Online Appendix to The effect of priming on fraud: evidence from a natural field experiment

Appendix - For online publication

A1 Routes

| Route No. | Origin                  | Destination                | Uber Price |
|-----------|-------------------------|----------------------------|------------|
| 1         | Main Station            | Wiener Staatsoper          | 7.5        |
| 2         | Hotel Sacher            | Schottentor                | 10.5       |
| 3         | Schottentor             | Messe Wien                 | 14.5       |
| 4         | Messe Wien              | Vienna Marriott            | 8          |
| 5         | Vienna Marriott         | Alser Spitz                | 10.5       |
| 6         | Alser Spitz             | Main Station               | 9.5        |
| 7         | Main Station            | Sports Center Gudrun       | 13         |
| 8         | Sports Center Gudrun    | Vienna Westbahnhof          | 7          |
| 9         | Vienna Westbahnhof      | Vienna Airport Arrival      | 31         |
| 10        | Vienna Airport Arrival  | Main Station               | 10         |
| 11        | Main Station            | Zipperstreet Underground Station | 14.5     |
| 12        | Zipperstreet Underground Station | Meidling Station | 13.5    |
| 13        | Meidling Station        | U4 Vienna                  | 10         |
| 14        | U4 Vienna               | Hietzing Hospital          | 18         |
| 15        | Hietzing Hospital       | Kennedy Bridge             | 11.5       |
| 16        | Kennedy Bridge          | Johann-Nepomuk-Berger-Place | 5.5     |

Table A1: Routes Part 1/3
| Route No. | Origin                        | Destination                   | Uber Price |
|-----------|-------------------------------|-------------------------------|------------|
| 17        | Johann-Nepomuk-Berger-Place   | Nussdorfer Street Station      | 7          |
| 18        | Nussdorfer Street Station     | Sieveringer Street McDonalds   | 6          |
| 19        | Sieveringer Street McDonalds  | Alterlaa Bowling Center       | 28.5       |
| 20        | Alterlaa Bowling Center       | Main Station                  | 17.5       |
| 21        | Main Station                  | Vienna Meidling Station       | 7.5        |
| 22        | Vienna Meidling Station       | Alterlaa Bowling Center       | 12.5       |
| 23        | Alterlaa Bowling Center       | Vienna Liesing Station        | 8.5        |
| 24        | Vienna Liesing Station        | Vienna Uno city               | 30.5       |
| 25        | Vienna Uno city               | Rennbahnweg Station           | 9          |
| 26        | Rennbahnweg Station           | Messe Wien                   | 12         |
| 27        | Messe Wien                    | Schottentor                   | 11.5       |
| 28        | Schottentor                   | Ambassador Hotel              | 9.5        |
| 29        | Ambassador Hotel              | Vienna Marriott               | 5          |
| 30        | Vienna Marriott               | Main Station                  | 7          |
| 31        | Main Station                  | Vienna Airport Arrival        | 30         |
| 32        | Vienna Airport Arrival        | Vienna Westbahnhof            | 32         |

Table A2: Routes Part 2/3
| Route No. | Origin                  | Destination                       | Uber Price |
|----------|-------------------------|------------------------------------|------------|
| 33       | Vienna Westbahnhof      | Sports Center Gudrun               | 11.5       |
| 34       | Sports Center Gudrun    | Main Station                       | 6.5        |
| 35       | Main Station            | Alser Spitz                        | 10.5       |
| 36       | Alser Spitz             | Vienna Marriott                    | 8          |
| 37       | Vienna Marriott         | Messe Wien                         | 10         |
| 38       | Messe Wien              | Schottentor                        | 12         |
| 39       | Schottentor             | Wiener Staatssoper                 | 7.5        |
| 40       | Hotel Sacher            | Main Station                       | 6.5        |
| 41       | Main Station            | Alterlaa Bowling Center            | 10         |
| 42       | Alterlaa Bowling Center | Sieveringer Street McDonalds       | 35.5       |
| 43       | Sieveringer Street McDonalds | Nussdorfer Street Station | 6          |
| 44       | Nussdorfer Street Station | Johann-Nepomuk-Berger-Place     | 8          |
| 45       | Johann-Nepomuk-Berger-Place | Kennedy Bridge                   | 9          |
| 46       | Kennedy Bridge          | Hietzing Hospital                  | 7.5        |
| 47       | Hietzing Hospital       | U4 Vienna                          | 11         |
| 48       | U4 Vienna               | Meidling Station                   | 4          |
| 49       | Meidling Station        | Zipperstreet Underground Station   | 7.5        |
| 50       | Zipperstreet Underground Station | Main Station             | 9          |

