, 2016). Because mainstream accounts of why QE has faltered have focused narrowly on breakdowns in the mechanical aspects of the QE transmission mechanism this paper seeks instead to question the fundamental assumptions of a perfectly rational representative agent that underlie the *portfolio balancing mechanism* at the heart of QE. To this end I have combined a Japan specific theory of the firm drawn from the *capitalist developmental state* literature based on the work of Chalmers Johnson with ideas of liquidity preference drawn from the Post-Keynesian literature. The intention behind this synthesis is to propose an alternative explanation in which specific structural imperatives that Japanese firms have inherited from the developmental growth model, such as a preference for long-term investments and autonomy of management from shareholders have contributed to a unique form of liquidity preference I have tentatively called *path-dependent liquidity preference*, which has become a blockage in the intended transmission mechanism of QE.

Introduction

Beginning in 2012 the BoJ implemented a QE program of unprecedented scale hoping to create a revival of Japanese equity markets via the *portfolio rebalancing mechanism*, and subsequently the growth of domestic demand via the *wealth effect*. However, the transmission mechanisms of this program were premised on basic methodological misunderstandings common to the logic of all QE programs, both of the nature of money - assuming it is exogenous, and of firms - assuming they are profit motivated rational actors. As such these mechanisms were not designed to take account of firms' liquidity preferences a particular issue in the Japanese context where corporate cash reserves have been growing in Japan, both absolutely, and relative to investment, since the early 1990s. The goal of this paper is to investigate both how liquidity preference disrupts the transmission mechanisms of QE in Japan and why this liquidity preference is so high. In order to do this this paper first establishes the logic of QE's portfolio balancing and bank funding channels, as articulated by its proponents. It then addresses the case of QE in Japan, where the BoJ's experience has been one of initial success running into diminishing returns as QE runs up against the long-term surplus hoarding trend in the Japanese private-sector. This paper then reframes the Japanese experience within the critique of QE offered by authors such as Lavoie (2014, 2016) and Koo (2011) who argue that QE relies on the faulty assumption of an exogenous money supply and instead assesses the failures of QE within an endogenous money model. In order to marry this basically Post-Keynesian understanding of liquidity preference and monetary flows more closely to the specificities of private sector surplus hoarding in Japan this paper then follows the example of Lucarelli (2015) and introduces insights regarding firm behaviour drawn the capitalist developmental state (CDS) literature of Chalmers Johnson. This literature introduces specific historical-structural barriers Japanese firms have inherited from the state-developmental model that drove the country's growth during its boom era but

have since failed to adapt to the context of secular stagnation in Japan and now present barriers to renewed private sector investment. This paper finally presents a synthesis of these two approaches, Post-Keynesian and structuralist, in order to propose a Japan specific iteration of liquidity preference tentatively named here *path-dependent liquidity preference*, which is backgrounded within a brief discussion of the role played by the concepts of *historical time* and *uncertainty* in the Post-Keynesian definitions of liquidity preference. This original formulation of *path-dependent liquidity preference* is far from a complete model, rather it is a preliminary attempt at a synthesis specific to the Japanese case study which is being presented here ‘as is’ in order to obtain the direct feedback of the heterodox community.

Quantitative Easing – Transmission Mechanisms and Evidence from Japan

For the first transmission mechanism this paper adopts Goodhart and Ashworth’s (2012: 662) terminology of the ‘portfolio substitution channel’, as it relies on the existence of a *portfolio rebalancing mechanism*. Whilst within this channel there is some divergence in what central banks actually buy, mortgage-backed securities in the case of the Fed, long dated gilts for the BoE and shorter dated JGBs for the BoJ (Goodhart & Ashworth, 2012: 654), all central banks that have implemented a QE program have followed the same basic logic. Namely that replacing safe assets on private sector balance sheets with central bank reserves will prompt firms and non-bank financial institutions to jettison these low-interest bearing reserves and invest in riskier assets such as equities - the *portfolio rebalancing mechanism*. The rising yields of these riskier assets will then allow these firms and non-bank financial institutions access to cheaper credit which can finance increased investment. Higher equity prices will also increase the wealth of households (who disproportionately hold equities) thus increasing household spending via the so-called *wealth effect*, the idea that investors will be more comfortable to spend if the value of their portfolios increases (Goodhart & Ashworth 2012: 662). This new spending will raise domestic demand and subsequently GDP growth. This mechanism is generally assumed to be the primary channel for the operation of QE, and much of QE’s success or failure rests on whether this portfolio rebalancing behavior occurs or not. However, it is not the only mechanism of action for QE as there is also what Goodhart and Ashworth (2012) refer to as the ‘bank funding channel’.

This secondary transmission mechanism follows basically the same sequential logic as the portfolio substitution channel, simply with firms and non-bank institutions replaced with private banks. Former BoE Monetary Policy Committee member David Miles (as quoted in Goodhart & Ashworth, 2012: 666) described this channel in a 2011 Speech to the Royal Economic Society, there he explained that:

When the Bank of England purchases gilts owned by non-banks, all else equal, banks’ deposits rise as do reserve balances at the central bank. To the extent that a bank’s reserve holdings would then come to exceed its demand for liquidity, it is likely to be more willing to expand lending.

The basic logic of this mechanism is that during QE operations, the sellers of government bonds (firms) deposit the proceeds of these sales (central bank reserves) into their accounts in private banks. These banks can then make new loans against the value of these reserves (Lavoie, 2016: 68). The assumption that increasing the reserve position of private banks will prompt them to lend relies on a specific interpretation of the relationship between central bank money and private bank money - that of the so called *money multiplier*. This is the belief that the more the central bank expands the monetary base beyond the reserve requirements and liquidity preferences of private banks, the easier it will be for banks to extend private lines of credit, thus increasing the overall size of the money supply.

