




# **What Proportion of Gambling Revenue is Derived from Problem Gamblers?**

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A collage of various international banknotes, including US dollars, Indian rupees, Chinese yuan, and Singapore dollars, arranged in a layered, overlapping fashion. The notes are in various colors and denominations, creating a rich, textured background. A central white box with a black border contains the main text.

The demographic origin of gambling revenue has important philosophical, sociological and government policy implications



# Academic Research

- **15% – 50%** of gambling revenue comes from problem gamblers depending on the jurisdiction and time period
- Volberg et al. (1998). Unaffordable losses: Estimating the proportion of gambling revenues derived from problem gamblers. *Gaming Law Review*, 2(4), 349-360.
- Williams & Wood (2004). The proportion of gaming revenue derived from problem gamblers: Examining the issues in a Canadian context. *Analyses of Social Issues & Public Policy*, 4 (1), 33-45.
- Williams & Wood (2007). The proportion of Ontario gambling revenue derived from problem gamblers. *Canadian Public Policy*, 33(3), 367-387.
- Australian Productivity Commission. (2010). *Gambling* (Vol. 2). Productivity Commission, Government of Australia.
- Orford et al. (2013). What proportion of gambling is problem gambling? Estimates from the 2010 British Gambling Prevalence Survey. *International Gambling Studies*, 13, 4-18.
- Davidson et al. (2016). *Gambling Expenditure in the ACT (2014)*.





# Contrary Views

- **“5% to 15% of gross gaming revenue comes from problem and pathological gamblers”**
  - National Center for Responsible Gaming (2016)  
[\*Do Casinos make Money off of Problem Gamblers?\*](#)
- **“we conservatively estimate the share of total gaming revenue from Ontario problem gamblers to be much closer to 5.7%”**
  - Bernhard, B. & Philander, K. (2012).  
[\*Informing the Public Debate: Problem Gambling\*](#). Report prepared for the Canadian Gaming Association.





# Purpose of presentation

1. To reassure people that the academic research evidence on this issue is solid.
2. To point out that this finding, rather than being surprising, is actually very commonsensical.



# Pareto Principle

- In most businesses 20% of patrons account for 80% of sales
- Also known as [80/20 rule](#)

