Transportation Choices and the Value of Statistical Life

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April 2, 2014

Outline

Introduction
- Motivation

Background on Sierra Leone

The Model
- Theory
- Empirical Strategy

Data

Main Results
- Estimating the Value of a Statistical Life
- What Explains the Variation in VSL?

Policy Application and Discussion

Extra Slides

Motivation

- Public policy decisions regarding investments in medicine, the environment, and transportation safety often require estimates of a society's willingness to pay to reduce the mortality risks associated with alternative policies
  - These cost-benefit analyses reflect the dollar amount that should be spent on safetyimprovements in order to save a certain number of lives (in expectation)
- The trade-off between wealth and the probability of death is commonly called the Value of a Statistical Life (VSL)

Motivation

- Cost-benefit estimation of this sort is widespread in wealthy countries
- However, the lack of credible VSL estimates in most low-income countries typically prevents the application of these methods for evaluating public projects, including the large number of infrastructure projects that are currently being undertaken in Africa

In this paper...

- We contribute to the literature that uses the information contained in actual choices to estimate individuals' willingness to pay for reduced fatality risk
  - Using an unusual transportation situation in Sierra Leone, we use revealed preference data to obtain VSL estimates

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- We contribute to the literature that uses the information contained in actual choices to estimate individuals' willingness to pay for reduced fatality risk
  - Using an unusual transportation situation in Sierra Leone, we use revealed preference data to obtain VSL estimates
- Our setting allows us to overcome some of the challenges associated with the estimation VSL
  - Concerns about the endogeneity of risk that individuals choose to take on
  - We observe Africans and non-Africans making exactly the same choices, facing the same options $\rightarrow$ we can compare our estimates between these populations, and explore the underlying determinants of the VSL
  - We obtain one of the first estimates of the VSL for developing countries, and estimate its income elasticity

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- Using individual level estimates of the VSL, we explore the correlates of the VSL: the variation in the VSL is not driven by differential life expectancy, but rather by differences in wealth and cultural attitudes
  - Robust to the inclusion of controls
  - The particular composition of our sample allows us to rule out explanations based on lack of information about transport risks, liquidity constraints, within household agency problems, cultural attitudes, short life expectancy, etc.

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  - Robust to the inclusion of controls
  - The particular composition of our sample allows us to rule out explanations based on lack of information about transport risks, liquidity constraints, within household agency problems, cultural attitudes, short life expectancy, etc.
- Using our individual level VSL estimates, we find that the income elasticity of the VSL is 1.77
- We use our estimates to perform a cost-benefit analysis of an actual project currently being considered in Sierra Leone

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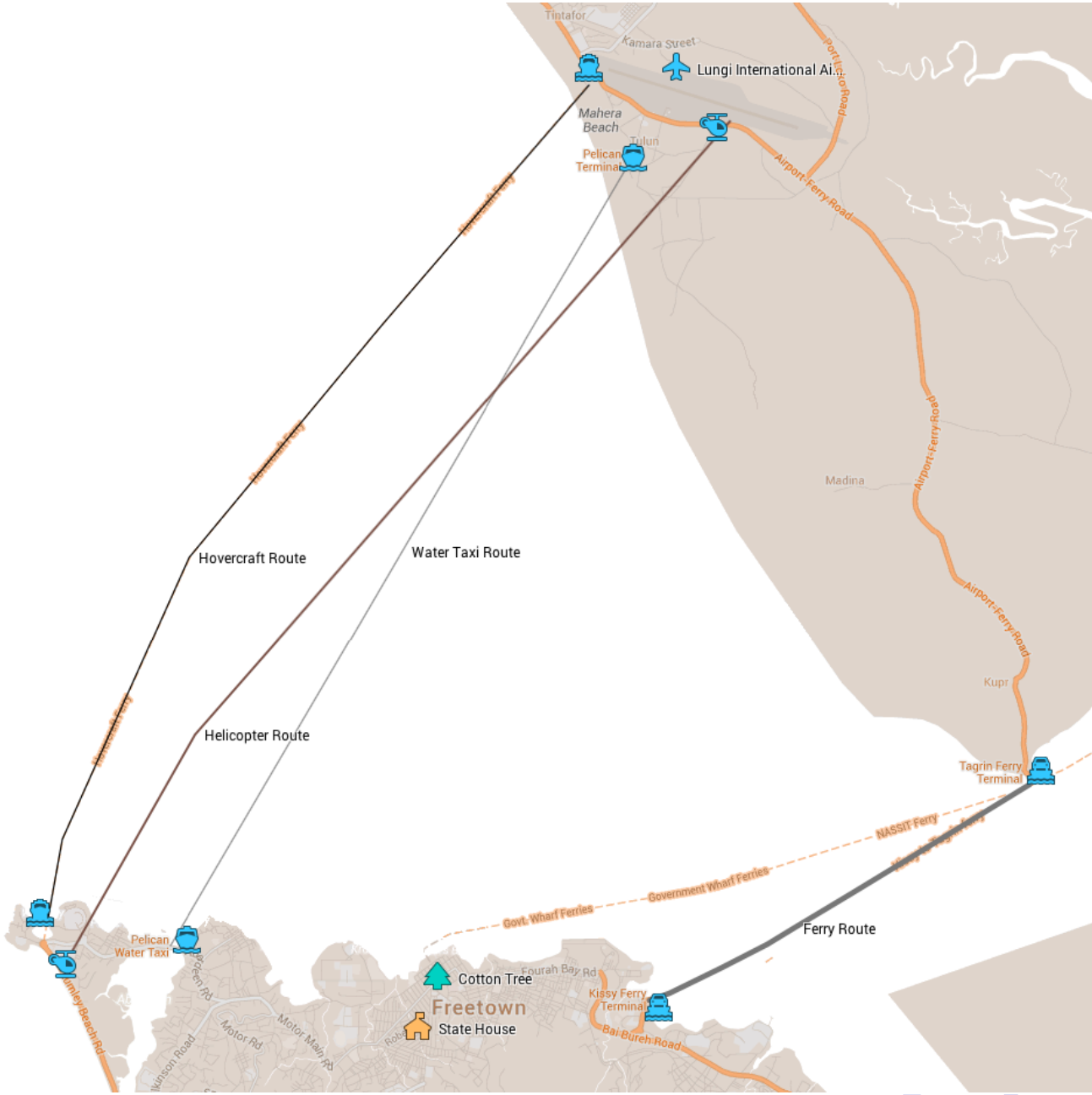
Policy Application and Discussion

Extra Slides

Traveling from Lungi to Freetown

- To travel from Lungi International Airport to the capital Freetown, travelers must cross an estuary, which at its widest point is about 16km.
- There are four viable transport options:
  - Ferry
  - Water taxi / Speedboat
  - Hovercraft
  - Helicopter
- All options entail non-trivial accident risk, and have different trip duration and monetary cost

Map of Lungi Airport and Freetown, Sierra Leone



Choosing your Poison....

Advice from the British High Commission:

> *"Transport infrastructure is poor. None of the options for transferring between the international airport at Lungi and Freetown are risk-free. You should study the transfer options carefully before traveling" (www.fco.gov.uk)*

Information Availability

Helicopter:

"Helicopters and Sierra Leone have a bit of a notorious past, with a couple of crashes widely reported." (www.visitsierraleone.org)
"A helicopter ferrying passengers to Freetown airport in Sierra Leone has crashed, killing 19 people, including Togo's Sports Minister Richard Attipoe." (BBC News, Jun. 2007)

Water Taxi / Speed Boat:

"A passenger speed boat, Sea Master I, plying the Kissy Ferry Terminal/Tagrin route capsized at about 10:00 p.m. on Friday 27th February 2009 after making several distress calls to the pilot office of the Sierra Leone Ports Authority" (New Citizen Press, Freetown, Feb. 2009)

Ferry:

"The cheapest option of all is to take the Ferry to Freetown but it is certainly not the quickest option." (www.visitsierraleone.org)
"105 people are feared to have drowned in Sierra Leone when a boat capsized [. . .] 38 miles southwest of the capital, Freetown." (Bloomberg news, Sept. 2009).

The Ferry

Ferry:
-Cost: US$ 2 (lowest price)
-Time: 100 min. (longest time)
-Risk: Medium, 3 accidents since 2001. Moderate fatality risk if an accident (if one can swim!)







... and obviously not very comfortable

The Water Taxi

Water Taxi/Speedboat:
-Cost: US$35-40 (medium price)
-Time: 35 min. (medium time)
-Risk: Lowest, only 1 accident since 2001. Moderate fatality risk if an accident (if one can swim!)







....and also not very comfortable (crowded, small seats, etc.)

The Hovercraft

Hovercraft:
-Cost: US$35-50 (medium price)
-Time: 28 min. (medium time)
-Risk: High, 5 accidents since 2001. But medium fatality risk, 2 fatal accidents (especially if one can swim!)







