

# Quantitative Easing and Corporate Surplus Hoarding in Contemporary Japan

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This work contains no material which has been accepted for the award of another degree or diploma in any university, and to the best of my knowledge and belief, this thesis contains no material previously published or written by another person except where due references is made in the text of the thesis.

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### **List of Abbreviations:**

- BoE – Bank of England
- BoJ – Bank of Japan
- CDS – Capitalist Developmental State
- ECB – European Central bank
- Fed – United States Federal Reserve
- JGB – Japan Government Bond
- PDLP – Path Dependent Liquidity Preference
- LTRO – Long Term Refinancing Operations
- QE – Quantitative easing

*Japanese names are presented here in the Japanese language order, family name first, personal name second.*

*All figures are by the author except where otherwise noted.*

## Introduction:

In 2012 the Bank of Japan (BoJ) embarked on one of the largest monetary policy experiments of the 21<sup>st</sup> century. They initiated a quantitative easing (QE) program of monetary expansion in which the bank purchased safe assets, primarily Japan government bonds (JGBs) in the hope that the firms who sold these assets would use the central bank reserves they received in exchange to buy riskier assets such as equities. In the language of QE this sequence is known as the *portfolio rebalancing mechanism*. The goal was that these rising equity prices would raise domestic demand, and subsequently GDP, by inducing both firms and households to spend. Households would spend via a *wealth effect*, in which the rising values of the equities in their stock portfolios would raise their confidence to consume. Firms would be induced to invest as rising equity prices and falling bond yields made it easier for them to access credit on private markets. The program was led by governor Kuroda Haruhiko, a key ally of prime minister Abe Shinzo, and QE constituted the first arrow of the 'three arrows' of Abe's economic program, often called 'Abenomics' the second and third arrows being fiscal stimulus and regulatory reform respectively.

This QE program is unprecedented in size with Arslanalp and Botman (2015: 9) estimating that the BoJ will own 80% of the entire JGB market by 2018. Initially this large scale easing appeared to be working. From 2012 to 2014 macroeconomic indicators showed positive signs for QE in Japan: The Nikkei index, consumer price index (CPI) and GDP all rose while the yen depreciated and unemployment fell (Wakatabe, 2015: 113). However, by late 2014 these positive signs had dried up with the output gap once again growing and GDP turning stagnant (Wakatabe, 2015: 113-114) whilst the BoJ's target of a stable 2% inflation rate remained elusive. Whilst Japanese firms were happy to sell their JGBs they did not re-enter the equity market. Instead they continued a practice that has been a feature of Japanese firm behavior since the 1990s: continually accumulating retained earnings in the form of cash and deposits (Kang, 2014: 5-6). Meanwhile private, non-residential investment has significantly slowed, falling from 'around 20% of GDP [in early 1990s] to about 13½ percent as of 2013' (Kang, 2015: 8). This phenomenon in the private sector of accumulating liquid assets coupled with falling investment, will be generally referred to in this project as corporate surplus hoarding. It is a phenomenon that the BoJ's monetary expansion has seemingly

facilitated, with Fujioka (2016) reporting for *Bloomberg* 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.'

This surplus hoarding behavior runs exactly contrary to the logic of portfolio rebalancing, therefore understanding why QE in Japan has failed to meet the objectives set for it by its designers also requires understanding this phenomenon. That is why this project seeks to answer two interlinked questions: first, *how* has this surplus hoarding behavior disrupted the intended transmission mechanisms of QE? Second, *why* are Japanese firms so reticent to spend money, even in the face of QE program to make them do exactly that? In short, the answer proposed by this project will be that the corporate mega conglomerates that dominate the Japanese economy known as *keiretsu*, are subject to a form of institutionalized liquidity preference induced by the continued influence of structural features inherited from of Japan's developmental economic model. This Japan specific iteration of liquidity preference, which has been tentatively named here *path-dependent liquidity preference*, has created a significant blockage in the *portfolio rebalancing mechanism* key to the success of QE. This is because the underlying assumptions that inform QE, namely that firms are rational actors operating subject to an exogenously given supply of money, fundamentally cannot account for the effect liquidity preference will have on QE's transmission channels.

In order to investigate these questions and propose this explanation this project is divided into five chapters. The first chapter draws particularly on the work of dissenting central banker Charles Goodhart (2012, with Asworth 2013) as well as Abenomics supporter Wakatabe Masuzumi (2015) in order to outline the proposed transmission channels of QE - the portfolio rebalancing channel and the bank funding channel - as well as discuss the role that currency devaluation and inflation play in the transmission of QE particularly in Japan. The goal of these sections is to present a fair summary of QE as its designers and proponents *believe* it will function. This chapter then discusses the ontological assumptions that underlie these transmission mechanisms arguing that although QE is sometimes associated with a Keynesian policy program, it is based on fundamentally neo-classical assumptions, specifically that firms are rational actors who are profit motivated in the short-term.



The second chapter addresses the empirical literature that has assessed the efficacy of QE programs, comparing the work authors such as Joyce et al (2012) have done on comparable programs in the UK and US with empirical assessments of BoJ QE by Ueda (2013) arguing that in both cases initial positive signs have run into diminishing returns. This chapter then addresses the empirical dimensions of corporate surplus hoarding in Japan drawing on contributions from Kang (2014) and Arslanalp and Botman (2015).

The third chapter first articulates how the transmission channels of QE assume an exogenous money supply. It then draws on the work of Post-Keynesian authors, particularly Lavoie (2014, 2016) and Rochon (2016) as well as dissident central banker Koo (2011) who criticize the bank funding channel of QE by reframing it within an endogenous money model. This chapter then extends this line of argument to cover the portfolio balancing channel, adopting for this aim a specifically structuralist understanding of endogenous money as articulated by Lucarelli (2013). The goal of this chapter is to establish *how* liquidity preference disrupts the transmission mechanism at the level of macroeconomic abstraction before turning to specific structural features of Japanese economic development in the following chapter in order to establish *why* corporate liquidity preference in Japan specifically is so high.

In order to articulate this Japan specific framework, chapter 4 draws on the capitalist developmental state (CDS) literature, particularly the work of its originator Chalmers Johnson (1982, 1995) as well the most prominent scholar in this area aside from Johnson – Woo-Cummings (1999). Although the CDS literature has primarily been used a theory of the state's role in the economy this chapter uses this literature to identify three essential features of firms under Japan's developmental model: long-term orientation, managerial autonomy and role as social welfare provider. This is order that these structural insights may be separated (as much as possible) from this literature's pro-developmental normative orientation in order to explore how these features that once enabled export led growth in Japan have now institutionalized liquidity preference as a 'rational' choice for firms in Japan's contemporary context of secular stagnation. This argument draws especially on Lucarelli's (2015) insights regarding excess capacity investments as 'sunk costs' in Japan.

Chapter 5 presents the combination of Post-Keynesian contributions regarding QE under an endogenous money paradigm from chapter 3 with the structuralist insights

regarding the legacy of Japan's developmental model from chapter 4, in order to posit a form of *path-dependent liquidity preference* specific to the contemporary Japanese context. This chapter first offers some preliminary suggestions on how this path-dependent iteration of liquidity preference could be integrated into the previously established canon of liquidity preference theory by drawing on Post-Keynesian authors such as Robinson (1980) and Davidson (2009) who articulate historical time as essential to understanding how liquidity preference effects investment decisions. It also offers a brief discussion of how structural factors could be understood within Keynes's (2008) original formulation of Money Demand as presented in *The General Theory*. This chapter then outlines the role this *path-dependent liquidity preference* has played in disrupting the transmission mechanism of QE in Japan. This is followed a brief conclusion, summarizing these arguments.

QE has become a policy issue of global significance, as policy makers continue to combat the fallout from the 2008-9 global financial crisis they are increasingly taking a policy developed for use in a crisis – QE, and retro-fitting into an improvised anti-stagnation policy. Japan's experience may be illustrative, both as an economy that has been stagnant for almost three decades and as economy committed to pursuing QE on a level no other major developed economy has yet attempted (its second attempt at QE, the first being in 2001-6). Indeed, it has been suggested that Japan's long stagnation, rather than disqualifying it as legitimate object of study, could make it a useful cautionary tale for other developed economies, hence the title of Wakatabe's 2015 book: *Japan's Great Stagnation and Abenomics: Lessons for the World*. However, this project is not designed primarily as investigation of the broader policy implications of QE and does not suggest alternative monetary policy options. Instead the goal of this project is to develop a more thorough understanding of how the transmission mechanisms of QE have operated in the reality of the Japanese context. In doing so the hope is that this project may demonstrate that the Japanese context provides fertile ground for combinations of Post-Keynesian and structuralist understandings of the interaction between liquidity preference and monetary policy, arguing that the simultaneous application of these two lenses creates a clearer picture of the Japanese economy than either is able to alone. Indeed, this project is not the first to combine insights from the CDS literature into a more generally Post-Keynesian framework and then apply this to a discussion of Japan. Lucarelli (2011) incorporated Johnson's ideas

regarding Japan's export led growth model in his assessment of Japan's secular stagnation as an example of a Minsky-Fischer debt deflation cycle. This project seeks to build on Lucarelli's contribution by applying the same combination of approaches (the CDS literatures historical insights and Post-Keynesian macro-economic theory) once again to the Japanese case study though this time to issues of monetary policy transmission mechanisms.

Before commencing the body of the project proper it is necessary here to outline two aspects of the Japanese context that will not be addressed in this work and offer a brief explanation as to why. This project will not substantially discuss the government fiscal stimulus programs that have run simultaneous to the BoJ's QE program. This is because the logic of QE transmission mechanisms assume it will function without fiscal assistance and so to address QE on its own terms requires addressing it in isolation. However, the interlinkages between the fiscal and monetary aspects of Abenomics may be a fruitful territory for future research in this area. This project will also not discuss the phenomenon of Japan's aging population. This is because there has been an unfortunate tendency in discussion of Japan for the ageing population to become a black box, into which all the failures of the Japanese economy are thrown, preventing further investigation. While the effect of the ageing population on monetary policy implementation may also be a possible avenue for future research in this area, the goal of this project was understand the legacy of Japan's developmental model on monetary policy rather than its future consequences.

## Chapter 1

### **Quantitative Easing: Transmission Mechanisms and Underlying Logic**

Any analysis of QE's relative success or failure in the Japanese context must begin with the broader question: what is QE? Like most monetary policies QE does not have a neat line of conception from economic principles to policy implementation. Instead it is a name given to raft of central bank measures whose underlying logic is a mix of neo-classical orthodoxy and the practical logic of central banks responding to periodic crises. However, there is a basic logical sequence underlying QE that can be separated into two distinct transmission channels relying on two distinct mechanisms, *the portfolio balancing mechanism* and the *money multiplier* respectively. Despite the fact that central bank policy making is often more pragmatic than dogmatic, it is possible to trace back the role these mechanisms play within the overall logic of QE to a set of basically neo-classical assumptions. The goal of this chapter is to give a clear and fair account of the two key transmission mechanisms associated with QE in order to demonstrate that they both rest on the fundamental assumption that firms are profit motivated rational actors. The success or failure of these programs (which will be discussed in detail chapter two) therefore necessitates questioning not only the mechanical aspects of QE as a policy but also those assumptions that underlie its basic design.

The content of this chapter draws on the work of Goodhart, whose writing in this area has been especially useful to this project because he is in the unusual position of being both a central banker trained in the mainstream tradition and a strong critic of QE based on his own and other's econometric assessments. On the Japanese side this chapter draws primarily from Wakatabe (2015) who, though a supporter of the 'Abenomics' program, does attempt to both elucidate the logic QE (see 2015: 119) and address common criticisms (see 2015: 123). As this choice of materials demonstrates the primary point of comparison here when discussing QE generally will be between the Bank of England (BoE) and the BoJ. This is because the implementation of QE in these two countries has taken the most similar form, gilt (UK treasury bond) purchases in the UK and Japanese government bond (JGB) purchases in Japan. The generic model

developed here for the primary and secondary transmission mechanisms of QE as monetary policy in the abstract will therefore be most applicable to these two cases though is it also comparable to Fed programs. This chapter excludes any discussion of the ECB QE program as it involves long-term refinancing operations (LTROs), essentially direct loans from the central bank to private banks. Although LTROs also constitute monetary base expansion and are therefore often classed as a type of QE they rely on a somewhat different transmission mechanism that would be distraction from the story here. Section 1.1 of this chapter briefly introduces the financial asset types central to QE before section 1.2 discusses the logic of the portfolio substitution channel and section 1.3 does the same for the bank funding channel. Section 1.4 then discusses the role played by currency devaluation and inflation targets in the Japanese iteration of QE. Section 1.5 concludes by arguing that these transmission channels all fundamentally operate under the assumption of a rational actor, profit motivated in the short term before explaining why the rejection of this assumption will inform the search for alternatives presented in this project.

