The Impact of ECB Unconventional Monetary Policy on Income Inequality in the Netherlands[1]

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Master's Thesis (Summa cum laude)

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ABSTRACT[2]: This article looks at the impact of the 2015 European Central Bank unconventional monetary policy (UMP) on income inequality in the Netherlands. To that end, it uses a panel survey from the Dutch central bank to decompose the contributions of selected UMP channels to the change in household income between two periods (11-13 / 14-16). It finds that UMP's effect through these channels was strongly equalizing. The only two other papers on the topic find similar results for other euro area countries.

Character count: 24823.

[1] Pre-print for *Bank en Financiewezen 2018/3* (https://www.larcier.com/nl/bank-en-financiewezen-revue-bancaire-et-financiere.html).

[2] Acknowledgement: Prof. Dr. Vivien Lewis (KU Leuven, promotor), Joris Tielens (National Bank of Belgium, supervisor).

This paper made use of data from the DNB Household Survey. Pre

1 Introduction

In March 2015, the European Central Bank (ECB) implemented a quantitative easing (QE) program, seven years after the United States' Federal Reserve did so to combat the 2007 crisis. The unconventional character of this monetary policy tool has enlivened public and academic debates about the distributional impacts of monetary policy. The current article first proposes three channels through which unconventional monetary policy (UMP) should in theory affect inequality: a portfolio rebalancing channel, an employment channel, and a mortgage refinancing channel. Though these theoretical channels illuminate general transmission channels, unconventional monetary policy's overall impact on inequality depends at the same time on the prevailing macro-economic climate and the improvement it brings about therein, as well as on the ways it affects households via channels running through the financial system. For that reason, this article subsequently presents empirical estimates of the impact on income inequality in the Netherlands of recent ECB UCMP, which comprises the Public Sector Purchase Programme and accompanying measures. It does so by following a paper on Federal Reserve (Fed) QE (Montecino and Epstein, 2017) in applying two statistical techniques, Recentered Influence Function Regression and Blinder-Oaxaca decomposition, to a Dutch household panel dataset (Firpo et al., 2018; Blinder, 1973; Oaxaca, 1973). That way, it is argued that ECB UCMP has had a highly equalizing effect on the distribution of income in the Netherlands, but mostly at the extremities.

2 Monetary Policy and Distribution

The recent public scrutiny of central banks and impetus to study the distributional effects of monetary policy can be seen as the corollary of the increased interest in inequality issues in past years, together with the unconventionality of the post-crisis central bank policies in advanced countries. Traditionally, however, the link between monetary policy and inequality has rarely been made, for two reasons. First, research has focused on more obvious, structural drivers of inequality, such as skill-biased technological progress and globalization. Second, the distributional impact of monetary policy is usually assumed to be neutral on the long term (Friedman 1968, p.1-17). In this section, I discuss evidence for the link between monetary policy and income distribution.

Monetary policy works by steering financial market conditions, changes in which then pass on to spending decisions of households and firms. It thus affects household income both by partial (the interest rate) as by general equilibrium effects (prices, wages, employment) (Ampudia et. al., 2018, p.8). In principle UMP affects households in similar ways as conventional monetary policy, but the magnitude of its effects and the way it manipulates financial market conditions differ. UMP is a resort when the conventional manipulation of short-term interest rates becomes impossible. The central bank then tries to influence long-term rates either indirectly, by forward guidance; or directly, by large-scale asset purchases.[3] Other ways UMP affects financial market conditions are by increasing liquidity, boosting asset prices and steering inflation and exchange rate expectations (Claeys et. al., 2017).

Such changes, along with inflation and employment, have differential effects across the household income distribution. I consider three channels that capture these effects (Montecino and Epstein, 2017, p.4). Firstly, an *employment channel*, which makes that increases in employment as a result of expansionary monetary policy disproportionately benefit poorer households, which are more vulnerable to cyclical fluctuations (Carpenter and Rogers, 2004). Secondly, a *refinancing channel*, through which increased refinancing at low rates benefits households at the bottom of the distribution the most, as houses are their main and often only asset.[4] Improved liquidity conditions owing to expansionary monetary policy would allow banks to better pass on low interest rates to households. Thirdly, an *asset valuation channel*, by which increases in asset prices profit rich households most, as realized capital gains make up a higher share of these households' income. Empirically, in the euro area only capital gains from equity co-vary with the income distribution, while those from bond prices are spread more evenly across (Adam and Tzamourani, 2016, §4.3).