... and somewhat more comfortable and less crowded

The Helicopter

Helicopter:
-Cost: US$70-80 (most expensive)
-Time: 10 min. (fastest)
-Risk: Highest by far, 3 fatal crashes since 2001, and very high fatality risk if an accident.







... and also not very comfortable

Advantages of our setting

This setting allows us to overcome some of the typical problems in estimating the VSL (Ashenfelter 2006):

- If traveling to/from Sierra Leone, one has to choose a transportation mode, thus reducing the endogeneity of the choice
- Information: travel risk is widely known
- Adult travelers make decisions for themselves
- Africans in our sample are relatively wealthy business men, government workers, etc., who are comparable in several dimentions to the average citizen from a developed country

Study Setting in Sierra Leone

- 2012 survey sample: business travelers, tourists, government officials, traders, aid workers, development economists from 20 African countries, and 36 non-African countries
- The hovercraft and helicopter have shut / reopened multiple times. The helicopter was not operating during our 2012 survey, but we have data on previous trips then it was operating

Transportation Options, Descriptive Statistics

	Mode of Transportation				
	Ferry	Water taxi	Hovercraft	Helicopter	Road
Panel A: Average passenger traffic					
# of trips per week	74	50	22	32	
# of passengers per week	4440	1100	1826	640	
% of sample trips choosing this mode	56.7%	25.3%	16.0%	2.0%	-
Panel B: Costs					
Ticket cost in US$ (c_j)	0.5-2	35-40	35-50	70-80	N/A
Transit time in minutes	70	35	28	12	240 +
Waiting time in minutes (avg.)	30	0	0	0	
Total travel time in minutes (t_j)	100	35	28	12	
Panel C: Accident risk (per 100,000 passenger-trips)					
Probability of a fatal accident (p_j)	4.43	2.55	3.88	18.41	N/A
Probability of an accident (p_j)	10.02	7.19	75.72	17.96	N/A
Panel D: Travel amenities (average, scale 1 to 5)					
Comfort of the seats	3.2	3.9	4.3	3.9	N/A
Noise level	2.2	4.0	4.2	4.1	N/A
Crowdedness	2.0	4.2	4.3	4.3	N/A
Convenient location	2.6	4.0	3.9	4.0	N/A
Quality of the clientele	3.3	4.3	4.4	4.4	N/A

Accidents on Freetown-Lungi modes of transportation (January 2005 – September 2012)

Transportation	Type of accident	Date	Deaths
Ferry	Wreck	Mar. 12th, 2006	120
	Accident	Aug. 2nd, 2007	158
	Wreck	Sept. 9th, 2009	120
Water Taxi/Speed boat	Accident	Feb. 27th, 2009	5
Hovercraft	Accident	May 5th, 2006	6
	Accident	Aug., 18th, 2006	11
	Fire	Nov. 13, 2007	0
	Crash	May 23rd, 2008	0
	Crash	May 19th, 2011	0
Helicopter	Crash	June 3rd, 2007	19
	Crash	Oct. 18th, 2007	22

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Intuition

- Each mode has a different risk and cost (time, money) profile
  - The **water taxi** is safest, but in terms of price (in money and time, for typical wage rates in this sample) is ranked between the **ferry**, **hovercraft** and the **helicopter**
  - On the other hand, the **fastest** (and thus cheapest, for sufficiently high wage) but riskiest option is the **helicopter**. It also has the **most expensive** ticket price

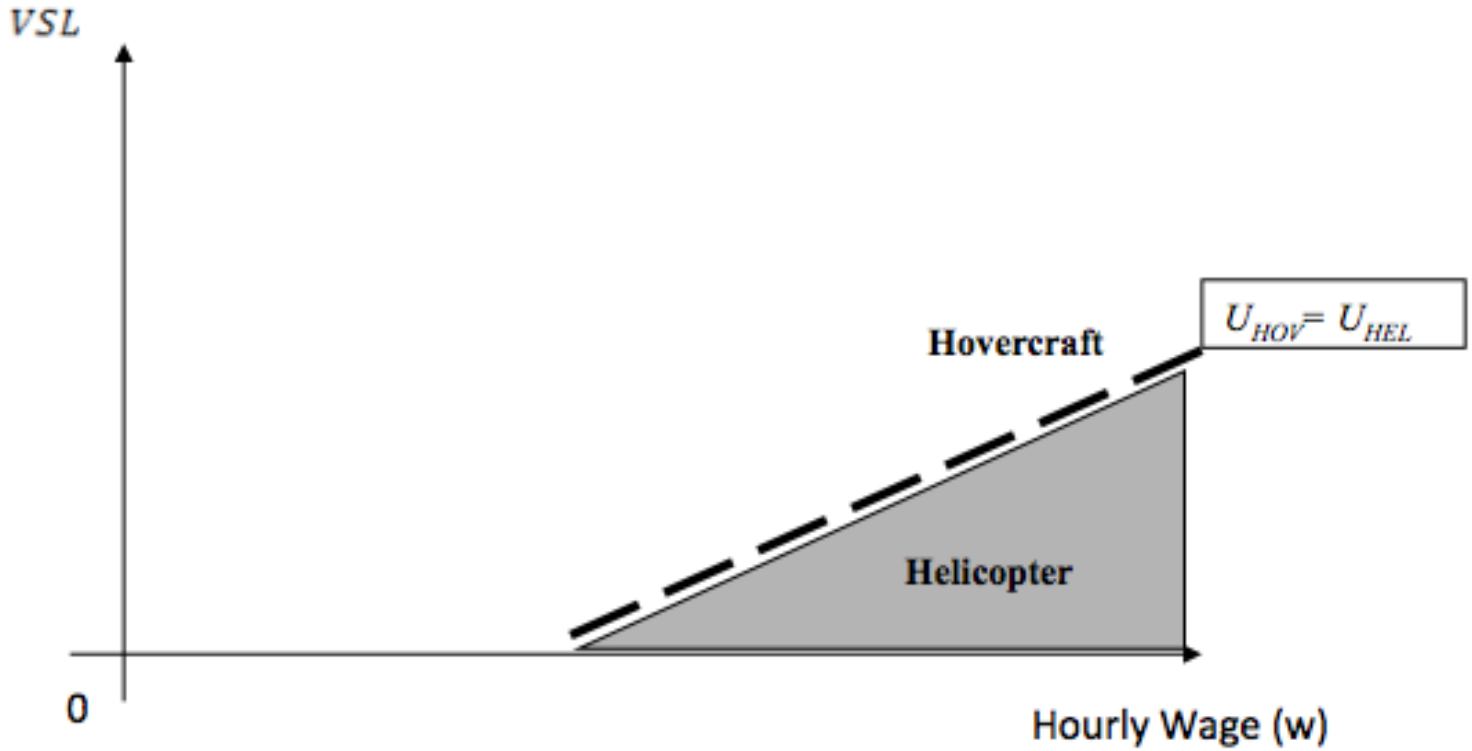
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  - On the other hand, the **fastest** (and thus cheapest, for sufficiently high wage) but riskiest option is the **helicopter**. It also has the **most expensive** ticket price
- **Intuition: Those with a high opportunity cost of time (high wage)** choose between the fastest options (ruling out the ferry), and prefer the safer options (hovercraft or water taxi) over the helicopter if their VSL is sufficiently high
- Likewise, those with a **low opportunity cost of time (low wage)** will rule out the most expensive option (helicopter), and choose between the ferry and the water taxi, only opting for the less risky of them (water taxi) if they have a sufficiently high VSL