If we turn to the case of BoJ easing in Japan, despite creating a “dominant position in the government bond market [that] will be *unprecedented* among major advanced economies” (Arslanalp and Botman, 2015: 9, emphasis added) the BoJ’s experience has been one of a successful start running into diminishing returns. Headline macroeconomic indicators were full of positive sings for QE in Japan in the first two years of ‘Abenomics’. Between 2012 and 2014 there was a boost in the value of Nikkei index, the yen depreciated, unemployment fell, the consumer price index rose and even GDP briefly turned positive (Wakatabe, 2015: 113). However, as Wakatabe (2015: 113-114) explains:

Toward the summer of 2014, people began talking about Abenomics being in trouble...The annualized real growth rates for the second and the third quarters turned to negative, and the output gap widened to – 2.8 percent of Japan’s GDP in the third quarter of 2014.

Despite a second round of BoJ easing beginning in 2014, the all-important reflation target has remained elusive with inflation as measured by annual percentage change in the consumer price index returning to its downward trend since 2014 (see *fig 1.1*).

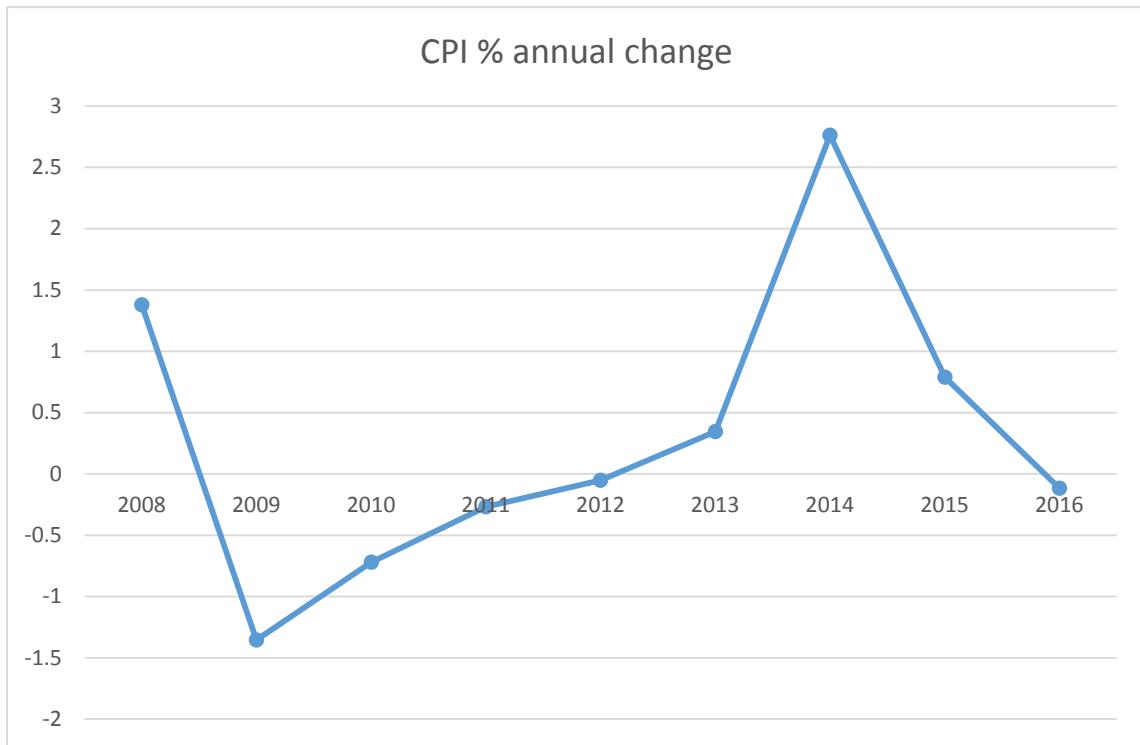


Figure 1.1 Japan consumer price index % annual change (source: The World Bank Data)

While GDP growth bounced back somewhat from the 2014 lull it remains low, hovering around the 1% mark since 2014 (see *fig 1.2*) and what growth there is certainly cannot be neatly attributed to the effects of QE beyond higher export profits owing to the devalued Yen.