Conventional monetary policy mostly affects the cyclical component of inequality, and less its long-term trend. With that in mind, the empirical literature finds that contractionary monetary policy shocks increase income, consumption and wealth inequality (Coibion et. al, 2017; Gornemann et. al., 2016; Mumtaz and Theophilopoulou, 2017); while expansionary monetary policy shocks have the reverse effect (Bivens, 2015; Ampudia et. al., 2018).

[3] I do not distinguish between the effects of these two, as I consider them complementary measures.

[4] I do not include the effects of inflation on debt service, as headline inflation did not significantly increase in the period considered (2014-16) – even though counterfactually, ECB QE probably avoided deflation (Coenen and Schmidt, 2016).

When it comes to UMP, there are few empirical estimates so far. The paper whose model my research follows found Fed QE to be moderately disequalizing, mostly as a result of equity price increases (Montecino and Epstein, 2017). By contrast, I find equalizing effects for ECB QE, probably because of different stock market response. My findings do agree with recent ECB research, which estimates that ECB QE slightly decreased income inequality, (Lenza and Slacalek, 2018, p.9-10). Specifically, the authors find that changes in the term spread and stock prices only persist for four quarters (which agrees with observation), and affect inequality much less than changes in employment, which decrease income inequality.[5] While my results are qualitatively in line with these findings, I find that the drop in bond yields strongly depressed rich households' income (see section 4), an effect that appears absent from their model. This discrepancy can be explained by the fact that I include in my post-QE period some policy measures that precede the Asset Purchase Programme, so that over my model's horizon the term spread remained subdued for longer. The absence of employment effects in my analysis can also be attributed to the choice of period. The only other study on ECB QE estimates similar effects for Italy. In particular, it finds a decrease in financial income for richer households and in debt service for poorer households, in accordance with my estimations (Casiraghi et. al., 2017, p.228).

3 De Nederlandsche Bank Household Survey

The *De Nederlandsche Bank* (Dutch central bank) Household Survey (DHS) is a comprehensive and detailed panel survey of around 2300 individuals from 1700 Dutch households that runs from 1993 to the present. It contains rich information on households' income and wealth. Panel attrition is controlled for by incentives and by replacing drop-outs with similar households. There is no sample stratification as the households are drawn randomly from a zip code register, but a set of sample weights is provided to correct for overrepresentation of wealthier households. To estimate the effect of ECB UMP, I used the DHS to create two datasets spanning a pre-QE (2011-13) and a post-QE period (2014-16).[6] This division seems apt given that the ECB started its Public-Sector Purchase Programme in March 2015, with the purchase of asset-backed securities and covered bonds already begun at the

[5] They use a Bayesian VAR model to estimate the effects of a 30-basis points drop in the long-term interest rate at the aggregate level for France, Germany, Italy and Spain and then distribute these across individual households by way of a reduced-form simulation with micro-data (Lenza and Slacalek, 2018, p.4).

[6] I use 'post-QE' for ease of reading, even though 'during-QE' would be more correct. Also note that I informally refer to the whole set of ECB UMP's as 'QE'.

end of 2014 under the Asset-Backed Purchase Programme and third Covered Bond Purchase Programme, respectively, and Targeted Long-Term Refinancing Operations introduced in June 2014. One downside to these datasets is that households that did not fill in the surveys on financial income have been dropped. In the end, both datasets consist of around 4000 households.