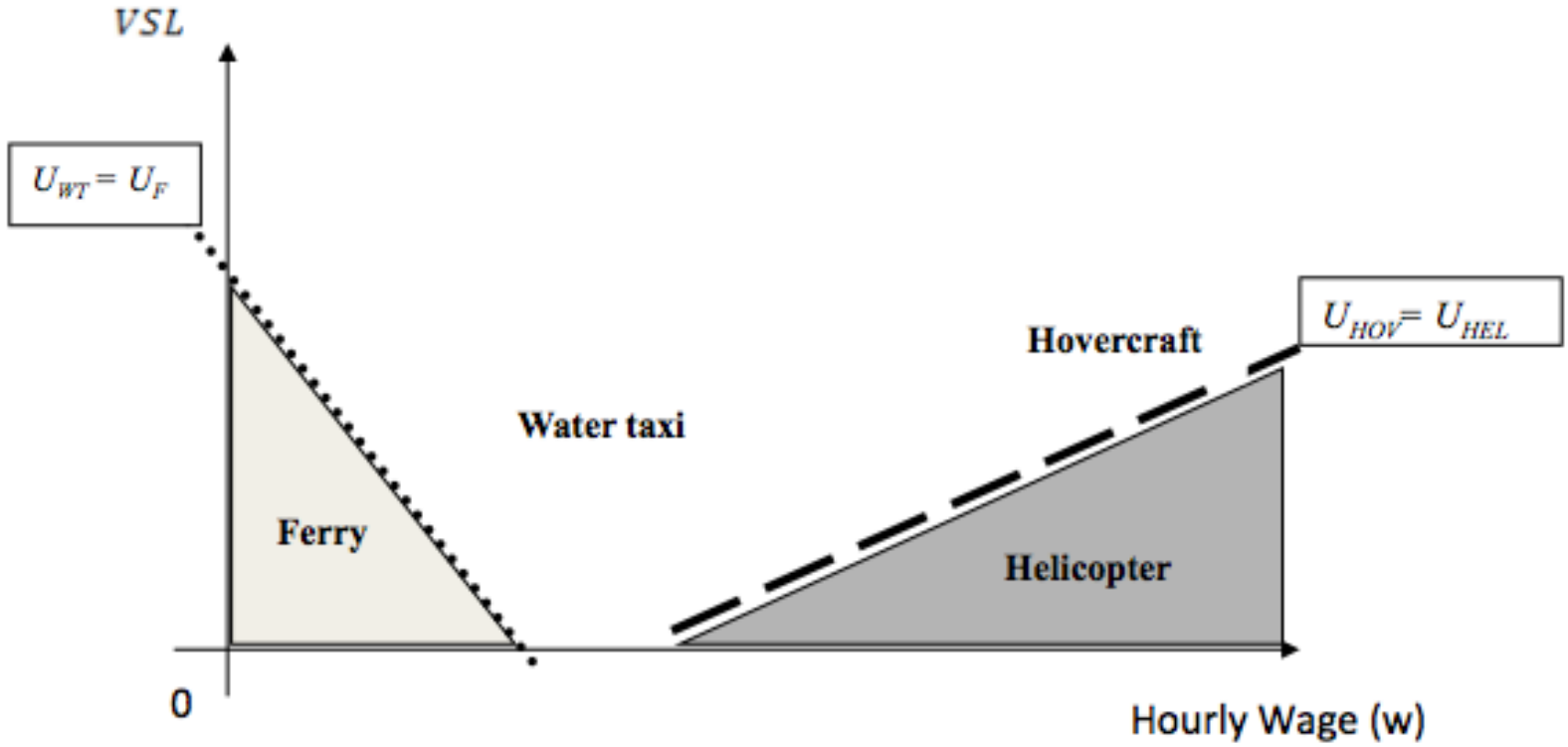
Optimal transport choice as a function of wealth



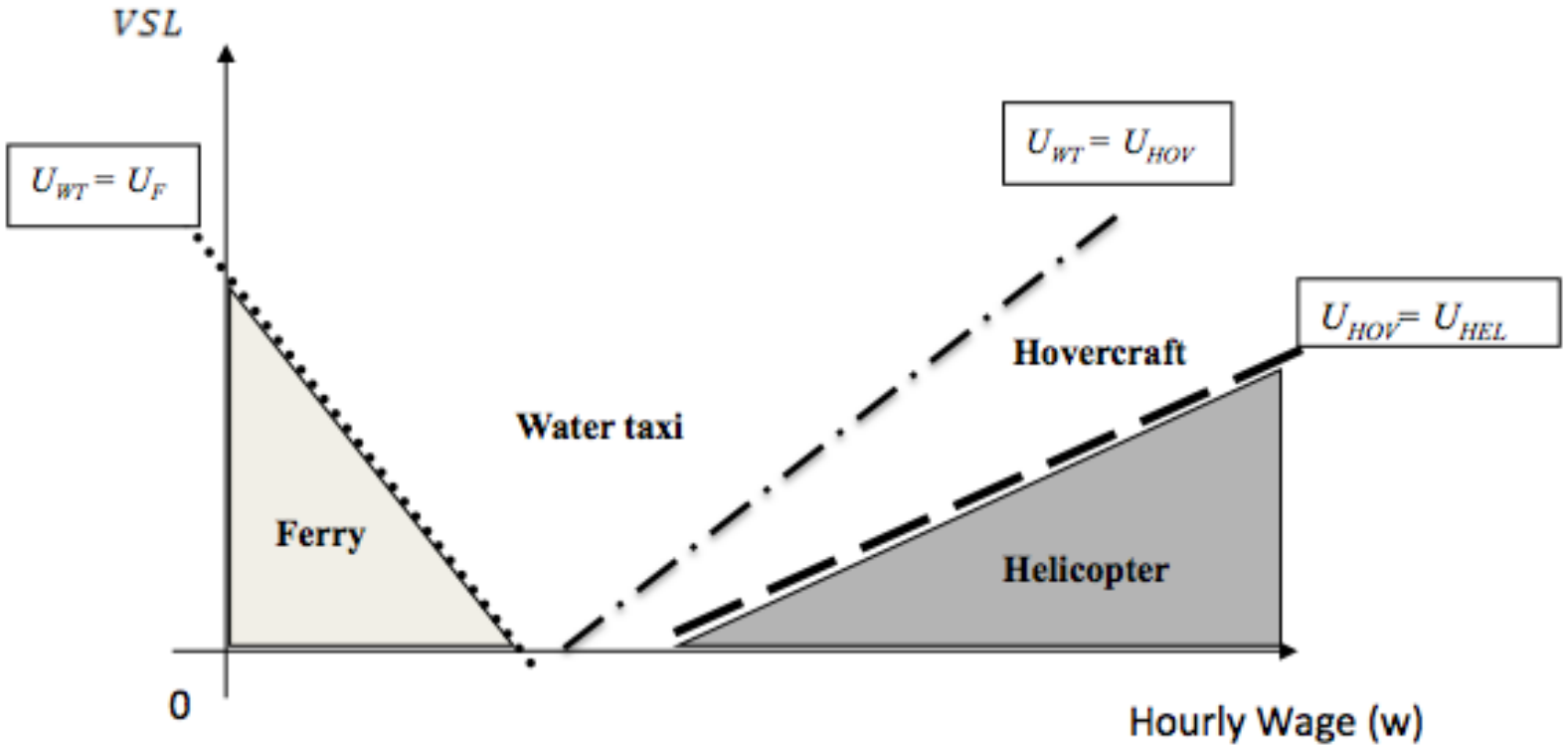
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The Transportation Choice Problem

VSL represents how much additional cost is any given individual willing to take on in order to reduce your mortality risk a certain amount. This trade off can be formally written as:

$$VSL_i \equiv \frac{\Delta W_i}{\Delta p_i}$$

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We model traveler i's decision to use transport alternative j ($j \in J$, for discrete, finite J) to travel between Lungi Airport and Freetown using a random utility model of discrete choice:

$$y_{ij} = \begin{cases} 1 \textit{ if alternative j is chosen} \\ 0 \textit{ if alternative j is not chosen} \end{cases}$$

where, $\sum_j y_{ij} = 1$ and $Pr(y_{ij}) > 0 \, \forall j$

The Transportation Choice Problem

Passenger i's utility from choosing one specific mode is given in equation:

$$U_{ij} = (1 - p_j)v_i - (c_j + w_i t_j) + \varepsilon_{ij}, \forall j$$

where
v_i represents the value to individual i from successfully completing the trip (alive)
c_j irepresents the monetary cost of the trip in mode j,
w_i is person i's hourly wage
t_j is trip time for transport mode j
ε_{ijs} is an i.i.d. type I extreme value error term unobserved by the researcher

Empirical Strategy

Empirically, we estimate the VSL using a discrete choice model. The probability of choosing mode j over k is given by:

$$Pr(y_{ij} = 1) = P(U_{ij} \geq U_{ik}) = \frac{exp((1 - p_j)v_i - c_{ij})}{\sum_k exp((1 - p_k)v_i - c_{ik})}$$

The relative odds of choosing mode j over k are given by:

$$\frac{Pr(y_{ij} = 1)}{Pr(y_{ik} = 1)} = \frac{exp((1 - p_j)v_i - c_{ij})}{exp((1 - p_k)v_i - c_{ik})}$$

$$= exp(-v_i(p_j - p_k) - (c_{ij} - c_{ik}))$$

The Transportation Choice Problem

Normalizing the utility of the outside option to zero, the utility of choosing mode j is a function of the relative survival hazard of mode j vis-a-vis mode k ($[(1-p_j)-(1-p_k)]$, for $j \neq k$) and the relative cost of taking the different modes of transport $(c_{ij} - c_{ik})$:

$$U_{ij} = \alpha + \beta_1((1-p_j)-(1-p_k)) + \beta_2(c_{ij} - c_{ik}) + \varepsilon_{ij}$$

The Transportation Choice Problem

Totally differentiating, we obtain:

$$dU_{ij} = \frac{\partial U_{ij}}{\partial\big((1-p_j)-(1-p_k)\big)} d\left((1-p_j)-(1-p_k)\right) + \frac{\partial U_{ij}}{\partial\big(c_{ij}-c_{ik}\big)} d\left(c_{ij}-c_{ik}\right)$$

Setting $dU_{ij} = 0$, we can derive and expression for the VSL:

$$\frac{d\big(c_{ij}-c_{ik}\big)}{d\big((1-p_j)-(1-p_k)\big)} = -\frac{\beta_1}{\beta_2} = -\frac{\Delta W}{\Delta p} \equiv VSL$$

