Findings on Household Costs

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December 12, 2014

Introduction

Household costs are one of eight components of the IBGC Global Cost of Cash Study. Households pay for cash in three ways: they pay transaction fees on certain types of cash access, such as ATMs and money transfer. They also spend time and money getting to the point where cash is obtained. Using the most relevant available data from reputable international sources and our own survey evidence, we derive estimates of the national cost of cash on an aggregate and a per capita basis for as many countries as possible.

As our research shows, cash confronts households with many other costs, such as crime, accident, impulse control, budgeting, and social obligations. Those costs are not estimated here.

Three channels of consumer cost are estimated below: transit costs related to cash access, time spent on cash access, and fees paid for access to cash. The cost of transit is the aggregate national cost that consumers pay in order to reach the point of cash access, regardless of whether that trip was a single- or multi-purpose trip. The time spent on cash access is the aggregate national cost of time spent to reach the point of cash access. Our calibration dataset does not record queue time in a systematic manner, so time spent in queues for cash access is ignored in this measure. Queue times can vary very widely based on geography, type of cash access point, and social context. Finally, fees paid for cash access are the transaction fees paid for access to cash, such as fees due for check cashing and ATM access.[1]

Findings: Transit Costs

In a household with a breadwinner and a homemaker, the breadwinner will most often obtain cash outside the home. Depending on the country and occupation, the breadwinner may obtain cash through a bank, a bank machine, a salary office, a place of business, or any number of nonbank financial institutions. Depending on the country and context, the last category can include bank correspondents, money transfer operators, check cashing stores, and informal financial service providers. The cost consumers pay to reach any of these cash access points depends on many things: how far away the cash access points are, the quality of infrastructure, and the mode of transit used to reach a point of cash access.

Survey evidence on this topic is rare. We built a simple model of national transportation infrastructure and access from reputable international sources. We then calibrated that model using original survey evidence from Mexico. The estimates presented below are the predictions of that calibrated model for national aggregate costs of transit related to cash access.

National transit costs range from less than a million dollars to more than half a billion. 118 countries in our sample have model estimates for transit cost. Our data makes it easy to calculate on a national basis, a per capita basis, and to segment by region or by income group. Transit costs are estimated in US dollars, to facilitate international comparisons. The distribution of transit costs is summarized at Table 1.