4 Methodology

4.1 Recentered Influence Function Regression and Blinder-Oaxaca Decomposition

Blinder-Oaxaca decomposition is a fairly well-known method that allows one to decompose the difference in the means of a dependent variable between two populations into an explained part (also called 'endowments', that is, the magnitude of the explanatory variables) and an unexplained part (also called 'coefficients', that is, the return to these variables) (Blinder, 1973; Oaxaca, 1973).[7] In this case, the change in household income from the pre- to the post-QE period can thus be decomposed into an explained and an unexplained part of the contribution of each regressor (of the Recentered Influence Function (RIF) regression) to that difference.[8]

The point of using a Recentered Influence Function regression is that it allows this kind of decomposition to be extended to distributional statistics other than the mean (Firpo et. al., 2009, 2018). In a manner analogous to the influence function of robust statistics, the RIF allows one to measure the impact of changing the underlying distribution of (part of) a sample on a distributional statistic.

The functional form of the particular RIF regression used to obtain the results in section 5 is as follows (Montecino and Epstein, 2017, p.8-9):

$$Log(eq.disp.income^{9}) = \underbrace{a_t * EMP_{it} + b_t * X_{it}}_{Wages} + \underbrace{\mathrm{c_t} * \mathrm{I_{it}}}_{Interest} + \underbrace{d_t * RF_{it} + e_t * D_{it} + f_t * C_{it}}_{Refinancing} + \eta_{it},$$

Where *Wages, Interest* and *Refinancing* are the three income categories affected by QE.

[7] The two populations are actually the same – the same households – observed in different periods, pre- and post-QE.

[8] For a linear regression model $Y_\ell = ß_\ell * X'_\ell + \epsilon_\ell, \ell \in [A, B]$, and X' a vector of regressors, this can be written as $\Delta_{overall} = E(Y_A) - E(Y_B)$ (Jann, 2008, p. 2). This difference in means can then further be decomposed as: $\Delta_{overall} = E(X_A)'ß_A - E(X_B) = [E(X_A) - E(X_B)]'ß_A + E(X_B)'(ß_A - ß_B)$. For further technical details see Van Dijcke and Horion (2018, §4).

[9] *Equalized disposable income = wage + interest inome + profits + realized financial capital gains + transfers – taxes*, scaled by an equivalence scale produced by Statistics Netherlands.

Breaking these down further, for *Wages* there is: EMP_{it}, a dummy[10] for whether the head of the household is employed and X_{it}, a vector of control variables for demographic factors.

For *Interest*, there is: I_{it}, a vector of dummies with one for each group of financial assets (bonds, equities and short-term/liquid assets).

For *Refinancing*, there is: RF_{it}, a dummy for whether the household has refinanced its primary mortgage in the last three years – note that the effect therefrom should show up in the dependent variable because the Netherlands has a tax deduction of mortgage payments; D_{it}, a dummy for having received debt assistance for the first time in the last five years; and C_{it}, a dummy for having feared to be or having been denied credit in the last three years. Finally, η_{it} is the error term.[11]

Apart from a linearity assumption, which is reasonable given that the RIF provides similar estimates for linear and non-linear specifications, there are two other assumptions. The first is *Overlapping Support,* which requires that observable characteristics always occur within both groups. This condition is clearly satisfied. The second is *Ignorability,* which demands that the distribution of the unobserved explanatory determinants of income is independent of the period, given the observed explanatory factors. Considering that a change in macroeconomic conditions should by and large affect income through the variables already included in the regression, this should not undermine the assumption.[12] Unobserved changes in tax policy might pose a more severe problem, but looking at Dutch tax policy over the period, the possible bias therefrom seems minor.[13]

To recapitulate, the results in the next section were obtained by a two-step process:

1. Take the RIF of the dependent variable and regress it on the independent variables for both periods.
2. Apply a B-O Decomposition to the differences between the coefficients obtained thereby, so as to break these down into an explained part and an unexplained part, reflecting the percentage contribution to the change in the dependent variable of, respectively, the magnitude of and the return to each of the independent variables.

[10] Using dummies allows me to capture the general effect on income of being employed, of holding bonds, of refinancing, etc.

