

Online Appendix to ‘Helicopter money: survey evidence on expectation formation and consumption behaviour’ by Uros Djuric and Michael Neugart

Appendix A - Random treatments

In Table 1 we summarize the socio-economic variables of the respondents.

Table 1: Summary of the socio-economic variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Age	3492	49.74	14.15	21	73
Gender	3493	0.47	0.49	0	1
Income	3116	7.61	4.01	0	15
German	3490	0.90	0.29	0	1
Household size	3299	2.50	1.13	1	5
Distance to city	3317	3.53	1.59	1	6
West Germany	3488	0.80	0.39	0	1
Fin. situation change	3436	3.17	0.88	1	5
Trust in the EU	3326	3.22	1.41	1	7
Economic interest	3286	3.05	0.87	1	5

Notes: Income is coded in sixteen groups, with 15 being 5000 euro and more. The ‘Distance to city’ variable is coded in six groups with 6 being 60 km and more away from the city. Source: Authors’ calculations.

We check for the goodness of randomization by applying a procedure proposed in Olken (2007). Table 2 reports the results of a Probit model regressing a treatment dummy on the socio-economic characteristics of the survey participants. We run this model on all combinations of treatments and report marginal effects of all variables. For all comparisons the regressors are jointly insignificant. For the few cases where individual variables become significant the marginal effects appear to be small. Overall, this evidence suggests that individuals were indeed allocated to the treatments randomly.

Table 2: Relationship between treatments and socio-economic characteristics

Variable	T1 T2	T1 T3	T1 T4	T2 T3	T2 T4	T3 T4
Age	0.00	0.00	0.00	-0.00	0.00	0.00
Gender	0.02	0.00	0.00	-0.01	-0.01	0.00
Income	-0.00	-0.00	-0.00	0.00	0.00	-0.00
Household size	0.00	0.00	0.00	0.00	0.00	-0.00
German	-0.02	-0.05	-0.05	-0.02	-0.03	-0.01
Distance to city	-0.00	0.00	0.00	0.00	0.00	-0.00
West Germany	-0.04	0.00	0.02	0.05	0.07*	0.01
Fin. sit. change	0.00	-0.00	-0.00	-0.00	-0.00	0.00
Trust in the EU	0.00	0.00	-0.01	-0.00	-0.01	-0.01
Econ. interest	-0.03	0.00	0.00	0.03*	0.03*	-0.00
Joint p-value	0.2743	0.9859	0.6940	0.1989	0.1200	0.8642
Observations	1375	1351	1364	1398	1411	1387

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$

Notes: The top row presents the pairs of treatments used to construct a dummy variable for the Probit analysis. For each dummy a Probit model is ran on a set of regressors. The marginal effects are reported in columns together with the test of joint significance. Source: Authors' calculations.

Appendix B - Overview of questions

English version of questions

Lottery treatment - T1

1. We would like to ask you about your assessment of price development in Germany. How do you expect average prices to develop in 12 months?

Please choose just one answer and write a value.

- I expect the prices in 12 months to be on average ___% higher than today.
- I expect the prices in 12 months to be on average ___% lower than today.
- I expect the prices in 12 months on average to stay the same as today.

2. Please imagine you just won 1200 euro in a lottery. Given your current financial situation, how much of the 1200 euro would you spend, save/invest or use to pay off debt in the next 12 months?

Please enter the respective amount in euro.

- I would spend ___ euro.
- I would save/invest ___ euro.
- I would use ___ euro to pay off debt.

3. Do you think the overall economic situation in Germany will improve, worsen or stay the same in the upcoming year?

Please choose one answer.

- I think that the overall economic conditions will improve.
- I think that the overall economic conditions will worsen.
- I think that the overall economic conditions will not change.

Debt-financed policy treatment - T2

Please read the following text carefully. The subsequent questions are related to it.

During current economic and political discussions concerning best management of the European economic crisis the following position has emerged: The government of each Eurozone member state should give money directly to its citizens. The money for this endeavor should be borrowed by governments from the European Central Bank.

Imagine such a policy was actually approved and you, along with every other citizen in the Eurozone, received a one-time payment of 1200 euro from the government.