Clients

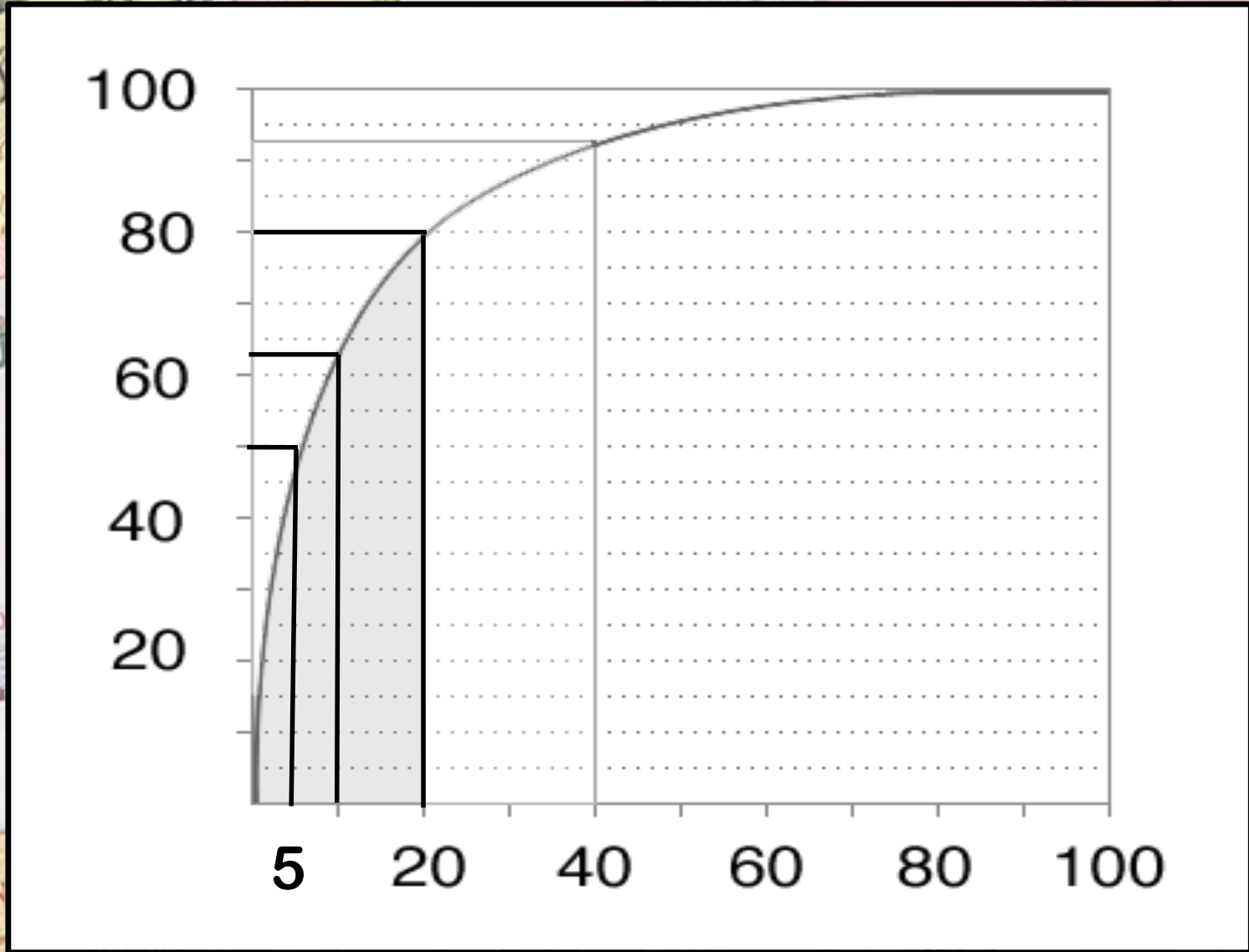


Profit



The top 20% of your clients  