### ***1.1 A note on asset types***

As QE relies on the assumption that agents will sell bonds and buy equities it is worth a brief digression here in order to explain the difference between these financial assets. A bond is an asset which is essentially a debt obligation owed by the bond issuer to be paid of at fixed point in the future (the maturity) as well as semi-annual interest payments over the life of the bond which are known as ‘coupon payments’ (Bodie, Kane & Marcus, 2013: 31). For governments such as that of Japan whose debt is primarily internally structured (not owed to foreign creditors) bond issuance is the primary means by which these governments finance their debt. The kind of bonds being discussed in this project are generally considered to be safe assets as they provide a fixed income over a long period and as they are usually issued by governments or large corporations there is very little default risk, although corporate bonds are considered to have a higher default risk than government bonds (Bodie, Kane & Marcus, 2013: 31). Bonds generally have long maturities and are denominated in large amounts, for example: U.S Treasury bonds have maturities of between 10 and 30 years and the individual bond notes ‘commonly trade in denominations of \$1000’ (Bodie, Kane &

Marcus, 2013: 31). For this reason, bonds are primarily purchased by institutional investors such as banks, firms or insurance funds rather than households, as these institutions can afford to make large scale investments that pay out over a longer period.

Equities are the asset type colloquially referred to as stocks, essentially a stake of ownership in a publically listed enterprise. Rather than providing coupon payments like a bond, owners of equities are entitled to a residual - a 'claim to the part of operating income left after interest and income taxes have been paid' (Bodie, Kane & Marcus, 2013: 38). Equities are generally considered higher risk than bonds because they will not guarantee the owner a certain profit, instead their profitability depends on the income of the firm and its share price. Of those households that own financial assets (which is by no means the majority) equities are generally the asset type they hold, a distinction that will become important when discussing the *wealth effect*. With these quick and rough definitions out of the way we can turn to the transmission mechanisms of QE itself.

## **1.2 The portfolio substitution channel**

For the first transmission mechanism this work adopts Goodhart and Ashworth's (2012: 662) terminology of the 'portfolio substitution channel', as it relies on the existence of a *portfolio rebalancing mechanism*. A neat summary of this channel's proposed operation comes from then Deputy Governor of the BoE, Charlie Bean (as quoted in Goodhart & Ashworth 2012: 662) who explains that QE:

Essentially involves trading one liability of the state—gilts—for another—monetary claims on the Bank of England. We aim to buy mainly from non-bank private financial institutions, such as pension funds and insurance companies, not from the banks, as is sometimes erroneously claimed. When we buy a gilt, we simply credit the bank account of the seller with an appropriate sum. If the seller were indifferent between holding the gilt and holding the associated bank deposit, that is where things would stop. But because deposits tend to yield less than gilts and assets such as corporate bonds and equities, the seller is likely to want to buy some other asset instead. The consequence is upward pressure on

the prices of a whole range of assets, including corporate bonds and equities. That increases the availability, and reduces the cost, of finance to corporates. It also boosts the value of people's wealth, which should encourage more spending.

Joyce et al (2012: 279) also use the BoE as their example and describe the mechanism along basically similar lines explaining that:

Investors are likely to use some of the proceeds of gilt sales to purchase other long - dated assets, such as corporate bonds, to restore the duration of their portfolio...The rise in asset prices and decline in yields on these other assets may make it easier for many companies to raise funds, easing credit conditions. They will generate capital gains for households who are the ultimate owners of those risky assets, boosting their wealth. If households consume part of that increased wealth, or companies invest some of the extra funding raised on capital markets, demand (and GDP) will be higher.

Whilst 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 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. This new spending will raise domestic demand and subsequently GDP growth. Based on the flow chart of both QE transmission mechanisms produced by the BoE (as reproduced in Goodhart & Ashworth, 2012: 662 and Joyce et al, 2012: 278) as well as a similar flow chart from the BoJ (as reproduced in Wakatabe, 2015: 121) presented here is a simplified schematic for the portfolio substitution channel in the abstract (see fig.1.1). This figure demonstrates the causality of QE running from the expansion of the central bank's balance sheet on the right, to the

growth of domestic demand on the left. The top track shows the casual effect of rising equity prices running from portfolio balancing, to houses increasing their spending because of the *wealth effect*. The bottom track shows the effect of easing access to credit on private markets, promoting firms to stimulate demand through new investments.

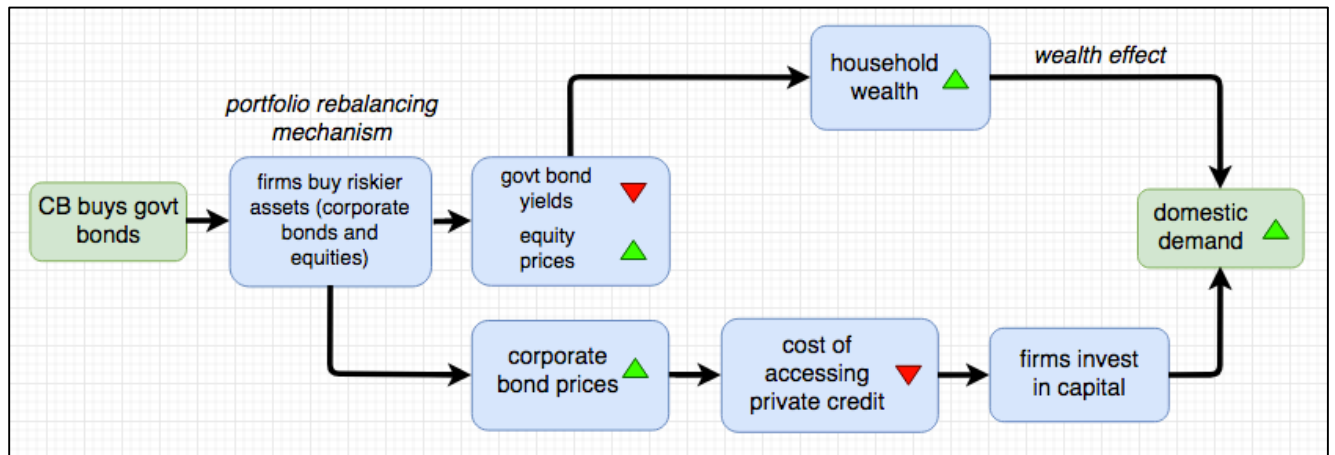


Figure 1.1 The Portfolio Substitution Channel

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'.

### 1.3 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. Presented here is a simplified flow chart for this bank funding channel as described above. This figure demonstrates the causal sequence which is meant to underlie the operation the *money multiplier*, from central bank balance sheet expansion on the right, to the increase on private lending on the left.

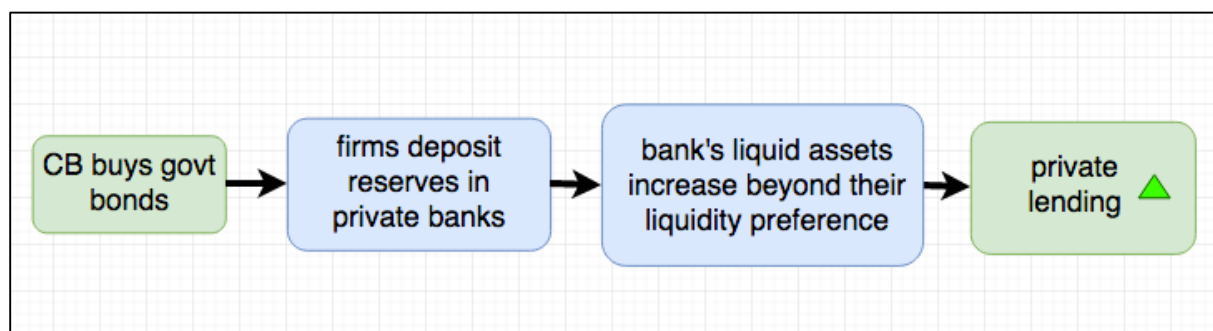


Figure 1.2 The Bank Funding Channel

Although this bank funding channel is a component part of QE it will be treated as a secondary concern in this work for two reasons. The first is that the bank funding channel is generally considered less reliable than the portfolio substitution channel because it fundamentally relies on the liquidity preference of private banks. David Miles explained in the same speech referenced above (as quoted in Goodhart & Ashworth, 2012: 666) that he would only expect the bank funding channel to operate 'under conditions of stress in the availability of funds to individual banks' as 'the more concerned banks are about their ability to re finance themselves, the less likely they are to grant loans.' The second reason is that for the specific case of Japan the picture is complicated by a historically unusual (from a western perspective) relationship between the central bank, private banks and the largest firms. As Johnson (1999: 30-34) explains, the Japanese wartime regime 'rationalized the financial system by its authoritative designation of banks that were to serve particular munitions companies.'

This set the template for Japan's wartime *zaibatsu* and post war *keiretsu*, financial conglomerates where a large corporation would receive financing from what was essentially its own in house bank. These private banks were in turn propped up by BoJ guarantees in order to support 'over-lending' (Johnson, 1990: 34). This system has since been largely brought in line with other developed economies as a consequence of global capital's deregulation and internationalization since the 1980s. As Lucarelli (2015: 314) explains, large *keiretsu*'s dependence on 'big banks' to generate funds has fallen from approximately 40% in the early 1970s to only 6% in modern Japan. However, the structural legacies of this system remain part of the Japanese financial landscape, for example: *The Banker*, reported that Japan's largest bank by tier 1 capital as of 2014 was still Mitsubishi UFJ Financial Group - the banking arm of the larger Mitsubishi Group *keiretsu* ('The Top 5 Banks in Japan', 2017). The context specific differences between central bank to private bank transmission mechanisms in western economies versus those in Japan could be a fruitful area for future research. However, for the purposes of this narrative this is largely a moot point as the BoJ QE program has largely avoided explicit reliance the bank funding channel and instead been primarily focused on raising, demand and inflation via portfolio rebalancing (see fig. 5-1 in Wakatabe, 2015: 121). However, there is another aspect of QE that demands examination in the Japanese context – currency devaluation and inflation.

#### **1.4 Currency devaluation and price inflation**

A third effect that could be considered a form of transmission mechanism for QE is currency devaluation. However, across the logic of all QE programs the place of currency devaluation is often the most ambiguous for two reasons. The first is that the political acceptability of currency devaluation as an explicit monetary policy varies widely from country to country. As Goodhart & Ashworth (2012; 667) explain: 'The effect of UK QE on sterling has had little attention in BoE empirical exercises, perhaps reflecting a desire to avoid accusations they may be engaging in "beggar thy neighbor" policies.' In Japan however, currency devaluation was always an explicit feature of the BoJ's proposed transmission mechanism. This is primarily because of Japan's specific context of deflation and an overvalued Yen. As Wakatabe (2015: 122) explains: "The flip

side of the same coin of Japan's persistent deflation was the appreciating yen...therefore, the regime change in monetary policy must entail the breaking of the so-called ever-higher yen syndrome.' This explicit aim of raising inflation is also in and of itself more acceptable as component of QE in Japan than elsewhere. Goodhart (2013: 2), again taken here as a proxy for the British view, describes central banks using monetary policy instruments to intentional raise inflation as 'inherently dangerous' as it may erode the markets confidence in the future value of money. However, for the BoJ achieving a reflation rate of 2% has always been an explicit target. Their logic is that the public commitment to this target, along with the expansion of the monetary base, will raise the expected inflation rate, leading to a rise in the real interest rate which will devalue the currency and raise asset prices, in turn closing the output gap and thus generating price inflation (see fig. 5-1 in Wakatabe, 2015: 121). These views are not without historical precedent in Japan as much of the countries' post war development was premised on currency devaluation as a key strategy (Johnson, 1999: 34). Indeed, as will be discussed further in chapter 2, currency devaluation has been one of the only consistent effects that has operated basically as the BoJ intended since the commencement of QE in 2012.

There is also a second reason for currency devaluation's ambiguous place in the logic of QE aside from its sometimes politically taboo nature. Namely that any benefit of a falling currency has the ability to effectively cancel itself out. This is because as while export profits grow, unless this growth is accompanied by increased domestic investment the simultaneous effect of imports becoming more expensive whilst the nominal value of wages falls can create or exacerbate a situation in which inflation outpaces real wage growth. This has already been the case in the UK following the devaluation of the Sterling after Brexit (Allen, 2017). Despite very low inflation in Japan, a similar effect cannot be discounted considering that Japan is net importer of a commodity as basic as food, with the Ministry of Agriculture Forestry and Fisheries sating that as of 2006 domestic production only covers 38% of Japan's food sufficiency requirement as measured on a per calorie basis. (Nagata, 2008)

## ***1.5 Underlying assumptions***

Now that it has been established how QE is supposed to operate mechanically, it is essential to point out that each of these mechanisms rely on the assumption that agents will behave in particular and predictable ways. If we return to the speech referenced above from former BoE Deputy Governor Charlie Bean we can identify a particularly telling passage. He (as quoted in Goodhart & Ashworth 2012: 662, emphasis added), explains of QE that: 'If the seller were indifferent between holding the gilt and holding the associated bank deposit, *that is where things would stop.*' What Bean is freely admitting here is that the portfolio substitution channel relies on the belief that if it is profitable in the short term to exchange one type of asset for another, and an agent has the ability to make this exchange, this is what the agent will always do. In other words, QE assumes a rational, profit motivated subject, be it a firm, a household, a private financial institution or a bank. This means that if the results of QE are mixed or negative, we are faced with one of two scenarios. The first is one in which the underlying assumption of a rational actor is correct, but there is some aspect of the mechanism itself that is not taking correct advantage of this rational attitude. The majority of critiques of QE from mainstream authors have been along these lines. For example, Eggertsson and Woodford (2003: 160) explicitly rule out the existence of a *portfolio balancing mechanism* on the grounds that: 'changes in the composition of the securities in the hands of the public do not change the state[context]-contingent consumption of the representative household-this depends on equilibrium output.' Joyce et al (2012: 276) summarize Eggertsson and Woodford's basic position as one in which: 'a single representative agent who has an infinite horizon, faces no credit restrictions and is rational – sees the assets held by the government and by the central bank as indistinguishable from their own assets.' In other words, if QE assumed a *truly* rational actor then the *portfolio rebalancing mechanism* would not operate because if the interest rate has reached the zero lower bound then all interest bearing assets (gilts, bonds, etc) are of equally little value and therefore equivalent to cash and deposits. This line of criticism contains two flaws common to neo-classical thinking. The first is that it remains stubbornly in the realm of the abstract, assuming that transmission mechanisms will apply evenly to all contexts and ignoring that fact that even the most basic differences between national approaches to QE (purchasing bonds versus

securities for example) demonstrate the highly context sensitive nature of central bank policy making. The second is that this line of argument stays so firmly within the realm of methodological individualism that it descends into a quasi-theological debate over who has the purest interpretation of rational behavior.