Controlling for Amenities

- A leading concern is omitted variable bias. E.g., are expensive options also more comfortable?
- Ideally, one would want to include alternative specific constants in the regressions, which is not possible since the variation in p_j is only given at the mode level

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- Our solution: We collected information on individuals' perceptions of amenities – including comfort, noise, crowdedness, location, clientele – for all four options
  - Given that everyone doesn't have experience in all of the modes of transport, perceptions is what determine choices
  - Variation is at the passenger-mode level
  - We use these as controls throughout

Model Assumptions

- Standard conditional logit estimation of choice models, though simple to interpret and implement, has three main limitations (Train 2003):
  - independence of irrelevant alternatives,
  - does not allow for random taste variation, and
  - correlation in unobserved factors over time
- We can relax these assumptions by using a mixed logit model, which is highly flexible and can approximate any random utility model (McFadden and Train, 2000)
  - we allow for random taste variation on individual preferences for marginal changes in fatality risk and the opportunity cost of each trip, while tastes for the attributes of each of the modes of transport are assumed to be fixed

Mixed Logit Model

- Mixed logit probabilities are the integrals of standard logit probabilities over a density of parameters:

$$Pr(y_{ij} = 1) = \int \left(\frac{\{[(1 - p_j)v_i - c_{ij}](\beta)\}}{\sum_k exp\{[(1 - p_j)v_i - c_{ij}](\beta)\}} \right) f(\beta) d\beta$$

- This allows us to recover the full distribution of the VSL estimates

Choice of Mixing Distribution

- Given our limited sample size, and the potential for reporting errors, we use a mixing distribution to minimize the possibility that outliers are driving our results
- One distribution that fits these criteria is the restricted triangular distribution: continuous and symmetric, restricting the standard error to be equal to the mean (and median)

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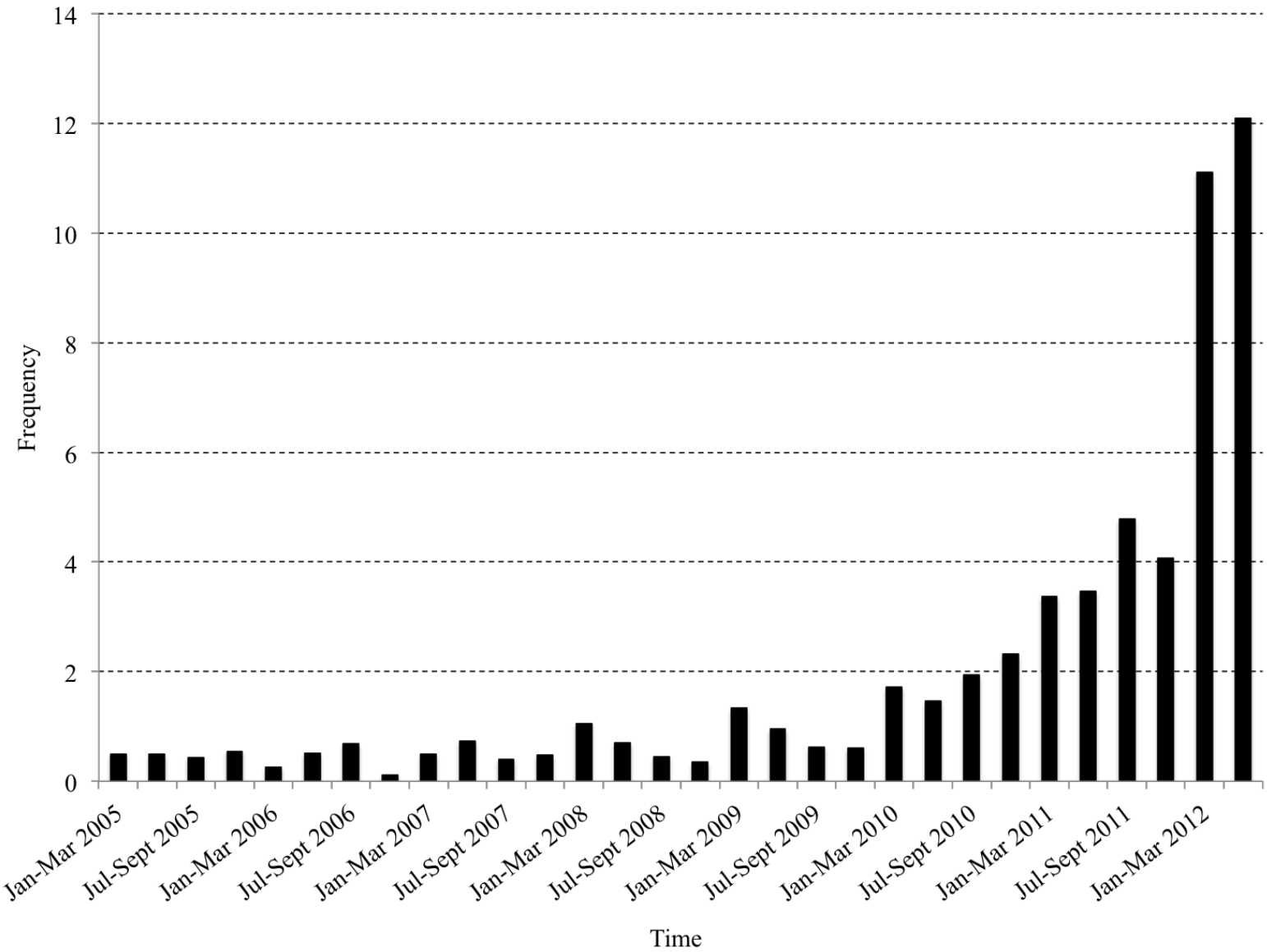
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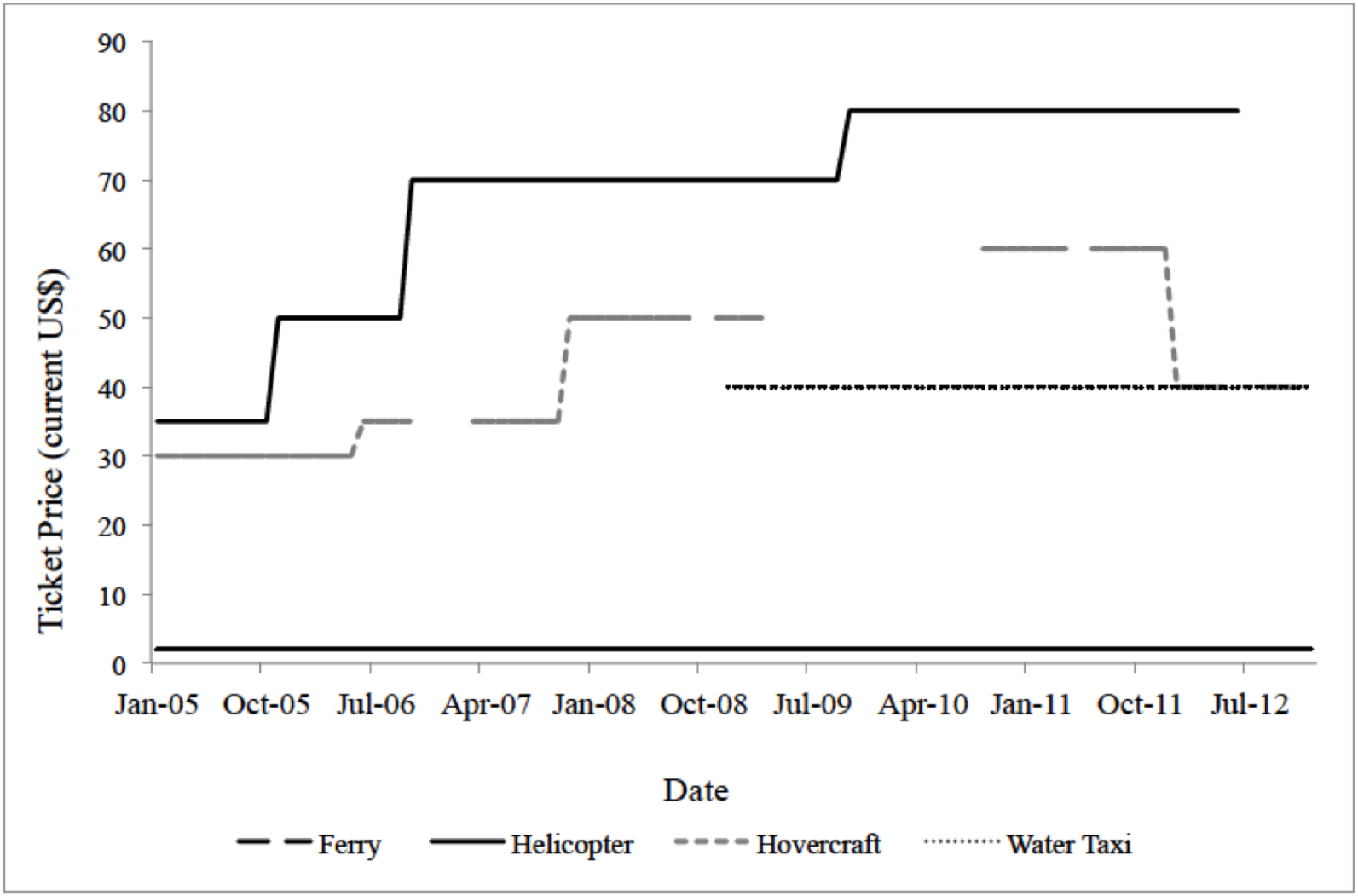
Original survey on transportation choices

- Collected in Freetown (Aug-Sept 2012). Sample of both current and past trips (3-4 trips per respondent), 561 travelers: 336 Africans and 225 non-Africans.
- Individual surveys containing information on:
  - observed mode of transportation (current and previous trips),
  - demographic characteristics (gender, age, nationality, permanent residence, and educational attainment)
  - current employment status and earnings
- Information on accidents for every mode of transportation for all Sierra Leone is available since 2001
  - collected by the UN's engineering office in Freetown, and through extensive domestic and international media searches

Timing of Trips Available



Operation and Pricing for the Modes of Transport



Data Collection: I risked my own life!