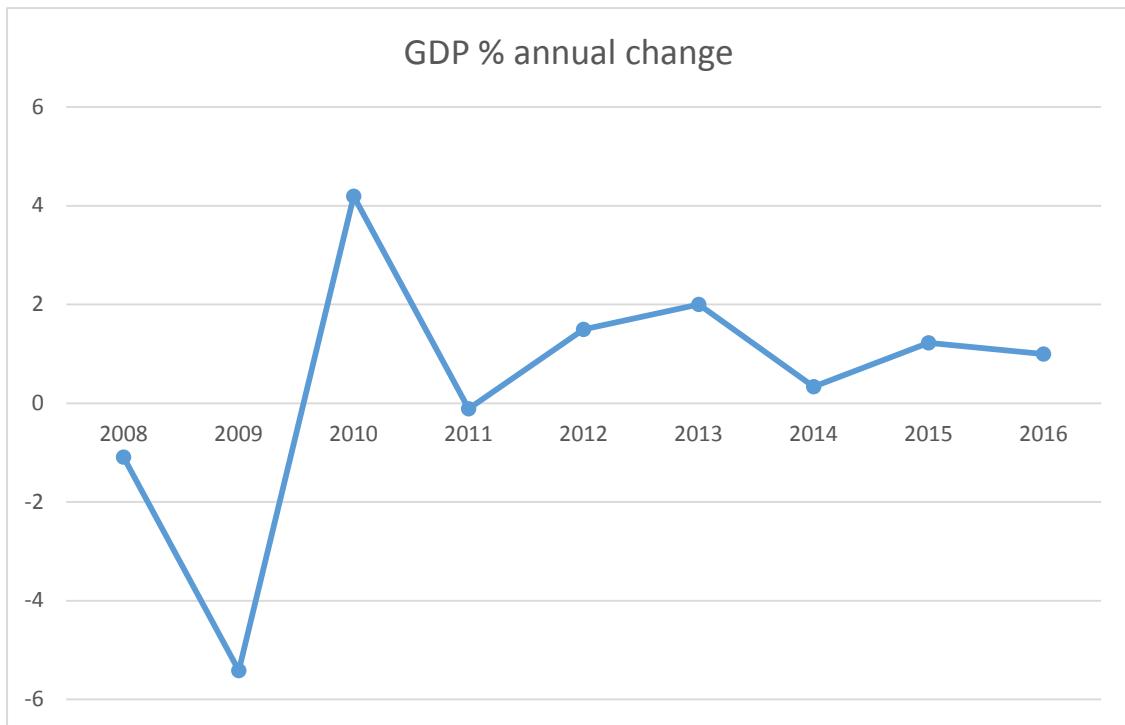


Figure 1.2 GDP growth % annual change (source: The World Bank Data)

Worse still for BoJ QE is that the bank funding channel has largely failed to operate. Arslanalp and Botman (2015: 7) explain that despite that fact that in Japan private banks sold ‘about ¥30 trillion of JGBs between March 2013 and September 2014’ private bank lending has not seen a significant acceleration, only ‘rising by 2 percent for major banks and 4 percent for regional banks by end-2014.’ To understand why what initially seemed to be a successful implementation of QE ended in disappointment requires going beyond headline indicators and investigating the split in behavior between domestic and foreign firms in Japan during the implementation of QE.

University of Tokyo professor and former BoJ policy board member Kazuo Ueda observed that while equities received an initial boost after the BoJ’s JGB buying operations began in 2012 there was actually a serious imbalance within the market. Put simply domestic firms were doing the selling and foreign were firms doing the buying. He writes (2013: 262) that:

The most noteworthy feature of trading in this period has been the dominance of foreign investors in the currency and stock markets... Japanese players have mostly stayed on the sidelines in these markets. In contrast, the JGB market has been dominated by domestic financial institutions.

Figure 1.3 is reproduced from Ueda (2013: 262) and shows the net purchases of Japanese stocks by foreigners, and Japanese individual, nonfinancial and financial buyers during this initial equity price bump in the early period of Abenomics (November 2012 to April 2013). Note that foreign investors’ purchases far exceed those of the three domestic groups.

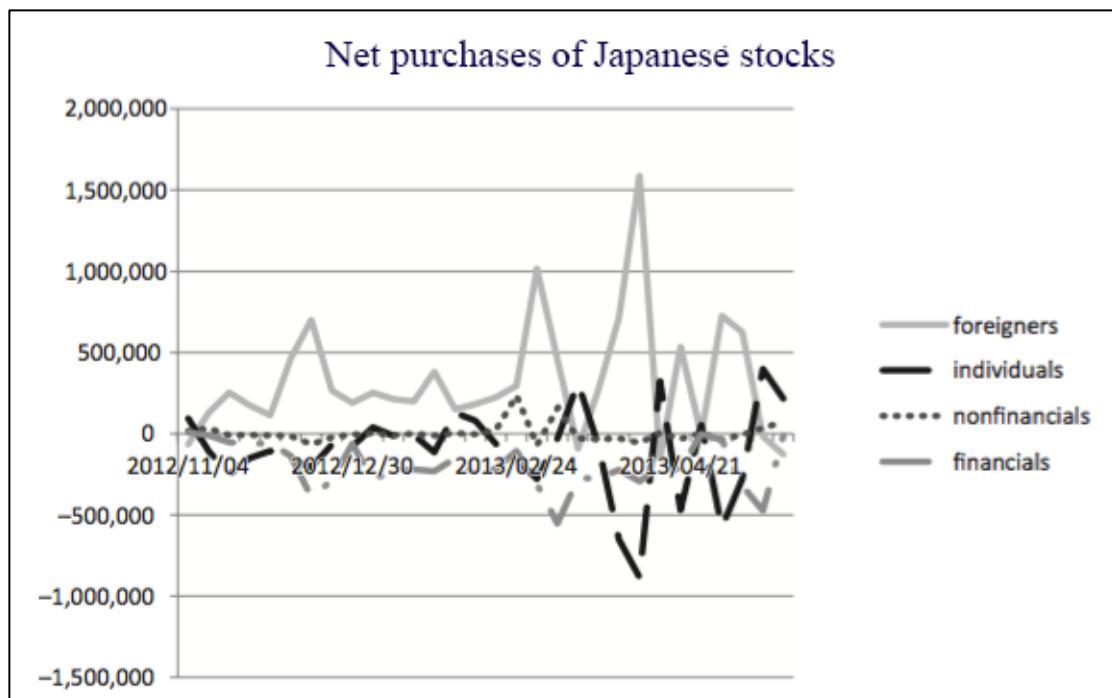


Fig. 1.3 Net purchases of Japanese stocks (reproduced from: Ueda, 2013: 262)

The consequence of this split in domestic and foreign firm behavior meant that from the outside it seemed as though (at least initially) QE was working as intended. An illusion that was enhanced by the fact that stock prices rose as companies' export profits grew on the back a depreciating Yen (Aslanalp and Botman 2015: 8). However, in reality what appeared on the surface to be portfolio rebalancing – JGBs being sold and equities being bought – was actually not due to portfolio rebalancing on the balance sheets of individual banks or firms but rather the actions of basically separate groups of buyers and sellers (Ueda, 2013: 263). The question then remains, if Japanese firms were happy to sell their JGBs but did not subsequently purchase equities on any significant scale, what have they done with the huge quantities of central bank reserves they received in exchange? Here we come to the phenomena central to the dysfunction of QE's implementation in Japan - corporate surplus hoarding.