Whilst arguments such as those made by Eggertsson and Woodford are fair when considered purely within the remits they define for themselves they serve as a means of *justifying* why empirical evidence diverges from the model precisely so that the assumptions behind the model need *not* be questioned. A far more satisfying approach from the heterodox perspective, when faced with a failing QE program, is to consider a second scenario - one in which it is not merely the mechanical aspects of QE that have failed but the assumptions behind them that may be faulty. It will be this second scenario that informs the explanations put forward in this project. The following chapter will address the empirical evidence for QE's success and failure before focusing in on the related phenomenon of surplus hoarding in Japan. However, before examining this empirical literature the goal here has been to demonstrate that the mechanical aspects of QE's transmission channels are tied so closely to fundamentally neo-classical assumptions regarding firm behaviour that any empirical observations regarding the breakdown of the former necessitate questioning the latter. A further ancillary to assumptions of a rational actor in the case of QE is another assumption, that of an exogenous money supply. Chapter 3 will go into further detail on this assumption in the discussion of Post-Keynesian theories of endogenous money and liquidity preference.

## Chapter 2

### **Quantitative Easing in Practice: Success, Failure and Corporate Surplus Hoarding**

Now that it has been established how QE is *supposed* to work according to the best intentions of central banks, it is necessary to assess how closely these intentions reflect reality. Section 2.1 of this chapter places the relative success and failure of Japan's QE program into a global context by reviewing empirical literature on the two main rounds of Fed and BoE QE. The picture here is generally one of initially positive signs followed by increasing evidence that the *portfolio rebalancing mechanism* at the heart of QE has faltered. This pattern of positive early signs followed by disappointment repeats itself for the case of BoJ QE, discussed in section 2.2. However, here the story here is further complicated by the significant fall of the Yen and the real interest rate. As was established in chapter one, the basic assumption behind the portfolio substitution channel of QE is that if central bank reserves appear on the balance sheets of private firms, those firms will buy equities. Therefore, any discussion of the empirical evidence of QE's success or failure in Japan cannot be concluded without addressing the mystery at the heart of this story; namely that Japanese firms have acted exactly contrary to this assumption, hoarding assets in cash and deposits on an unprecedented scale. Although this savings trend began before the 2012 BoJ QE program, and therefore could not have been directly *caused* by QE, the centrality of portfolio rebalancing to QE's basic logic means these two phenomena cannot be understood in isolation from one another. For this reason, section 3.2 is dedicated to a discussion of this private sector surplus. The fact that this surplus hoarding is so far ahead of equivalent trends in the US and Europe (Wolf: 2015) also establishes the need for a Japan-specific frame of analysis, specifically an alternative understanding of firm's motivation, which will be the subject of chapter 4. The work presented here once again draws on the writing of Goodhart and Wakatabe for all the reasons mentioned in the previous chapter, however now added to this list is University of Tokyo professor and former BoJ policy board member Kazuo Ueda, whose observation that the equity price bump in Japan was almost entirely due to foreign firms, was the initial spark that ignited this authors curiosity about QE in Japan.

## **2.1 The global context: QE1 and QE2 in the UK and US**

The basic consensus on the round of easing that immediately followed the global financial crisis of 2008-9, often referred to as QE1, was that initial signs were positive. In their extensive survey of the empirical assessments of QE, Joyce et al (2012: 281) explain that:

In 2009, the timing of credit and QE policies coincided with a rally in asset prices, with equities rising sharply and government and corporate bond yields showing large falls...Capital market borrowing conditions improved in the UK where there was a sharp rise in both corporate bond and equity issuance during 2009.

The fact that bond yields fell and equity prices rose, easing access to credit on private markets, would indicate that at, at least at first, the portfolio substitution channel was operating as intended. Goodhart (2013: 4) concurs, writing that: 'expansionary measures did lead to higher output (and inflation) than would otherwise have occurred, especially QE1 in both the USA and UK.' In fact, Goodhart and Ashworth (2012: 642) argue that because dynamic stochastic general equilibrium models assume no risk of default 'focusing solely on long-term public-sector debt' may have caused standard empirical studies to have *underestimated* QE1's effect on lowering risk premia. However, easing access to private credit by lowering risk premia is only one ancillary aspect of the portfolio substitution channel. When it comes to the longer term evidence for the functioning of the *portfolio rebalancing mechanism* itself signs are considerably less encouraging.

Despite their enthusiasm for early signs of QE's success Joyce et al (2012: 281) still note that: 'subsequent recovery has been sluggish and much weaker than after a normal cyclical downturn.' Based on their own event study analysis of BoE QE, Goodhart and Ashworth (2012: 665, emphasis in original) concluded that: 'the data do not suggest that QE has been fueling a *significant* across the board switch out of gilts and into riskier domestic assets by non-bank financial institutions.' A particularly salient point from their analysis was the observation of the difference between QE1 and QE2, where they (2012: 665) observed that 'what is strikingly apparent is the lack of impact of QE2 on equities' going on to conclude that 'given that direct holdings of corporate bonds among households are significantly less than those of equities, one

suspects the ‘wealth effects’ boost from portfolio rebalancing during QE2 are limited.’ This point regarding households is crucial. As discussed in chapter one, households are much more likely to hold equities than bonds. This means that any possible *wealth effect*, where the increasingly value of household stock portfolio’s makes them more confident to spend, relies on equities *specifically* being the asset that rises in price. While the prices of short dated corporate bonds rising may ease access to credit on private markets this is an inferior route to boosting domestic demand compared to the *wealth effect* because it relies on the assumption that firms will want to borrow to raise wages or make capital investments. This in turn is a questionable assumption seeing as firms seem not even to be willing to take the risk on equities in the first place. The following chapter will offer some explanation as to why the effect QE2 on equities was weaker than that of QE1 via a discussion of endogenous money and liquidity preference. However, suffice to say here that this stalling of the *portfolio rebalancing mechanism* between the two cases demonstrates how crucially important the relative demand for money is in QE implementation.

The story becomes even grimmer for the bank funding channel of QE. For the 2008-9 period in the UK a 371% increase in central bank reserves led to only a 1% increase in private bank lending to non-financial corporations and the household sector, while in the US a 1853% increase in central banks reserves led to only a 4% increase in lending to these sectors (Goodhart and Ashworth 2012: 651). Suffice to say these are not encouraging numbers. However, it is important to remember, as discussed in the previous chapter, that the bank funding channel is not *expected* to operate all the time. As Arslanalp and Botman (2015: 5) explain: ‘a ‘bank lending channel,’ ...will depend critically on economic conditions, both on the take-up side of new loans as well as the extent to which banks need to deleverage.’ Therefore, it is necessary to return to the primary story, the breakdown of the portfolio rebalancing channel and specifically the scale of the challenges it has faced in the case of Japan.

## **2.2 QE in Japan**

Before addressing the success or failure of QE in Japan it is important simply to note the sheer scale of the BoJ’s easing operations. As of 2014 the BoJ was aiming to



double the monetary base to reach the equivalent of 54% of Japan's GDP (Arslanalp & Botman, 2015: 3). As of May this year (2017) *The Nikkei Asia Review* reported that 'assets owned by the Bank of Japan have reached the equivalent of 90% of the country's gross domestic product' ('BOJ assets swell to 90% of Japan's GDP', 2017). Arslanalp and Botman (2015: 9, emphasis added) argue that by 2018 'the BoJ's dominant position in the government bond market will be *unprecedented* among major advanced economies.' However, despite pursuing easing on a scale no other central bank has, the BoJ's experience has nonetheless mirrored that of US and UK QE programs, with 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 2.1*).

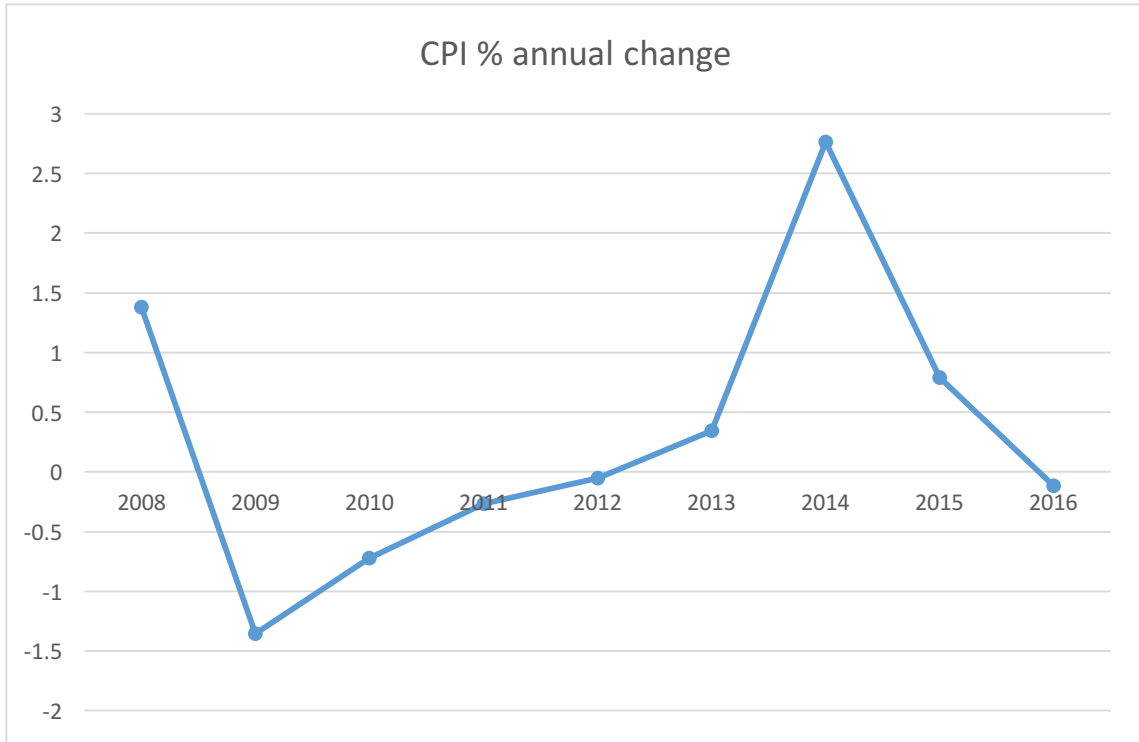


Figure 2.1 Japan consumer price index % annual change (source: The World Bank Data)

While GDP growth bounced back somewhat from the 2014 lull it remains low, hovering around the 1% mark since 2014 (see fig 2.2) and what growth there is certainly cannot be neatly attributed to the effects of QE beyond higher export profits owing to the devalued Yen.

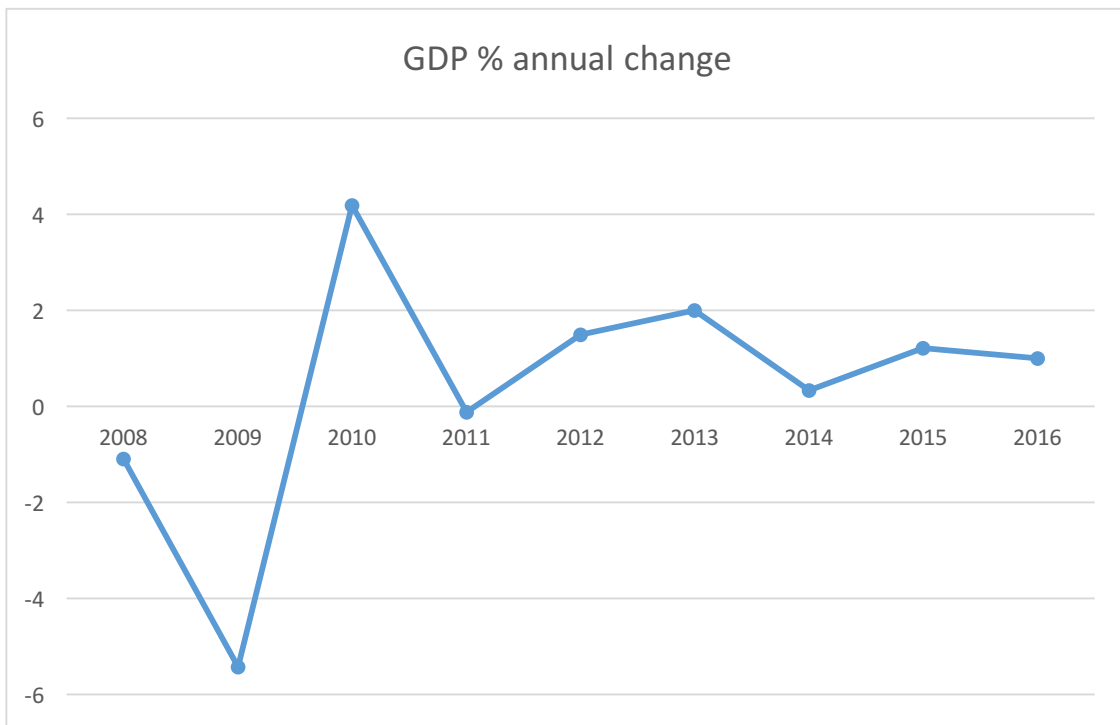


Figure 2.2 GDP growth % annual change (source: The World Bank Data)

Worse still for BoJ QE is that much like QE in the UK, 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.’ Strangely, this disappointing lack of serious reflation, GDP growth or increasing private lending has been despite the fact that the real interest rate (the lending rate adjusted for inflation as measured by the GDP deflator) *was* falling in Japan between 2010 and 2015 (see fig 2.3).

