Including Illegal Activity in the U.S. National Economic Accounts

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Three Categories of Illegal Activity:

Black Market Sector – *Forbidden Consensual Transactions*.

- Illegal Drugs; Prostitution; and Gambling.
- The official guidelines for national accounting, SNA 2008, explicitly recommend that black market transactions should be included in GDP.

Theft from Businesses – *Pilferage, Embezzlement, etc.*

- Theft is not productive in an economic sense (SNA 3.98).
- However, legal sector output cannot be measured properly without tracking theft.

Gray Market Sector – *Unlicensed Legal Activity*.

- Already tracked in the National Income and Product Accounts (NIPAs).
Increase in Nominal GDP due to Tracking Illegal Activity
Revision to GDP Quantity Index
[Relative to Overall GDP Quantity Index, 2012 Base]
Data on Illegal Drugs

Data from the Office of National Drug Control:

Supplemented with:
- Department of Education’s Monitoring the Future Survey.
- Drug Enforcement Agency (DEA) Seizure statistics.
- RAND reports on the Cocaine Industry.
- USDA estimates of alcohol during Prohibition.
- Academic literature, news reports and my own best judgment.
Nominal Spending on Illegal Drugs
[as a Share of Nominal PCE]
Quality Adjusted Illegal Drug Prices
[Relative to Overall PCE Prices]
Import Prices for Illegal Drugs
[as a Share of Retail Prices]

Pre-1981 import prices are imputed. I also impute prices for missing drug categories.

- Total arrests for “prostitution and commercialized vice” are used to proxy labor quantities before 1973 and after 1981.
- Average wages in “Other Personal Services” are used to proxy wages.
- Nominal labor share is assumed to be constant over time.

Legal erotic activities are currently tracked in the NIPA’s.

- No dedicated item code in PCE.

Price index is based on BEA’s ‘other personal services’ deflator.
Nominal Spending on Erotic Activity
[as a Share of Nominal PCE]
Erotic Activity Prices
[Relative to Overall PCE Prices]

I do not use the magazine estimates in this analysis due to their differing price trends.
Primary data on illegal gambling is from a 2006 survey (Volberg, Nysse-Carris and Gerstein):

- I compare reported illegal gambling losses with reported legal gambling losses to get an estimate of illegal gambling in 2006.
- In-person illegal gambling is proxied using arrests for illegal gambling in the FBI’s Uniform Crime Report (1929 to 2017).
- Internet gambling is proxied using news reports and WTO analysis.

Measuring gambling prices is hard:

- BLS’s CPI considers gambling losses to out of scope.
- BEA’s current deflator for gambling is simply CPI-All Items.
- BLS’s PPI is based on the average winning percentage.
- I use average daily losses in Las Vegas as my index.
Nominal Gambling Losses
[as a Share of Nominal PCE]
Data on Inventory Theft

Primary data is from the National Retail Federation’s annual *National Retail Security Survey*.

- Aggregate shrinkage data from industry associations and academic literature is available for 1946-1990.
- Supplement with data from the 1975 report *The Cost of Crimes Against Businesses* (Department of Commerce).

Price Index for Inventory Theft.

- Most pilfered items are almost identical to items sold legally.
- I use BEA’s existing PCE goods price index as my deflator.
Nominal Inventory Theft
[as a Share of Nominal PCE]

This includes employee theft and customer theft.
Data on Fraud and Embezzlement

Primary data is taken from a 1975 report by the American Management Association.

- Arrests for fraud and embezzlement and employee demographics are used as a proxy in other years.
- BEA already records tracked cash theft as a current transfer from businesses to persons – but most theft is not currently tracked.

Price index for fraud and embezzlement.

- For now, I use intermediate input prices in the joint BEA/BLS production accounts to calculate a composite price index.
Nominal Cash Theft
[as a Share of Nominal PCE]
Increase in Nominal GDI due to Tracking Illegal Activity
Revision to GDP Prices
[Relative to Overall GDP Prices]
Revision to Total Factor Productivity (TFP) due to Tracking Illegal Activity

Measured GDP only tracks final output, not inputs.

- Labor quantities are needed to measure TFP reliably.
- I use arrest data to proxy for labor quantities in the drug sector, the prostitution sector and the gambling sector.
- I treat theft as a component of employee compensation.

I calculate the impact of illegal activity on 61 separate private business sectors:

- Marijuana – Agriculture; Meth Labs – Chemical Manufacturing; Illegal Drug Selling – Retail; Prostitution – Other Services; Illegal Gambling – Legal Gambling; Laundered Drugs – Food Service.
- Theft Impacts every legal sector industry.
Retail TFP Revision
[relative to Retail TFP Index, 2012 Base]
Aggregate TFP Revision
[Relative to Aggregate TFP Index, 2012 Base]
Neither GDP nor TFP depend directly on the distribution of income or assets.

This section will briefly discuss the distributional impact of illegal income.

- I have not yet been able to find microdata tracking illegal income and illegal work hours, so I use the FBI’s arrest data as a proxy.

Criminals generally earn high hourly compensation.

- Criminals are typically young, less educated and male.
- Tracking illegal income lowers male earnings inequality, but raises the gender wage gap.
Hourly Earnings Inequality for Males
Modeled Ratio of 75th Percentile to 25th Percentile

- Total Earnings
- With Illegal Drug Earnings
- With Theft Earnings
- Legal Earnings
Conclusion

The illegal sector accounts for a small but nontrivial share of total industry output, transfers and GDP.

- Illegal activity is more than just drugs and prostitution.

Illegal activity grew rapidly during the 1970’s and 2010’s.

- Measured GDP growth and TFP growth are less volatile when illegal activity is tracked.

Europe already includes illegal activity in their national accounts, industry accounts and productivity statistics

- Researchers should be cautious with cross-country comparisons.