Bloomberg reporting that as of the last of quarter of 2015 ‘Corporate assets in cash and deposits reached a record high of 246 trillion yen (\$2.2 trillion), rising for the 29th consecutive quarter.’ (Fujioka, 2016). This trend actually began before the introduction of QE in 2012. As Fig 1.4 shows, currency and deposit holdings beginning to rise in 1998 and accelerated during the recovery from the global financial crisis after 2008.

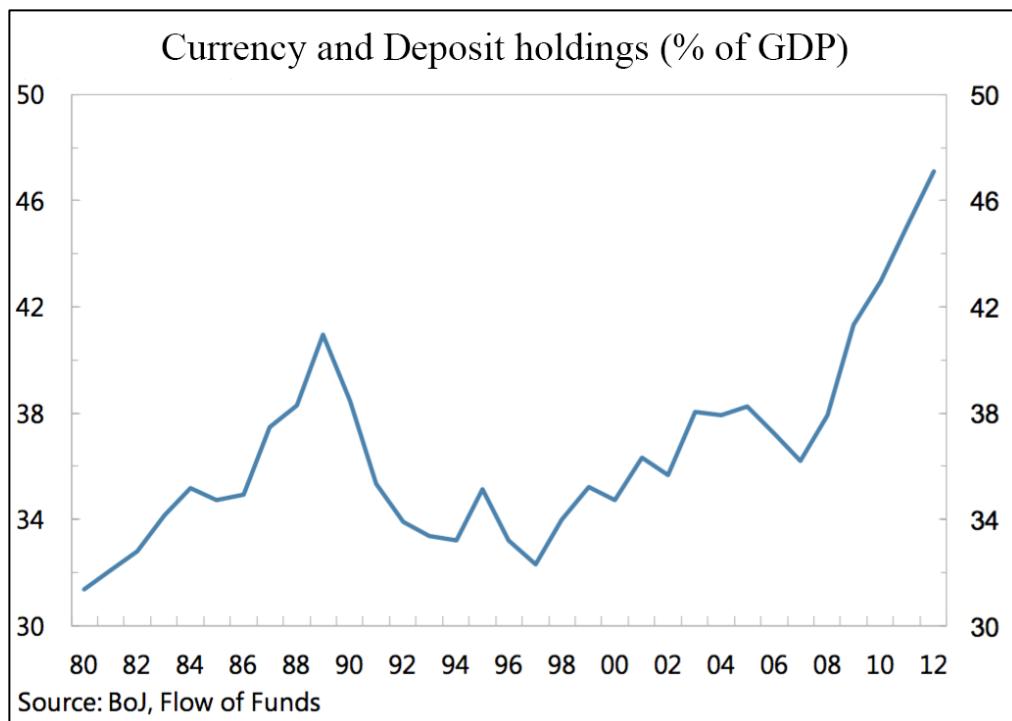


Figure 1.4 Currency and Deposit holdings (% of GDP) (reproduced from: Kang, 2014: 6)

However, increasing cash and deposits holdings on their own are not necessarily a sign of an inactive private sector. As Kang (2015: 6) explains: ‘The size of retained earnings does not provide information on how firms have allocated their resources into various activities including investment or cash holdings since it does not include information on debit side of the balance sheet.’ This raises the question, is corporate spending in Japan keeping pace with savings? The short answer is no. Kang (2015: 8) explains that during the 1980’s boom private investment accounted for more than a third of Japan’s growth, however since the 1990s private non-residential investment has fallen significantly ‘from around 20 percent of GDP to about 13½ percent as of 2013.’ This trend of corporate investment falling behind corporate savings is actually a phenomenon occurring across developed economies, however in terms of scale Japan exceeds other high income countries. Martin Wolf explains in the *Financial Times* (2015) that whilst ‘Since the crisis, the corporate sectors of the big high-income economies have run surpluses of savings over investment, with the exception of France’ Japan is in a league of its own with surplus savings ‘close to 8 percent of gross domestic product.’

When addressing failures of NCM such as those outlined above for the case of Japan, mainstream authors have tended not to question the key ontological assumption that underlies the portfolio balancing and bank funding channels. Namely, that these policies are operating upon rational actors who are profit motivated in the short term, and will always trade less profitable for more profitable assets if presented with the opportunity. Instead mainstream critiques of the QE have tended to share this assumption of a rational actor, and simply assert that there is a mechanical problem in QE’s transmission mechanism that fails to take full advantage of this rationality (see for example, Eggertsson and Woodford, 2003: 160). However, a fruitful approach from the heterodox perspective is to challenge both the mechanism *and* the ontology that underlie QE. Post-Keynesian authors have taken this approach by challenging an attendant assumption to that of a rational actor, namely that QE operates under conditions of an exogenous money supply.