Generate 80% of your profit

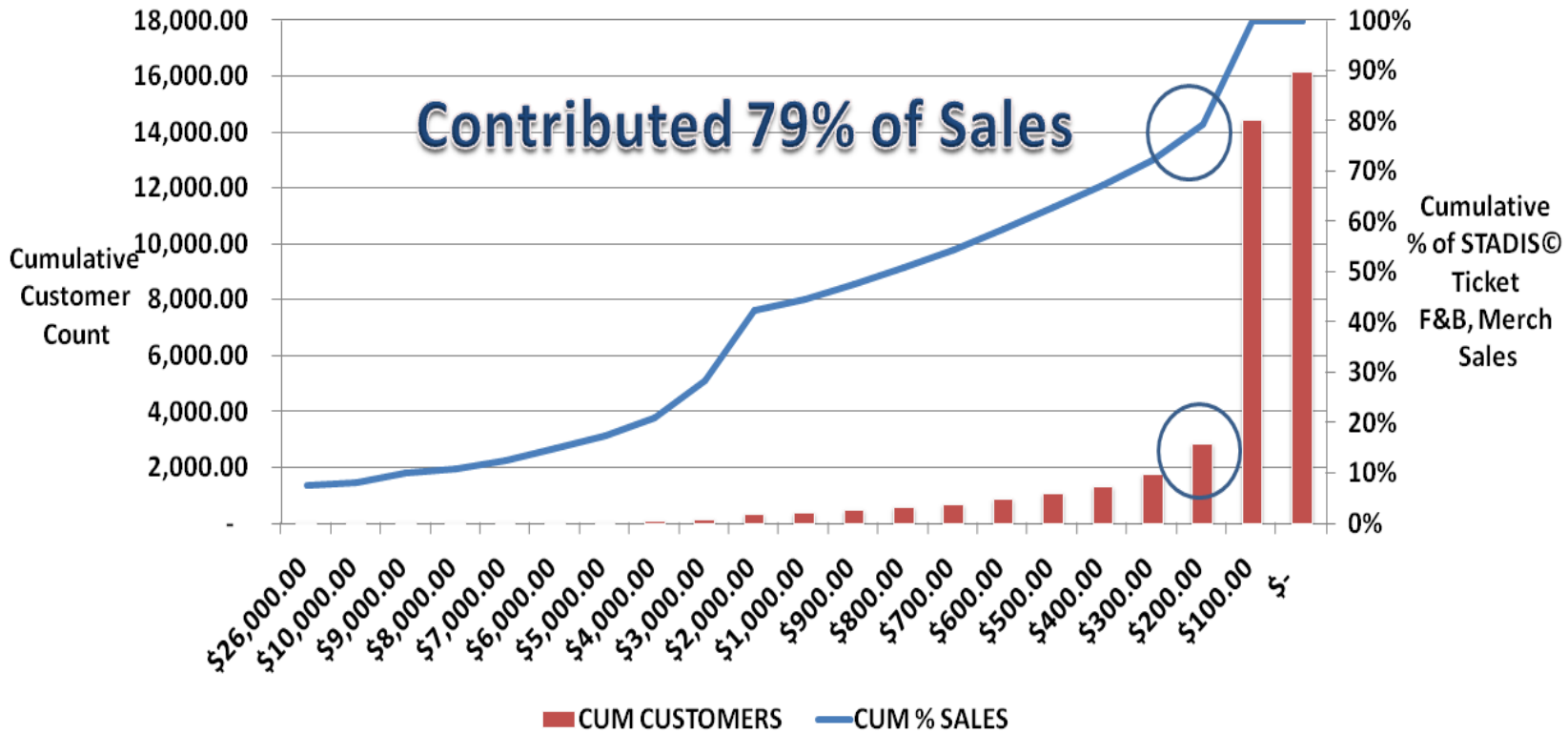




5/50; 10/65; **20/80**; 40/95