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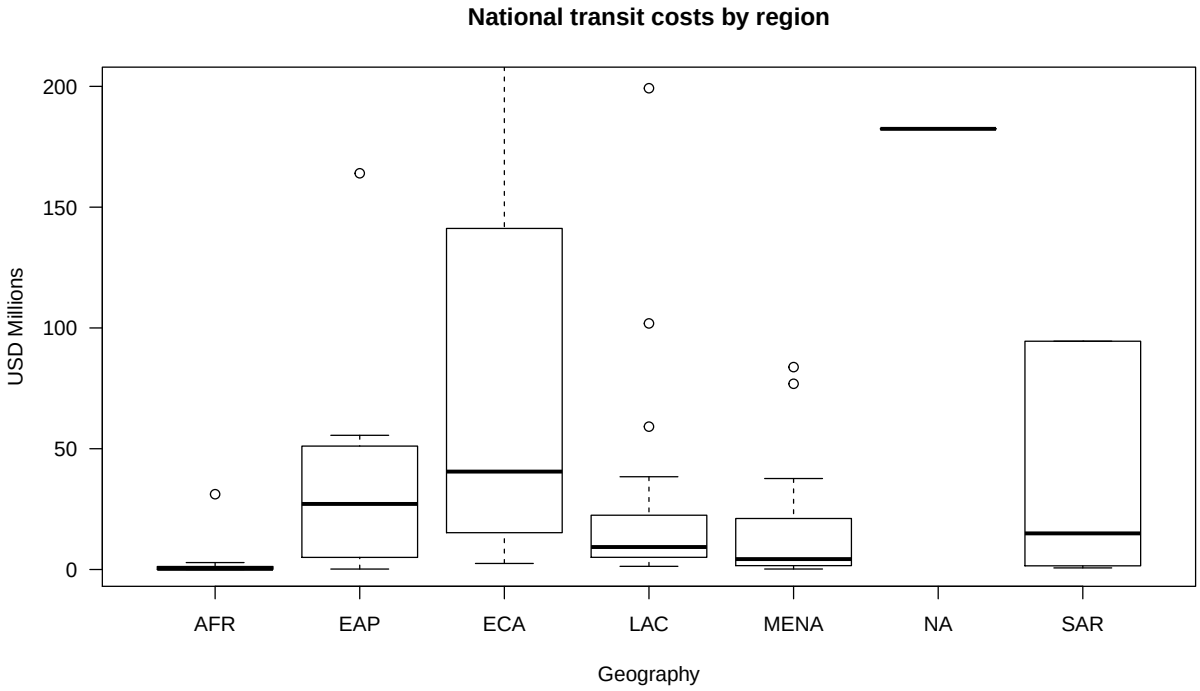
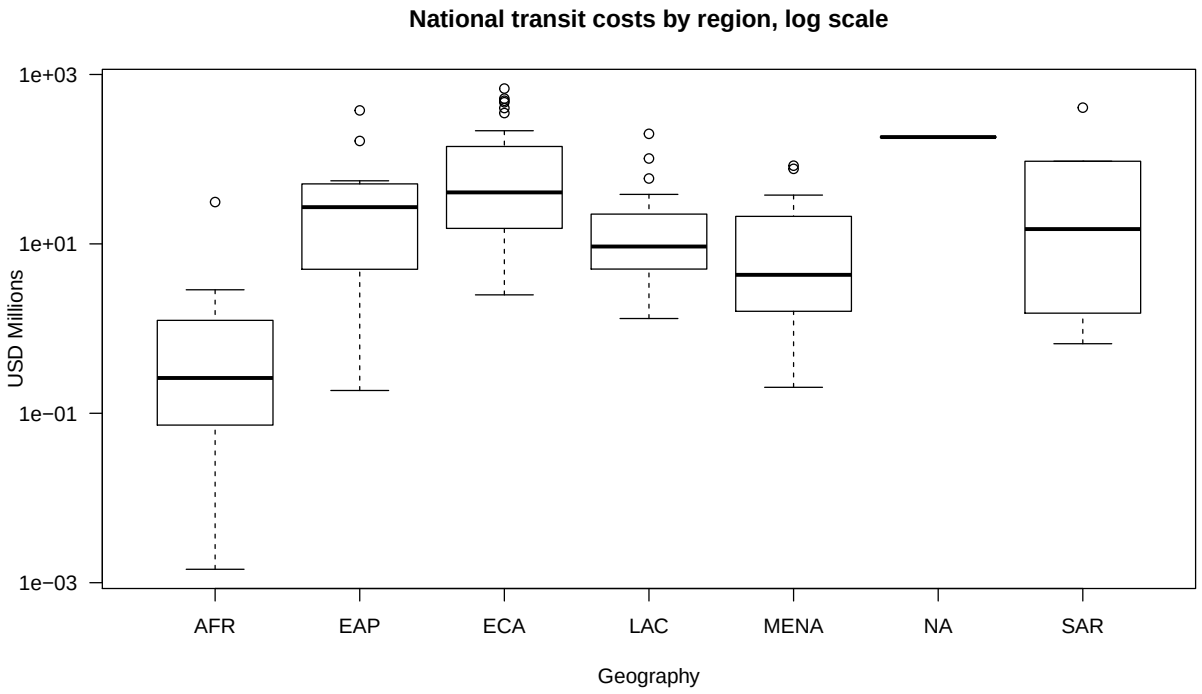
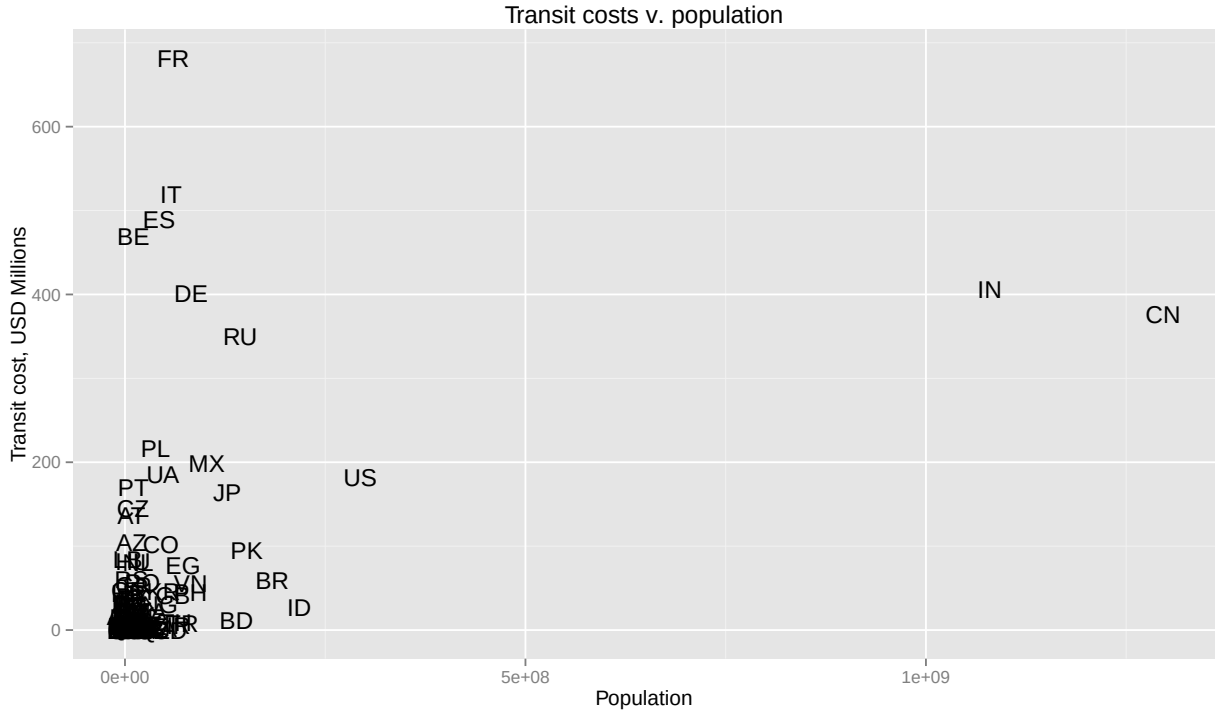
[1]Reviewers have pointed out that our survey methodology may have included borrowing fees as well as withdrawal and cash conversion fees in Mexico and India; but we are unaware of any better datasets on the price of cash access, and have chosen to use our own research.