QE Under Endogenous Money - Post-Keynesian Critiques

Essential to the belief that QE will be effective is the assumption of an exogenously given money supply. This is the theory that the causal vector of money's creation sits outside of interactions between economic agents in the money market. Instead in this model 'The central bank controls the supply of reserves (H), and can thereby determine the money supply (M) and nominal income (Y), conditional on given values of the money multiplier (m) and the velocity of money (V)' (Palley, 2013: 7). This money supply is often termed 'vertical' or 'verticalist' because on an x-y graph with the money supply (M) on the x-axis and nominal income (Y) on the y-axis the line representing the money demand schedule would be vertical (Palley, 2013: 7). Under this model the relationship between central reserves and private banks is thought to be governed by the *money multiplier effect* in which an 'increase in [central bank] reserves and deposits of bank customers is said to lead to a nearly automatic multiple increase in the loans and deposits of banks (Lavoie, 2016: 65). This *money multiplier effect*, in turn is the driving mechanism behind QE's bank funding channel. This theoretical reliance on the existence of a *money multiplier* prompts Lavoie (2016: 68) to characterize QE operations as essentially reversed monetarism. He writes that:

QE is effectively just the "child" of monetarism, but in reverse gear. Monetarism claimed to be able to rein in inflation by setting money supply targets and restraining the creation of reserves; mainstream QE advocates allege to be able to generate price inflation by inflating the balance sheet of the central bank and creating huge excess reserves.

In other words, the original thinking behind monetarism, that reigning in the money supply would reduce inflation, is reversed in the case of QE, which believes that expanding the money supply will reflate prices by increasing spending via the *money multiplier* and *portfolio rebalancing mechanism*. This is especially relevant to the Japanese case where reaching the 2% reflation target has been the longstanding goal for the BoJ. This leads us to the question of whether the disappointments of QE make more sense in the context of an *endogenous* money supply.

The key difference between an exogenous and an endogenous money supply is that in the endogenous model the creation of money occurs within the money market, where it is 'the outcome of purposeful interactions between economic agents' (Fontana, 2004: 367). This means that the sequence of events as laid out in the exogenous model, where households or the central bank make deposits and private banks then loan against these deposits, is now reversed. In the *reversed causality* of the endogenous story 'the supply of money is determined by the demand for credit (bank loans), and the latter originates within the system to finance the production process or the upsurge of speculative purchases' (Fontana, 2004, 367 emphasis added). Lavoie's (2016: 65) describes this *reversed causality* in this way: 'It is not the deposits of the economic agents that allow banks to make more credit; it is the decision of banks to grant more credit that leads to the creation of money deposits.' Why does this reversal of the mainstream story potentially invalidate the bank funding channel of QE? Put simply this is because there is no reason for the *money multiplier* to operate within this framework. As Lavoie (2014: 210, emphasis added) explains:

In the post-Keynesian view, banks provide loans first, and search for reserves later. Banks do not wait for excess reserves to be provided like manna from heaven. They grant loans whenever a creditworthy customer shows up or if they find one. It follows that, when banks wind up with excess reserves, they have *already granted all the loans they could have made*.

Put simply banks do not lend against the value of the reserves they hold at the central bank, instead they lend depending on whether or not there are willing borrowers in the market – if there is demand for loans. This lack of willing borrowers has historically been particularly crippling in Japan. As the former central banker Richard Koo (2011:75) explains: ‘Anyone working in the financial sector is well aware that Japan suffers from an acute shortage of borrowers. This is why interest rates have been so low for so long.’ As discussed above, private sector saving began to trend upwards in Japan in 1998 (see fig.1.4) after firms and banks began to deleverage from their heavily indebted position following the Japanese housing bubble and the subsequent Asian financial crisis. It is then no surprise then that when the BoJ conducted its first QE program from 2001-2006, although base money expanded, the overall money supply did not. As Koo (2011: 74) explains: ‘The increased availability of reserves was totally irrelevant to growth in money supply because the banking system was awash in excess reserves long before quantitative easing began.’ Lavoie (2016: 69) identifies this as a ‘reflux principle’ in which firms use the newly deposited reserves to pay off debts cancelling out any growth in the overall money supply. However, QE, tied as it is to the belief in the power of an exogenous money supply, basically assumes that firms simply do not have liquidity preferences. Instead we are faced with a situation where the BoJ sees an almost twenty-year pattern of accumulating savings in the private sector and decides the solution is to pump even more liquidity into the system. Koo (2011: 74) equates this logic to that of doctor who when faced with a patient whose proscribed medicine has no effect then advises the patient to take 100 times their original dose, instead of changing the prescription. If an endogenous money model can explain, at least in the abstract, how liquidity preference frustrates QE’s transmission, then the question remains: why not simply stop here? Why not tie of this narrative as a neat Keynesian story about the inadequacy of monetary policy? In short this is because whilst the Post-Keynesian endogenous money critique effectively challenges the first assumption of QE’s design – an exogenous money supply – which lies at the heart of QE’s bank funding channel, it does not directly address the assumption at the heart of the portfolio rebalancing channel: that of a strictly profit-motivated firm. However in the Japanese case the assumption that firms will want to invest in the most profitable assets (equities) has proved equally as faulty as the assumption of an exogenous money supply. It is therefore necessary to combine this basically Post-Keynesian understanding of monetary flows with a Japan-specific theory of the firm that emphasizes path-dependent rather than pecuniary motivation. It is to that end that this work turns to the CDS literature.