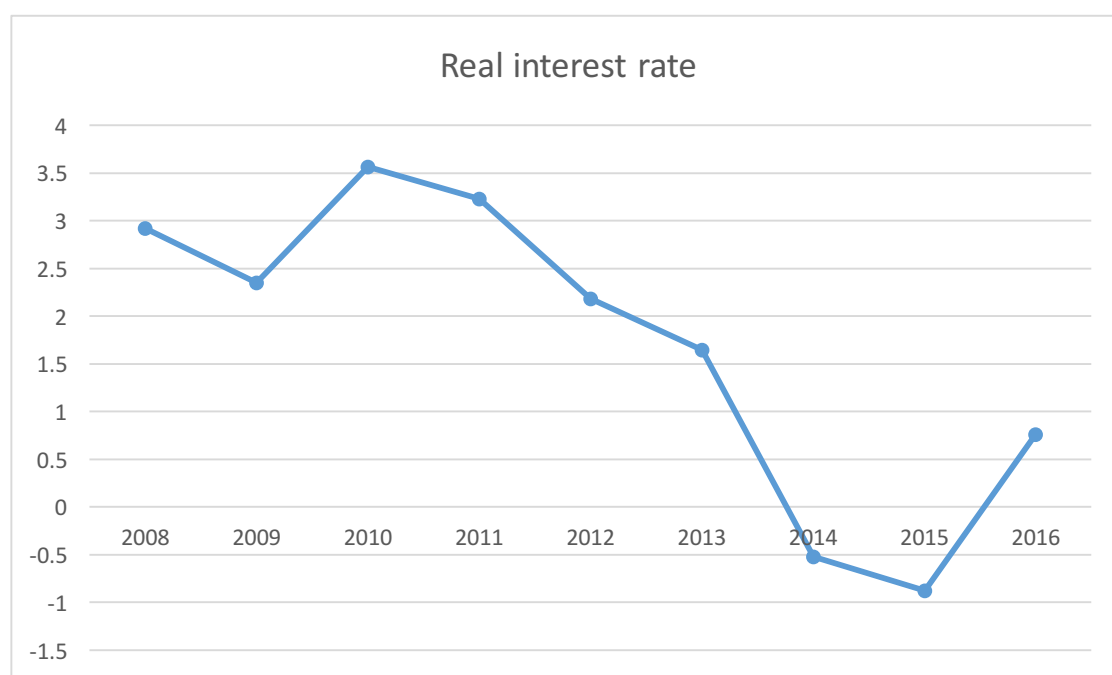


Figure 2.3 Japan real interest rate (Source: The World Bank Data)

According to Wakatabe this should be activating the *portfolio rebalancing mechanism*. He explains (2015: 120) that the BoJ’s logic ‘could be considered a big domino game. The key starting point is the increase in the expected inflation rate.’ This supposedly then leads on to a rise in the real interest rate which in turn ‘would translate into an improvement in the discounted present value of the corporate earnings in the future, which leads to an increase in stock prices in the present.’ If we are to follow this metaphor of a domino game, why is it that only the *second* domino, the real interest rate, that actually fell? It seems as though, much as in the UK, base money expansion has managed promote some purchases of short term corporate bonds thus lowering term premia in Japan and hence interest rates. However, this has happened *without* the

actual *portfolio rebalancing mechanism* kicking in any substantive way. To understand why what initially seemed to be a successful implementation of the portfolio substitution channel ended in such 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 2.4 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.

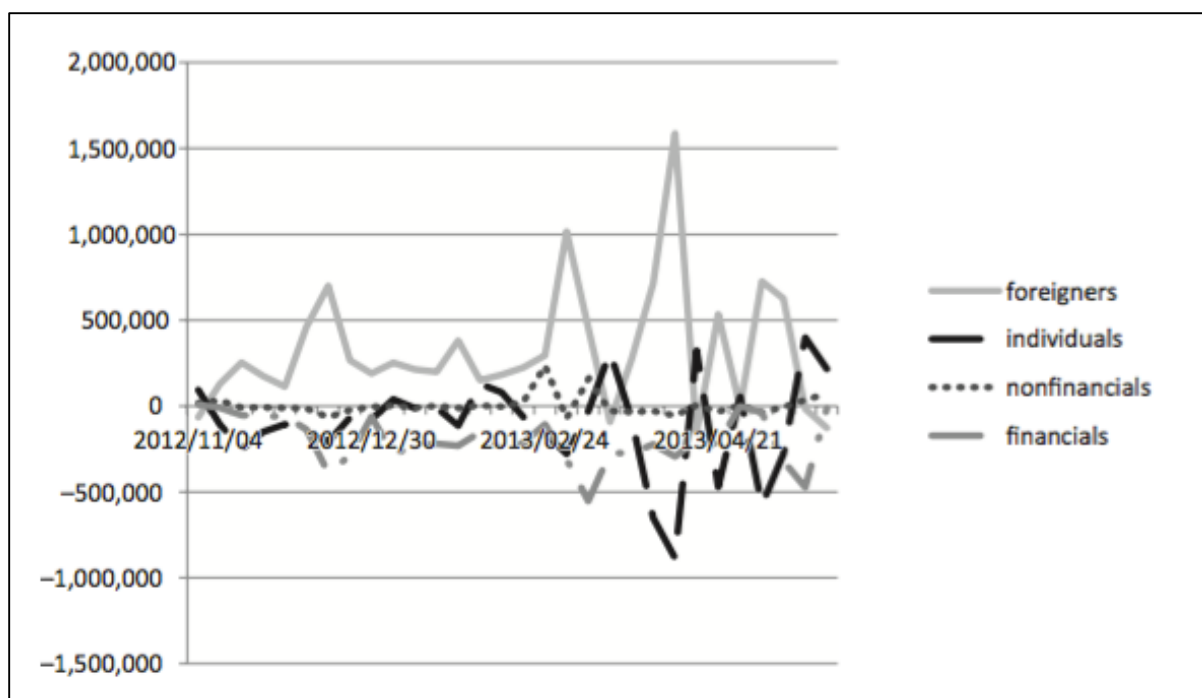


Fig. 2.4 Net purchases of Japanese stocks (reproduced from: Ueda, 2013: 262)

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). It here that the global context introduced earlier becomes particularly relevant. As Ueda (2013: 253) explains:

The behavior of foreign investors seems to have been based on the view that the aggressive use of nonconventional monetary policy (NCM), even if it does not lead to improvements in the real side of the economy, is capable of raising asset prices. The view must have been based on investors' experience with the easing carried out by global central banks.

The implication here, is that not only was the pattern of Fed and BoE QE generally repeating itself in Japan, but that the encouraging initial rash of equity purchases in Japan was possibly being led by the exact same investors that had experienced the initial surge of QE1 in the US and UK. This would go some way to explain why the

failures of QE have followed such a similar pattern inside and outside Japan. In both cases some aspects of the portfolio substitution channel have operated, corporate bond purchases lowering term premia in the UK, currency devaluation and a lower real interest rate in Japan. However, in both cases the actual *portfolio rebalancing mechanism* has basically failed to kick in. 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.

### 2.3 The corporate surplus in Japan

The pithy answer to the question of what Japanese firms have done with their newly acquired central banks reserves, as well their increased profits on the back of a weaker yen is - nothing. With *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 2.5 shows, currency and deposit holdings beginning to rise in 1998 and accelerated during the recovery from the global financial crisis after 2008.

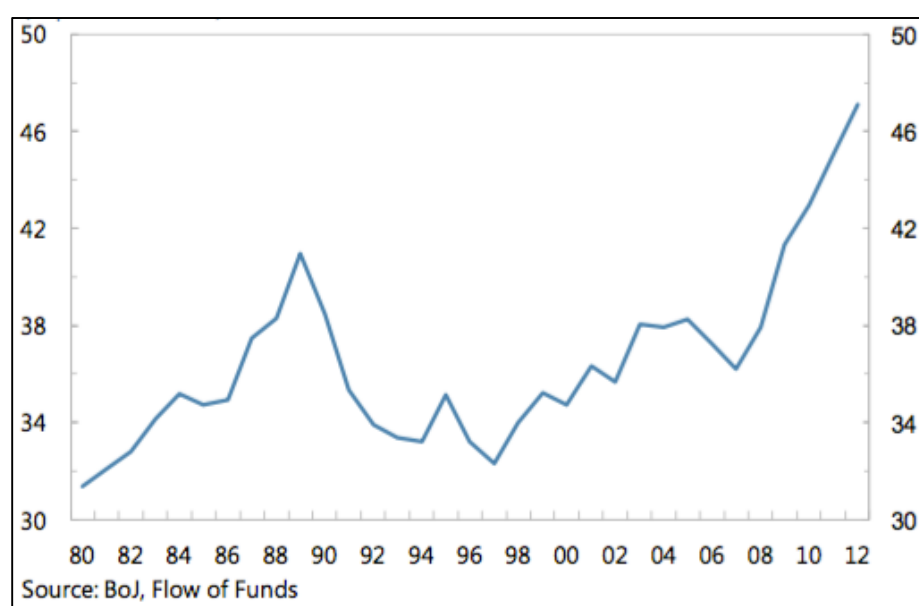


Figure 2.5 Currency and Deposit holdings (% of GDP) (reproduced from: Kang, 2014: 6)

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 again 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 with surplus savings 'close to 8 percent of gross domestic product'

This surplus hoarding behavior of Japanese firms is an interesting phenomenon in and of itself but for the purposes of this project it needs to be investigated because it is acting as the fundamental blockage in the QE transmission mechanism. As was established in this and in the previous chapter, the *portfolio rebalancing mechanism* is a) the effect at the heart of QE's operational logic and b) the mechanism that has consistently *failed* to operate properly both in the global context and in Japan. In order to go some way towards understanding how this surplus hoarding is effecting QE in Japan and why firms are behaving this way this work will draw on two separate literatures. The next chapter introduces Post-Keynesian literature regarding liquidity preference in a system of endogenous money. The goal there will be to establish an understanding of how firm's preference for liquid assets can disrupt central bank policy measures that assume an exogenous stock of money. This framework will be *necessary* to understanding how liquidity preference can disrupt QE at the level of abstract macro-dynamics but is not *sufficient* in the sense that it does not explain the difference in the scale of corporate sector savings between Japan and the rest of the developed economies. To this end chapter 4 will turn to the *capitalist developmental state* (CDS)

literature in order to establish a theory of the firm specific to the path-developmental features of the Japanese economy.



## Chapter 3

### **Endogenous Money, Liquidity Preference and QE in Japan**

The previous chapter discussed the issue that a monetary expansion of unprecedented scale in Japan had failed to make a dent in equally unprecedented levels of private sector saving. The sustained expansion of central bank reserves seems to have been met with an equally endless preference on the part of Japanese firms to hold assets in a liquid form. Before addressing why Japanese firms are sitting idly on so much money, it is necessary to establish why liquidity preference generally presents a problem to the transmission channels of QE. To this end this chapter will draw upon the Post-Keynesian literature that detaches QE from its underlying assumption of an *exogenous* money supply and instead explains its failure in the context of an *endogenous* money framework. The arguments presented here draw on the work of Marc Lavoie, as well as related contributions from Louis-Phillipe Rochon and the dissenting central banker Richard Koo as these authors have been at the forefront of applying an endogenous money framework to the case of QE. Section 3.1 will outline their critique, which is aimed chiefly at the logic of the *money multiplier* and by extension the bank funding channel of QE. However, this chapter will argue that it is possible to extend the scope of their criticisms and so section 3.2 applies this endogenous money framework to the failure of the *portfolio rebalancing mechanism*. The goal here is to make a case for how QE could fail in Japan at the level of macroeconomic abstraction before digging into the structural specificities of Japanese firm's spending behaviour. The contribution of these structural factors is briefly prefaced in section 3.3 before being explored in detail in the following chapter.

#### ***3.1 The exogenous money assumption - QE as reversed monetarism***

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). Figure 3.1 shows a simplified version of this vertical money supply schedule based on the full vertical money model presented in Palley (2013: 7).