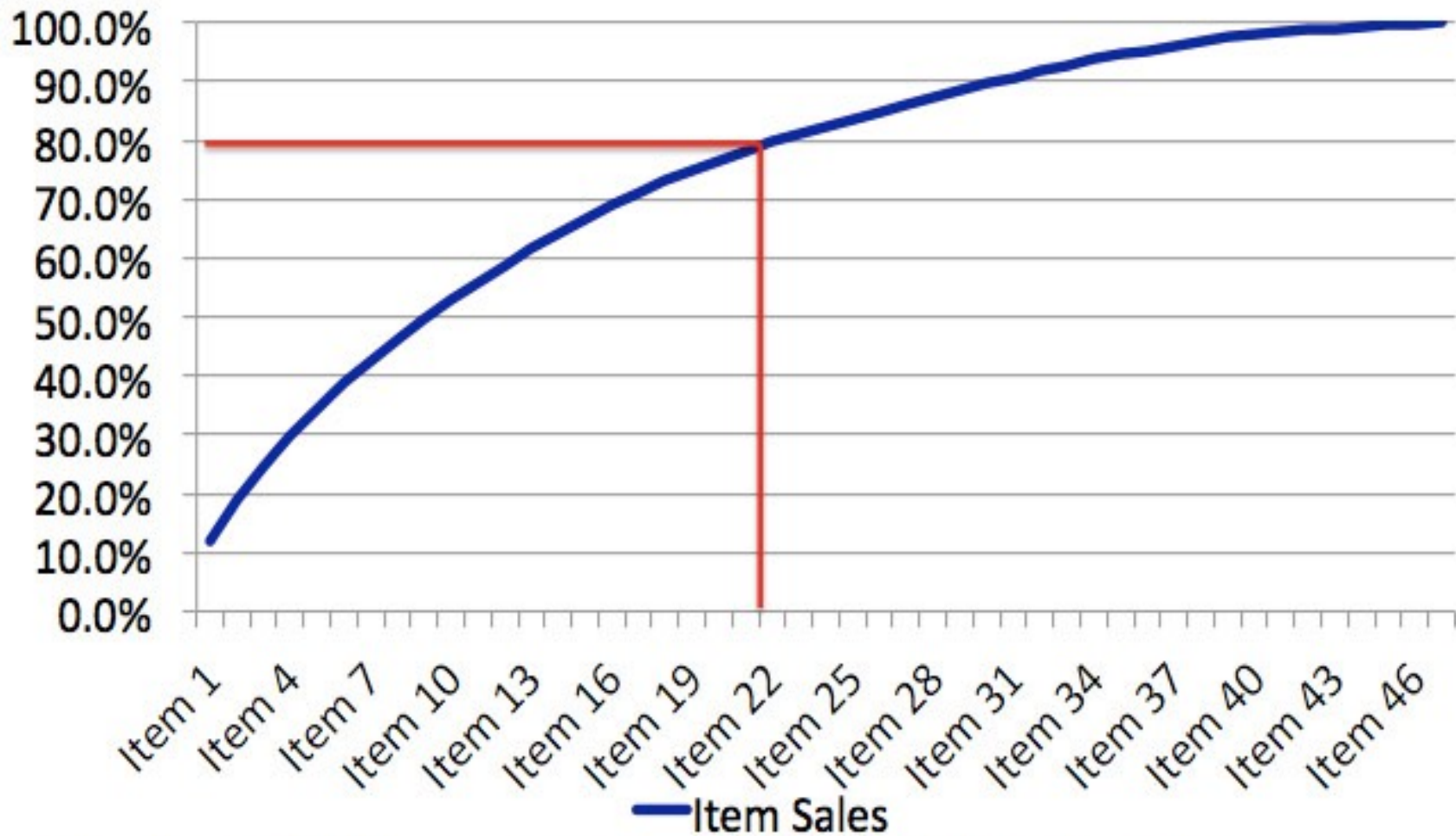
# 2014 Highlights: 2,873 or 18% of Customers