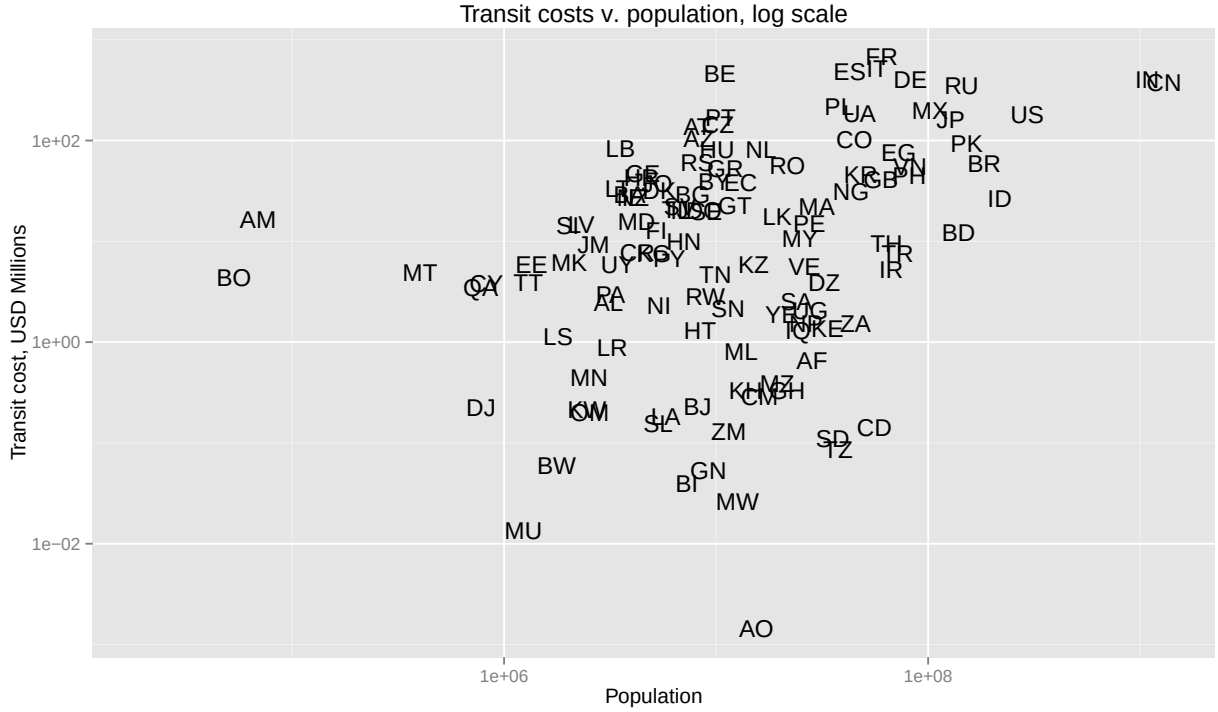
Table 1: Summary of national household transit costs

	Value (USD, millions)
Min.	0
1st Qu.	2
Median	11
Mean	59
3rd Qu.	46
Max.	682
NA's	91