Table A3: Routes Part 3/3
A2 Vienna taxi tariffs

The Viennese taxi fares are taken from https://www.wko.at/branchen/w/transport-verkehr/befoerderungsgewerbe-personenkraftwagen/Wiener_Taxitarif_1997_2.pdf. In addition to the local authority provides the following additional information about the taxi tariff system, in particular where possible additional surcharges may be added to the fare:

- 1 surcharge if the taxi was ordered via a "taxi-rank-phone" (Standplatztelefon);
- 2 surcharges if the taxi was ordered via call centre (Taxifunkzentrale);
- € 2.00 surcharge for the carriage of 4 or more passengers;
- € 13.00 surcharge if the destination is the airport and the taxi was not pre-ordered;
- Further surcharges e.g. for loading the luggage or for going to the station are prohibited.
- The driver has to inform the passenger about any surcharges added.

Charging anything different than mentioned is an administrative offence.

|                        | Daytime  | Nighttime/Weekend |
|------------------------|----------|-------------------|
| **Fixed Fee**          | € 3.80   | € 4.30            |
| **Variable Fee**       |          |                   |
| (Mileage Charge, Wait Time Charge) |          |                   |
| 0-4,000m               | € 0.20 per 140.7m | € 0.20 per 123.2m |
| 4,000-9,000m           | € 0.20 per 184.6m | € 0.20 per 156.8m |
| >9,000m                | € 0.20 per 190.6m | € 0.20 per 169.5m |
| Waiting Time           | € 0.20 per 25.9 sec. | € 0.20 per 25.9 sec. |
| **One Surcharge**      | € 1.40   | € 1.40            |

Table A4: Official Viennese taxi fares
A3 Drivers’ nationalities

| Ethnicity     | Absolute Frequency | Frequency in % |
|---------------|--------------------|----------------|
| African       | 110                | 19.47          |
| Asian         | 246                | 43.54          |
| European      | 206                | 36.46          |
| thereby Austrian | 106             | 18.76          |
| Other         | 3                  | 0.54           |
| Total         | 565                | 100.00         |

Notes: Note that we clustered certain countries/indications of driver’s ethnicity to these categories (e.g. "African" and "Arabian" are clustered to the ethnicity "African"). However, where ever possible (i.e. as controls), we use the full information about the estimated driver’s origin.

Table A5: Drivers’ nationality

Table A5 summarizes the nationalities of the drivers in our experiment.

A4 Analysis using additional baselines

In this section we present the results relating to the OSM and Uber baseline, excluded from Section 5.

A4.1 OSM Baselines

This section presents results for Section 5, using OSM as a baseline.
### A4.2 Uber Baselines

This section presents results for Section 5, using the Uber price as a baseline.

### A4.3 Google Baselines

To examine this, and determine the level of overcharging relative to our perfectly informed baselines, we compare the observe fare obtained using prime $p$ in quadruple $i$, $f_{p,i}$ to the fare associated with the journey planned by each of our informed baselines, $k$, in quadruple $i$, $f_{k,i}$, where $k \in \{\text{Google Maps, OSM, Uber}\}$. The overcharging difference is defined as

$$O_{p,i,k} = f_{p,i} - f_{k,i} \quad (1)$$

Table A9 presents the overcharging differences for each treatment, using each of the three baselines. As can be seen, there is overcharging in all treatments, and this is significantly different to zero ($p < 0.01$). Regardless of baseline, similar patterns emerge in the data, although there are no significant differences between treatments ($p > 0.1$ in all cases). Importantly, this implies that our treatments, when compared to a perfectly informed passenger who is never overcharged, all produce significant levels of overcharging.

