

Toward Developing Estimates of U.S. Imports of Illegal Drugs

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- Why estimate U.S. imports of illegal drugs?
- Methodology and country practices
- U.S. experimental estimates: Soloveichik (2019)
- Demand or supply side to measure marijuana and methamphetamine imports?
- Heroin and cocaine import estimates by region
- Future research
- Discussion and questions

Why estimate U.S. imports of illegal drugs?

- International guidelines (SNA 2008 and BPM6) recommend that certain illegal market activities should be included in measured output
- Importance of illegal drugs as share of illegal market activity
 - Largest U.S. black-market cross-border transaction category in 2017 as estimated by Soloveichik (2019)
 - From 2006 to 2017, 81 percent of illegal drugs consumed domestically were imported [\$28.2 billion import value per year on average]
- Most reliable data compared with other illegal market activities
- Other statistical agencies produce estimates

- Demand side
 - Estimate domestic drug use aggregates with data on retail prices and quantities consumed or expenditure levels
 - Derive input costs, imports, and other breakdowns from the aggregates
 - Using data from drug user surveys, national health records, arrestee records, drug program admittance records, and domestic price estimates
- Supply side
 - Estimate the quantity of drugs entering U.S. from global production data, seizure records, and drug trafficking route information
- Value imports at wholesale prices

What have other statistical agencies done?

	Demand-side	Supply-side	Both
Adjustment to GDP*	Denmark Italy Luxembourg Netherlands Sweden United Kingdom Ukraine Poland	Finland	
Satellite accounts			Columbia
Case study only	Australia		
Marijuana only			Canada

* Adjustment to GDP for illegal and informal economy activities (including illegal drugs).

Compiled from information reported in: Eurostat (2018), "Handbook on the compilation of statistics on illegal activities in national accounts and balance of payments" and Statistics Canada, website "Cannabis Stats Hub."
<https://www150.statcan.gc.ca/n1/pub/13-610-x/13-610-x2018001-eng.htm>

- Estimates of U.S. domestic consumption, imports, and retail margins for illegal drugs between 1929–2017
- Annual estimates by five drug categories:
 - Cocaine
 - Heroin
 - Methamphetamines
 - Marijuana
 - Miscellaneous illegal drugs
- Imports = import share of personal consumption expenditures on illegal drugs valued at wholesale prices

- Data Sources

- Domestic expenditures: estimates prepared by the Office of National Drug Control Policy (ONDCP) and published in *What America's users Spent on Illegal Drugs: 2006-2016*¹
- Wholesale prices: ONDCP's *2016 National Drug Control Strategy Data Supplement*

- Assumptions about share of drugs imported

- Assumes 100 percent for cocaine and heroin
- Expert opinions from media reports for methamphetamines and marijuana
- Assumes 50 percent for miscellaneous illegal drugs

¹For miscellaneous drugs, expenditure data is only available for 1988–1998 from the ONDCP *2016 National Drug Control Strategy (NDCS) Data Supplement*. Soloveichik extrapolates forward to calculate expenditures as a share of PCE for 1999–2017.

Demand side or supply side to measure marijuana and methamphetamine imports?

- Demand side (Soloveichik, 2019)
- Supply side
 - Singleton, Murray, and Tinsley (2006)
 - Supply-side estimates are likely unreliable given the difficulty in systematically observing the trade in illegal drugs
- Some countries must use supply side because of source data limitations
- Compute supply side estimates so they can be compared with demand side estimates
 - Alternative import share = $\text{kg seized at border} / \text{total U.S. domestic seizures}$
 - Used three-year moving averages
 - By year for methamphetamine and marijuana
 - Apply these shares to total domestic consumption

Marijuana and methamphetamine imports based on shares from illegal drug seizure data



Average annual U.S. illegal drug imports (billions \$)			
	Marijuana	Methamphetamines	Total marijuana and methamphetamine imports
Soloveichik (media-based) estimate	6.4	6.3	12.7
Alternative (seizure-based) estimate	9.7	4.0	13.7
Difference	3.3	-2.3	1.0

Data for alternative estimates are based on El Paso Intelligence Center seizure system records provided by the White House Office of National Drug Control Policy.

