



On the transactions costs of UK quantitative easing

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ABSTRACT

Most quantitative easing programmes primarily involve central banks acquiring government liabilities in return for central bank reserves. In all cases this process is undertaken by purchasing these liabilities from private sector intermediaries rather than directly from the government. This paper estimates the cost of this round-trip transaction – government issuance of liabilities and central bank purchases of those liabilities in the secondary market – for the UK. I estimate that this cost amounts to about 0.5% of the total value of QE (over £1.8 billion in my sample). I also find some evidence that this figure is inflated by the unusual design of UK QE operations.

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1. Introduction

Although quantitative easing (QE) programmes vary in design, the four major ones – those of the US, Euro-Area, Japan and the UK – have primarily involved the creation of central bank reserves in return for government bonds. In all four cases this has involved purchasing bonds from private sector intermediaries despite the fact that significant government bond sales to the same intermediaries took place over the same period. A seemingly simpler procedure would be the direct acquisition of these liabilities from the government through the creation of reserves, thus removing the need for the government to issue these liabilities to the market in the first place. In both cases the end result would be the creation of reserves backed by central bank holdings of government liabilities and so the overall impact would be almost identical. So the round-trip approach of selling bonds to private sector intermediaries and then buying them (or, in fact, similar ones) back shortly afterwards has an almost identical impact to not selling the bonds to the private sector in the first place. Probably the key difference is that the round trip approach involves a debt sale and a debt purchase – both of which incur transaction costs.

Whilst it is hard to establish exactly why the round trip approach has been adopted in all cases, many argue that the direct financing approach is cosmetically worse in the sense of making the operation of quantitative easing look more like the type of monetary financing that occurs when the fiscal authority forces the central bank to finance government spending. Thus direct fi-

ancing might undermine the perception of central bank independence even though the end result (central bank acquisition of government liabilities in return for central bank reserves) is the same. This issue is discussed in more detail in the next sub-section, but the main objective of this paper is to estimate the total transactions costs involved in the round trip approach in the case of the UK's QE programme.

As well as this broad policy question, this paper looks in detail at how UK debt sales and purchases are conducted in practice and highlights some important design issues in how the Bank of England's debt purchases are conducted. I find that the small number of bidders per bond and the fact that the auction allocation is based on market prices the bidders themselves have a significant role in creating, opens up the process to uncertainty and potential manipulation. I find some evidence that these design issues have resulted in higher transactions costs relative to alternative reverse auction design used by most other Central Banks such as the Federal Reserve.

1.1. Central bank direct acquisition of government liabilities

Although the first Central Banks were created to help finance government, this role has diminished to such an extent that about two-thirds of Central Banks surveyed by [Jácome et al., \(2012\)](#) are expressly forbidden from funding the government directly or are limited to short term loans.¹ The reason for this change is clearly

¹ Indeed the subject of this study, the UK is, at the time of writing, legally restricted from direct government finance by Article 123 of the Lisbon Treaty on the Functioning of the European Union.

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related to the increased role of Central Bank's in creating fiat money and the temptations this role created for government. Thus as Ricardo (1824) notes "It is said that Government could not be safely entrusted with the power of issuing paper money; that it would most certainly abuse it....There would, I confess, be great danger of this, if Government—that is to say, the ministers – were themselves to be entrusted with the power of issuing paper money."

However, as Ricardo's quotation implies, it is not direct acquisition of government liabilities that is the key concern but the fear that the government can *require* the central bank to create money in order to acquire those liabilities. So, as Central Banks have become increasingly independent from government the risks associated with direct financing have diminished. In a key work on the topic, Cotterelli (1993) notes, so long as the Central Bank is independent of government and any direct financing (that the Central Bank might want to initiate) occurs at market (not subsidised) rates and involves marketable securities (so the Central Bank can sell them to the private sector if necessary) then a prohibition on primary market purchases by the Central Bank has no economic impact and simply serves as an 'institutional signal' of the separation of Government and Central Bank. The Central Bank Governance Group (BIS, 2009) reaches a similar conclusion, arguing that prohibitions on direct financing can be seen as a 'belt and braces' policy in the presence of Central Bank independence and market determined interest rates.

It is also worth noting that a limitation on direct financing does not stop government's forcing Central Banks to finance them indirectly if those Central Banks are not independent. Stasavage (1997) describes an example of this in the case of the CFA Franc Zone where, in the face of restrictions on direct financing, a number of governments required their Central Bank to make subsidised loans to a number of commercials and development banks who then became a major source of finance to governments and related public entities. This form of financing was a key factor behind the fiscal indiscipline that characterised the Zone over this period.