Sales Numbers Include F&B, Retail Merchandise Sales, Exclude Breakage



## Merchandise Sales: Customers



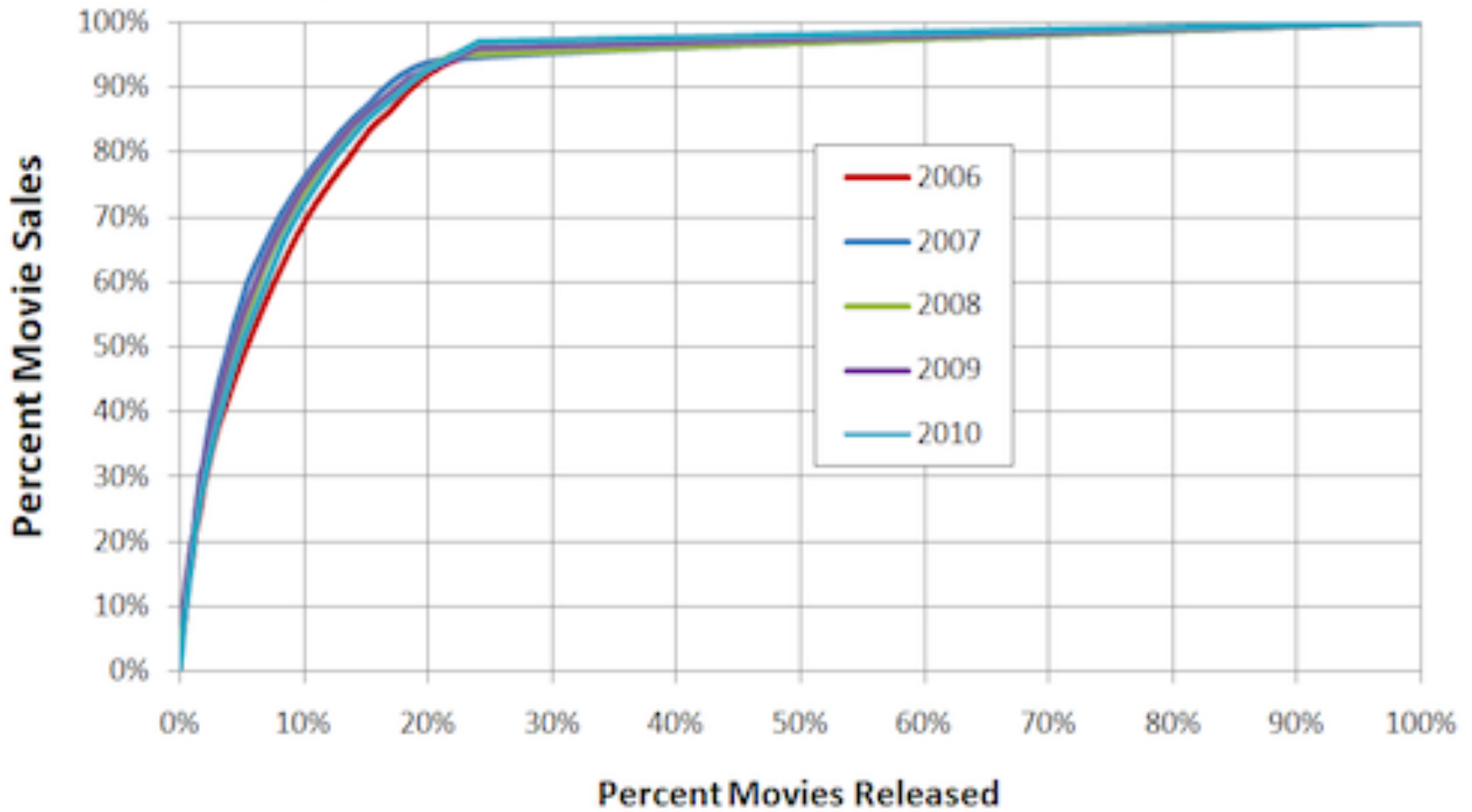
The top 22 items produce 80% of total sales.