Descriptive statistics

- Demographics are similar for both groups: ~77% male, average age 40, expect to live until ~80 years old
- Differ in important ways: non-Africans are somewhat more educated, have much less fatalistic attitudes, and most importantly, earn roughly twice as much (US$48/hour vs. US$29/hour PPP)

Descriptive statistics

	Africans (N=337)		Non-Africans (N=225)		Full sample (N=561)	
Variable	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Panel A: Transportation Choices						
Transport taken: Ferry	0.67	0.47	0.36	0.48	0.57	0.50
Transport taken: Water Taxi	0.20	0.40	0.36	0.48	0.25	0.43
Transport taken: Hovercraft	0.11	0.32	0.25	0.43	0.16	0.37
Transport taken: Helicopter	0.02	0.13	0.03	0.16	0.02	0.14
Panel B: Respondent Characteristics and Attitudes						
Gender (1=Male)	0.78	0.42	0.76	0.43	0.77	0.42
Age	39.87	10.91	41.17	11.97	40.34	11.30
Educ: less than completed univ.	0.23	0.42	0.13	0.34	0.19	0.40
Educ: complete univ. or more	0.77	0.42	0.87	0.34	0.81	0.40
Has children? (1=Yes)	0.81	0.39	0.69	0.46	0.77	0.42
Knows how to swim?	0.36	0.48	0.74	0.44	0.50	0.50
Nationality: Sierra Leonean	0.58	0.50	0.00	0.00	0.37	0.48
Hourly wage (PPP) - Measured	25.68	28.08	50.77	56.98	34.38	42.18
Hourly wage (PPP) - Imputed	29.05	27.65	47.60	51.35	35.64	38.80
Self-reported life expectancy	42.75	11.89	39.77	12.26	41.69	12.10
Self-reported fatalism (1-10)	4.21	3.05	3.27	2.57	3.87	2.92

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Safer	0.84	0.37	0.43	0.50	0.80	0.40
Cheaper	0.65	0.48	0.03	0.17	0.02	0.12
Faster	0.02	0.15	0.85	0.35	0.73	0.45
More Comfortable	0.53	0.50	0.49	0.50	0.71	0.46
Panel B: Demographic Characteristics						
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Hourly wage (PPP) - Imputed	31.32	39.90	43.37	36.33	40.57	36.71
Self-reported life expectancy	82.27	4.86	81.75	5.11	81.68	6.88
Self-reported fatalism (1 to 10)	42.50	11.63	40.44	10.90	40.66	13.52

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Educ: less than completed univ.	0.21	0.41	0.10	0.31	0.20	0.40
Educ: complete univ. or more	0.79	0.41	0.90	0.31	0.80	0.40
Has children? (1=Yes)	0.81	0.39	0.69	0.46	0.71	0.46
Knows how to swim?	0.45	0.50	0.58	0.49	0.54	0.50
Nationality: Sierra Leonean	0.47	0.50	0.25	0.43	0.23	0.42
Hourly wage (PPP)	29.59	42.85	43.43	39.79	40.26	40.68
Hourly wage (PPP) - Imputed	31.32	39.90	43.37	36.33	40.57	36.71
Self-reported life expectancy	82.27	4.86	81.75	5.11	81.68	6.88
Self-reported fatalism (1 to 10)	42.50	11.63	40.44	10.90	40.66	13.52

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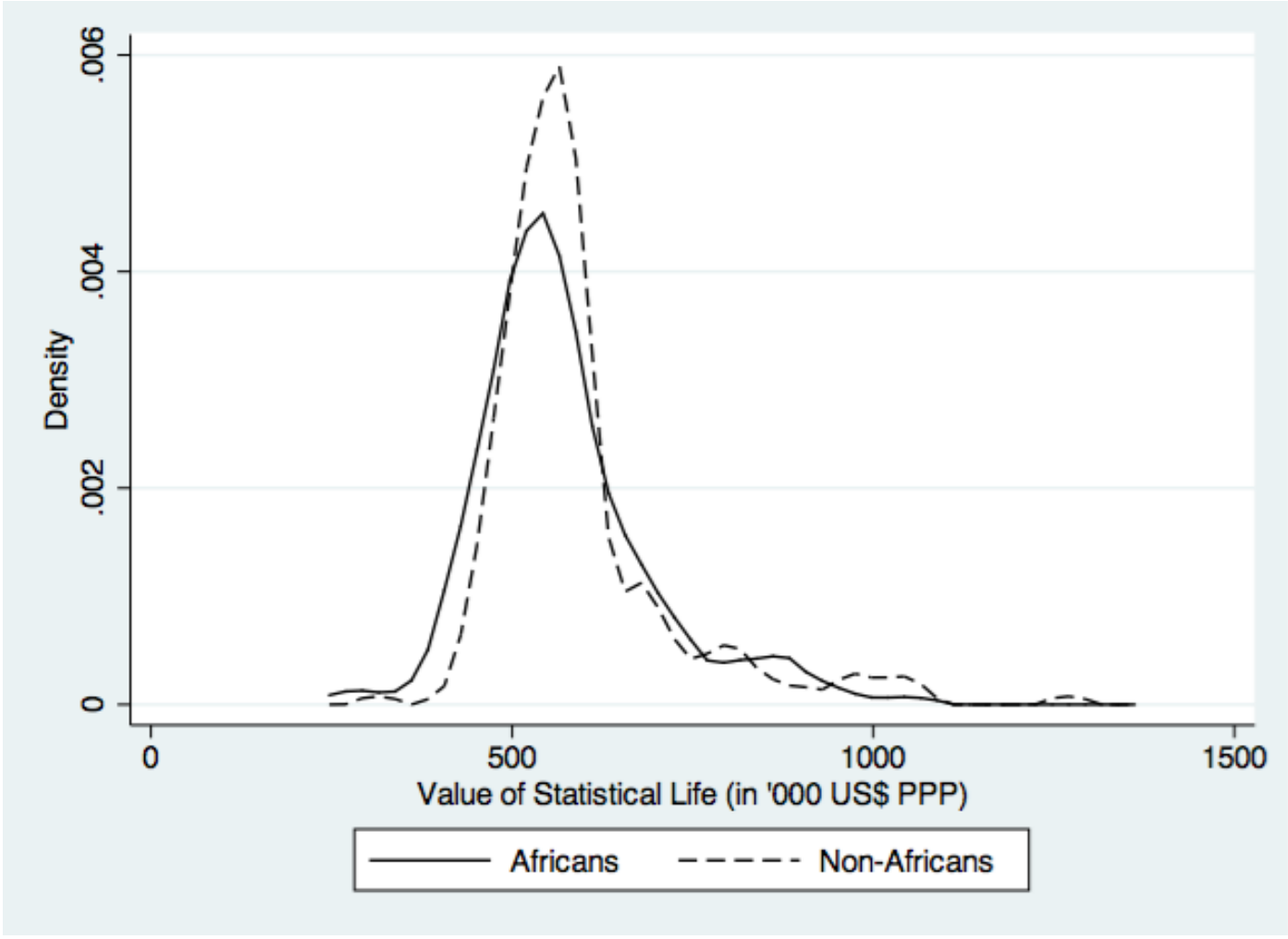
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Mixed Logit Model - Restricted Triangular Distribution