It is arguable that, although limitations on direct financing are neither a necessary nor sufficient condition to stop governments requiring their Central banks to finance them, they have, historically at least, been a relatively costless measure that has some signalling benefit. However, in recent years where unconventional monetary policy has resulted in the dramatic expansion in several Central Banks' balance sheets, the cost of these limitations has increased since government debt has generally been the key asset acquired in those expansions. Indeed, it is interesting that the Central Bank of Brazil, which until it was overtaken by the Bank of Japan in 2012, had the largest balance sheet in the G20 (in terms of gross central bank assets as a share of GDP) and holds a large portfolio of relatively short maturity government debt has created a clear demarcation whereby it is constitutionally prohibited from direct lending to the government, but may purchase government securities in the primary market for monetary policy purposes. This provision allows it to roll over its stock of government debt without incurring secondary market transactions cost. It is also instructive that Jácome et al., (2012) classify arrangements like Brazil's as being in the group that prohibit direct financing since such countries make a clear demarcation between direct financing for government purposes and what is required for monetary policy purposes. This demarcation by purpose is also highlighted by the Central Bank Governance Group (BIS, 2009).

The Brazilian example suggests that when Central Bank balance sheets grow based on acquiring government debt, the transactions costs incurred in acquiring that debt mean that the benefits of allowing Central Bank participation in the primary market for government debt may outweigh the costs of abandoning the 'belt and braces' approach – particularly if the demarcation between govern-

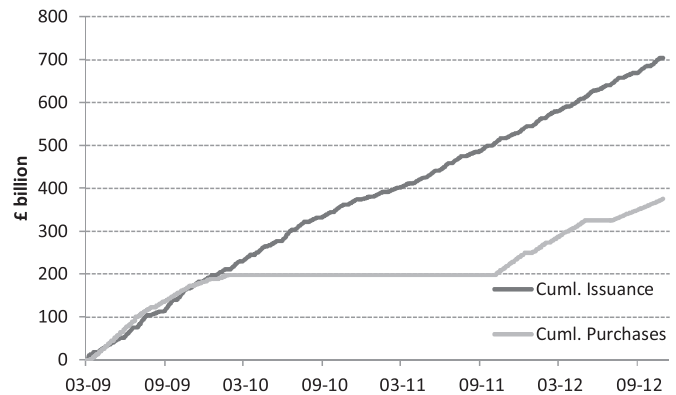


Fig. 1. Cumulative gross issuance and purchases 12/3/09 to 31/10/12. Source: DMO and APF.

Table 1

Value and duration of sales and purchases over the two QE periods.

	QE1 period		QE2 period	
	Purchases	Sales	Purchase	Sales
Value (£bn)	198.3	200.6	176.7	198.5
Duration (years)	9.2	8.8	10.8	9.4

Value and average duration of sales and purchases over QE1 period (March 2009–December 2009) and QE2 period (September 2011–October 2012).

ment financing and monetary policy purposes is made clear. This paper aims to estimate those transactions costs in the case of the UK.

Thus, this paper aims to establish if the round-trip approach to quantitative easing undertaken by the UK involves significant transactions. If such costs were small then a 'belt and braces' approach seems relatively harmless. If, on the other hand, significant transactions costs were incurred (which is what I find) then the question of why a prohibition on primary market purchases is required at a time of significant Central Bank government debt acquisition and holdings² becomes a policy relevant one.

2. UK debt issuance and quantitative easing

As a preliminary analysis, it is useful to look at two aspects of QE that might have precluded direct financing rather than a round-trip approach, namely that either the scale or maturity profile of QE purchases could not be matched by new issuance.

Between March 2009 and October 2012 (the period I analyse in this paper) there were two distinct periods of Bank of England bond purchases (QE1 March 2009–December 2009 and QE2 September 2011–October 2012³), Fig. 1 shows cumulative conventional bond issuance and bond purchases over this period.

As Fig. 1 shows, over the whole period there were significantly more sales than purchases and that over the two sub-periods when purchases occurred the rate of purchases was almost identical to the rate of sales (see Table 1). Thus, relatively small changes in timing could have allowed the rate of purchases and sales to be exactly aligned. It is also noteworthy that neither the Bank of England Monetary Policy Committee nor the Treasury gave a precise indication on the timing of purchases and issuance, respectively and so the timing of actual auctions was an operational rather than strategic decision for both institutions.

² Particularly since a number of authors argue that Central Banks should maintain these large portfolios indefinitely. e.g. Greenwood et al. (2016).

³ The period from July to October 2012 is sometimes referred to as QE3 but I have merged this period into QE2 to make the two periods large enough to analyse separately.

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