Merchandise Sales: Products





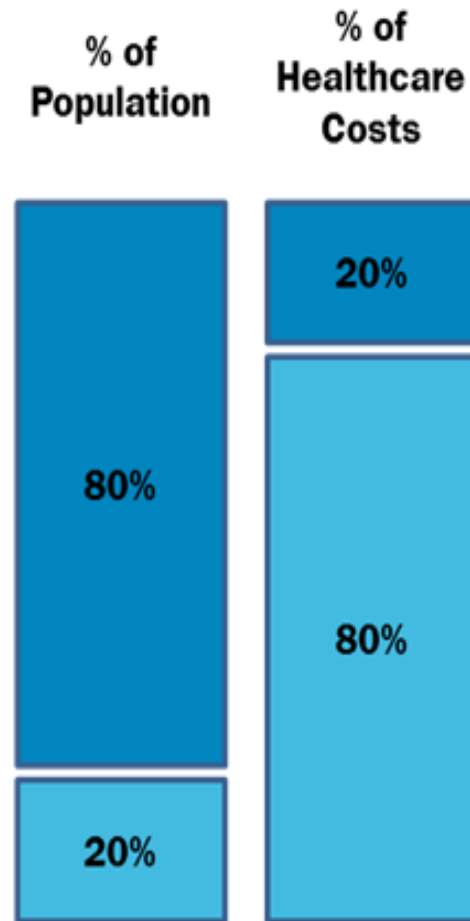
## Pareto principle in movies



Movie Revenue

## The Pareto principle (80/20 Rule) in U.S. healthcare spending

Percentage of U.S. population, healthcare costs



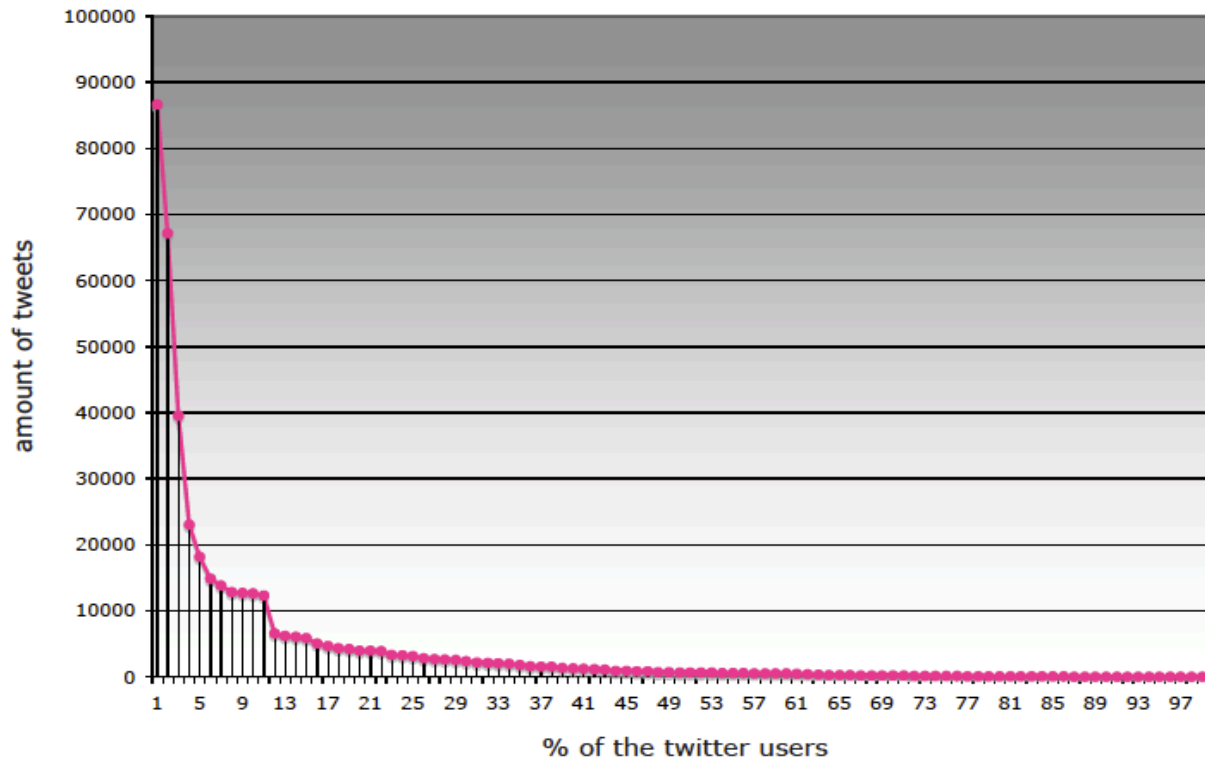
SOURCE: Obama administration; Supreme Court of the United States of America brief no. 11-398;