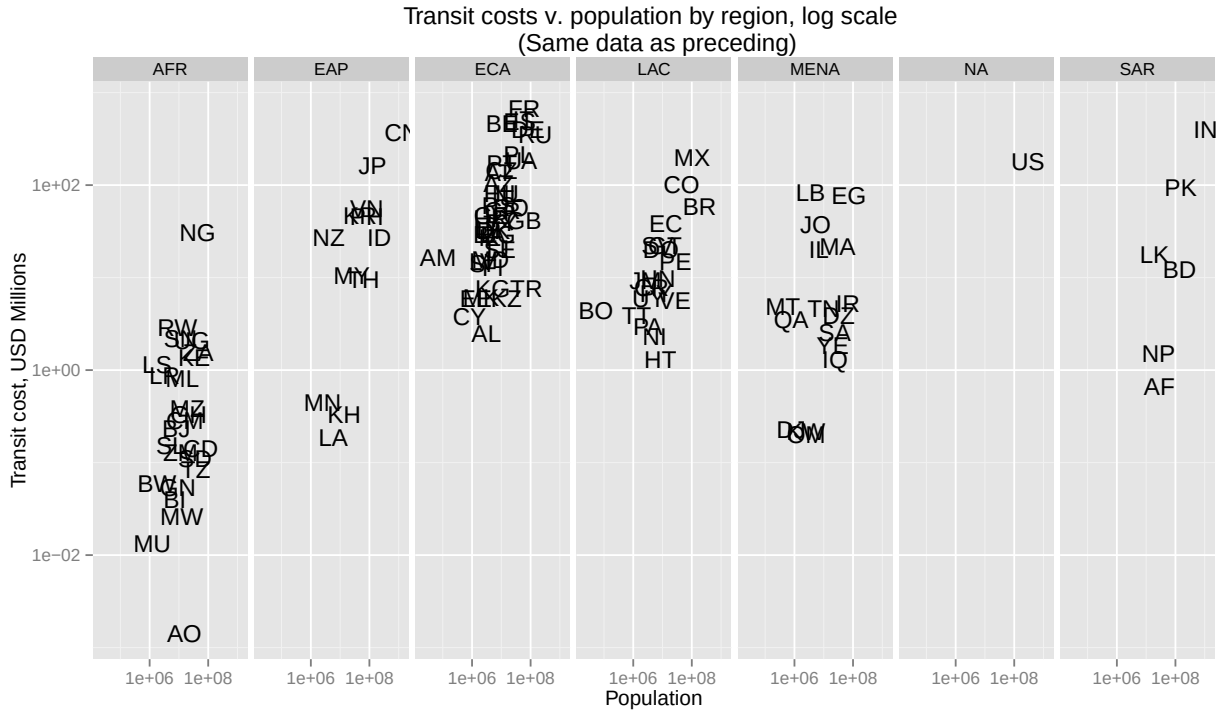



National transit costs by region, log scale
1e+03
1e+01
1e−01
1e−03
USD Millions
AFR
EAP
ECA
LAC
MENA
NA
SAR
Geography


Transit costs v. population
FR
IT
ES
BE
DE
RU
PL
UA
MX
PT
JP
US
AZ
CO
PK
EG
BR
VN
BD
ID
IN
CN
600
400
200
0
Transit cost, USD Millions
0e+00
5e+08
1e+09
Population



In two-way scatterplots with national population, the highest costs per capita are in the upper left corner. The lowest costs per capita are in the lower right corner. The largest markets by headcount are farthest right. The largest markets by aggregate cost are at the top of the chart. Intraregional comparisons make it easier to see how individual countries differ from their peers.



League Tables

See accompanying tables for rank orderings of cost.

- Most and least expensive countries: National Transit Costs, USD Millions—Most Expensive and National Transit Costs, USD Millions—Least Expensive
- Rankings by region: National Transit Costs, USD Million—Africa Region, National Transit Costs, USD Million—East Asia Region, National Transit Costs, USD Million—European Region, National Transit Costs, USD Million—Latin America Region, National Transit Costs, USD Million—Middle East Region, and National Transit Costs, USD Million—South Asia Region

Findings: Fees

We estimate the cost of fees charged for cash transactions. Data regarding fees paid for cash access is exceedingly rare. Most often, survey evidence focuses on a particular channel of cash access, rather than all fees paid by consumers across different channels. Our study built a model of cash access transactions and the rates at which fees are charged on those transcations. The model was calibrated to original survey evidence in Mexico, India and the United States.

Table 10 summarizes the distribution of national consumer cash access fees. Again, costs are reported in USD to facilitate international comparisons. Two-way scatterplots with population show where per capita costs are highest (upper left) and lowest (lower right).

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Table 2: National Transit Costs, USD Millions—Most Expensive

	Country	transcost
1	France	682
2	Italy	519
3	Spain	489
4	Belgium	470
5	India	406
6	Germany	402
7	China	377
8	Russian Federation	350
9	Poland	217
10	Mexico	199
11	Ukraine	186
12	United States	182
13	Portugal	171
14	Japan	164
15	Czech Republic	145
16	Austria	137
17	Azerbaijan	104
18	Colombia	102
19	Pakistan	95
20	Lebanon	84

Table 3: National Transit Costs, USD Millions—Least Expensive

	Country	transcost
1	Angola	0.001
2	Mauritius	0.01
3	Malawi	0.03
4	Burundi	0.04
5	Guinea	0.1
6	Botswana	0.1
7	Tanzania	0.1
8	Sudan	0.1
9	Zambia	0.1
10	Congo, Dem. Rep.	0.1
11	Sierra Leone	0.2
12	Lao PDR	0.2
13	Oman	0.2
14	Kuwait	0.2
15	Djibouti	0.2
16	Benin	0.2
17	Cameroon	0.3
18	Cambodia	0.3
19	Ghana	0.3
20	Mozambique	0.4

Table 4: National Transit Costs, USD Million—Africa Region

	Country	transcost
1	Nigeria - 8 states	31.0
2	Rwanda	3.0
3	Senegal	2.0
4	Uganda	2.0
5	South Africa	2.0
6	Kenya	1.0
7	Lesotho	1.0
8	Liberia	0.9
9	Mali	0.8
10	Mozambique	0.4
11	Ghana	0.3
12	Cameroon	0.3
13	Benin	0.2
14	Sierra Leone	0.2
15	Congo, Dem. Rep.	0.1
16	Zambia	0.1
17	Sudan	0.1
18	Tanzania	0.1
19	Botswana	0.1
20	Guinea	0.1
21	Burundi	0.04
22	Malawi	0.03
23	Mauritius	0.01
24	Angola	0.001

Table 5: National Transit Costs, USD Million—East Asia Region

	Country	transcost
1	China	377
2	Japan	164
3	Vietnam	56
4	Korea, Rep.	47
5	Philippines	45
6	New Zealand	27
7	Indonesia	27
8	Malaysia	11
9	Thailand	10
10	Mongolia	0
11	Cambodia	0
12	Lao PDR	0