[11] See the Appendix for summary statistics on the variables. See also the Appendix and §2 in Van Dijcke and Horion (2018) for a more detailed description of these variables and summary statistics on the dependent variable income, respectively.

[12] Given the magnitude of the QE program, the choice of period and the fact that it was described as "the only game in town" cause of the lack of proper fiscal stimulus, I do not think non-QE factors affecting employment would bias the estimates much.

[13] See Van Dijcke and Horion (2018, p.21-22) for a detailed discussion of the tax policy changes in the Netherlands over the period 2011-16 and an argumentation why these should not affect the estimates.

5 Empirical Results[14]

5.1 Regression results

The RIF regression coefficients reflect the effect each variable has on the RIF of disposable income for a given period, and this for each quantile of the income distribution. In Figure 1 below, the pre-QE 95% confidence interval is dark, the post-QE one light grey. The difference between the two periods' coefficients is approximately the same as the unexplained component of the B-O decomposition that is presented further on. That is, it is approximately equal to the return on each factor. Note that if a scatterplot is downward sloping, it means that a homogeneous increase in the variable in question would have a progressive effect on the income distribution, as it contributes more towards the income of the lower quantiles. Conversely, an upward sloping line would imply a regressive effect. Also note that if the post-QE scatterplot lies above the pre-QE one it means that the return on the variable has increased in the three years since the implementation of QE relative to the three years before it. Here again, if that increase is bigger (smaller) for the lower quantiles than for the higher ones, meaning if the value of the scatterplot's slope has decreased (increased) after QE, then the change in the return on that variable has been equalizing (disequalizing). A detailed discussion of the contribution of each variable is postponed until the next subsection. I will briefly go over some prominent findings.

(1) **Employment,** as expected, has a progressive effect on income, with a clearly stronger return for the lower quantiles than the higher. It also seems that the returns to employment (the wage) have slightly increased over the period, except for the lowest quantiles.

Conform to theoretical predictions, returns on (2) **mortgage refinancing** have increased. The distance between the two scatterplots is largest for the lower quantiles, meaning they have experienced the largest increase in their return on mortgage refinancing. Even so, refinancing in itself does not seem to have a progressive impact on income, as the curve is hump-shaped for both periods.

For financial assets, first of all (3) **short-term and liquid assets** seem to be neutral with respect to the progressiveness of the income distribution, that is, the curves are flat. QE has reduced the return on these assets for the top and bottom quantiles. (4) **Bonds**, secondly, seem to have had a quite regressive effect in the period preceding QE, as can be seen from the steep ascent of the pre-QE