	(1) Africans	(2) Non-Africans	(3) All
Prob. of completing the trip (1-p_j)	10.209	10.572	10.155
	(2.182)***	(2.311)***	(1.595)***
Total transportation cost ($Cost_{ij}$)	-0.020	-0.012	-0.019
	(0.003)***	(0.003)***	(0.002)***
Controls for perceived quality of modes of transp.	Yes	Yes	Yes
Observations			
(respondent-alternative options)	3,292	2,124	5,416
Number of trips	336	225	561
Num. of decision makers	1083	710	1793
Log-Likelihood	-855.262	-679.567	-1556.953
Mean VSL (in 000 US$ PPP)	577.260	923.928	597.749
2.5% percentile	397.616	685.191	418.572
97.5% percentile	1,142.138	1,263.699	1,046.118

Distribution of Individual VSL



Income Elasticity of VSL

	(1) Africans	(2) Non-Africans	(3) All
Log($Wage_i$)	1.827	1.703	1.77
	(0.033)***	(0.027)***	(0.022)****
Obs.	312	218	530
R-sq	0.91	0.95	0.92

Robustness: Information

Lack of information is unlikely to generate the observed differences is VSL between Africans and non-Africans:

- The accidents were widely reported in Sierra Leonean and West African media
- The results for Sierra Leoneans (arguably, the best informed) are very similar to that for Africans
- The results presented before hold even when excluding first time travelers (least informed about the risk)
- There is evidence that people are bad at evaluating low probability events. We stick to the neoclassical approach (standard in this literature), and use the actual probability of death, rather than perceptions

Robustness: Choice of Mixing Distribution

- Conditional logit estimates for Africans fall in the same ball park (not for non-africans though);
- Mixed logit estimates with normal mixing distributions have the same median, but a wider spread

Robustness Checks

Estimation method	Distributional Assumptions Rdm Coeffs	Sample	VSL (in 000 US$ PPP)			
			Mean	50th perc.	2.5th perc.	97.5th perc.
Mixed Logit	Rest. Triang.	Full Sample	597.749	550.020	418.572	1,046.118
		Africans	577.260	524.366	397.616	1,142.138
		Non Africans	923.928	886.807	685.191	1,263.699
		Sierra Leoneans	411.924	352.044	286.093	990.665
		Af., non-SL	856.559	816.405	526.720	1,281.698
		Exc. 1st trip	490.930	461.462	368.584	794.655
		Paid	521.349	462.458	366.147	1,003.541
	Normal	Full Samp.	-23,520.430	420.984	-10,917.780	8,685.151
		Africans	-20,493.060	502.991	-9,099.073	15,542.480
		Non-Africans	-1,909.748	564.801	-8,645.390	4,856.575
Cond. Logit	-	Full Sample	984.261	-	198.428	1,770.095
		Africans	778.492	-	235.181	1,321.803
		Non Africans	2,960.968	-	-4,674.640	10,596.57

What Explains the Variation in the VSL?

The literature exploring the demand for health and life in less developed countries states several potential explanations for the relatively low VSL observed for Africans in our sample (Dupas 2011):

- lack of information (Madajewicz et al 2007),
- pervasive liquidity constraints (Tarozzi et al 2013),
- time inconsistent preferences (DellaVigna and Malmendier 2006),
- agency problems within the household (Ashraf et al. 2010),
- shorter life expectancy (Oster 2009),
- cultural attitudes , and
- a high income elasticity of demand for health expenditures (Hall and Jones 2007)

Heterogeneity in VSL Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
	Log(Value of Statistical Life)					
Gender (1=Male)	0.005	0.012	0.011	0.020	0.005	0.012
	(0.022)	(0.023)	(0.023)	(0.023)	(0.022)	(0.022)
Age	0.002	0.002	-0.000	0.001	0.001	-0.000
	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.002)
Has children?	-0.029	-0.023	-0.022	-0.024	-0.020	-0.020
	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Knows how to swim?	0.027	0.013	0.012	0.007	0.010	0.004
	(0.021)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Affected by Conflict?	-0.010	0.006	0.009	0.016	0.016	0.026
	(0.023)	(0.027)	(0.028)	(0.028)	(0.029)	(0.030)
African (1=Yes)		-0.050	-0.048	-0.045	-0.041	-0.036
		(0.033)	(0.032)	(0.032)	(0.030)	(0.029)
Remaining Life Exp.			-0.002			-0.001
			(0.002)			(0.002)
Fatalism (1-10 Scale)				-0.011		-0.011
				(0.003)***		(0.003)***
Log(Hourly Wage)					0.033	0.032
					(0.016)**	(0.016)**
Constant	6.278	6.309	6.454	6.347	6.227	6.344
	(0.043)***	(0.043)***	(0.193)***	(0.043)***	(0.062)***	(0.185)***
Observations	530	530	530	530	530	530
R-sq	0.01	0.02	0.02	0.04	0.03	0.05

Other Potential Explanations

Agency problems within the household?

- No, these are adult respondents making decisions by themselves

Liquidity constraints?

- Unlikely, we have a fairly rich population

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Policy Application

- The VSL estimates we generate may be directly applicable in evaluating potential infrastructure projects in Sierra Leone
- The government is currently evaluating building a new international airport located closer to Freetown, allowing travelers to drive to the capital by road
  - The initial estimated cost of the potential project is said to be approximately US$300 million
- Using this rough cost estimate, our own VSL estimates for African airport travelers, we are able to provide a back-of-the-envelope calculation regarding some of the social benefits generated by the proposed project.

Assumptions

- Ground transportation will only be as safe as the safest existing transport mode (ie. the water taxi, at 2.55 fatalities per 100,000 passenger trips)
  - Using the actual weighted mortality risk of 3.90 fatalities / 100,000 passenger trips, this implies a reduction in mortality risk of a third (1.35/100,000 passenger trips)
- The passenger flow remains constant at the current level (700,000 passengers/year)

Policy Application

- The new airport would save approximately 1.35/100,000 x 700,000 passengers = 9.45 lives per year
- Using the estimated VSL for Africans air travelers, this implies a social benefit of US$5.5 million per year
- If the government or social planner discounts at 10% per year, the net present value of this benefit is approximately US$60 million
  - About 20% of the initial US$300 million cost estimate

Summary

- We take advantage of an unusual transportation situation to obtain a revealed preference VSL estimate in Sierra Leone
- The mean VSL among a population of middle class Africans is roughly US$544 thousand, while for non-Africans it is US$924 thousand (PPP)
  - This result seems to be driven mainly by income differences and cultural beliefs, and not by differences in information, or life expectancy
- We estimate an income elasticity of the VSL of 1.77
- The estimated VSL can be used to evaluate actual infrastructure projects, like the new airport that is currently being evaluated in Sierra Leone
  - Given Africa's current rapid economic growth, our findings imply that VSL estimates are likely to rise rapidly in the coming years, and this is a trend that we should factor into public policy analyses there and in other low income regions

Thanks!!