The Developmental Legacy of Japanese Firms

The CDS literature originated in Chalmers Johnsons’ *MITI and the Japanese Miracle* (1982), as an attempt to understand the role the Japanese Ministry of International Trade and Industry had played in the country’s rapid industrial development. It subsequently expanded into a theory of the role that state bureaucracies played in creating a ‘plan rational’ developmental model in the East Asian newly developed countries (NICs) of Japan, South Korea, Taiwan and Singapore. This model combined an active state-led strategic industrial policy with an aggressively expanding export sector. This literature typically conceptualized Japan’s political economy as an ‘Iron Triangle’ of co-constitutive economic rule between Japan’s liberal-democratic party, the state bureaucracy and the *keiretsu* mega-firms. Johnson is keen to impress that: ‘like a physical tripod each leg is indispensable for the stability of the structure’ (1995: 116). However, the leg that actually distinguishes this system from a purely planned economy – the firm, has been somewhat neglected as the CDS literature has gone on to develop into a theory of the role played by state bureaucracies and industrial policies in east Asian development. However, there are latent yet novel insights arising from this literature about the nature of Japanese firms that have the advantage of conceptualizing firms

as institutional actors as opposed to rational actors. Indeed, this paper is not the first to integrate insights from this CDS literature with a Post-Keynesian analysis of contemporary Japan. Lucarelli (2015) incorporates Johnson's concept of Japan as a 'plan rational state' that relied on 'an export led developmental model' in his analysis of secular stagnation in Japan as an example of a Minsky-Fischer debt-deflation type depression. In order to build on this contribution from Lucarelli, this section organizes the characterization of firms in the CDS literature, by two essential features: long-term orientation and managerial autonomy establishing the growth creation role these characteristics played during Japan's boom era. This will be in order to explain how these features that originally facilitated Japan's rapid growth have become inherited structural barriers to firms returning to their position as net investors in the contemporary context of stagnant Japan.

The first distinctive feature of Japanese firms under the developmental model is a long-term investment orientation. Japanese *keiretsu* within the developmental model, rather than being understood solely as individual profit maximising units, are also conceived as constituent contributors to long-term strategies that will create growth at the national level, even when these strategies may be *unprofitable* in the short-term for the individual firm. Johnson (1995: 61) quotes the former president of Fuji Bank, Hashimoto Toru as stating that:

Fattening the companies' profits at the expense of employees, clients, stockholders, and society is economic efficiency for its own sake. Only the company profits from it...The Japanese company emphasises only internal reserves and new investment in plant and equipment.

When the goal was market share and the future promised growth this made sense. However, in the context of secular stagnation this investment in future capacity became a structural limitation for Japanese firms. As Lucarelli (2015: 314) explains:

The *keiretsu* that had invested in extra capacity to meet the demand caused by the 1980s boom soon found that they were burdened with massive excess capacity and escalating debt/equity ratios... Problems of excess capacity emerged since investment in fixed capital was dependent upon long-term rates of return, which could not be validated in the short term as borrowing costs rose quite precipitously. Under these circumstances, it was very difficult to reactivate the process of capital accumulation, even at very low rates of interest since the accumulated investment or the "sunk costs" in fixed capital tended to depreciate very slowly over a long period of time.

After the property bubble burst in the 1990s Japanese firms found themselves highly leveraged, with the wealth they had accumulated during the boom sunk into these fixed capital assets that could not be quickly used to re-finance during the crisis. However, this prompts the question: how did these *keiretsu* avoid the pressures normally applied to firms to generate short-term profit in the first instance? The answer lies within the second feature of Japanese firms under the state-developmental model - a high degree of managerial autonomy. The two principal sources of pressure on a large firm to generate short-term profits are typically competition from other firms and pressure from shareholders to generate dividends. The *keiretsu* avoided these pressures through a system of cross-competitor shareholding unusual in economies following the Anglo-American model. Writing on the work of Ministry of Trade and Industry bureaucrat Koji Matsumoto, Johnson (1995: 63) explains how whilst a *keiretsu* may technically be a publically listed company, they will carefully control who can become major shareholders. He writes that:

These chosen shareholders are a firms' domestic competitors, intermediated by its

financial partners; together they hold approximately 70 percent of the shares in each other's firms thereby preventing takeovers by keeping the numbers of tradable shares below a controlling interest. The shares that a company holds in its competitors' firms are never sold regardless of price.

This system allows firms that are technically competitors to shield each other from real competition by raising high barriers for new entrants into the domestic market. It also minimizes the power that can be wielded by individual, non-institutional shareholders, who are the type of shareholder most likely to apply pressure for the firm to pay higher dividends in the short-term. Subsequently dividends in Japan have historically been very low, averaging only 1% at the height of the 1980s boom (Johnson, 1995: 56). Instead firms could pursue the kind of long-term investment strategies outlined above, exercising what Koji (as quoted by Johnson, 1995: 63) calls 'the autonomy of management'.

However, even Japan has not been immune from the global trend of capital internationalization, which prompts the question of whether this shareholding system still exists. In 2017 *The Asian Nikkei Review* reported that 'the percentage of cross-held shares dropped to 9.9% of all listed shares at the end of 2016 -- falling below the 10% mark for the first time' (Oshino, 2017). If cross shareholding is on the wane, this necessarily prompts the question of whether Japanese firms are now paying higher dividends, which likely would represent the companies being increasingly subject to pressure from shareholders. Curiously change on the dividend side has been much more modest. Whilst in 2017 Authers reported for *The Financial Times* that as of June the dividends from Tokyo listed equities actually exceeded US traded equities, they were quick to clarify that: 'The yields on both remain very low, at 2.31 and 2.21 per cent respectively, compared to an average 3.66 per cent yield for stock markets outside the US and Japan' (Authers, 2017). The implication here may be that despite the gradual unraveling of the cross-shareholding structure, this system has nonetheless institutionalized a culture of minimal pressure on *keiretsu* governance from individual shareholders, who have been primed by years of low dividends. This in turn has serious implication for QE implementation, which relies on the assumption that firms will rebalance their portfolio's for maximum profit in the short-term.