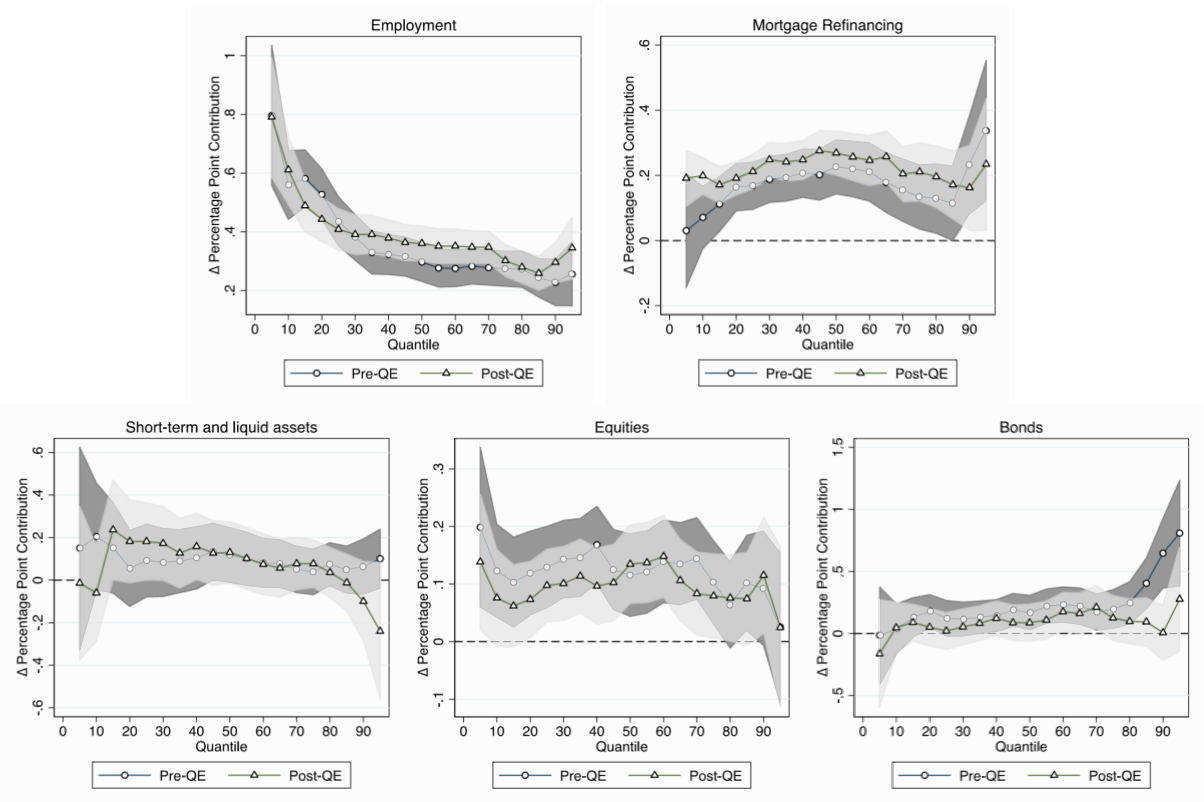
[14] Note that these estimates are not causal. That is, they paint a picture of QE's effect, but cannot identify underlying causes. When I say "QE has done X", it is short for "there is a strong correlation between X and the implementation of QE".

graph's right end. However, this effect has been all but erased by a remarkable drop in the return on bonds for the uppermost quantiles after QE. (5) **Equities**, lastly, are surprisingly neutral, with flat curves both before and after QE. The lack of an increased return for the higher quantiles after QE suggests the relative absence of a portfolio rebalancing channel in the European stock market. EM (2017, p. 14) find equity to have been highly regressive before, and even more after Fed QE, so this is a significant difference between the situation in the U.S and in the Netherlands. It does seem to congrue with the fact that the stock market in the U.S. responded more strongly to QE than in the EU. at the longer horizon (49% vs. 28%; Mamaysky, 2018, p.15) and considering the longer duration of all the Fed QE packages combined. This difference might be due to the more aggressive and proactive monetary policy stance of the Fed (Kang et al, 2016). Moreover, Dutch households keep more of their assets in deposits (18% in 2016, OECD Data) than U.S. households (13%), while U.S. households hold much more equity (35.3%) than Dutch ones (7.6%). It is probably safe to ignore the results for the bottom and top 5%, as these appear to be inaccurate due to the low number of observations of which these quantiles are made up.

Figure 1: RIF Regression Coefficients

Percentage Point Contribution of Variables to the Recentered Influence Function of Disposable Equalized Household Income, by Quantile.

Note: 95% confidence interval for pre-QE is dark grey, for post-QE light grey.



5.2 Decomposition results

Table 2 (see Appendix) provides an overview of the change in percentage point contribution of the main QE channels to on the one hand selected quantiles' income, where a positive number means that the channel has increased the income of the quantile in question; and on the other hand to selected inequality statistics, where a positive number indicates an increase in inequality, and vice versa.

With regards to the channels, Total Change reflects the percentage point change in disposable income that is estimated on the basis of all the regressors. QE Channels includes the unexplained part of bonds and shares, the explained part of employment and both parts for mortgage refinancing.

This division captures best the effects of QE, since firstly the unexplained part of financial assets includes any change in their return, either due to increased realized capital gain or to increased dividends or yields. The explained part of financial assets seems unrelated to QE. Secondly, for employment, what matters is the impact of QE on the employment rate, that is, the number of people employed, which is reflected in the explained part. It is unclear how QE would affect the unexplained part of employment (the wage). Lastly, QE should result in both an increase in and an increased return to mortgage refinancing, so both parts are included.