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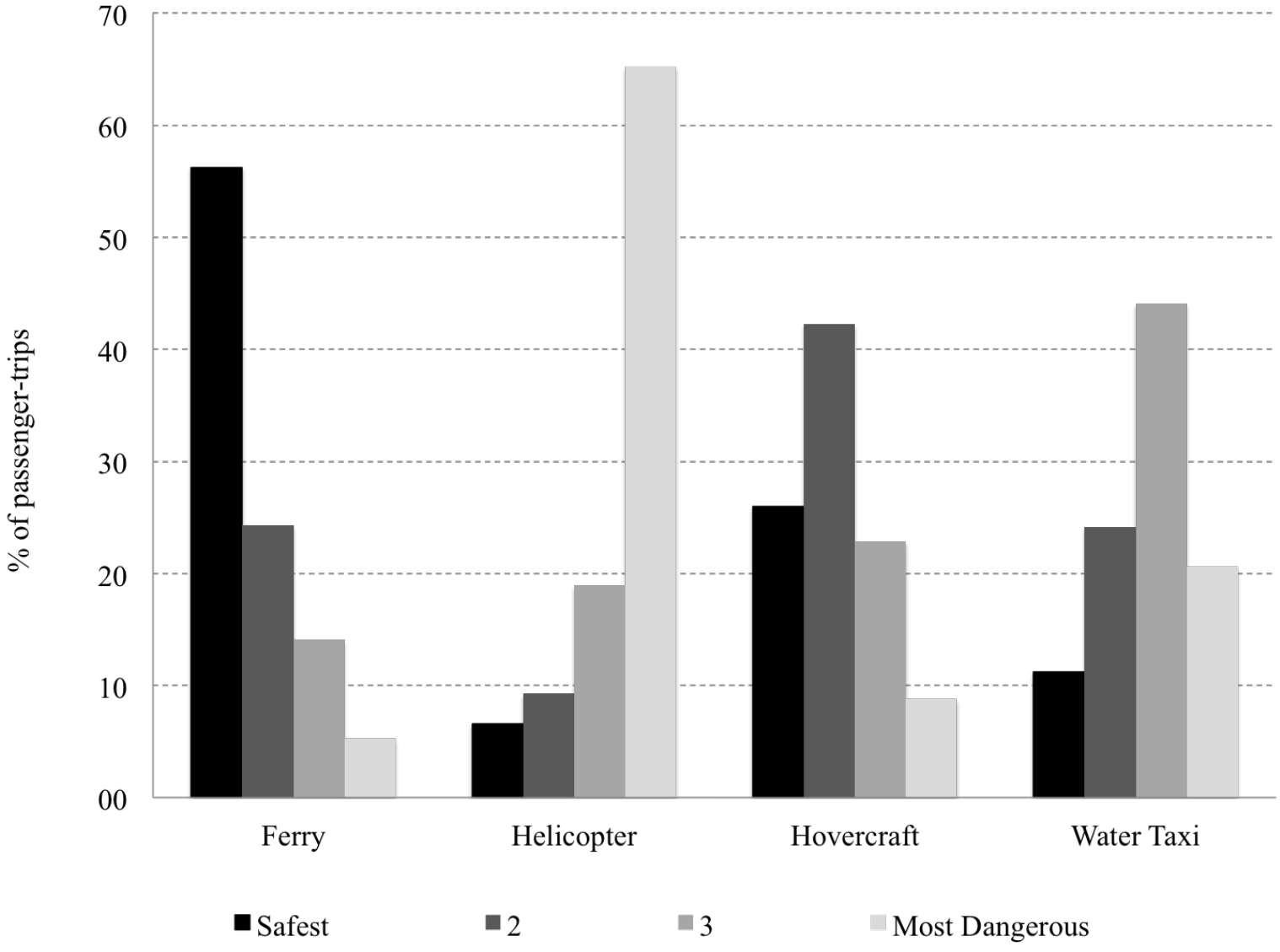
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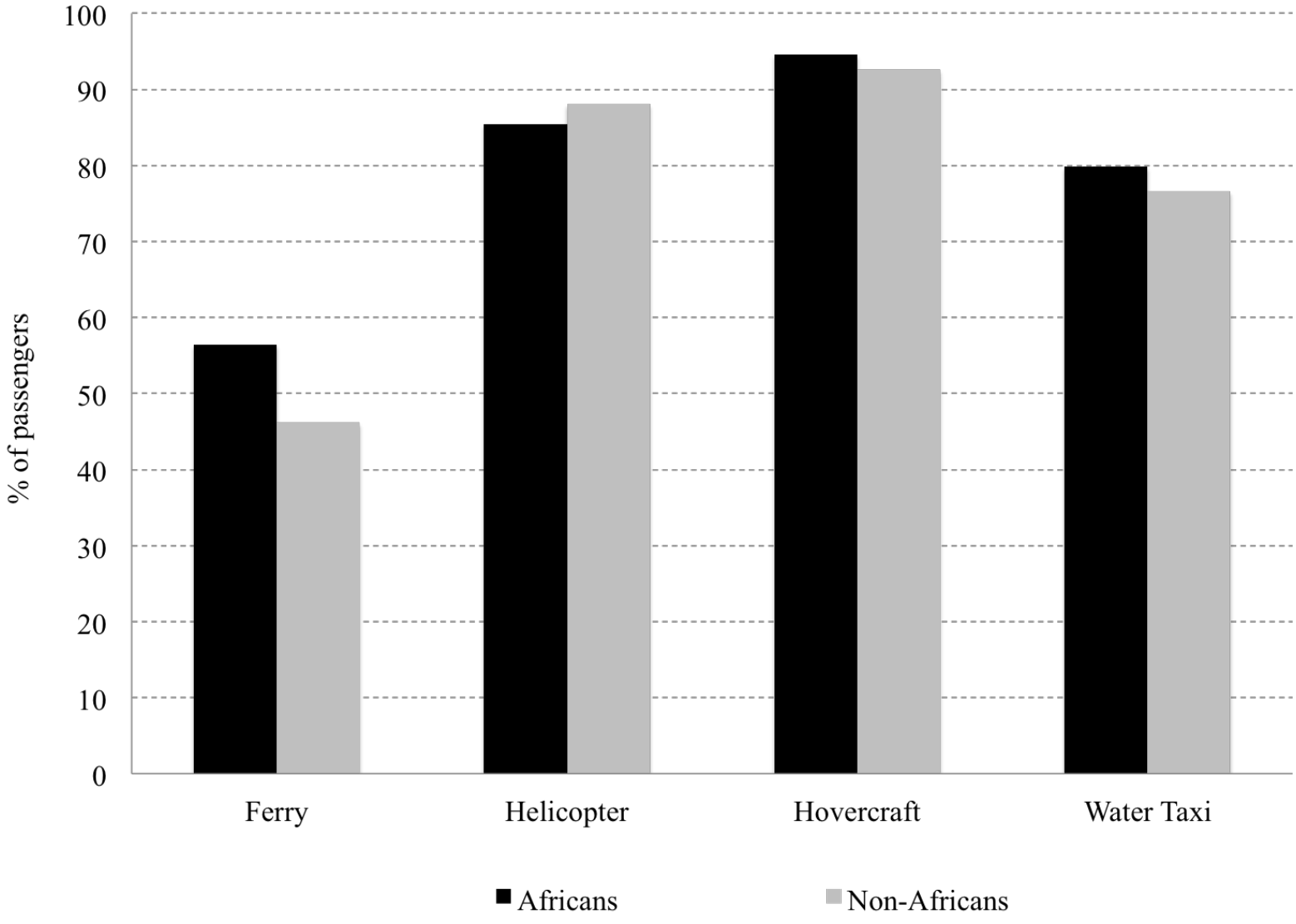
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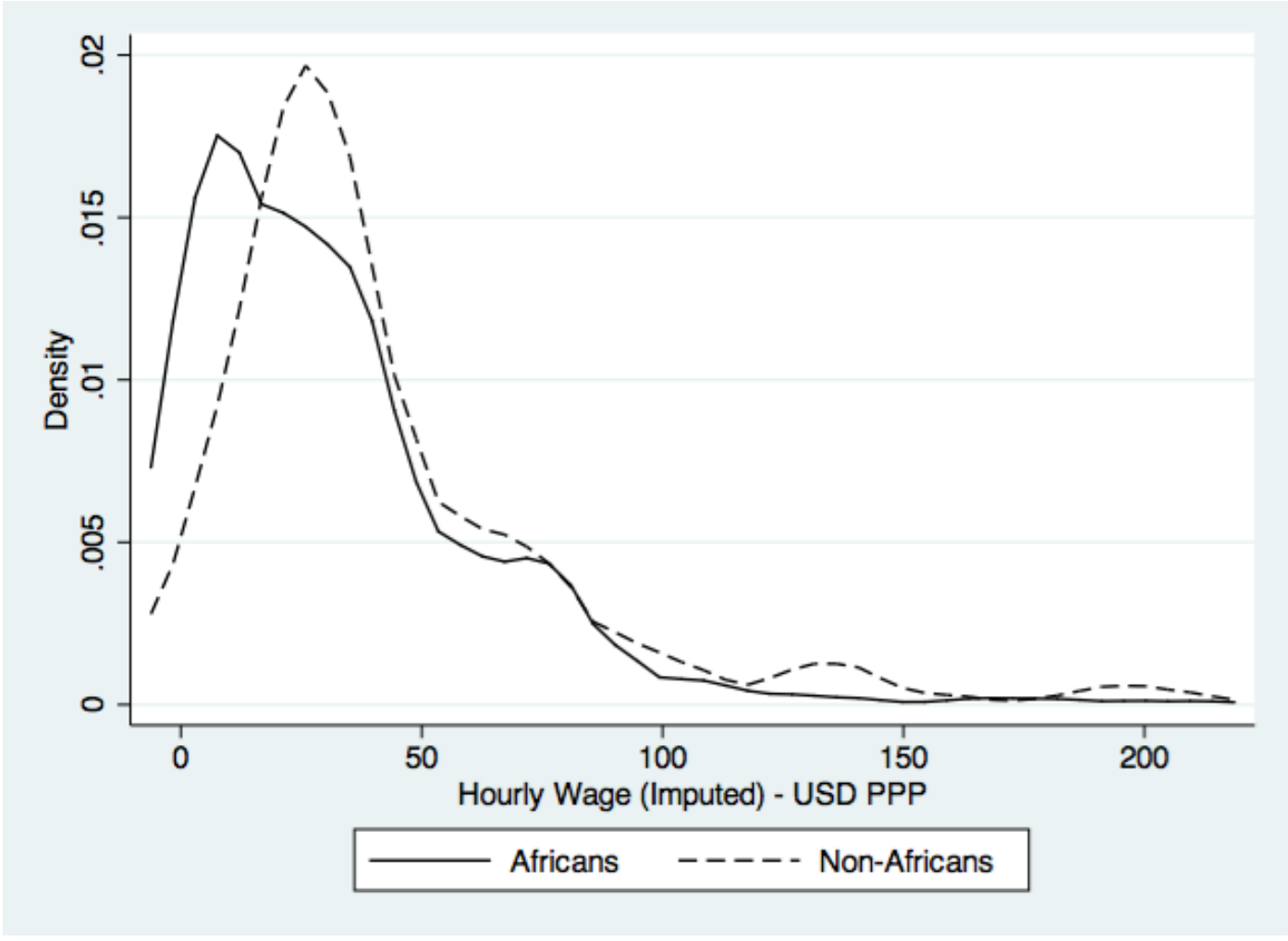
Information