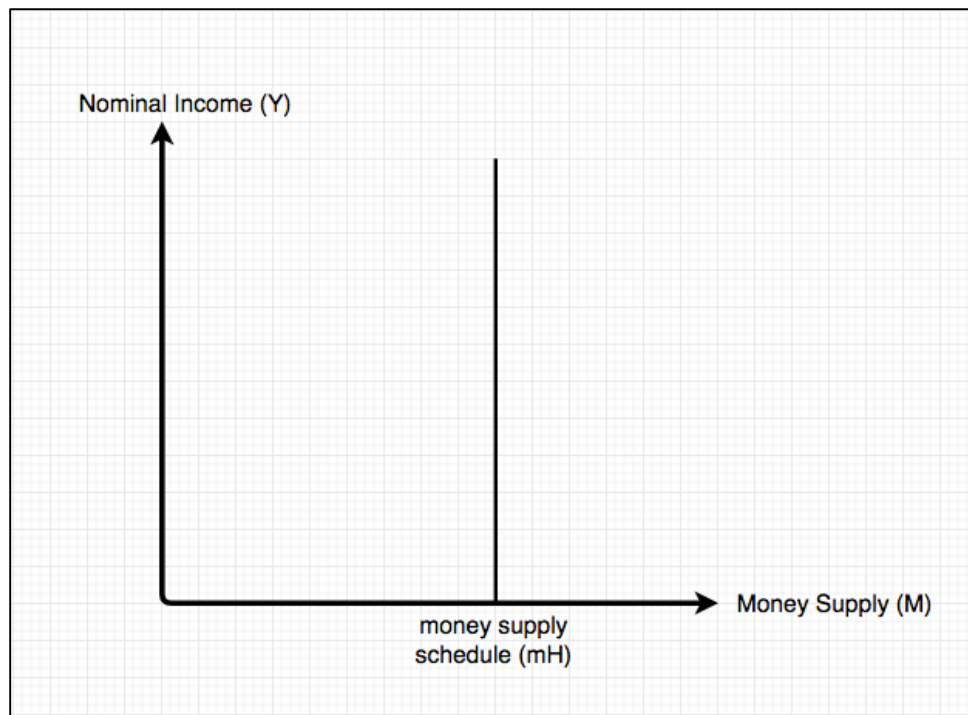


Figure 3.1 A vertical money supply schedule

The line here is vertical because with the money supply being determined outside of interactions between agents in the money market, the money supply schedule is independent of the nominal income level and is instead being determined by the *money multiplier* ( $m$ ) and the supply of high-powered money ( $H$ ). Under this model, in order for private banks to lend they must do so against the value of deposits. This in turn makes the central bank a powerful actor because 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). The assumed mechanism of action here is that any expansion of central bank reserves onto the balance sheets of private banks which exceeds these bank's demand for liquid assets allows these banks to finance increased lending against the value of

these reserves. The reason an exogenous money supply becomes an essential assumption for any belief in efficacy of QE operations is that, as discussed in chapter one, this *money multiplier effect* 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 theoretical reliance on an exogenous money framework to justify monetary expansion is a curious development in contemporary monetary policy making. This is because aside from QE, the global financial crisis has generated some questioning of exogenous money within mainstream literature to the point where some mainstream models now incorporate what appears to be an at least a partially endogenous money supply (Rochon, 2016: 92, Palley, 2013: 10). This shift in thinking would also seem to be evidenced by growing skepticism in central banking towards the old idea that the central bank can simultaneously set a positive short-term interest rate and a level of high-powered money (H) and have these be independent of one another (see for example Goodhart: 2013: 2-3). In fact, as far back as 2007 Wray (17) notes that: ‘most economists now recognize that the central bank can only set the overnight interest rate—which has only an indirect impact on the quantity of reserves and the quantity of privately created money.’ Recognizing this many central banks have adopted a ‘floor system’ in which the bank sets a ‘lower bound’ or limit on the interest rate by which it is

profitable for private banks to lend to one another other. The advantage of this for central banks has been that ‘the target interest rate can be modified without any change in the outstanding amount of reserves’ (Lavoie, 2014: 224). Japan actually adopted this system in 1996, even earlier than the US, UK and EU (Lavoie, 2014: 223). This presents us with a strange paradox in the logic of contemporary central banking. On one hand the acknowledgement that central banks have to validate their choice of a positive interest rate by accommodating the amount of reverses that households and private banks wish to hold at that rate (Goodhart, 2013: 2-3), and subsequent adopting of a floor system as work around for this, would seem to be a rejection of the vertical money model. However, on the other hand QE programs are premised on the belief in the *multiplier effect*, and this *multiplier effect* is itself an essential component of the exogenous money story.

One explanation lies with central banks belief that, if reverses were needed to accommodate a positive interest rate, then conversely ‘once the lower nominal bound to interest rates had been hit, the CB could now choose to expand, the monetary base, as much as it might wish’ (Goodhart, 2013: 3). However, this seemingly contradictory belief in the power of expansionary monetary policy is also related to the political context in which central banks operate. With more than thirty years of neoclassical orthodoxy criticizing fiscal policy in favor of ‘monetary policy dominance’ (Rochon, 2016:91), QE has become representative of what Lavoie (2014: 229) characterizes as ‘a desperate attempt by monetary authorities and some economists still adhering to monetarism to demonstrate that monetary policy is always effective.’ This leads us to the question of whether the disappointments of QE make more sense in the context of an *endogenous* money supply. Here it is necessary to take a brief detour into the endogeneity of money and *reversed causality*, before applying this criticism to the breakdown of the bank funding channel.

### **3.2 Endogenous money and the bank funding channel**

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.' This model is referred to as 'horizontal' or 'accommodationist' because in this reversal of the verticalist story the creation of reserves by the central banks simply accommodate loans already made by private banks.

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. Although the *money multiplier* has failed to operate in the case of BoE and Fed QE, 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 established in chapter 2, private sector saving began to trend upwards in Japan in 1998 (see fig.2.5) 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.’ As discussed in chapter two, this trend in private sector saving has since continued practically unabated.

This endogenous money framework can then perhaps provide an answer to Goodworth and Ashworth’s (2012) confusion over the mainstreams’ hesitance to investigate the breakdown of the *money multiplier*. However, as established in chapters one and two, central bankers themselves do not *expect* the bank funding channel to operate all, or even most of the time, only in situations where there is general shortage of liquidity. The key channel is actually considered to be the portfolio substitution channel. This is the major missed opportunity of Post-Keynesian critiques of QE thus far, as authors such as Lavoie and Rochon have tended to focus exclusively on the bank funding channel implying that if the bank funding channel fails QE is therefore rendered ineffective. The term ‘missed opportunity’ is used deliberately, as this chapter will argue that the same basic logic used in their critiques can also be applied to the portfolio substitution channel and used to help explain the breakdown of the *portfolio rebalancing mechanism*. This will however require a brief detour into the debates between ‘horizontal’ and ‘structural’ endogenous money.

### ***3.3 Structural endogenous money and the portfolio rebalancing effect***

For what is most likely the sake of simplicity, Lavoie and Rochon present their endogenous money supply as almost totally horizontal when breaking down the problems with QE’s bank funding channel. However, to apply the same kind of criticisms to the case of portfolio rebalancing in Japan it is necessary to complicate this picture somewhat and adopt a model of the money supply that, whilst still endogenous, is ‘structural’ rather than horizontal. It is important to clarify here, in the interest of not mischaracterizing the debate, that neither Lavoie nor Rochon define themselves as strict horizontalists. Rochon (writing with horizontalism’s originator Moore, 2014) attempts to synthesize both approaches and whilst Palley (2013: 10) regards Lavoie as a ‘leading proponent’ of the horizontalist model he also acknowledges this his writing

has gradually integrated many structuralist criticisms. Indeed, Lavoie himself (2014: 186) wrote that the structuralist model has 'brought some clarifications and provided new details to the basic horizontalist story.' In general digging into the long history of debates between horizontalists and structuralists in the canon of Post-Keynesian economics would be a distraction here but for a good summary of these debates and their implications see Wray (2007), Lucarelli (2013) and Palley (2013). For the purposes of this project the key difference between the two models is the role played by the central bank. Lucarelli (2013: 355, emphasis added) explains that for horizontalists:

Credit is...demand-driven and independent of the official rate of interest. The only limits to the creation of credit are the propensity of economic agents to borrow and their creditworthiness from the standpoint of the banking system. In this overall scheme, the central bank *merely accommodates the demand for credit money* and acts as the supplier of legal tender...The crucial point stressed by Horizontalists is that these monetary reserves are simply the residual after the demand for credit money has been automatically met.

In other words, from the horizontalist point of view central banks do not control the size of the overall money supply. This is because in the horizontal model money's creation always follows a strict causal sequence: first demand for money is met by the extension of private credit, then credit generates deposits, and finally deposits determine the level of reserves, as the central bank comes in at the end to back the loans *already made* by private banks. Structuralists on the other hand see a *somewhat* more active role in the process for the central bank, as Lucarelli (2013: 357-8, emphasis added) again explains:

Structuralists argue...that the central bank does not necessarily accommodate the creation of credit by supplying reserves to banks. The central bank plays an active and pivotal role through its decisions whether to lend in order to mitigate the effects of excessive credit creation by banks. Hence, *central banks themselves form liquidity preferences*. As the residual supplier of liquidity to the economy as a whole, 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.

The crucial point of difference here is that central banks have their own liquidity preference separate to that of private banks. In fact, for structuralists all the key economic agents (households, firms, banks and the central bank) have their own separate level of liquidity preference. The creation of monetary flows and the determination of the interest rates are still both created endogenously within the system and credits still precede deposits, however they arise as a negotiation between these separate liquidity preferences (Lucarelli, 2013: 357).

At this point the question remains - why it is crucial to make the distinction that the money supply in Japan is structural rather than horizontal? This is for two reasons. The first is that while a horizontal framework is sufficient to understand the bank funding channel (because the bank funding channel failed so completely), in the case of the portfolio substitution channel the central banks policies in Japan have had some effect, devaluing the Yen as well as briefly increasing equity prices and lowering bond yields (as discussed in chapter 2). This means that if QE is to be understood through an endogenous money framework it must be one that understands the central bank to have *some* capacity to act, beyond simply supplying reserves to accommodate the loans private banks have already made. The second and more substantial reason is that the structuralist model understands monetary flows as the interaction between separate levels of liquidity preference. This is essential in the Japanese case because, as has been already argued, the key to understanding the failure of the *portfolio rebalancing mechanism* in Japan lies with firms' seemingly insatiable desire for cash and deposits – their liquidity preference. Which has so far matched, Yen for Yen, the desire to dispose of liquidity on the part of the BoJ.

QE, tied as it is to the belief in the power of an exogenous money supply, basically assumes that firms simply do not have a liquidity preferences. Instead it relies on the set of assumptions outlined at the end of chapter one, seeing the firm as a strictly rational actor that always makes a profit motivated decisions in the short run. Koo (2011: 75) neatly summarizes how the designers of QE understand the motives of firms, writing that: 'Today's macroeconomics assumes that private-sector firms are maximizing profits at all times, meaning that given a low enough interest rate, they should be willing to borrow money to invest.' This in turn implies that central bank must play a specific and active role. As Koo (2011: 75, emphasis added) goes on to



explain:

'With private-sector firms acting in a forward-looking manner at all times, a recession can occur only if the supply of money is disrupted at either the central-bank or commercial-bank level. In other words, *all recessions are rooted in problems with the supplier or lender of money.*

The fundamental problem with designing monetary policy from this perspective is that actually firms *do* have a liquidity preference and in Japan since 1998 that preference seems to have no upper limit. Here the fundamental point is same as Lavoie and Rochon's critique of the bank funding channel. At its most basic level the existence of liquidity preference in an endogenous money system means that simply giving an economic agent money is not *itself* an inducement for that agent to invest. Just as banks do not need reserves to make loans, firms do not need reserves to borrow from banks. Though it seems an intuitively simple point that giving someone money is no guarantee they will spend it, the lack of endogenous money framework means this fact remains invisible to the mainstream. 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.

While an endogenous money framework can highlight the role that liquidity preference plays in frustrating the transmission mechanism of QE it also highlights the impact that different levels of demand for money have of the timing of monetary expansion. Recall that the previous chapter requested the reader note the difference in impact on equity prices between US and UK QE1 (where there was some portfolio rebalancing) and QE2 (where there was essentially none) (See Goodhart and Ashworth, 2012: 665). This pattern begins to make sense in an endogenous model where money creation is fundamentally driven by demand. QE1 was implemented directly after the global financial crisis in a context where firms were heavily leveraged and needed to pay off their debts before they could consider new investments. This enacts what Lavoie (2016: 69) identifies 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. Recall that in Lucarelli's (2013: 357-8) definition of the structuralist model, the central bank rate acts as the 'anchor' for the level of liquidity in the system as a whole. In QE1 this is precisely the role the Fed and BoE played, pushing liquidity back into the system and allowing firms to de-leverage which in turn meant there was some tentative re-entry back into equity markets. However, what was in reality central banks playing an essentially defensive role (in which any actual growth of the money supply was cancelled out by this 'reflux principle') was instead interpreted by the mainstream as evidence for both the *multiplier effect* and the *portfolio rebalancing effect*. These banks therefore enacted a second round of easing (QE2) in 2010 expecting the same result and not understanding that pushing more liquidity into the economy when firms had already rebuilt their liquidity buffers would not have the same outcome.