Looking at the **overall effect** of the QE channels, it is clear that QE has mostly affected inequality at the extremities, decreasing the 90/10 ratio by 34% and the 95/10 ratio by 30.8%. The Gini coefficient on the other hand, which places more emphasis on the middle of the distribution, does not really see a significant change. Broadly speaking, the equalizing effect was due mostly to a drastic decrease in the return on bonds for the top quantiles, by for example 29% for the 90^{th} quantile, as already reflected in the regression coefficients. Mortgage refinancing has been quite equalizing as well, decreasing the 95/10 and 90/10 ratio by 10% and 9%, respectively. Equities have been slightly disequalizing with regards to these ratios, by 1% and 2%.

In the paragraphs below, each channel is discussed in more detail.

(1) **Employment** (Figure 2), surprisingly, has been marginally disequalizing, increasing the 95/10 and 90/10 ratio by 0.6% and 0.8% respectively. Looking at the estimates for the quantiles, one can see that this is because the lower quantiles have experienced a larger decrease in the contribution of employment to income (by 1.5%) than the higher ones (by about 1%). This can also be seen in the upward slope of the graph. While it makes theoretical sense that lower quantiles suffer more under a

decrease in employment, it seems surprising that employment would have decreased at all. This is mostly due to the choice of period, and the delay in the transmission of monetary policy to macroeconomic variables such as employment.

(2) **Explained refinancing's** (Figure 3) contribution to income has decreased by about 0.5% for all quantiles. However, there was probably a turning point in the amount of refinancing around 2014, as the proportion of underwater mortgages in the Netherlands reached its peak then (Centraal Bureau voor de Statistiek, 2016). This should normally in itself lead to a relative increase in refinancing, and certainly in combination with QE. The data (see Table 1 in the Appendix) confirm that suspicion, showing that refinancing has actually increased by 1.7%. The slight decrease in the explained part of refinancing thus merely indicates that the increase in the number of people refinancing within a quantile as such, independent of the possible increased return on refinancing, has not really increased that quantile's average income. What matters most is the increased return (the **unexplained** part) which has benefited the lower quantiles, as would be expected given that houses are the most important assets for these quantiles.

For financial assets (Figure 4), the return on (3) **equities**, firstly, increased only for the middle and higher quantiles, lifting the 90/10 ratio by 2%, and the 95/10 by 1%. One can see that the graph is quite flat, with a slight increase for the higher quantiles. It is probable that my estimates are inaccurate for the highest quantiles, given that in a sample of 4000 the top 1% consists of only 40 households.

(4) **Bonds**, secondly, have had the most spectacular effect on inequality, decreasing the 90/10 and 95/10 ratio by 28% and 22%, respectively. This reflects the drops in the return on bonds of 23% and 29% for the 90^{th} and the 95^{th} quantiles, respectively. This probably means most rich households have held on to their bonds and taken the loss on their yield. The realized capital gains from selling part of one's bonds should be included in this estimate, as the explained part of the coefficient on the bond variable reflects the return on the mere fact of holding any bonds. It makes sense that households would take the loss, as they are normally not active agents in financial markets, and they buy bonds as safe, long-term investments.[15] It is possible that 95^{th} quantile households are more active and therefore have taken a smaller loss. As (5) **short-term assets** are not affected by QE, I do not include them.

[15] This is especially so given the fact that corporate bonds are much less common in the EU than in the US, with companies securing funding mostly by bank loans (Randow, 2017).