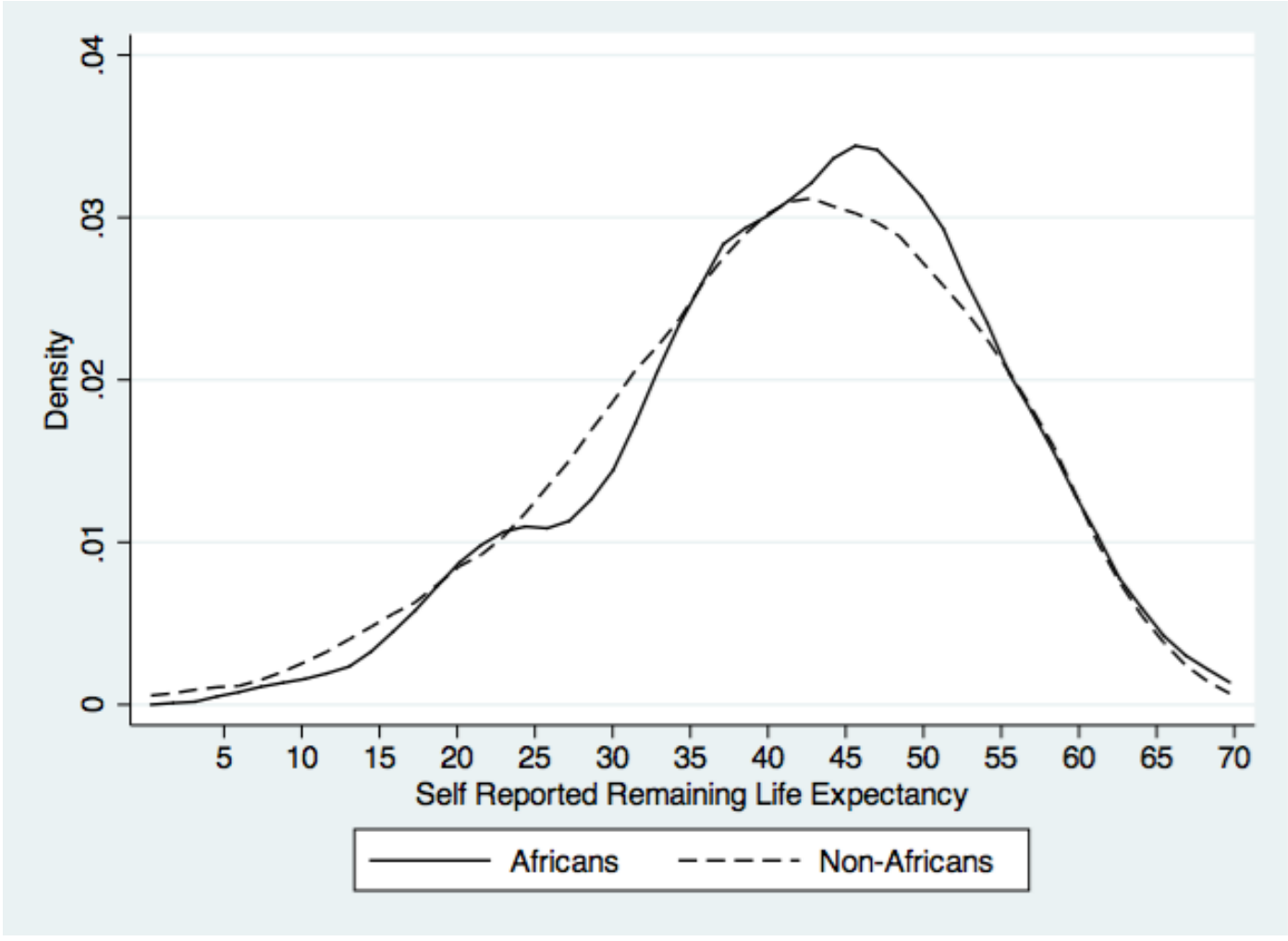
Overall Quality: Good or Excellent



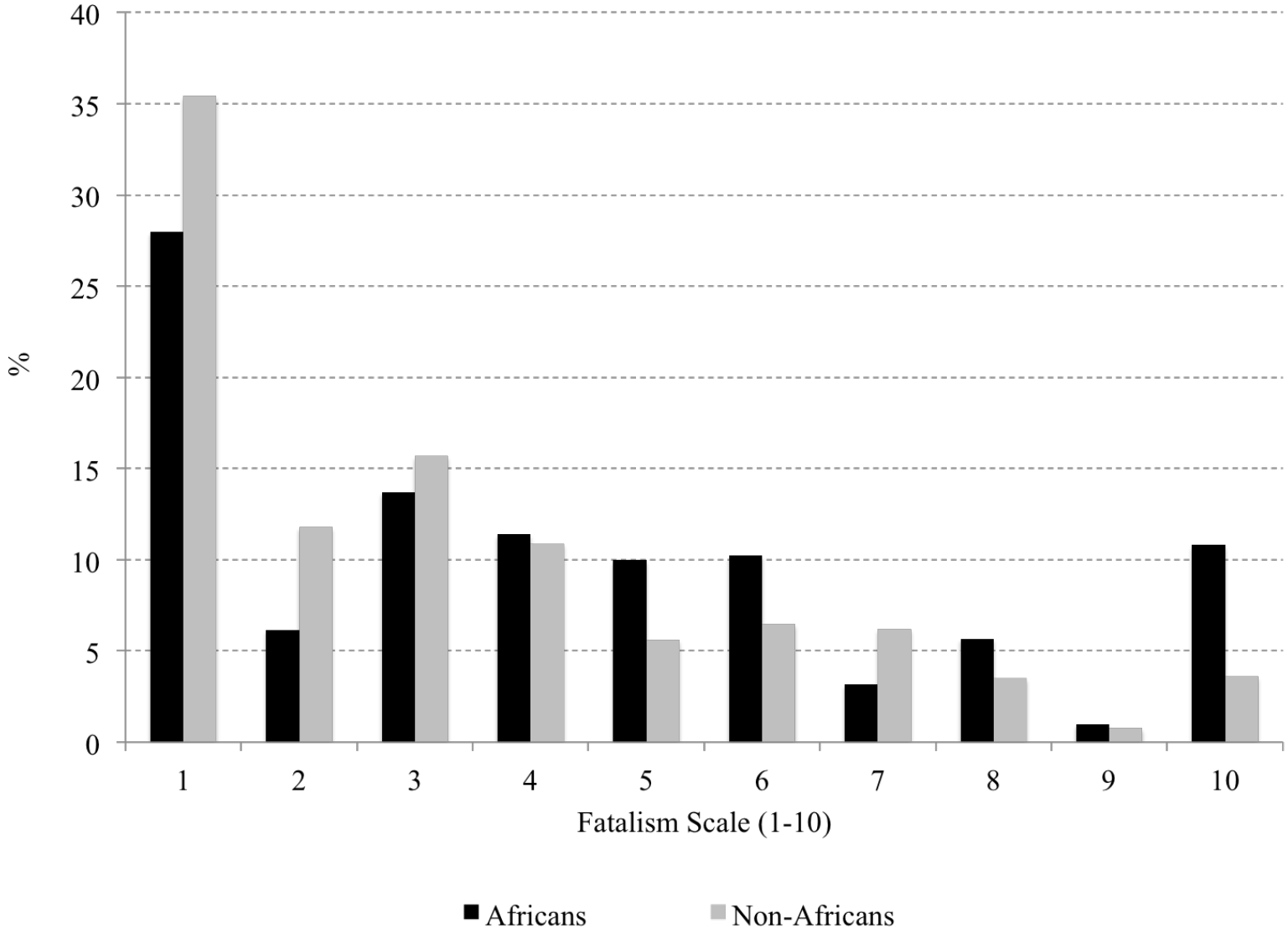
Hourly Wage


Density
0
.005
.01
.015
.02
0
50
100
150
200
Hourly Wage (Imputed) - USD PPP
Africans
Non-Africans

Remaining Life Expectancy



Fatalism (Scale 1-10)



Composition of the Sample

Africans:

Sierra Leone (54%), Nigeria (38% of non-Sierra Leoneans), Ghana (20%), South Africa (17%), Kenya (4.1%), Senegal (3.9%), Liberia, Zambia and Guinea (1.9% each), with smaller numbers from Zimbabwe (1.5%), Sudan and Gambia (1.4% each), Benin and Algeria (1.3% each), and other countries

Non-Africans:

UK (34.3%), USA (11.1%), India (9.4%), France (5.3%), China and Lebanon (3.7% each), Australia (2.6%), Italy (1.9%), the Netherlands and the Philippines (1.6% each), Finland and Ireland (1.4% each), among others.