# Costs 2: Cash in Transit

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### Overview

This is §2, Cash in Transit, of eight (8) to be completed: ATMs, Cash in transit, Household costs, Currency operations, Tax gap, Fraud, Foregone growth, and Seigniorage. These estimates reflect proxy calculations and not direct survey evidence. *Estimates are very rough* and should not be quoted to more than 2 digits. No formal confidence intervals should be reported under the methodology used.

### Top 20 markets

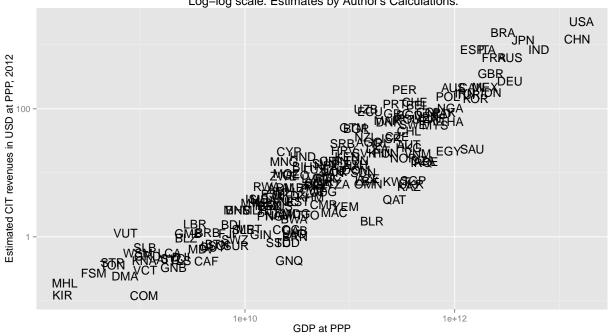
The top 20 and bottom 20 CIT markets appear in Tables 1 and 2. Cash in transit revenues are estimated in USD at PPP for 2012, millions.

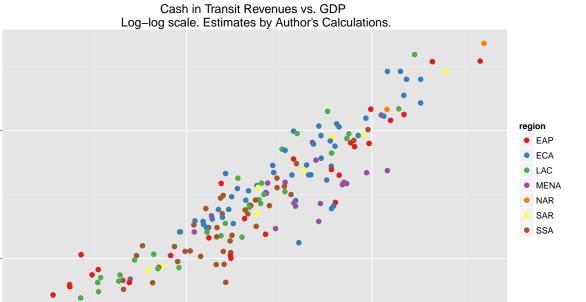
Table 1: 20 Largest CIT Markets

	country	CITm
1	<b>United States</b>	2,303
2	Brazil	1,539
3	China	1,218
4	Japan	1, 191
5	Italy	842
6	Spain	837
7	India	836
8	France	631
9	Russian Federation	629
10	United Kingdom	354
11	Germany	270
12	Mexico	218
13	Australia	215
14	Canada	214
15	Peru	200
16	Indonesia	178
17	Iran, Islamic Rep.	174
18	Turkey	168
19	Poland	156
20	Korea, Rep.	144

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Cash in Transit Revenues vs. GDP Log-log scale. Estimates by Author's Calculations.



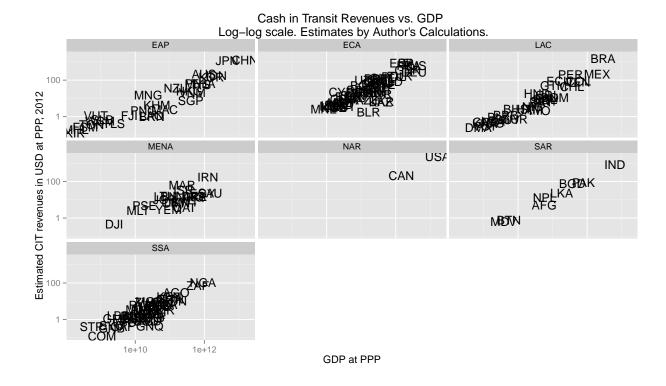


1e+12

Estimated CIT revenues in USD at PPP, 2012

GDP at PPP

1e+10



### By region

See regional market size ranks in Tables 3, 5, 6, 7 and 8.

# Methodology

Cash in transit costs are benchmarked to the number of bank branches in a country. We take CIT to be a linear multiple of bank branches in the country, adjusted for PPP price ratios. In expensive countries, CIT revenues are higher than in cheaper countries, as reflected in the price level ratio between the countries.