1. Given your current financial situation, how much of the 1200 euro would you spend, save/invest or use to pay off debt in the next 12 months?

Please enter the respective amount in euro.

- Answers as in question 2 in T1

2. If the above mentioned policy were approved, how would you expect average prices in Germany to develop in 12 months?

Please choose one answer and enter a value.

- I would expect the prices in 12 months to be on average ___% higher than today.
- I would expect the prices in 12 months to be on average ___% lower than today.
- I would expect the prices in 12 months on average to stay the same as today.

3. Do you think the above mentioned policy would improve, worsen or have no impact on the overall economic situation in Germany during the upcoming year?

Please choose one answer.

- I think this policy would improve economic situation.
- I think this policy would impair economic situation.
- I think this policy would not change economic situation.

4. Do you think the above mentioned policy would increase, decrease or have no impact on government obligations in Germany during the upcoming years?

Please choose one answer

- I think this policy would increase government obligations in following years.
- I think this policy would decrease government obligations in following years.
- I think this policy would not change government obligations in following years.

5. Do you think the above mentioned policy would increase, decrease or have no impact on your tax burden in the upcoming years?

Please choose one answer.

- I think this policy would increase my tax burden in following years.
- I think this policy would decrease my tax burden in following years.
- I think this policy would not change my tax burden in following years.

Helicopter money (1x1200 euro) treatment - T3

Please read the following text carefully. The subsequent questions are related to it.

During current economic and political discussions concerning best management of the European economic crisis the following position has emerged: The European Central Bank should give money directly to the citizens of the Eurozone. The money for this endeavor should be printed by the European Central Bank.

Imagine such a policy was actually approved and you, along with every other citizen in the Eurozone, received a one-time payment of 1200 euro from the European Central Bank.

1. Same as question 1 in T2 (spend/save/repay amounts)
2. Same as question 2 in T2 (inflation expectations)
3. Same as question 3 in T2 (economic conditions)
4. Same as question 4 in T2 (government obligations)
5. Same as question 5 in T2 (tax burden)

Helicopter money (12x100 euro) treatment - T4

Please read the following text carefully. The subsequent questions are related to it.

During current economic and political discussions concerning best management of the European economic crisis the following position has come forth: The European Central Bank should give money directly to the citizens of the Eurozone. The money for this endeavor should be printed by the European Central Bank.

Imagine such a policy was actually approved and you along with every other citizen in the Eurozone will receive 100 euro per month from the European Central Bank for the next 12 months.

1. Given your current financial situation how much of the monthly 100 euro would you spend, save/invest or use to pay off debt during the next 12 months?

Please enter the respective amount in euro.

- I would monthly spend ___ euro.
- I would monthly save/invest ___ euro.
- I would monthly use ___ euro to pay off debt.

2. Same as question 2 in T2 and T3 (inflation expectations)

3. Same as question 3 in T2 and T3 (economic conditions)
4. Same as question 4 in T2 and T3 (government obligations)
5. Same as question 5 in T2 and T3 (tax burden)

German (original) version of questions

Lottery treatment - T1

1. Wir möchten Sie gern zu Ihrer Einschätzung hinsichtlich der Preisentwicklung in Deutschland befragen. Welche Erwartungen haben Sie in Bezug auf die durchschnittlichen Preise in 12 Monaten?
Bitte wählen Sie eine der Antworten aus und geben Sie einen Wert an.
 - Ich erwarte, dass in 12 Monaten im Durchschnitt die Preise um ___% höher sind als heute.
 - Ich erwarte, dass in 12 Monaten im Durchschnitt die Preise um ___% niedriger sind als heute.
 - Ich erwarte, dass in 12 Monaten im Durchschnitt die Preise so sind wie heute.
2. Stellen Sie sich bitte vor, dass Sie gerade in der Lotterie 1200 Euro gewonnen haben. Gegeben Ihre momentane finanzielle Situation, wie viele der 1200 Euro würden Sie im Laufe der kommenden 12 Monate ausgeben, sparen/investieren oder für die Rückzahlung von Schulden verwenden?
Bitte geben Sie den jeweiligen Betrag in Euro an.
 - Ich würde davon ___ Euro ausgeben.
 - Ich würde davon ___ Euro sparen/investieren.
 - Ich würde davon ___ Euro verwenden, um Schulden zurückzuzahlen.
3. Denken Sie, dass sich die gesamtwirtschaftliche Lage in Deutschland im kommenden Jahr verbessern, verschlechtern oder nicht ändern wird?
Bitte wählen Sie eine Antwort.
 - Ich denke, dass sich die gesamtwirtschaftliche Lage verbessern wird.
 - Ich denke, dass sich die gesamtwirtschaftliche Lage verschlechtern wird.
 - Ich denke, dass sich die gesamtwirtschaftliche Lage nicht ändern wird.