The two features outlined above originated as a way to ensure that individual *keiretsu* supported a system of national GDP growth during the expansion of Japan's export led growth model. However, whilst economic circumstances have changed since Japan's crisis of the early 1990s, this developmental system has not changed nearly as quickly and these developmental strategies have become institutionalized incentives for firms to hoard liquid assets. Investments in long term capacity have become immobilizing sunk costs that cannot be quickly payed off whlst cross shareholding and low dividends (whilst finally eroding) have long insulated firms from the profit demands of shareholders. In order to synthesize these path dependent factors specific to the Japanese context with the more abstracted framework of liquidity preference in an endogenous money framework, this paper introduces a formulation tentatively named, *path-dependent liquidity preference*.

Path-Dependent Liquidity Preference

There is a precedent for incorporating non-pecuniary motivations into the determination of liquidity preference, specifically within the strand of Post-Keynesian thought that identifies that savings and investment decisions occur in historical time rather than logical time.

Bhaduri, (1985; 1903) argues that since the marginalist revolution of the late 1800s, theories of general equilibrium have drawn upon notions of space and time taken from classical mathematics in which 'no sharp distinction between movement in space and movement in time needs to be made. The fact that time is irreversible does not enter the analysis in any

essential way.' This framework of logical time creates a kind of modelling in which, whilst events may be *described* as occurring in a temporal sequence one after another, they can be *theorized* as occurring simultaneously. Davidson (2009: 326) explains that under this neo-classical paradigm: 'the only economic decision that today's market participants have to solve is the allocation of today's resources to produce the most valuable quantitative outcomes today and all future dates.' An example of this logic at work can be seen in QE's *portfolio rebalancing effect* which assumes that if firms have assets on their balance sheets that are not profitable in the present (central bank reserves) they will automatically want to exchange them for assets that will be profitable in the near future (equities). When operating in logical time liquidity preference is not a significant phenomenon because saving is merely spending that will occur in the future, and the future and present are functionally interchangeable in the model.

Perhaps the most famous and persistent critic of this approach was Joan Robinson (1980: 228) who wrote that: 'in real life, the past is irrevocable and the future predicted with a margin of uncertainty' and that whilst in a 'theoretical model, time can be frozen...it is a common error to confuse a comparison of static positions with a movement between them.' For Post-Keynesians such as Robinson the fact that savings and spending decisions necessarily occur one after another is fundamental to their nature, in other words they occur in *historical time*. Davidson (2009: 326, emphasis added), neatly summarizes: 'Time is a device for preventing everything from happening at once.'¹ The fact that events occur in a strict temporal sequence means that, rather than future and the past being theoretically interchangeable, the future is inherently *uncertain* to agents making decisions in the present. Uncertainty is here meant in the distinctly Keynesian sense not simply of a phenomenon with different probabilities of different outcomes but 'a phenomenon whose probability cannot be calculated' (Ferrari-Filho & Augusto Camargo, 2005: 582). Money 'by its characteristic of transporting purchasing power over time' (Ferrari-Filho & Augusto Camargo, 2005: 583) therefore becomes a necessity in the historical time model because the ability to hold assets in their liquid form is the essential mediator between a certain present and an uncertain future. A model operating in historical time therefore sees liquidity preference as the rational reaction to future uncertainty. As Ferrari-Filho and Augusto Camargo (2005: 583-4) explain: 'The greater the uncertainty surrounding the expectations of economic agents, the more these will be inclined to postpone spending decisions (the greater the liquidity preference).' The complication that arises when trying to apply this understanding of liquidity preference to surplus hoarding in Japan is that the consistent secular stagnation Japan has experienced for the last three decades should give Japanese firms every reason *not* to be uncertain about the future, meaning their liquidity preference should be low. However, understanding the inherited structural features of Japan's developmental history to be the primary motivations for the current high level of liquidity preference is compatible with an understanding of liquidity preference as operating in historical time, it simply requires the conception of historical time to be turned to face the other direction, past rather than future. If historical time casts liquidity preference as the mediator between present investments and future uncertainty, then it might be legitimate to posit that there could be another form of liquidity preference – *path-dependent liquidity preference*, in which holding assets is mediator between the present climate for investment and structural constraints or institutional behaviors inherited from the *past*. In the same essay on historical time Robinson (1980: 228) articulates a desire to understand the economy in a similar way when she writes that:

¹ Davidson primarily articulates this logical logical-historical time distinction as one between ergodic and non-ergodic processes, for more see Davidson (2009).

Swings of activity must be seen, not as starting up from cold, but as overlaying slow long-run changes in productive capacity produced by accumulation, technical change (including changes in methods of operation of the labour force) and alterations in the composition of output.

In other words, in the case of investment, for Robinson historical time does not only imply that the future is inherently uncertain in the present, but also that the past effects the present by imposing its own structural preconditions. This has been the case in Japan where rather than being strictly profit motivated, large Japanese firms have inherited institutionalized behaviors that correspond to the structural limitations of Japan's developmental model. These features make it contextually 'rational' for Japanese firms to hoard assets in the form of cash or deposits, in other words they contribute to a high level of liquidity preference.