Table 6: National Transit Costs, USD Million—European Region

	Country	transcost
1	France	682
2	Italy	519
3	Spain	489
4	Belgium	470
5	Germany	402
6	Russian Federation	350
7	Poland	217
8	Ukraine	186
9	Portugal	171
10	Czech Republic	145
11	Austria	137
12	Azerbaijan	104
13	Hungary	82
14	Netherlands	81
15	Serbia and Montenegro	61
16	Romania	57
17	Greece	53
18	Georgia	47
19	Croatia	43
20	United Kingdom	41
21	Belarus	40
22	Lithuania	33
23	Denmark	32
24	Bulgaria	29
25	Bosnia and Herzegovina	29
26	Ireland	27
27	Tajikistan	21
28	Sweden	20
29	Armenia	16
30	Moldova	16
31	Latvia	15
32	Slovenia	14
33	Finland	13
34	Kyrgyz Republic	8
35	Turkey	8
36	Macedonia, FYR	6
37	Estonia	6
38	Kazakhstan	6
39	Cyprus	4
40	Albania	3

Table 7: National Transit Costs, USD Million—Latin America Region

	Country	transcost
1	Mexico	199
2	Colombia	102
3	Brazil	59
4	Ecuador	38
5	Guatemala	23
6	El Salvador	22
7	Dominican Republic	20
8	Peru	15
9	Honduras	10
10	Jamaica	9
11	Costa Rica	8
12	Paraguay	7
13	Uruguay	6
14	Venezuela, RB	6
15	Bolivia	4
16	Trinidad and Tobago	4
17	Panama	3
18	Nicaragua	2
19	Haiti	1

Table 8: National Transit Costs, USD Million—Middle East Region

	Country	transcost
1	Lebanon	84
2	Egypt, Arab Rep.	77
3	Jordan	38
4	Morocco	22
5	Israel	20
6	Iran, Islamic Rep.	5
7	Malta	5
8	Tunisia	5
9	Algeria	4
10	Qatar	4
11	Saudi Arabia	3
12	Yemen, Rep.	2
13	Iraq	1
14	Djibouti	0
15	Kuwait	0
16	Oman	0

Table 9: National Transit Costs, USD Million—South Asia Region

	Country	transcost
1	India	406
2	Pakistan	95
3	Sri Lanka	18
4	Bangladesh	12
5	Nepal	2
6	Afghanistan	1

Table 10: National aggregate cost of cash transaction fees

	Value (USD, millions)
Min.	0
1st Qu.	112
Median	409
Mean	1200
3rd Qu.	1360
Max.	18100
NA's	111