Turning to the case of Japan a similar desire to de-leverage characterized firm behavior after the property bubble burst in the early 1990s. As discussed in chapter 2, Japanese firms turned away from new investments and towards paying down existing debts, increasing the level of assets held as cash and deposits. Indeed, Koo (2011, 42) writes that: 'It would seem that the people using the term 'lost decade' to describe the 1990s have never looked at balance sheet improvements made by Japanese companies.' However, he also notes that 'economy wide attempts to repair damaged balance sheets resulted in a fallacy of composition that threw the economy into a prolonged recession.' It was into this context that the first (2001-2006) BoJ QE program was enacted, and since then the savings behavior of these firms has gone far beyond de-leveraging, to the point where Japanese firms are now the most liquid in the world. It is therefore less surprising that the current round of BoJ QE beginning in 2012 has had so little effect on equity prices beyond an initial bump caused by foreign investors. The BoJ remains committed to QE however, as the assumption of an exogenous money supply rules out consideration of how demand for money will influence QE's implementation.

This transformation of QE, from short term liquidity injection into what seems to be a permanent policy of cheap central bank money is a fascinating example of a global phenomenon where monetary policies originally envisioned to be short term crisis solutions are being reverse-engineered into long term interventions in an attempt to restart economies experiencing secular stagnation. As authors such as Wakatabe (2015)

have argued, Japan may hold many lessons for the rest of the developed world here, as they have been dealing with stagnation much longer than the rest of the high-income economies (with the possible exception of Italy).

### ***3.4 Introducing path-dependent factors***

If an endogenous money model can explain, at least in the abstract, how liquidity preference frustrates QE's transmission mechanisms then the questions 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 in the case of QE an endogenous money model can explain the *how* but not the *why*. The existence of liquidity preference in an endogenous system explains how pumping more liquidity into that system may not stimulate the economy, but the question remains - *why* are the liquidity preferences of Japanese firms so high? As discussed in chapter 2, surplus hoarding is occurring on a scale in Japan beyond that of other developed economies. This raises the question – are there historical-structural factors specific to the Japanese context that are causing the high liquidity preference of firms? To answer this question, the next chapter turns to drawing out a theory of the firm from structuralist literature that specializes in the Japanese context – Chalmers' Johnson theory of the *capitalist developmental state*. The last chapter (chapter 5), will then combine the Keynesian concepts of liquidity preference in an endogenous money system discussed here with these structuralist insights from chapter 4 in order to develop a theory of liquidity preference specific to the Japanese context.

## Chapter 4

### **The Japanese developmental firm – Structural factors contributing to private sector liquidity preference in Japan**

The previous chapter established how liquidity preference has disrupted the transmission channels of QE in Japan at the level of macroeconomic dynamics in the abstract. Next it is necessary to ask the question - *why* is the liquidity preference of Japanese firms specifically so high? This chapter introduces concepts from the capitalist developmental state (CDS) literature in order to explain how the distinctive characteristics of firms under this developmental system, features that once did so much to encourage GDP growth during Japan's boom era, have become institutionalized incentives for private sector *inaction* during Japan's period of secular stagnation.

The CDS literature originated in Chalmers Johnson's *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, this project will argue that 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, in terms of where the economic thought of Chalmers Johnson sits within the boarder heterodoxy it is probably most closely

associated with old-intuitionalist and development-structuralist approaches. In his 1999 piece *The Economic Theory of the Developmental State* old-institutional economist Ha-Joon Chang positions Johnson's theory as explicitly anti neoliberal and places the concept of the developmental state within the broader tradition of developmental economics, equating it to similar ideas in the prior work of Alexander Gershenkron, Paul Baran and Gunnar Myrdal. In terms of policy prescriptions, particularly on trade, the CDS literature aligns most closely with the school of thought associated with Latin American economists such as Raul Prebisch and Celso Furtado, the group Lavoie, (2015: 7) in his categorization of heterodox schools of thought in economics, refers to as the 'development structuralists'. For the sake of simplicity, this project has referred to the CDS literature and associated ideas generically as 'structuralist' as they prioritize the importance of path-developmental features in national economic development.

This project is actually 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. There he uses CDS theory as a supplemental literature to the main Minskian arguments, where it provides 'a historical perspective to argue that there is a structural and institutional dimension to the secular crisis' (Lucarelli, 2015: 311). In order to build on this contribution from Lucarelli, section 4.1 of this chapter first organizes the characterization of firms in the CDS literature, into three essential features: long-term orientation, managerial autonomy and provision of social security, establishing the growth creation role these characteristics played during Japan's boom era. Section 4.2 will then seek to as much as possible to acknowledge and then discard the latent normative approval present in much of the CDS literature and re-contextualize these characteristics in the newer context of Japan's secular stagnation. This will be in order to explain how features that originally facilitated Japan's rapid growth have become inherited structural barriers to firms returning to their position as net investors. These structural push factors towards liquidity preference are summarized in the section 4.3, a brief preface for the next chapter (chapter 5) which will suggest a synthesis of these structural factors with the Post-Keynesian notions of liquidity preference and endogenous money already

introduced, in order to propose a concept of liquidity preference specific to contemporary Japan

This chapter will of course be relying on the work written by the originator of CDS theory, Chalmers Johnson. However, it also draws particularly on contributions from Woo-Cummings who edited *The Developmental State* (1999), a significant collection of essays from different scholars in this area, as well as Chu whose *The Asian Developmental State: Re-examinations and New Departures* (2016) is a similar volume presenting more recent research.

#### ***4.1 The Japanese keiretsu in CDS theory – three essential features***

While an explicit theory of the firm is not laid out in the CDS literature, the way firms are conceptualised in this framework nonetheless has a distinct advantage over the neo-classical conception. As established previously, the *portfolio rebalancing mechanism* at the heart of QE's operational logic assumes a rational, utility maximising subject and subsequently assumes that firms will have no liquidity preference when the option to generate short-run profit is available. Conversely, the CDS literature conceptualises firms as economic actors in the structuralist sense, collaborators in a broader process of development that have their own institutionalized motivations which go beyond short-run pecuniary interest. This latent theory of (what will here be called for convenience) the developmental firm can be distilled into three essential aspects in the Japanese case: long-term orientation, managerial autonomy and role as social welfare provider.

##### ***4.1.1 Long-term orientation***

One of the most fundamental characteristics of the Japanese *keiretsu* within the developmental model is that rather than being understood solely as individual profit maximising units, they 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.

Johnson (1995: 61) also quotes Kawake Jiro, former president of Oji Paper who concurs with Hashimoto writing that 'Japanese managers take a long-term view and place emphasis on capital investment and retained earnings.' This identifies the first aspect of the developmental firm's long-term orientation – a strong emphasis on maintaining liquidity buffers and prioritising internal investments, particularly on fixed capital such as plant equipment. Important to flag here is that private-sector capital investment has fallen off significantly since the 1990s, indicated by the shrinking size of Japan's overall gross fixed capital formation (GFCF) though this has still left Japan with a legacy of significant sunk costs in fixed capital. Section 4.2.1 of this chapter returns to this issue, though for now the salient point is that Japanese firms have historically focused on internal, not external spending.

Concomitant to this focus on internal investment is the second aspect of the developmental firm's long-term orientation – focus on market share. As Woo-Cummings (1999: 18) explains:

the zaibatsu [the *keiretsu*'s pre-war predecessors] worked much more for market share rather than solely for their own profit, typically operating at a loss...Their activity... was rarely driven by ordinary market concerns of price, and of supply and demand.

The salient point here again is that firms are willing to sacrifice profit in the short-term to create a dominant position within the market over the long-term, a goal that prioritizes the growth and survival of the firm as an institution over quick payouts to shareholders. This prompts the question: how did these *keiretsu* avoid the pressures normally applied to firms to generate short-term profit? The answer is a high degree of managerial autonomy.

#### ***4.1.2 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'. From the bureaucracy's perspective this managerial autonomy was preferable as it allowed the *keiretsu* to act as compliant transmitters of industrial policy, as long as these policies were in the interests of the firm's management. However, it also had another advantage from the state's perspective as it led these large firms to become permanent fixtures of Japanese social life, creating another hallmark of the Japanese developmental system – firms acting as providers of social security.

#### ***4.1.3 Provision of social security***

It is important here to clarify that in Japan firms are not the providers of social security in exactly the same sense a government would be, providing direct redistributive social transfers through a welfare programs. Rather it is the case that in Japan the way social security is conceptualised and implemented is based upon the assumption of a gender bifurcated household in which the woman maintains the home



and acts as primary caregiver and the man receives long-term fulltime employment in a large firm. In Esping-Anderson's (1990) ubiquitous 'threefold typology' of welfare states (liberal, social-democratic and corporatist) Japan is usually categorised as conforming to the 'conservative' or 'corporatist' type present in countries such as France, Italy and Austria. A primary reason for this being that 'Japan has developed a social insurance system that is segmented along occupational lines and largely financed by wage-based contributions' (Miura, 2012: 31). An example of this structure is provision of old-age pension, which is composed of three tiers. The first tier - The National Pension system - is government funded and flat-rate for both contributions and pension payments. However, the second two tiers - the compulsory Employee's Pension System and the voluntary private Corporate Pension System - are based on earnings (Takayama and Kitamura (2009: 98). It is this kind of structure that prompts Miura (2012: 12) to characterize the Japanese social security system as a 'gendered dual system' of 'welfare through work' 'where employment maintenance policies functionally substitute for [government] income maintenance policies.' Even the government funded tier of pensions relies on the assumption of a long periods of stable employment as it operates as an insurance scheme in which those covered are legally required to have contributed for 25 years in order to access the payments (Takayama & Kitamura, 2009: 100).

In this structure firms play roles equivalent to those that governments would typically play in a liberal or social-democratic welfare state, making them social institutions in a way that is at odds with the strictly pecuniary definition of the private sector dominant in the Anglo-American model of capitalism. Indeed, firm's socio-cultural role in Japan goes beyond simply providing employment insurance, *keiretsu* in Japan also inspire in long-term employees a form of identification closer to that of national identity. Writing again on the work of Koji, Johnson (1995: 63) explains that this employment system in which promotion is typically based on seniority, engenders a kind of patriotism towards the *keiretsu*. He writes that Koji:

Compares the loyalty that Japanese workers feel toward their companies to nationalism...Nationalism is fostered because people are normally not able to choose whatever country they want and freely move from one to another. Just as the inability to country-hop produces nationalism, so the relative inability to job-hop in Japan produces labour commitment to the firm.

A telling example of this kind of corporate identification can be seen in sports. In the *Nippon Baseball League*, the largest professional league for Japan's most popular sport, although the teams represent different cities or regions of the country they are named after the *keiretsu* that own them - the Hanshin Tigers, Yomuri Giants, Yakult Swallows etc. Woo-Cummings (1999: 17-18) perhaps best describes this 'quasi-state' role using the example not of the Japanese *keiretsu*, but their Korean cousins the *chaebol* writing that:

The typical Hyundai worker drives a Hyundai car, lives in a Hyundai apartment, gets his mortgage from Hyundai credit, receives health care at a Hyundai hospital, sends his kids to school on Hyundai loans or scholarships, and eats his meals at Hyundai cafeteria's.

In the light of this social model it becomes more explicable that income inequality shrank during Japan's boom despite the fact that 'the government's social spending has generally been low by international standards' (Miura, 2012: 12).

#### ***4.2 The developmental firm under secular stagnation – pro-growth strategies become structural barriers***

The chief challenge for the CDS literature has been that it describes a model of state led development that is oriented fundamentally around achieving consistent GDP growth, which has not been the case for Japan since the asset price bubble burst in 1991. Chu (2016: 18) explains that Chalmers Johnson remained bullish on his theory, arguing that despite the challenges brought by economic globalization there was still 'room for continued developmental intervention and that he has no doubt the developmental state would fare better than the regulatory state' the 'regulatory state' being his term for the Anglo-American system. Woo-Cummings (1999: 31) argues along similar lines writing that the developmental state model 'is more resilient and efficacious than the western observers give it credit for – with or without the East Asian economic crisis of the late 1990s.' With the exception of authors such as Pirie (2016), who argues that South Korea has reached the limits of profitability under the developmental model, the trend within the CDS literature has not been towards internal

critique. This may be due the fact that economists such as Laura Tyson (chair of the US President's Council of Economic Advisors during the Clinton administration), or Ha-Joon Chang, who have both been associated with Johnson's work, have explicitly advocated for developmental-state style strategic industrial policies to be adopted in the west (See Woo-Cumings, 1999: 29-30, Chang, 1999). However, to understand how the legacy of the developmental model has contributed to a structural entrenchment of private sector liquidity preference in Japan it is essential to separate the CDS literature from this normative approval of the model it describes. In the case of the three features of Japanese developmental firms outlined above, each one has institutionalized a structural motivation towards surplus hoarding and under-investment, confounding the ambitions of the BoJ QE program. It is therefore necessary to address each feature once more, re-contextualized for contemporary, stagnant, Japan.

#### ***4.2.1 Long-term investments become 'sunk costs'***

As outlined above the long-term orientation of Japan's developmental firms entailed a focus on internal reserves and internal investment on fixed capital. 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. Figure 4.1 shows how these investments in capacity, as represented by the size of Japan's GFCF (as

measured in trillions of current USD), grew rapidly from 78 billion USD in 1970 to 1.6 trillion USD in 1995 but began to fall in the mid 1990s.