Adopting this model of PDLP, incorporating as it does the notion of path-dependency as understood in the CDs literature resolves two issues present in the current Post-Keynesian critiques of QE. The first issue is that current Post-Keynesian critiques of QE have tended to focus exclusively on the bank funding channel implying that if the bank funding channel fails QE is therefore rendered ineffective. However, the designers of QE programs actually expect the bank funding channel only to operate when banks are liquidity constrained (Goodhart & Ashworth, 2012: 666, Arslanalp and Botman 2015: 5). Instead adopting a path-dependent model of firm behavior allows a basically Post-Keynesian macroeconomic framework to directly interface with the breakdowns within QE's main transmission channel - the portfolio rebalancing channel – by creating a framework that can directly challenge the methodical assumption at the heart of this channel of a profit motivated rational actor. This approaches follows the lead of Lucarelli (2015), extending his approach of incorporating the work of Chalmers Johnson in order to add historical and institutional specificity to the more abstracted frameworks of a basically Post-Keynesian approach by extending this synthesis int the terrain of monetary policy.

As authors such as Lavoie and Koo explained above, pumping reserves into the economy will not automatically encourage investment because, if we assume an endogenous money supply, banks do not require reserves to make loans. The other side of this insight is that if liquidity preference is high, banks and firms will happily absorb excess reserves rather than exchanging them for other types of assets. This means that in reality the transmission mechanism (or perhaps non-transmission mechanism) of QE in Japan has gone basically as follows: The BOJ expanded the size of the monetary base by purchasing safe assets (primarily JGBs) from Japanese banks and firms. These domestic banks and firms, which have a consistently high PDLP, were happy to sell bonds in exchange for a liquid asset (central bank reserves) but did not rejoin the equity market. Foreign firms, for a short period, believed that the expansion of base money would corresponded to rising equity prices as it briefly did in the US and UK (Ueda, 2013: 262). This belief briefly became a self-fulfilling prophecy as equity prices in Japan experienced a small bump on the back of foreign investors, which also disguised the fact that the *portfolio rebalancing mechanism* was not actually functioning. Figure 1.5 shows the transmission of BoJ QE as it occurred in reality, with the top track showing the actions of domestic firms as governed by *path-dependent liquidity preference*, and the bottom track the brief spike in equity prices caused by foreign investors.

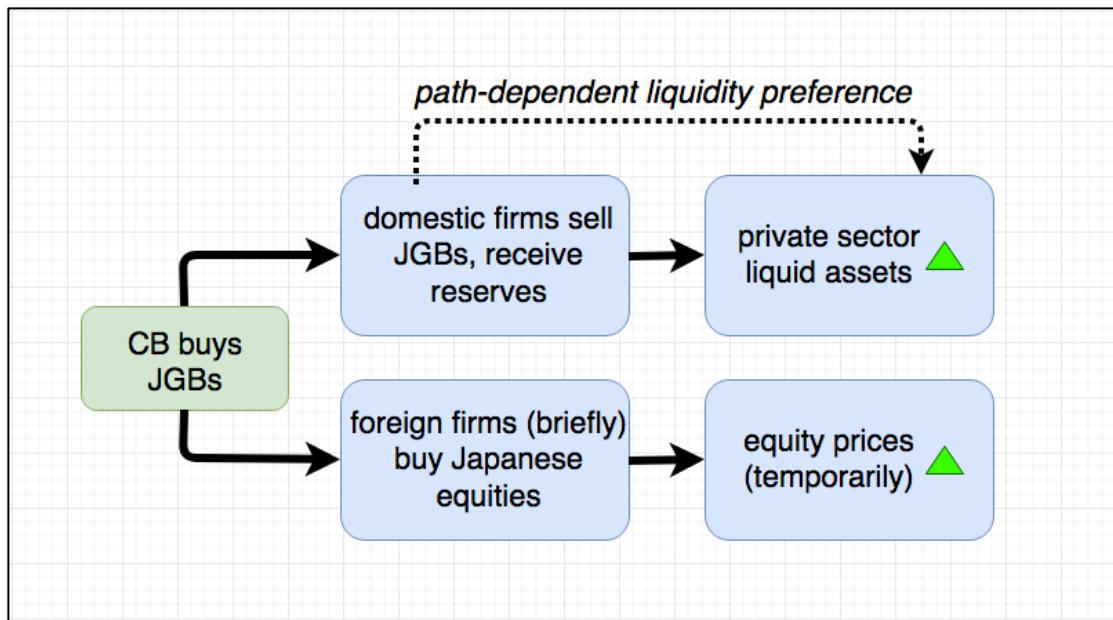


Figure 1.5 The transmission channels of BoJ QE in reality

There is a type of portfolio rebalancing occurring in Japan although it is the opposite of what the BoJ wants. The logic of portfolio rebalancing assumes that firms will prefer riskier assets to liquid assets, in reality, PDLP means the contemporary Japanese firms actually prefer liquid assets to risky assets, or even to safe assets.

Conclusion

Does this breakdown mean that there is practically speaking no effect of injecting so much liquidity into the economy? Not necessarily, recall that in Lucarelli's (2013: 358) formulation of structural endogenous money 'the central bank is able to set the short-term base rate of interest, which then acts as the official anchor or benchmark in the regulation of liquidity within the banking system.' Hence there may be *some* legitimacy to the fears of dissenting mainstream economists such as Koo (2011: 76) when he warns that if for some reason private sector-borrowing were to grow rapidly again in Japan that 'leaving huge quantities of liquidity sloshing around in the banking system' could risk 'triggering a limitless credit expansion fueled by the commercial banks.' However, this seems at present an unlikely situation. This paper has argued that in the Japanese context liquidity preference has become an entrenched and institutionalized feature of firm behavior. It is therefore not clear how this breakdown in the QE transmission mechanism could be resolved, especially considering that QE relies on a spurious collection of essentially neo-classical assumptions regarding firms; specifically, that they rational actors, profit motivated, and subject to exogenous money.

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