Debt-financed policy treatment - T2

Wir möchten Sie bitten, den folgenden Text aufmerksam zu lesen. Die zwei Fragen auf dieser Seite und die drei Fragen auf der nächsten Seite beziehen sich darauf.

In der derzeitigen wirtschaftspolitischen Diskussion darüber, wie die europäische Wirtschaftskrise am besten bekämpft werden kann, gibt es folgende Position: Die Regierungen der Länder in der Eurozone sollten Geld direkt an die Bürger der Eurozone verteilen. Das Geld hierfür

sollten sie sich von der Europäischen Zentralbank leihen.

Stellen Sie sich bitte vor, dass eine solche Politik tatsächlich umgesetzt würde und Sie, wie auch alle anderen Bürger der Eurozone, einmalig einen Scheck von Ihrer Regierung über 1200 Euro erhielten.

1. Gegeben Ihre momentane finanzielle Situation, wie viele der 1200 Euro würden Sie im Laufe der kommenden 12 Monate ausgeben, sparen/investieren oder für die Rückzahlung von Schulden verwenden?
Bitte geben Sie den jeweiligen Betrag in Euro an.
 - Answers as in question 2 in T1
2. Wenn die oben genannte Politik umgesetzt würde, welche Erwartungen hätten Sie in Bezug auf die durchschnittlichen Preise in Deutschland in 12 Monaten?
Bitte wählen Sie eine der Antworten aus und geben Sie einen Wert an.
 - Ich würde erwarten, dass in 12 Monaten im Durchschnitt die Preise um ___% höher sind als heute.
 - Ich würde erwarten, dass in 12 Monaten im Durchschnitt die Preise um ___% niedriger sind als heute.
 - Ich würde erwarten, dass in 12 Monaten im Durchschnitt die Preise so sind wie heute.
3. Denken Sie, dass die oben genannte Politik die gesamtwirtschaftliche Lage in Deutschland im kommenden Jahr verbessern, verschlechtern oder nicht ändern würde?
Bitte wählen Sie eine Antwort.
 - Ich denke, dass diese Politik die gesamtwirtschaftliche Lage verbessern würde.
 - Ich denke, dass diese Politik die gesamtwirtschaftliche Lage verschlechtern würde.
 - Ich denke, dass diese Politik die gesamtwirtschaftliche Lage nicht ändern würde.
4. Denken Sie, dass die oben genannte Politik die Staatsausgaben in Deutschland in den kommenden Jahren erhöhen, senken oder nicht ändern würde?
Bitte wählen Sie eine Antwort.
 - Ich denke, dass diese Politik die Staatsausgaben in den kommenden Jahren erhöhen würde.
 - Ich denke, dass diese Politik die Staatsausgaben in den kommenden Jahren senken würde.
 - Ich denke, dass diese Politik die Staatsausgaben in den kommenden Jahren nicht ändern würde.
5. Denken Sie, dass die oben genannte Politik Ihre Steuerbelastung in den kommenden Jahren erhöhen, senken oder nicht ändern würde?
Bitte wählen Sie eine Antwort.
 - Ich denke, dass diese Politik meine Steuerbelastung in den kommenden Jahren erhöhen würde.
 - Ich denke, dass diese Politik meine Steuerbelastung in den kommenden Jahren senken würde.
 - Ich denke, dass diese Politik meine Steuerbelastung in den kommenden Jahren nicht ändern würde.

Helicopter money (1x1200 euro) treatment - T3

Wir möchten Sie bitten, den folgenden Text aufmerksam zu lesen. Die zwei Fragen auf dieser Seite und die drei Fragen auf der nächsten Seite beziehen sich darauf.