We examine treatment differences further using Tobit regressions, for brevity presenting only those using the Google Maps baseline, and the same sets of controls as those previously defined. As can be seen in Table A10, the coefficients on the treatment dummies are

| Dependent Variable: Normalised Distance, OSM |
|---------------------------------------------|
| Model:                                      |
|                                             |
| (1)  | (2)  | (3)  | (4)  | (5)  |
| Honesty Treatment                           |
| -0.039 | -0.036 | -0.053 | -0.038 | -0.046 |
| (0.046) | (0.046) | (0.043) | (0.047) | (0.046) |
| Dishonesty Treatment                        |
| -0.001 | -0.001 | -0.018 | 0.003  | -0.015 |
| (0.044) | (0.044) | (0.044) | (0.045) | (0.043) |
| Uber Treatment                              |
| -0.011 | -0.007 | -0.028 | -0.019 | -0.023 |
| (0.047) | (0.047) | (0.046) | (0.048) | (0.046) |
| Constant                                    |
| 0.093*** | 0.091*** | 0.055*** | 0.048*** | 0.041*** |
| (0.027) | (0.026) | (0.016) | (0.013) | (0.01) |

| Observations: | 486 | 486 | 453 | 453 | 453 |

| Controls     | ✓   | ✓   | ✓   | ✓   | ✓   |
|--------------|-----|-----|-----|-----|-----|
| Set 2        | ✓   | ✓   | ✓   | ✓   | ✓   |
| Set 3        | ✓   | ✓   | ✓   | ✓   | ✓   |
| Set 4        | ✓   | ✓   | ✓   | ✓   | ✓   |
| Set 5        | ✓   | ✓   | ✓   | ✓   | ✓   |

Notes: Robust standard errors in parentheses, clustered by quadruple. Models (1)–(5) are Tobit regressions censored at 1. The presented explanatory variables are dummy variables that take a value of 1 if the observation is taken from that treatment (and 0 otherwise). ***, ** and * denote significance at the 1%, 5% and 10% level.
| Dependent Variable: | Overcharging Difference |
|---------------------|--------------------------|
| Model:              | (1) (2) (3) (4) (5)      |
| Honesty Treatment   | 0.59* 0.398 0.398 0.492 0.435 |
|                     | (0.342) (0.284) (0.284) (0.313) (0.313) |
| Dishonesty Treatment| -0.469 -0.096 -0.096 -0.239 -0.275 |
|                     | (0.375) (0.332) (0.332) (0.335) (0.316) |
| Uber Treatment      | 0.37 0.345 0.345 0.241 0.598* |
|                     | (0.388) (0.376) (0.376) (0.354) (0.338) |
| Constant            | 15.242*** 0.088 7.348*** 6.612*** 4.525*** |
|                     | (2.308) (0.108) (1.497) (1.262) (0.82) |

| Observations        | 486 486 453 453 453 |

| Controls            | ✓ ✓ ✓ ✓ ✓ |

| Set 1               | ✓ ✓ ✓ ✓ ✓ |
| Set 2               | ✓ ✓ ✓ ✓ ✓ |
| Set 3               | ✓ ✓ ✓ ✓ ✓ |
| Set 4               | ✓ ✓ ✓ |
| Set 5               | ✓ |

Notes: Baseline treatment is taken as the baseline. Robust standard errors in parentheses, clustered by quadruple. Models (1)–(5) are Tobit regressions censored at 0. The presented explanatory variables are dummy variables that take a value of 1 if the observation is taken from that treatment (and 0 otherwise).

***, ** and * denote significance at the 1%, 5% and 10% level.

Table A7: Treatment Effects on Overcharging - OSM Baseline

all not significant at the 5% level. However, as the constant is positive and significant this supports our assertions that there is a significant level of overcharging relative to the informed passenger baseline, but no differences between treatments.

The estimates from Table A10 suggest that, although there is a significant amount of overcharging relative to a perfectly informed passenger in all treatments, there are no treatment differences when comparing the effects of the primes to the fully informed baselines. This observation suggests that the effect of asymmetry in knowledge on overcharging is greater than the effects of the primes; the vast majority of the overcharging we observe relative to the case where there is no overcharging is a result of our testers being ‘foreign’, and being viewed as having limited knowledge.
Dependent Variable: Overcharging Difference