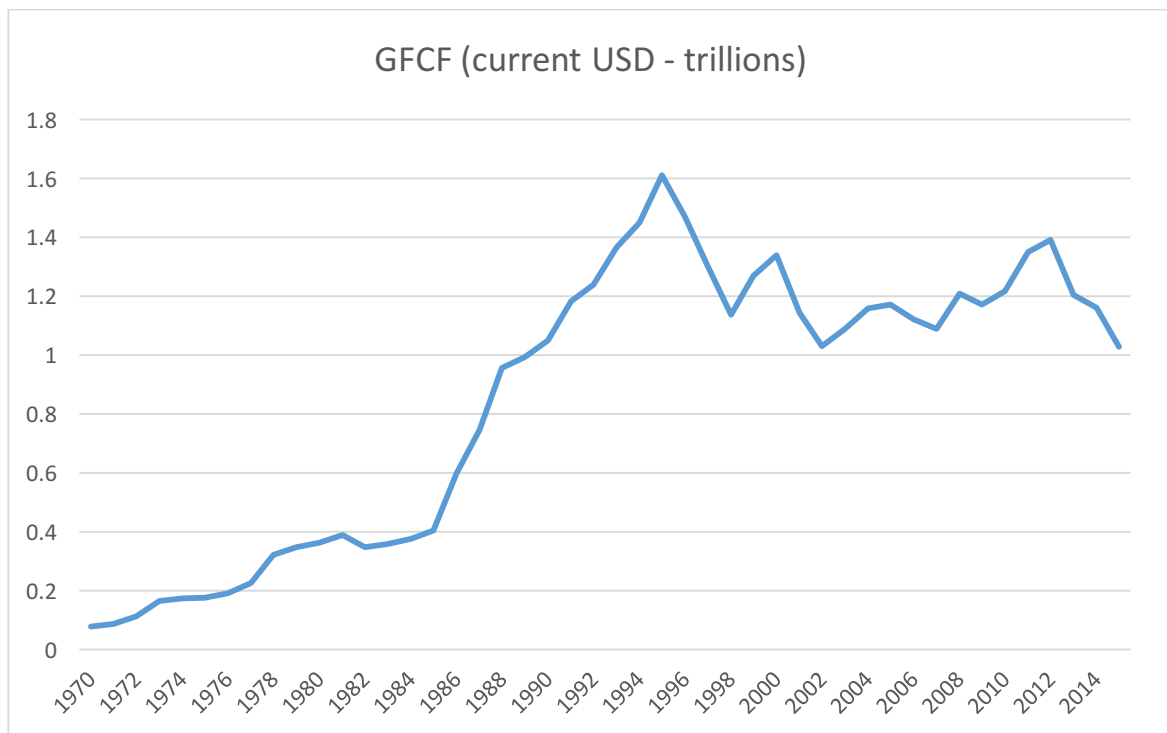


Figure 4.1 Gross fixed capital formation in Japan 1970-2015 (current USD - trillions) (Source: The World Bank Data)

Without a short-term option to reactivate profitability, firms turned away from capital investment and towards another long-term solution – paying down their debts and rebuilding their liquidity buffers.

Recall that despite the fact that Japanese firms were heavily leveraged at the start of the 1990's this renewed focus on internal reserves is not inconsistent with the developmental model. Returning to the earlier quote from former Fuji Bank president Hashimoto (as quoted in Johnson, 1995:61, emphasis added): 'The Japanese company emphasises only *internal reserves* and new investment in plant and equipment.' The problem here for the BoJ is that the goal of its QE programs is to prompt firms to engage in exactly the opposite of this behaviour, rebalancing their portfolios towards short-term investments like equities. A focus on profit over the long-term through capacity building investments, which seemed like a responsible strategy during the boom thus became a structural impediment preventing a quick revitalisation of the Japanese equity markets. As quoted in chapter two, Kang (2015: 8) explains that private non-residential

investment, once a leading component of GDP growth 'fell from around 20 percent of GDP [in the 1990s] to about 13½ percent as of 2013.' Interesting to note here, is that of the two investment strategies associated with firms under the Japanese developmental model, it was the actively *developmental* strategy - capital investment - that was abandoned, whilst the more passive strategy - growing liquidity buffers - was what survived the crisis. An example of how a developmental framework can transform into a stagnation framework as the macro-economic context transforms around it.

This turn away from productive investments and towards the accumulation of liquid assets could be understood as a Japan specific iteration of what Toporowski (2008, 2012) describes as 'overcapitalization'. Toporowski (2012: 271) explains that: 'Conventional finance theory would suggest that firms would only issue capital up to the point where the return from their commercial and industrial activities would exceed the cost of financing that capital.' However, he (2012: 271) argues that 'In practice, firms issue capital beyond that point and invest the excess capital in liquid assets' because holding this excess capital may improve their credit rating, be used as collateral or allow the firm make profit on the purchases and sales of smaller companies via balance sheet restructuring. Whilst Toporowski (2008: 5) acknowledges that the rental cost of holding this capital as bank reserves may be a disadvantage in competitive markets, he also explains that:

where market conditions are not competitive, or an oligopolistic group of banks control firms and prevent competition between those firms...the rental cost of capital is the means by which banks extract profits from the firms that they control, and obtain a share of the total profits in the economy.

The situation Toporowski describes in generic terms in this passage bears significant similarities to the reality of the developmental system in Japan as described (and sometimes lauded) by Johnson and other CDS authors. They perhaps could not anticipate that both activity *and* passivity could arise from this oligopolistic system.

#### ***4.2.2 Managerial autonomy institutionalizes inaction***

One source that could put pressure on the *keiretsu* to move away from these long-term strategies and into short-term investments would be pressure from individual shareholders. However, as outlined above the primary purpose of the Japanese system of cross-shareholding between supposedly rival *keiretsu* was to minimize the pressure from shareholders, allowing the firm to keep dividend payments low. This created what Matsumoto (as quoted by Johnson, 1995: 62) calls the 'de facto total separation of management from the wishes of the owners.' Yet 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 lieu of a thorough empirical study of *keiretsu* ownership structure (though this could be productive ground for future research) Mitsubishi may for the purpose of argument stand in as a representative example. In the case of Mitsubishi, foreign companies still only hold 32.41% of shares and individual shareholders hold 14.97%. The largest single shareholder, with an investment ratio of 8.25% is the Japan Trustee Services bank the main *competitor* to Mitsubishi's own in house bank the Master Trust Bank of Japan who own 4.89% (Mitsubishi, March 2017). In the case of Mitsubishi's automotive subsidiary Mitsubishi-Motors the largest single shareholder is actually Nissan with an investment ratio of 33.99% (Mitsubishi, November 2016). Mitsubishi is representative here in the sense that it demonstrates that domestic ownership and cross-held shares are still features of the contemporary Japanese economy although they are also diminishing. 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 (as discussed in chapter 1) on the assumption that firms will rebalance their portfolio's for maximum profit in the short-term. Without pressure from individual shareholders, *keiretsu* are instead free to continue to follow the developmental strategy of prioritizing internal reserves.

#### ***4.2.3 'Welfare through work' weakens organized labour***

The other side to the social security through high employment model outlined above is that it involved a trade-off designed to keep organized labour weak. As Johnson (1995: 49) explains: 'One of Japan's major postwar achievements was, after 1960, meeting Labor's demand for job security in return for labor's giving up any role in politics.'<sup>1</sup> This weakness was partly achieved again by the structuring of social life around the form of the *keiretsu*. In this case it was the separation of workers into unions divided by company rather than by industry, a de-facto revival of the corporatist system of *Sampo* or *Patriotic Labour Associations* established by the wartime government in 1938 (Johnson, 1995: 31). This system allowed a basic level of social welfare through secure employment while also allowing Japanese firms to be competitive in the expansion of an export led growth model - keeping labour at a fixed cost by suppressing wage demands. However, since Japan's crisis in the early 1990s this system where firms, rather than unions are seen as the guarantors of worker's prosperity and social status has become a structural impediment to renewed private investment.

Much in the same way that Lucarelli (2015: 314) describes how investments in excess plant capacity became a 'sunk cost' that prevented Japanese firms from being able to 'reactivate the process of capital accumulation' labour has become another kind of sunk cost on the balance sheets of Japanese firms. Where fixed capital assets could not be jettisoned because of their low rates of return over a long period, similarly labour forces could not be downsized from their boom levels because of the structural role

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<sup>1</sup> The approving language Johnson uses here is due to the fact that he sees this system as better form of 'soft authoritarianism' than the 'overt oppression' exercised by the South Korean government in 1980s, another example of the highly normative orientation sometimes present in the CDS literature (1995: 49).

assigned to firms as the guarantors of Japan's de facto employment maintenance social security system. As Figure 4.2 demonstrates, despite Japan's economic woes since the 1990s, unemployment only rose slowly after the property bubble burst, hitting another small peak after the global financial crisis in 2008 before falling back to 3.1% as of 2016, all the while never exceeding, 5.5%.



Figure 4.2 Unemployment in Japan - % total labour force, modeled ILO estimate (source: The World Bank Data)

It should of course be noted here that this focus on maintaining workforce size cushioned Japan from one the worst features of typical recessions – mass unemployment. Indeed, Ikeda (2013:181) argues that the fact that the profit share of labour rose after the 1991 crash, precisely because workforce sizes remained stable as the economy stagnated, may be what was responsible for sustaining a basic level of domestic demand in Japan. However, it also prevents firms from investing in equities as the BoJ QE programs assume they will. This is because from the firm's perspective it is safer to maintain large liquidity buffers so that they will not have to resort to layoffs during a downturn.

There is also another structural factor arising from Japan's high employment, weak organized labour system which, though not a direct contributor to institutionalized liquidity preference, has nonetheless been an impediment to the



success of QE in Japan and so warrants discussion here. Namely the role that minimal upwards pressure on wages has played in Japan's chronic deflation. Whilst Japan successfully pursued a developmental export based growth model before the 1990s, low domestic prices were not a major concern as GDP was less dependent on domestic demand. However, since Japan's status as a trade surplus nation has been diminished by competition from other newly industrializing Asian economies, persistent deflation has become a chronic issue, (as discussed in chapter one), hence the BoJ's 2% reflation target. With weak organized labour unable to put upward pressure on wages, a key component of inflation is permanently missing in the Japanese context. Even mainstream economists would expect that the low unemployment rate Japan is currently experiencing would prompt wage increases because the lack of external competition for positions gives more bargaining power to employees. However, the weak corporatist union model that accompanies Japan's *keiretsu* based social security system has resulted in little to no wage growth despite such low unemployment levels. In May of 2017, Harding reported for the *The Financial Times* that 'the ratio of job openings to applicants is near its 1990 peak, and yet despite severe labour shortages, wages are barely rising' with the average 12-month wage not exceeding 365,000 Yen since its precipitous fall from 380,000 in 2008, despite falling unemployment during this period (Harding, 2017). Without upwards pressure on wages domestic purchasing power cannot increase, and retailers cannot realistically raise their prices, meaning deflation continues.

#### ***4.3 From developmental to stagnant: liquidity preference becomes institutionalized***

During Japan's boom, firms operated under a system that Johnson and his successors have named the capitalist developmental state, it was a theory created in order to better explain miracle growth, and so 'developmental' quickly became a kind of euphemism for any strategy that prioritized growth at the national level. This leaves any project attempting to use this literature to analyse contemporary Japan with a key question to answer: how do the component parts of this developmental system (in this case firms) operate in an environment with no development actually occurring? Each of the three 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, cross shareholding and low dividends (whilst finally eroding) have long insulated firms from the profit demands of shareholders and the role firms play as both the guarantors of high employment and suppressors of wage growth have entrenched deflation whilst leaving firms responsible for the social welfare of the nation and unable to downsize their workforces. The implications of this for QE is serious. The transmission mechanism of QE relies on exploiting firms' desire to generate short-run profits by prompting them to rebalance their portfolio's towards more profitable assets. However, the legacy of the developmental system means that Japan's largest firms are not motivated by short-run profit. They are instead operating according a set of structural imperatives inherited from the developmental system that each in their own way push firms towards stockpiling internal reserves. In the next chapter these structural factors will be re-embedded within the Post-Keynesian concepts of liquidity preference and an endogenous money supply introduced in the previous chapter. The goal of this synthesis is provide a theory of *path-dependent liquidity preference* that provides both a general and a specific explanation for the failure of QE in Japan. General in the sense that it explains at the level of an abstract macro-economic model how liquidity preference has frustrated QE and specific in the sense that it invokes structural factors unique to Japan's developmental history in order to explain *why* liquidity preference remains so high.

## Chapter 5

### **Path Dependent Liquidity Preference and Quantitative Easing in Japan**

As the first two chapters of this project established, the 2012 QE program undertaken by the BoJ, has been frustrated by an unprecedented level of private sector liquidity preference in Japan. The next two chapters sought separately to answer two related questions: *how* does liquidity preference block the transmission channels of QE in the abstract, and *why* is the liquidity preference of firms in Japan is so high. For the first question chapter 3 established the framework of liquidity preference within the context of endogenous money and for the second question chapter 4 outlined inherited structural features of Japan's developmental system. This chapter represents a preliminary attempt to synthesize these Post-Keynesian and structuralist approaches, combining the specific historical observations of the CDS literature into the general theoretical framework of liquidity preference in order to articulate a Japanese context specific inflection of liquidity preference which is preliminary named here *path-dependent liquidity preference* (PDLP). This is so that this project may conclude with a succinct explanation of how the transmission mechanisms of QE have been blocked in the Japanese case.