In der derzeitigen wirtschaftspolitischen Diskussion darüber, wie die europäische Wirtschaftskrise am besten bekämpft werden kann, gibt es folgende Position: Die Europäische Zentralbank sollte Geld direkt an die Bürger der Eurozone verteilen. Das Geld hierfür sollte von der Europäischen Zentralbank gedruckt werden.

Stellen Sie sich bitte vor, dass eine solche Politik tatsächlich umgesetzt würde und Sie, wie auch alle anderen Bürger der Eurozone, einmalig einen Scheck von der Europäischen Zentralbank über 1200 Euro erhielten.

1. Same as question 1 in T2 (spend/save/repay amounts)
2. Same as question 2 in T2 (inflation expectations)
3. Same as question 3 in T2 (economic conditions)
4. Same as question 4 in T2 (government obligations)
5. Same as question 5 in T2 (tax burden)

Helicopter money (12x100 euro) treatment - T4

Wir möchten Sie bitten, den folgenden Text aufmerksam zu lesen. Die zwei Fragen auf dieser Seite und die drei Fragen auf der nächsten Seite beziehen sich darauf.

In der derzeitigen wirtschaftspolitischen Diskussion darüber, wie die europäische Wirtschaftskrise am besten bekämpft werden kann, gibt es folgende Position: Die Europäische Zentralbank sollte Geld direkt an die Bürger der Eurozone verteilen. Das Geld hierfür sollte von der Europäischen Zentralbank gedruckt werden.

Stellen Sie sich bitte vor, dass eine solche Politik tatsächlich umgesetzt würde und Sie, wie auch alle anderen Bürger der Eurozone, über die nächsten zwölf Monate von der Europäischen Zentralbank monatliche Schecks über 100 Euro erhielten.

1. Gegeben Ihre momentane finanzielle Situation, wie viele der monatlich 100 Euro würden Sie im Laufe der kommenden 12 Monate ausgeben, sparen/ investieren oder für die Rückzahlung von Schulden verwenden?

Bitte wählen Sie eine Antwort.

- Ich würde davon monatlich ___ Euro ausgeben.
 - Ich würde davon monatlich ___ Euro sparen/investieren.
 - Ich würde davon monatlich ___ Euro verwenden, um Schulden zurückzuzahlen.
2. Same as question 2 in T2 and T3 (inflation expectations)
 3. Same as question 3 in T2 and T3 (economic conditions)
 4. Same as question 4 in T2 and T3 (government obligations)
 5. Same as question 5 in T2 and T3 (tax burden)

Additional questions

1. Has your life in your opinion worsened or improved in the following areas over the past 12 months?

Please rate the change from today's perspective.

- Financial situation

- Considerably worsened
- Slightly worsened
- Stayed the same
- Slightly improved
- Considerably improved
- Don't know

2. How much do you personally trust the following public institutions or groups?

- European Union

1 - Don't trust at all

2

3

4

5

6

7 - Fully trust

3. How interested in economic affairs are you?

- Very strong
- Strong
- Moderately
- Little
- Not at all
- Don't know

We do not report questions on socio-economic variables such as income, household size, age, gender, place of birth, and the region people live in. The reader is referred to <http://www.gesis-panel.org> for the exact phrasing.

Appendix C - Questions and results from studies on US tax rebates

In order to make our results more comparable to the 2008 US tax rebate research we recoded our variables to obtain the percentages of people reporting they would use the money *mostly* for spending, saving or debt repayments. Results are reported in Table 3 as shares of total answers for a specific treatment.

Table 3: Distribution of answers about spending choices in %

	Spend	Save	Repay	Spe/Sav	Spe/Rep	Sav/Rep	Sp/Sa/Re
T1	29.0	36.9	18.4	10.2	1.8	2.7	0.6
T2	28.2	35.5	18.6	10.4	2.0	2.8	2.2
T3	29.2	37.6	16.1	11.1	1.9	2.2	1.6
T4	29.5	33.0	14.6	16.9	2.3	3.4	0.0
Total	29.0	35.8	16.9	12.1	2.0	2.8	1.1

Notes: For each treatment (row), the column ‘Spend’ refers to the percentage of people whose spending amount was bigger than both saving and debt repayment. These are the individuals who would *mostly spend* the money. Figures in columns ‘Save’ and ‘Repay’ are constructed analogously. Then there was a considerable number of answers in which consumption, saving, or repaying debt amounts equaled. For example, in T1 10.2% of the respondents answered that they would spend the same amount as they would save, each of the amounts being larger than what they would use for repaying debts (column ‘Spe/Sav’). In ‘Sp/Sa/Re’ the spend, save, and debt repayment amounts were identical. Source: Authors’ calculations.