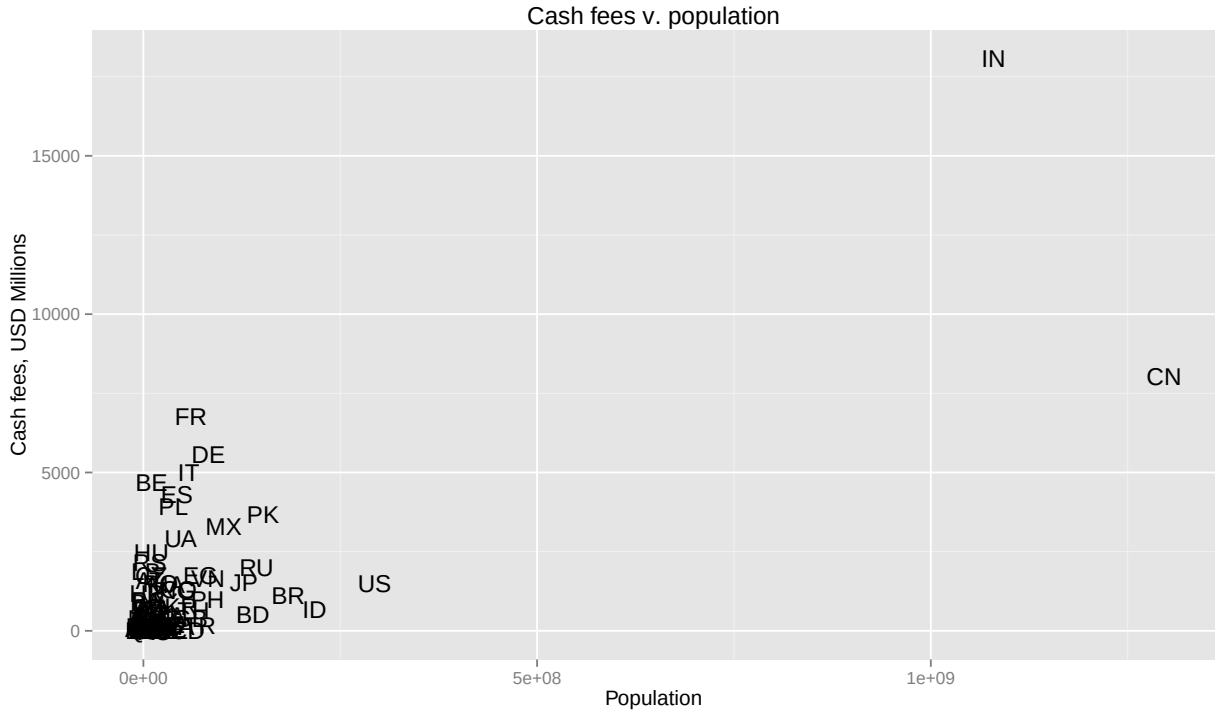
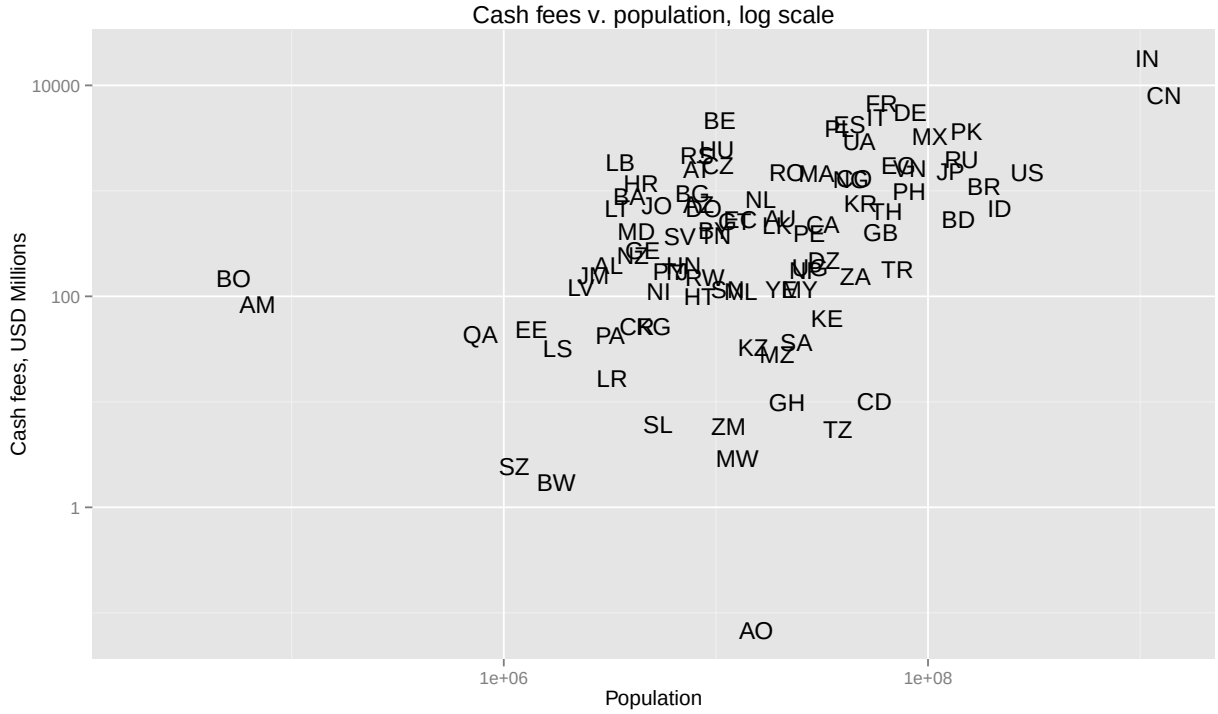
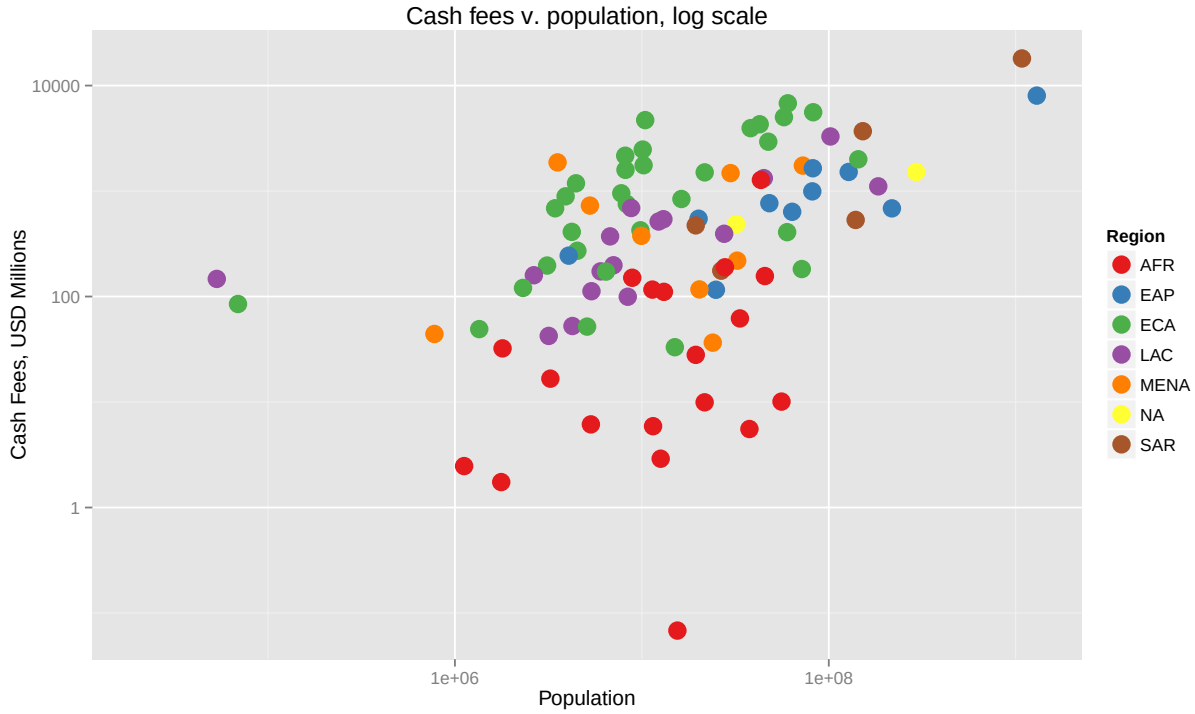