#### **World Bank Data**

Variable	Indicator
bankdensity	Bank branches per 100k population
pop	Population, Total (millions)
gdp	GDP, constant 2005 USD at PPP (millions)

#### **US Economic Census Data**

Gross receipts for armored car service in the United States are \$2,303 million. There are 781 establishments with a total of 29,748 employees (2012).<sup>1</sup>

<sup>&</sup>lt;sup>1</sup>United States Census Bureau. 2012. Economic Census: Industry Snapshots. Available at http://thedataweb.rm.census.gov/TheDataWeb\_HotReport2/econsnapshot/2012/snapshot.html?NAICS=561613

Table 2: 20 Smallest CIT Markets

	country	CITm
1	Comoros	0.1
2	Kiribati	0.1
3	Marshall Islands	0.2
4	Dominica	0.2
5	Micronesia, Fed. Sts.	0.3
6	St. Vincent and the Grenadines	0.3
7	Aruba	0.3
8	Guinea-Bissau	0.3
9	Tonga	0.4
10	Sao Tome and Principe	0.4
11	Central African Republic	0.4
12	Timor-Leste	0.4
13	St. Kitts and Nevis	0.4
14	Equatorial Guinea	0.4
15	Antigua and Barbuda	0.4
16	Seychelles	0.5
17	Djibouti	0.5
18	Grenada	0.5
19	St. Lucia	0.6
20	Samoa	0.6

CITm: National cost of cash in transit (USD millions)

Table 3: 10 Largest CIT Markets in Latin America, Caribbean

	country	CITm
1	Brazil	1,539
2	Mexico	218
3	Peru	200
4	Ecuador	90
5	Colombia	89
6	Venezuela, RB	75
7	Guatemala	51
8	Chile	44
9	Honduras	18
10	Costa Rica	15

Table 4: 10 Largest CIT Markets in Europe and Central Asia

country         CITm           1         Italy         842           2         Spain         837           3         France         631           4         Russian Federation         629           5         United Kingdom         354           6         Germany         270           7         Turkey         168           8         Poland         156           9         Switzerland         127			
2       Spain       837         3       France       631         4       Russian Federation       629         5       United Kingdom       354         6       Germany       270         7       Turkey       168         8       Poland       156		country	CITm
3       France       631         4       Russian Federation       629         5       United Kingdom       354         6       Germany       270         7       Turkey       168         8       Poland       156	1	Italy	842
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5       United Kingdom       354         6       Germany       270         7       Turkey       168         8       Poland       156	3	France	631
6 Germany 270 7 Turkey 168 8 Poland 156	4	Russian Federation	629
7 Turkey 168 8 Poland 156	5	United Kingdom	354
8 Poland 156	6	Germany	270
o I olaila .cc	7	Turkey	168
9 Switzerland 127	8	Poland	156
	9	Switzerland	127
10 Portugal 118	10	Portugal	118

CITm: National cost of cash in transit (USD millions)

Table 5: 10 Largest CIT Markets in East Asia, Pacific

	country	CITm
1	China	1,218
2	Japan	1, 191
3	Australia	215
4	Indonesia	178
5	Korea, Rep.	144
6	Philippines	64
7	Thailand	63
8	Malaysia	56
9	New Zealand	36
10	Hong Kong SAR, China	25

CITm: National cost of cash in transit (USD millions)

Table 6: 10 Largest CIT Markets in Middle East, North Africa

	country	CITm
1	Iran, Islamic Rep.	174
2	Morocco	65
3	Israel	34
4	Saudi Arabia	24
5	Egypt, Arab Rep.	22
6	Algeria	16
7	Tunisia	16
8	Lebanon	15
9	<b>United Arab Emirates</b>	15
10	Iraq	14

Table 7: 10 Largest CIT Markets in Sub-Saharan Africa

	country	CITm
1	Nigeria	103
2	South Africa	70
3	Angola	30
4	Kenya	18
5	Ethiopia	13
6	Ghana	13
7	Sudan	10
8	Mozambique	10
9	Zimbabwe	9
10	Cote d'Ivoire	8

CITm: National cost of cash in transit (USD millions)

Table 8: 10 Largest CIT Markets in South Asia

	country	CITm
1	India	836
2	Pakistan	87
3	Bangladesh	79
4	Sri Lanka	24
5	Nepal	13
6	Afghanistan	5
7	Bhutan	1
8	Maldives	1

## Model

CIT revenues are forecast as a straight multiple of the number of bank branches in a country. CIT revenues will be scaled down with the price level in each country, as measured by the PPP ratio indicator.

$$\text{CIT}_i = \text{CIT}_\omega \frac{b_i \Pi_i}{b_\omega}$$

Where

Var	Description
$\overline{\text{CIT}_i}$	Cash in transit in country i
$\text{CIT}_{\omega}$	Cash in transit in the United States
$b_i$	Bank branches in country i
$b_{\omega}$	Bank branches in the United States
$\Pi_{\mathfrak{i}}$	Price level ratio in country i, relative to the United States

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