Heroin and cocaine import estimates by region



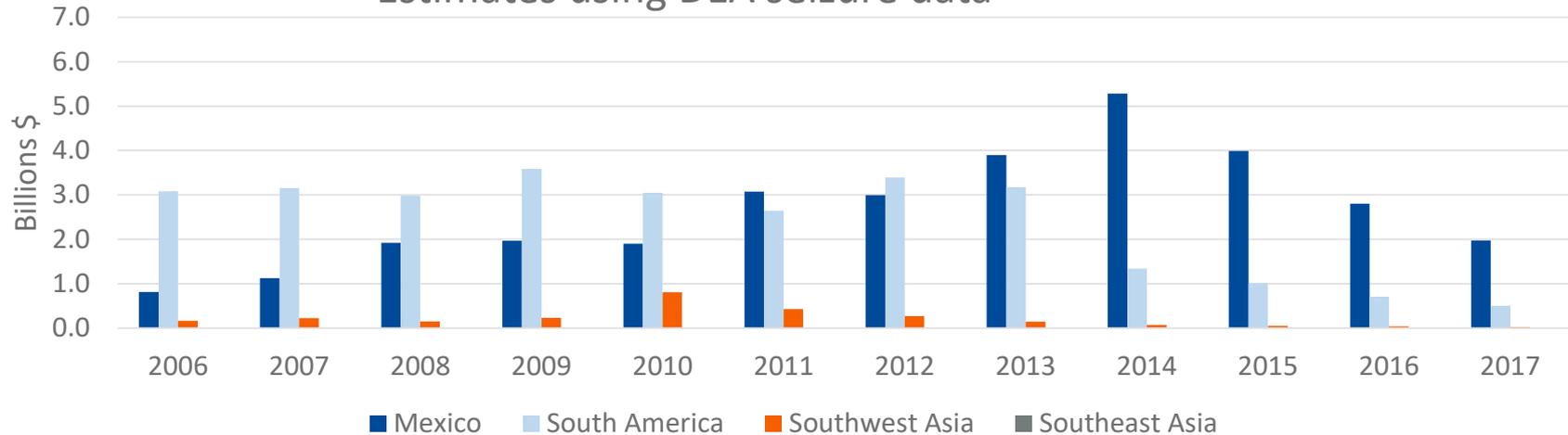
- Lab testing of seized illegal drug samples provides information on the country or region of production
- Heroin estimates
 - Heroin Signature Program and Heroin Domestic Monitoring Program
 - Classified into 4 countries/regions: Mexico, South America, Southwest Asia, Southeast Asia
 - Obtained annual data for 2006–2014 on the share of seized illegal drugs from each region
 - 2014 estimates carried forward to 2015–2017
- Cocaine estimates
 - Cocaine Signature Program
 - Classified into 3 countries/regions: Columbia, Peru, or unknown origin
 - Obtained annual data for 2009, 2013, 2015–2017 on the share of seized illegal drugs from each region
 - Linear interpolation for missing years

- Methodology

- Imports from region X = share of drugs seized from region X times total imports for each year
- Calculated separately for heroin and cocaine
- These seizure-based estimates are compared with estimates using second best data source available—global production data on potential heroin and cocaine production (in metric tons) from *2019 National Drug Control Strategy Data Supplement*
- Countries are aggregated to form similar groupings as those of the Signature Program Data