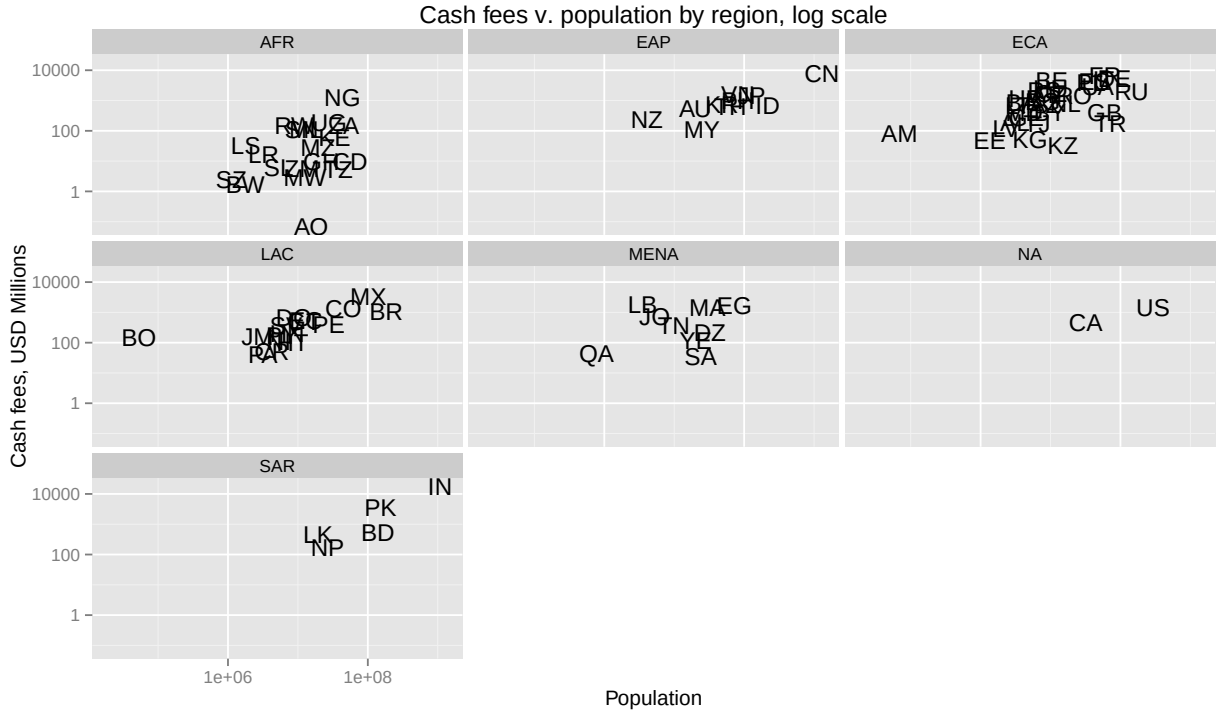
Table 11: National cost of cash transaction fees, by region

	Region	Average (USD, millions)
1	AFR	115
2	EAP	1518
3	ECA	1693
4	LAC	576
5	MENA	735
6	NA	1000
7	SAR	4588



Plots by region facilitate international comparisons among peers.


Cash fees v. population, log scale
Cash Fees, USD Millions
10000
100
1
1e+06
1e+08
Population
Region
AFR
EAP
ECA
LAC
MENA
NA
SAR