Figure 4: Change in Percentage Point Contribution of Employment to Household Income after QE, by Quantile

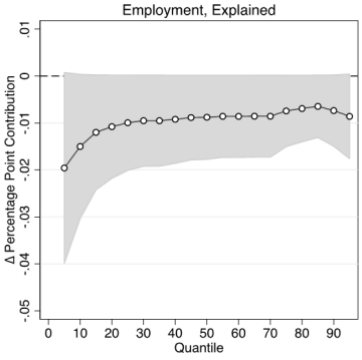
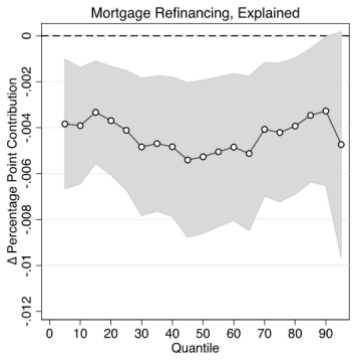
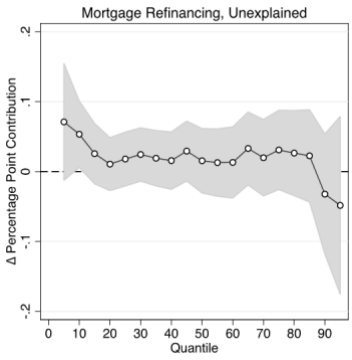


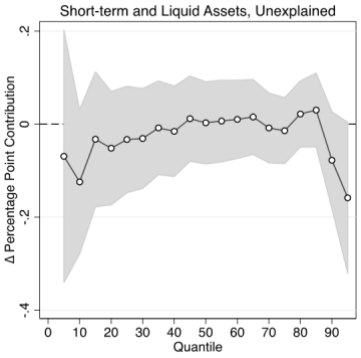
Figure 4: Change in Percentage Point Contribution of Mortgage Refinancing to Household Income after QE, by Quantile

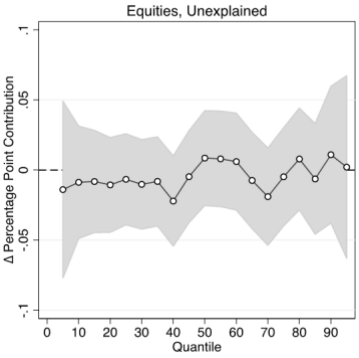


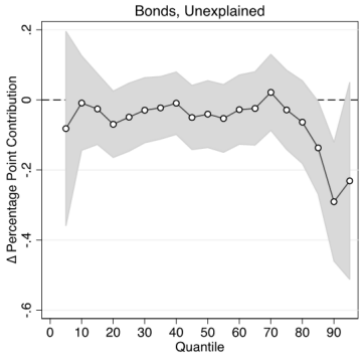


Note: shaded areas represent the 95% confidence interval.

Figure 4: Change in Percentage Point Contribution of Financial Assets to Household Income after QE, by Quantile







6 Conclusion

This paper has found that the set of unconventional monetary policy measures introduced by the ECB in 2014 and 2015 have strongly reduced income inequality in the Netherlands. The largest equalizing effects came from a decrease in the return on bonds for rich households, and an increase in the return to mortgage refinancing for poorer households. These estimations hold for a horizon of 6 quarters after the implementation of the most important policy measure, the PSPP, in March 2015. It is unlikely to be reversed on the longer term, as the impact on financial variables should only persist for about a year, while the impact on employment should transpire to household income with a delay and so did not yet come through in the model (Lenza and Slacalek, 2018, p.16). In all, this paper's finding that ECB UMP has had an equalizing impact on income in the Netherlands is in keeping with research for other EU countries (Casiraghi, 2017; Lenza and Slacalek, 2018).

Compared with the results of this paper's U.S. counterpart, which are opposite in direction, the findings in this paper also suggest that the inequality impact of monetary policy is not *a priori* knowable,

but depends on, on the one hand, prevailing macroeconomics conditions (the presence of financial market stress, the dynamics in asset markets), and on the other hand, heterogeneity in household wealth and income composition and in household spending patterns. Sustained research into the role of household heterogeneity in the transmission of macro-economic shocks is therefore crucial.