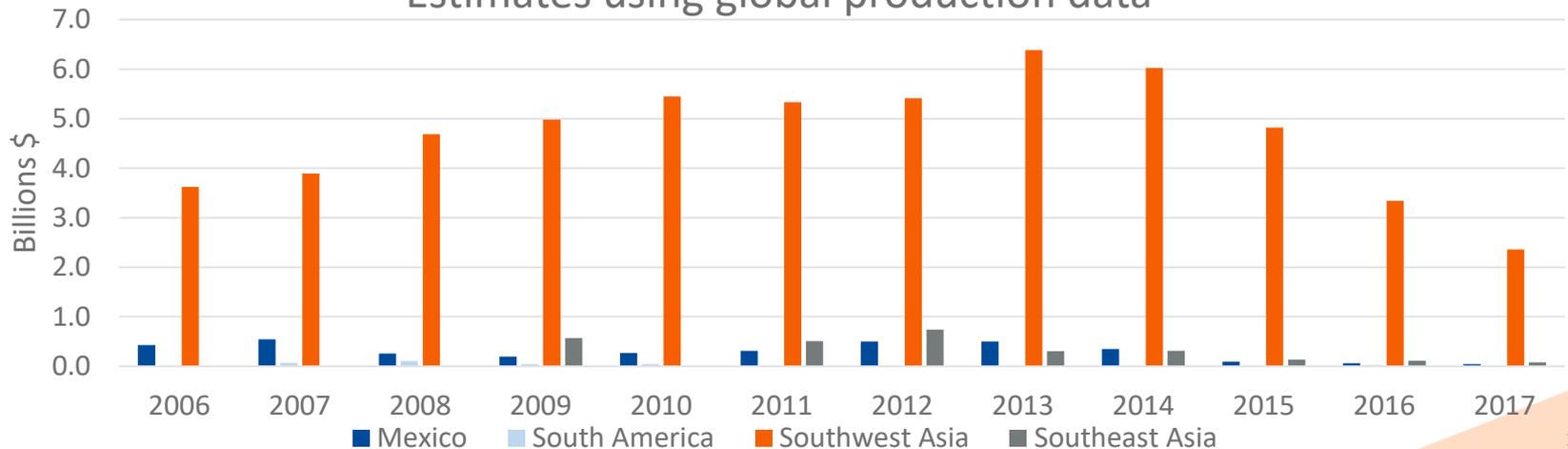
Heroin import estimates by region

Estimates using DEA seizure data



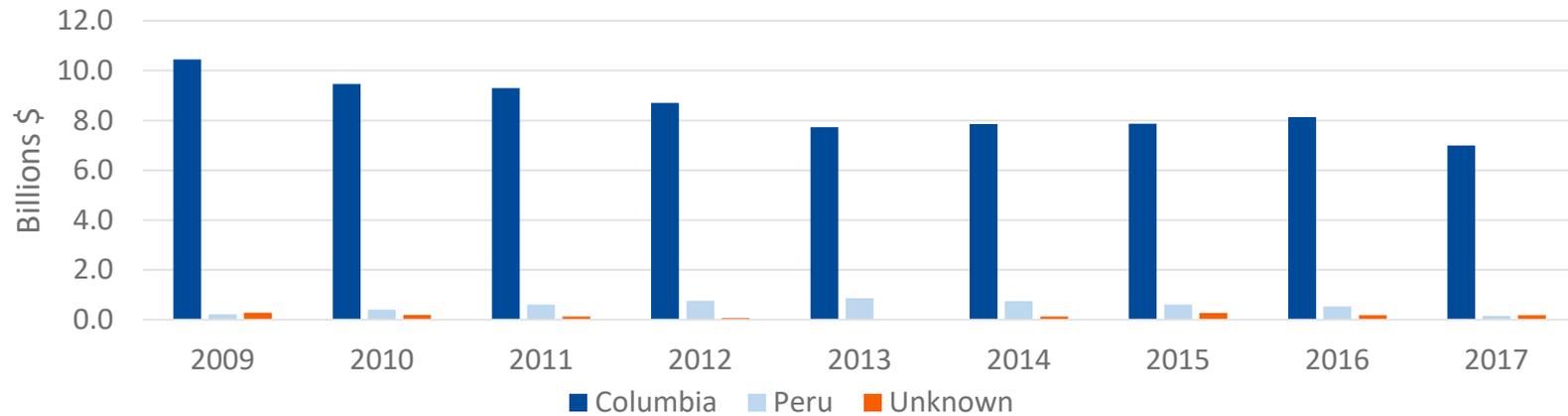
None of the heroin seized between 2006–2014 was reported to be of Southeast Asian origin.

Estimates using global production data

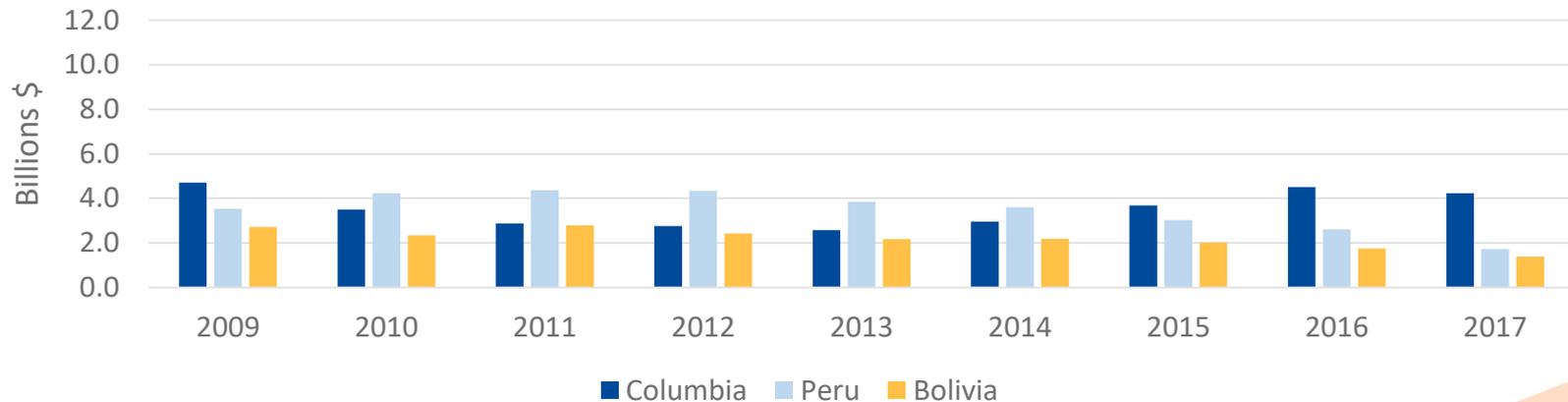


Cocaine import estimates by region

Estimates using DEA seizure data



Estimates using global production data



- Missing years for heroin
- Cocaine data not publicly available for all years
- Not available for other drugs

- Data on seizures of illegal drugs can provide insights about imports of illegal drugs
- Drug signature data may be useful for assigning country of origin to illegal drug flows
- No single data source can provide a reliable picture of illegal drug imports

- Attempt to obtain geographical data for additional drug categories and missing years for heroin and cocaine
- Refine import share estimates by including additional data and/or methodology
 - Information that validates seizure rates
 - Control for factors that cause the border seizure rate to differ from the import share
- Should we estimate exports?

Discussion and Questions

Thank you!

Further comments can be provided to
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