Cash fees v. population by region, log scale
AFR
EAP
ECA
LAC
MENA
NA
SAR
Cash fees, USD Millions
10000
100
1
NG
AO
CN
NZ
AU
MY
ID
AM
KZ
TR
RU
GB
MX
CO
BR
BO
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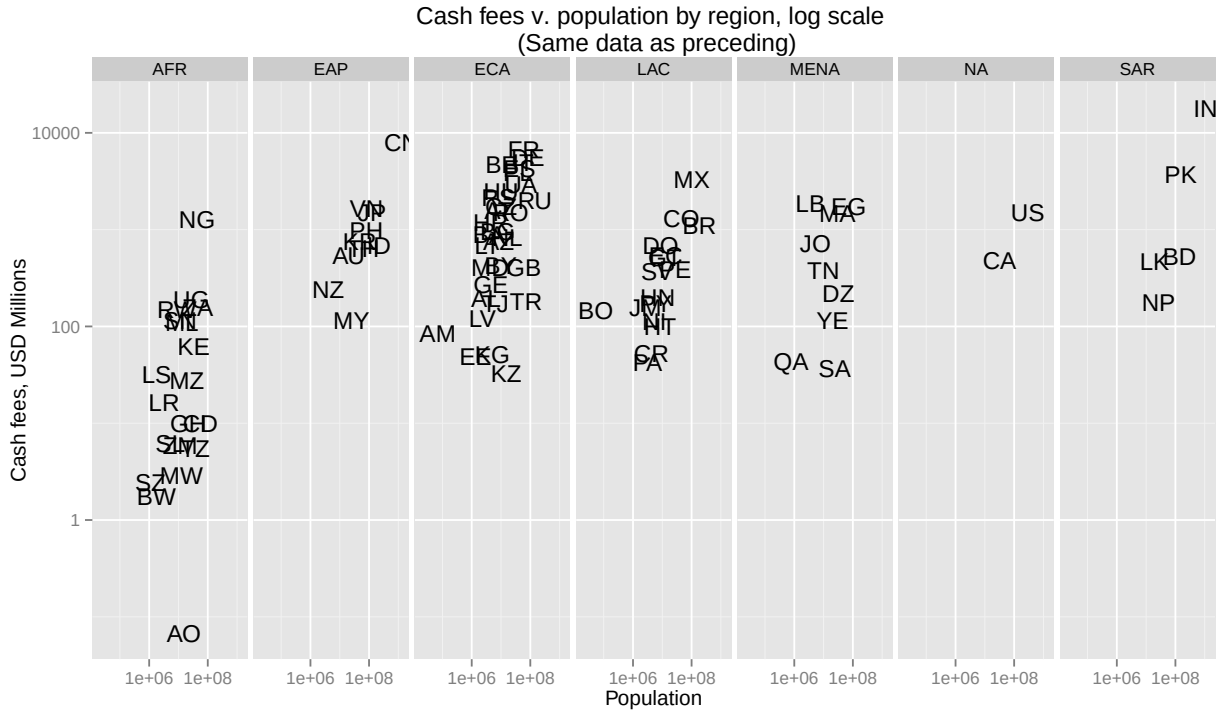
NP
1e+06
1e+08
Population



For brevity's sake, here we only include the top and bottom countries; not disaggregated by region. See Cash Fees, USD Millions—Most Expensive and Cash Fees, USD Millions—Least Expensive.

Table 12: Cash Fees, USD Millions—Most Expensive

	country	cashfees
1	India	18,066
2	China	8,030
3	France	6,789
4	Germany	5,584
5	Italy	5,018
6	Belgium	4,703
7	Spain	4,297
8	Poland	3,945
9	Pakistan	3,691
10	Mexico	3,292
11	Ukraine	2,936
12	Hungary	2,474
13	Serbia	2,162
14	Russian Federation	2,000
15	Lebanon	1,868
16	Czech Republic	1,757
17	Egypt, Arab Rep.	1,743
18	Vietnam	1,645
19	Austria	1,588
20	Japan	1,517

Table 13: Cash Fees, USD Millions—Least Expensive

	country	cashfees
1	Angola	0
2	Botswana	2
3	Swaziland	2
4	Malawi	3
5	Tanzania	6
6	Zambia	6
7	Sierra Leone	6
8	Ghana	10
9	Congo, Dem. Rep.	10
10	Liberia	17
11	Mozambique	28
12	Lesotho	32
13	Kazakhstan	33
14	Saudi Arabia	37
15	Panama	42
16	Qatar	44
17	Estonia	49
18	Kyrgyz Republic	52
19	Costa Rica	53
20	Kenya	62

Findings: Time spent

Data sources

World Development Indicators (WDI) is the World Bank's flagship study of human devleopment. It includes national income and output, population, price levels, foreign exchange rates, infrastructure, and many other demographic variables.

Rural Access Index (RAI) describes the proportion of the rural population with access to roads. It is published by the World Bank occasionally.

Global Findex (WBGF) describes financial access with dozens of indicators related to account ownership, saving behavior, payment behavior. The survey is new; but is intended to be released regularly (perhaps every 2-3 years). Stratification by age, sex, urbanicity, and income quintile faciliates comparisons both within and between countries.

Remittance Prices Worldwide (RPW) and the Bilateral Remittance Matrix (BRM) are World Bank research projects that give insight into money transfer markets. RPW estimates the cost of specific transfer amounts in a variety of corridors (origin and destination countries). BRM estimates the total value of annual remittances between pairs of countries in the dataset.

The Centre for Time Use Research (CTUR) at Oxford University publishes a Multnational Time Use Survey (MTUS) that benchmarks individuals' average time spent traveling for a variety of purposes around the world.

Crucially, the Institute for Business in the Global Context's market research study, Consumer Cash Habits (CCH), enables us to calibrate the rates at which populations incur costs for access to cash. We can estimate the share of the population that incur specific costs and the levels of those costs in the aggregate, for countries where we have primary data.

Coverage

Several of the quantities in the dataset are estimated only by proxy. This dataset represents a rigorous and consistent methodology applied to extremely patchy underlying sources. As of December 4, a few large countries lack sufficient data to report consumer cash costs under this methodology: notably Australia, Canada, and Switzerland. The goal is to use widely accepted statistical models to generate plausible estimates for these countries. Virtually none of the quantities estimated in this dataset are directly observed; so constructing comparable data by proxy should neither enhance nor compromise the validity of the findings. Addressing missing data in international comparisons is considered beneficial and appropriate.

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Software

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R Session Info

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- Other packages: countrycode 0.17, data.table 1.9.4, doBy 4.5-13, foreign 0.8-61, ggplot2 1.0.0, RJSONIO 1.3-0, stargazer 5.1, survival 2.37-7, WDI 2.4, xtable 1.7-4
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