We compare our results from Table 3 with Table 4, which is taken from Sahm et al. (2010), who report on results from different surveys that measure the percentages of people who would use the transfers from the U.S. tax rebate in 2008 to mostly spend, save, or repay debts. Our results are mostly in line with the average findings of these studies. One noticeable difference is that in our survey fewer people chose to mostly repay debts with the transfer. This seems, however, plausible given the different macroeconomic conditions in Germany in 2016 and the USA in 2008.

Table 4: Percentage of respondents who would spend US tax rebates. Source: Sahm et al. (2010).

Pollster	Interview date	Question	Percentage of responses				
			Obs.	Spend	Save	Pay debt	Other
1. Fox news/Opinion Dynamics	Jan. 30-31	If you received a tax rebate in the next few months, what do you think you would do with the money - save it or spend it?	900	53	37	... ^a	10
2. Harris Interactive for CCH Complete Tax	Jan. 30-Feb. 1	If you were to get a tax rebate, which of the following would you be mostly likely to do with all or most of your money?	2020	21	32	47	...
3. <i>Washington Post</i> /ABC News ^b	Jan. 30-Feb. 1	If you get a federal rebate, what will you most likely do with it?	1249	24	36	35	4
4. Zogby International for TransUnion TrueCredit.com ^c	Jan. 30-Feb. 1	If you were to get a tax rebate, which of the following would you be most likely to do with all or most of the money?	3036	24	29	45	3
5. Pew Research Center	Jan. 30-Feb. 2	If you receive the cash rebate from the government, how are you most likely to use the money? Are you most likely to spend it, save it, pay off bills, or something else	1502	20	24	49	7

6.	Bloomberg/ <i>L.A. Times</i>	Feb. 21-25	When you get your rebate check, will you spend it on purchases, or will you pay down some of your debt, or will you put it in your savings account?	1408	23	38	35	6
7.	CNN/Opinion Research Corp.	March 14-16	If you receive a tax rebate, what will you do with the money - spend it, save it, pay off bills or donate it to charity?	1019	21	32	41	3
8.	Harris Interactive ^d	April 7-15	How much money (in dollars) do you think you will use for the following?	2529	40	25	30	5
9.	<i>Washington Post</i> /ABC News ^b	April 10-13	If you get a federal rebate, what will you most likely do with it?	1197	26	37	35	3
10.	CBS News/ <i>New York Times</i>	April 25-27	What do you expect to do with the tax rebate money you receive-will you spend it, use it to pay bills, or save or invest it?	664	19	28	53	...
11.	Zogby International ^e	May 6-8	How do you plan to spend the majority of your 2008 tax rebate?	7815	34	25	32	9
12.	Harris Interactive ^d	Aug. 11-17	How much money (in dollars) did you use for the following?	2710	39	20	35	5

...^a = not applicable.

^bOpen-ended answers aggregated by the authors.

^cThe 24% spend rate consists of 18% who would buy something necessary and 6% who would 'splurge.'

^dMultiple answers in 0%, 1%-25%, 25%-50%, 51%-75%, and 75%-100% categories were categorized and recalculated by the authors to add to 100%.

^eThe 34% spend rate consists of 26% who spend only on everyday expenses and 8% who would 'splurge.'

References

- OLKEN, B. A. (2007): “Monitoring corruption: evidence from a field experiment in Indonesia,” *Journal of Political Economy*, 115, 200–249.
- SAHM, C. R., M. D. SHAPIRO, AND J. SLEMROD (2010): “Household response to the 2008 tax rebate: survey evidence and aggregate implications,” *Tax Policy and the Economy*, 24, 69–110.