| Model: | (1) | (2) | (3) | (4) | (5) |
|-------|-----|-----|-----|-----|-----|
| **Honesty Treatment** | 0.708** | 0.419 | 0.419 | 0.535 | 0.459 |
|        | (0.338) | (0.301) | (0.301) | (0.333) | (0.338) |
| **Dishonesty Treatment** | 0.219 | 0.074 | 0.074 | -0.029 | -0.141 |
|        | (0.366) | (0.347) | (0.347) | (0.339) | (0.328) |
| **Uber Treatment** | 0.747* | 0.445 | 0.445 | 0.357 | 0.669* |
|        | (0.45) | (0.413) | (0.413) | (0.385) | (0.372) |
| **Constant** | 12.111*** | -0.916*** | 8.012*** | 7.162*** | 4.951*** |
|       | (2.113) | (0.139) | (1.725) | (1.399) | (0.887) |

Observations: 486 486 453 453 453

Controls

| Set 1 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Set 2 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Set 3 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Set 4 | ✓ | ✓ | ✓ | ✓ | ✓ |
| Set 5 | ✓ | ✓ | ✓ | ✓ | ✓ |

Notes: Baseline treatment is taken as the baseline. Robust standard errors in parentheses, clustered by quadruple. The number of observations falls as the number of controls are increased due to missing entries. Models (1)–(5) are Tobit regressions censored at 0. The presented explanatory variables are dummy variables that take a value of 1 if the observation is taken from that treatment (and 0 otherwise). ***, ** and * denote significance at the 1%, 5% and 10% level.

Table A8: Treatment Effects on Overcharging - Uber Baseline

| Overcharging Difference, Google Maps Price | Baseline | Honesty | Dishonesty | Uber |
|------------------------------------------|----------|---------|------------|------|
|                                           | 4.13     | 4.42    | 4.18       | 4.46 |
|                                           | (4.43)   | (4.14)  | (4.1)      | (4.62)|
| Overcharging Difference, Open Street Maps Price | 4.42 | 4.74 | 4.45 | 4.75 |
|                                           | (5.03)   | (4.71)  | (4.71)     | (5.11)|
| Overcharging Difference, Uber Price       | 3.94     | 4.27    | 4.04       | 4.29 |
|                                           | (5.65)   | (5.19)  | (5)        | (5.5) |

Observations: 127 133 137 140

Notes: Normalised distances are calculated by dividing the distance from each treatment by the distance from Google Maps (OSM, respectively). Standard deviations in parentheses.

Table A9: Overcharging Difference - Informed passenger baselines
|                          | Model: | (1)    | (2)    | (3)    | (4)    | (5)    |
|--------------------------|--------|--------|--------|--------|--------|--------|
| **Honesty Treatment**    |        | 0.45   | 0.349  | 0.349  | 0.44   | 0.392  |
|                          |        | (0.321)| (0.285)| (0.285)| (0.309)| (0.312)|
| **Dishonesty Treatment** |        | -0.452 | -0.121 | -0.121 | -0.272 | -0.288 |
|                          |        | (0.349)| (0.319)| (0.319)| (0.323)| (0.306)|
| **Uber Treatment**      |        | 0.331  | 0.362  | 0.362  | 0.283  | 0.58*  |
|                          |        | (0.375)| (0.372)| (0.372)| (0.346)| (0.335)|
| **Constant**             |        | 12.002*** | 0.106 | 7.06*** | 6.356*** | 4.542*** |
|                          |        | (1.755)| (0.098)| (1.463)| (1.217)| (0.807)|

| **Observations**:        | 486    | 486    | 453    | 453    | 453    |
| **Controls**             |        |        |        |        |        |
| **Set 1**                | ✓      | ✓      | ✓      | ✓      | ✓      |
| **Set 2**                | ✓      | ✓      | ✓      | ✓      | ✓      |
| **Set 3**                | ✓      | ✓      | ✓      | ✓      | ✓      |
| **Set 4**                | ✓      | ✓      | ✓      | ✓      | ✓      |
| **Set 5**                | ✓      |        |        |        |        |

*Notes: Baseline treatment is taken as the baseline. Robust standard errors in parentheses, clustered by quadruple. Models (1)-(5) are Tobit regressions censored at 0. The presented explanatory variables are dummy variables that take a value of 1 if the observation is taken from that treatment (and 0 otherwise).***, ** and * denote significance at the 1%, 5% and 10% level.

Table A10: Treatment Effects on Overcharging - Google Baseline