However, before moving onto these arguments regarding QE this chapter will have to be prefaced with a discussion of where this path-dependent iteration fits into the broader Keynesian and Post-Keynesian vision of liquidity preference. To that end it will draw particularly on the work of writers who present the concept of *historical time* as central to Post-Keynesian definitions of liquidity preference, such as Joan Robison (1980), Davidson (2009) and Ferrari-Filho and Augusto Camargo (2005). It will then offer two alternative suggestions on ways PDLP could be reconceptualised within Keynes' original threefold motivations for money demand as presented in *The General Theory*. Backgrounding this synthesis within a specific previously established way of conceptualising liquidity preference is important because the danger of synthesizing concepts from any two schools of thought is that it may jeopardize the internal logical consistency of both. The goal here is that rather than aiming for the creation of distinct new theory the reader takes the application of two approaches as akin to a trip to the optometrist, only by looking at the specific issue of QE in Japan through two lenses

simultaneously, the Post-Keynesian lens and the structuralist lens, can the phenomenon be seen clearly.

### ***5.1 Structural contributions to liquidity preference – money as the mediator of historical time***

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.’<sup>2</sup> 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 (as argued in the previous chapter) 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

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<sup>2</sup> Davidson primarily articulates this logical logical-historical time distinction as one between ergodic and non-ergodic processes, for more see Davidson (2009).

when she writes that:

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.

Turning to *The General Theory*, Keynes (2008) defines three motivations driving liquidity preference: the transactions motive - in which cash is used 'to bridge the interval between the receipt of income and its disbursement' (p. 125), the speculative motive - in which cash becomes 'the object of securing profit from knowing better than the market what the future will bring forth' (p.110) and the precautionary motive where Keynes (p. 126) describes cash covering for 'contingencies requiring sudden expenditure and for unforeseen opportunities of advantageous purchases.' One way to conceptualize PDLP within the traditional Keynesian framework could be to understand it as a form of the precautionary motive. An example of structural features of the economy pushing firms towards this precautionary motive was raised in the previous chapter during the discussion of the role that *keiretsu* play in social welfare, where it was argued that holding assets in the form of cash and reserves was a 'logical' response to the possibility of future downturns - one of Keynes' 'contingencies requiring sudden expenditure'. In this case having such a liquid balance sheet was 'logical' because it meant in the event of a downturn firms could deleverage without downsizing their workforces. However, it should be noted here that any recourse to comparisons with the precautionary motive must be tempered by the caveat that, as argued by Fernando (2010), the precautionary motive is the most vaguely defined throughout *The General Theory* and is at times simply conflated with the transactions motive.

In light of this problem, an alternative way to conceptualize PDLP would be instead to decompose the component of money demand that aligns to the speculative motive and add these Japan specific structural push factors as a separate liquidity preference function. In *The General Theory* Keynes (2008:127) presents the following

equation for money demand.

$$M = M_1 + M_2 = L_1(Y) + L_2(r)$$

In this formulation money demand (M) has two components (M<sub>1</sub> and M<sub>2</sub>) which are determined by two separate liquidity preference functions respectively 'Where L<sub>1</sub> is the liquidity function corresponding to an income Y, which determines M<sub>1</sub>, and L<sub>2</sub> is the liquidity function of the rate of interest r, which determines M<sub>2</sub>.' As Minsky (2008: 72) points out, the transactions and precautionary motive have here been merged into a single function, L<sub>1</sub>(Y) (leading to more confusion over the role of precautionary motive) whilst the speculative motive is represented by second function L<sub>2</sub>(r). One way to incorporate PDLP here could then be to decompose the second component of money demand (M<sub>2</sub>). In this version M<sub>2</sub> would correspond not only to the interest rate (which should be retained to represent the influence of the BoJ's base rate as discussed in chapter 3) but also to a third liquidity preference function: L(Nw+Fc) where liquidity preference is a function of number of workers (N) multiplied by the real wage (w) plus the fixed capital stock (Fc), which would represent the effect of sunk costs in labour and capital respectively. The implication here would be that if N, w or Fc were to rise then, *ceteris paribus*, PDLP would increase. A Japan specific formulation of a full equation that includes PDLP would then read thus:

$$M = M_1 + M_2 = L_1(Y) + L_2(r) + L_3(Nw+Fc)$$

The speculative motivation is the one which relates most closely with the concept of liquidity preference as the mediator of future uncertainty, therefore incorporating PDLP into this speculative motivation has the advantage that it comes closest to reversing the causality of how this motive operates through historical time, now past-facing as well as future facing - as discussed above. It also avoids relying on the motivation that Keynes defined the least clearly – precautionary. However, the disadvantage is that it excludes factors not easily expressed in the form of Keynes' original money demand equation such as the third structural feature discussed in the previous chapter, lack of shareholder pressure, which depends to a significant degree on the corporate governance structure and culture of individual firms. It should be noted here that in his writing after *The General Theory*, Keynes added a fourth motive, the finance motive. Here Keynes (1937) argued that in a situation in which the rate of investment was

increasing, for example in a growing economy, the money required to finance these new investments would constitute a fourth motive behind money demand. Although this motive has been the subject of much scholarship and debate within the Post-Keynesian tradition (see Rochon, 1997), it is less relevant to the contemporary Japanese context because (as discussed chapter 2) investment in Japan has been *decreasing* for many years.

Ultimately the goal here is not to find definitive precedent for any complete synthesis of structuralist arguments into the Keynesian canon. It is simply to demonstrate that the centrality of historical time to Post-Keynesian definitions of liquidity preference creates fertile ground for the possible incorporation of structuralist insights that view the economy as a path-dependent historical process. The goal of this formulation of PDLP is simply to adapt these more general Post-Keynesian notions of liquidity preference into something that can incorporate the specificities of Japanese developmental history. For this reason, it may only ever be applicable to the Japanese context however, it hopefully will serve to provide an explanation for the breakdown of QE in Japan.

## ***5.2 Path-dependent liquidity preference and quantitative easing in Japan***

Now that this formulation of liquidity preference has been put into the theoretical context of liquidity preference generally it is necessary to articulate exactly how this phenomenon has interacted with the 2012 QE program. As was established in chapter one, the success of QE primarily relies on the *portfolio rebalancing effect* which in turn assumes firms are rational actors, who if provided liquid assets, will naturally purchase assets that are profitable in the short-term. As was discussed in chapter 4 however, large Japanese firms are not strictly profit motivated as they have inherited institutionalized behaviors that correspond to structural features of Japan's developmental model. Each of 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. Fig 5.1 shows the three features contributing to this PDLP, as introduced in the previous chapter: sunk costs in fixed capital, sunk costs in labour and lack of pressure from individual shareholders.



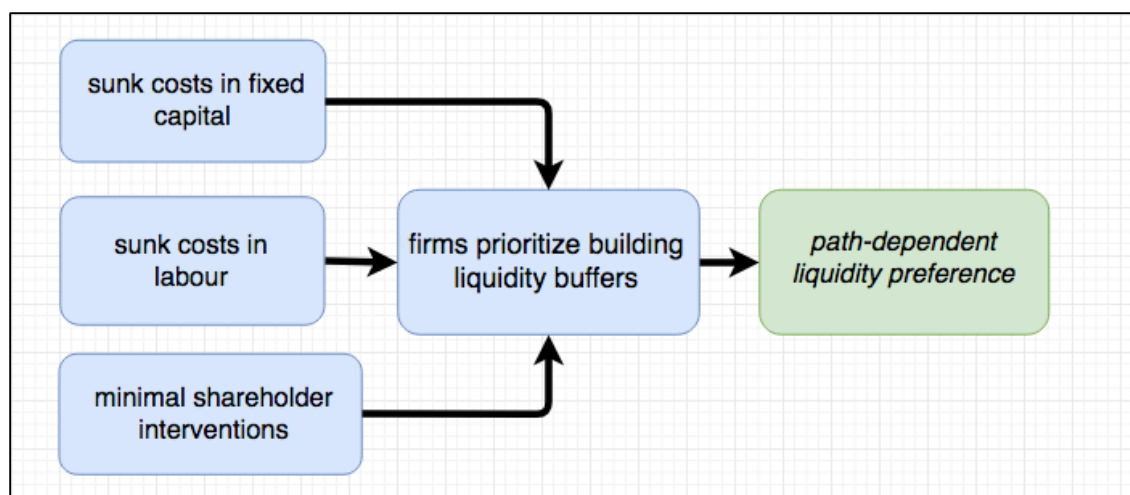


Figure 5.1 Contributing factors to path-dependent liquidity preference

As was established in chapter 3, 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 PDL, were happy to sell bonds in exchange for a liquid asset (central bank reserves) but did not rejoin the equity market. As was discussed in chapter 2, 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 5.2 shows the transmission of BoJ QE as it occurred in reality, with the top track showing the actions of domestic firms as governed by PDL, and the bottom track the brief spike in equity prices caused by foreign investors.

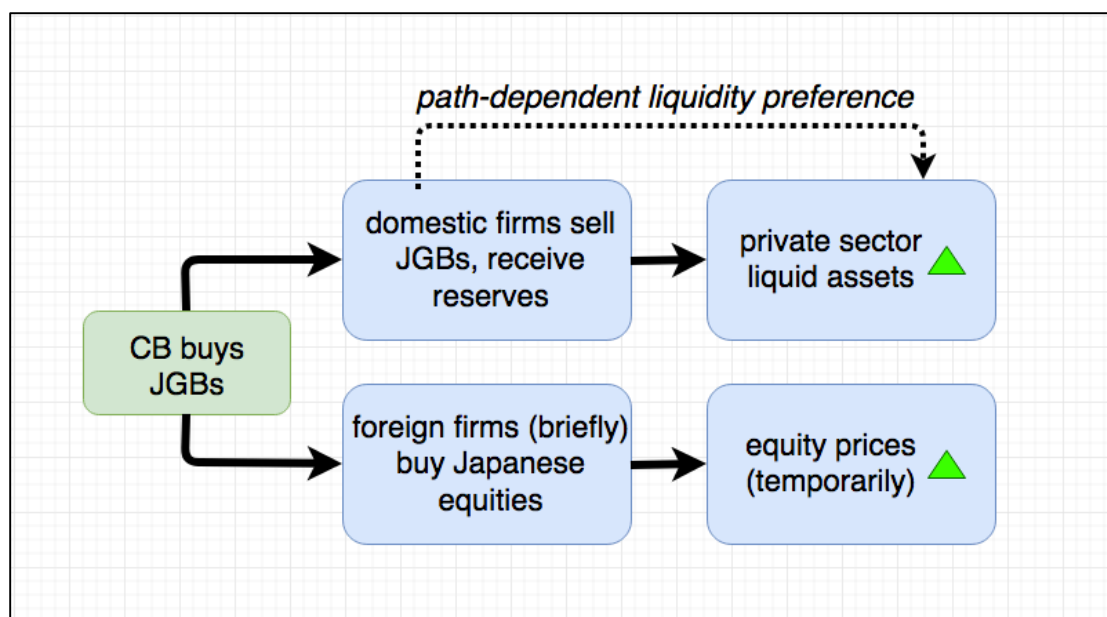


Figure 5.2 The transmission mechanism of BoJ QE in reality

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.

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 project 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.

## Conclusion

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*. Because the transmission mechanisms of this program were premised on the assumption that firms are profit motivated rational actors operating in a system of exogenous money, they were not designed to take account of firms' liquidity preferences, which have been growing in Japan, both absolutely, and relative to investment, since the early 1990s. The goal of this project was to investigate both how liquidity preference disrupts the transmission mechanisms of QE in Japan and why this liquidity preference is so high.

To this end the first chapter of this project established the proposed transmission mechanisms of QE and argued that these mechanisms are supported by neo-classical assumptions regarding firm behaviour. The second chapter addressed the empirical assessments of QE arguing that Japan has followed the global trend of initial positive signs followed by diminishing returns. The third chapter established how the logic of QE relies on the assumption of an exogenous money supply and contrasted this with a Post-Keynesian understanding of how liquidity preference can disrupt QE if we assume an endogenous money supply. The fourth chapter utilized insights from the CDs literature in order to understand how inherited features of Japan's developmental model have become structural barriers that bias Japanese firms towards savings behaviour. The fifth chapter grounded the combination of these Japan specific structural insights and a Post-Keynesian understanding of the money market from the previous two chapters within a broader discussion of liquidity preference and historical time. This was in order to propose that Japanese firms are subject to a form of *path-dependent liquidity preference* in which their behaviour runs exactly contrary to the logic of portfolio rebalancing. Rather than preferring riskier, more profitable assets to safe less profitable ones, Japanese firms prefer liquid assets to either. Rather than examining the policy consequences of QE's implementation, or suggesting alternative monetary policies, the twin goals of this project were to attempt to better understand the failures of monetary policy transmission mechanisms in Japan as well as to demonstrate how

Japan's unique developmental history can make it a fertile ground of the combination of Post-Keynesian and structuralist understandings of liquidity preference.

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