Additionally, differing approaches to monetary policy might have played a part. This difference in approach lies partially in the difference in mandates of the two central banks: the ECB is only supposed to maintain price stability, while the Fed has an additional mandate of supporting employment (Kang et al., 2016). It might be that the Fed's explicit goal of safeguarding the economy's wealth against crisis-induced threats has resulted in the disequalizing effects of QE seen in the US (Blinder, 2013, p. 94), and the subsequent controversy around the policy. The ECB's cautious focus on improving liquidity and maintaining price stability, then, and the resultant overdue timing of QE, might have contributed to avoiding such disequalizing effects, even if it also meant missing out on a strong economic recovery like the one the U.S. is now seeing (Agostini et al., 2016, 122-130). That notwithstanding, the fact that this paper's results contradict most of the early public criticisms of ECB QE suggests that one should be wary of speculations about central banks' style and intentions and rather safeguard their independence, as they should their mandate.

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Appendix

Table 1: Regressor Means per Period

	Pre-QE (2011-2013)	Post-QE (2014-2016)	Change
Equalized Disposable Income	12,110	12,896	6.49%
Employment	0.555	0.558	0.002
Short	0.949	0.959	0.010
Bond	0.029	0.018	-0.011
Equity	0.148	0.128	-0.020
Refinancing	0.072	0.089	0.017

Table 2: Results Distributional Decomposition

Effect of selected channels on log of equalized disposable household income for selected distributional statistics

		Δ Inequality			Δ Level by quantile			
		95/10 ratio	90/10 ratio	Gini	Q = 10	Median	Q = 90	Q = 95
1	**Total Change**	0.024	0.010	0.001	-0.063**	-0.053***	-0.053**	-0.039
		(0.041)	(0.035)	(0.001)	(0.029)	(0.020)	(0.022)	(0.031)
2	**QE Channels**	-0.308*	-0.340***	-0.001	0.017	-0.030	-0.322***	-0.291*
		(0.174)	(0.118)	(0.003)	(0.074)	(0.055)	(0.099)	(0.161)
3	**Employment**	0.006*	0.008*	0.000*	-0.015*	-0.009*	-0.007*	-0.009*
		(0.004)	(0.004)	(0.000)	(0.008)	(0.005)	(0.004)	(0.005)
4	**Financial Returns**	-0.245	-0.309**	-0.002	-0.142	-0.029	-0.202**	-0.071
		(0.192)	(0.141)	(0.004)	(0.103)	(0.067)	(0.102)	(0.166)
4a	*Short*	0.034	-0.047	-0.001	-0.124	0.003	-0.078	-0.158*
		(0.114)	(0.095)	(0.003)	(0.079)	(0.045)	(0.053)	(0.083)
4b	*Bonds*	-0.222	-0.282***	-0.001	-0.009	-0.040	-0.290***	-0.231
		(0.155)	(0.105)	(0.003)	(0.069)	(0.049)	(0.086)	(0.144)
4c	*Equities*	0.011	0.020	0.000	-0.009	0.009	0.011	0.002
		(0.039)	(0.032)	(0.001)	(0.021)	(0.017)	(0.025)	(0.033)
5	**Mortgage Refinancing**	-0.103	-0.085*	0.000	0.050**	0.010	-0.035	-0.053
		(0.069)	(0.049)	(0.001)	(0.024)	(0.024)	(0.044)	(0.065)
5a	*Unexplained*	-0.102	-0.086*	0.000	0.054***	0.016	-0.032	-0.048
		(0.069)	(0.049)	(0.001)	(0.024)	(0.024)	(0.044)	(0.065)
5b	*Explained*	-0.001	0.001	0.000	-0.004***	-0.005***	-0.003**	-0.005*
		(0.002)	(0.001)	(0.000)	(0.001)	(0.002)	(0.002)	(0.003)

*Note: this table gives the results of a Blinder-Oaxaca Decomposition of the regressions of the Recentered Influence Function of disposable income on a set of variables pre-QE (2011-2013) and post-QE (2014-2016). Financial Returns are given for their unexplained part. QE Channels = 3a, 4b, 4c and 5. Statistical significance is indicated with * if p < 0.10, ** if p < 0.05 and *** if p < 0.01. Standard errors are robust to heteroscedasticity.*