5% of Ontario residents  
account for  
65% of Health  
Care Spending

Health Care Spending

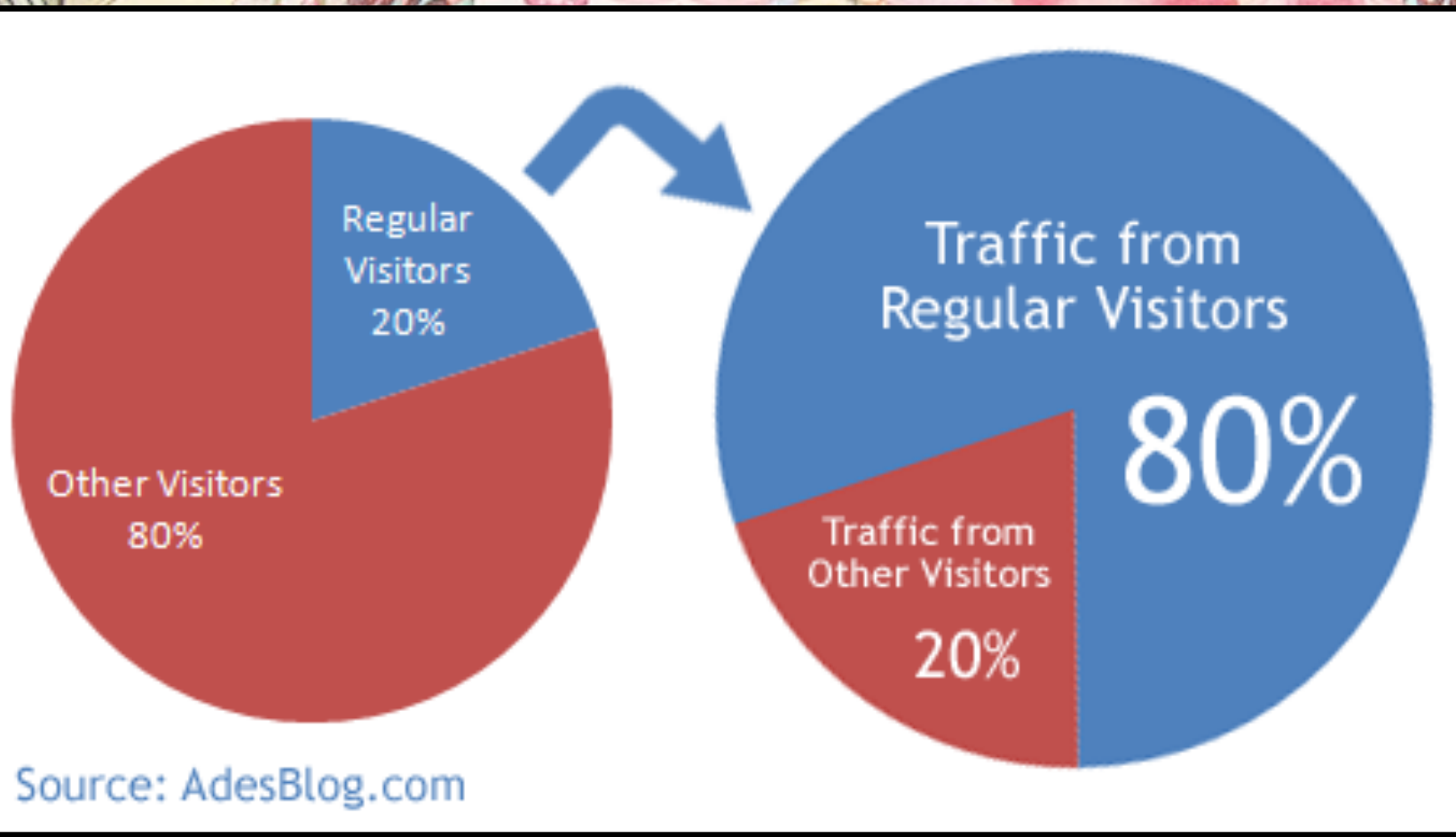


*20% of the users account for  
84% of the tweets*




*Fig. 1*

Tweets

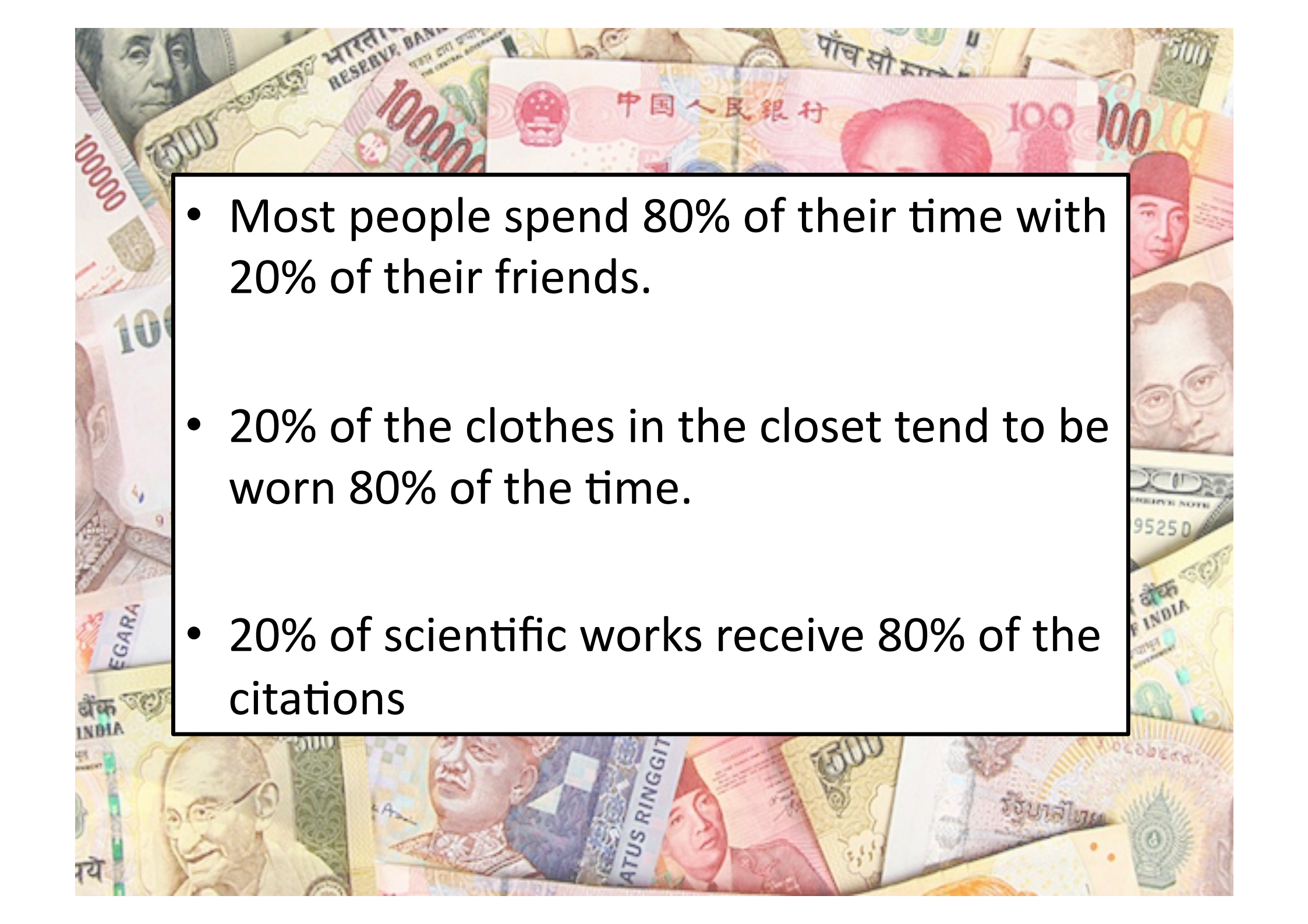


Blogging




- 
- US: 5-6% of population commits 50-60% of all recorded crime
  - UK: 9% of offenders commit 62% of all offenses

Crime

- 
- Most people spend 80% of their time with 20% of their friends.
  - 20% of the clothes in the closet tend to be worn 80% of the time.
  - 20% of scientific works receive 80% of the citations



- 
- This is just a common consumption pattern for regular consumer products.
  - What about the consumption patterns for consumer products with addiction potential?



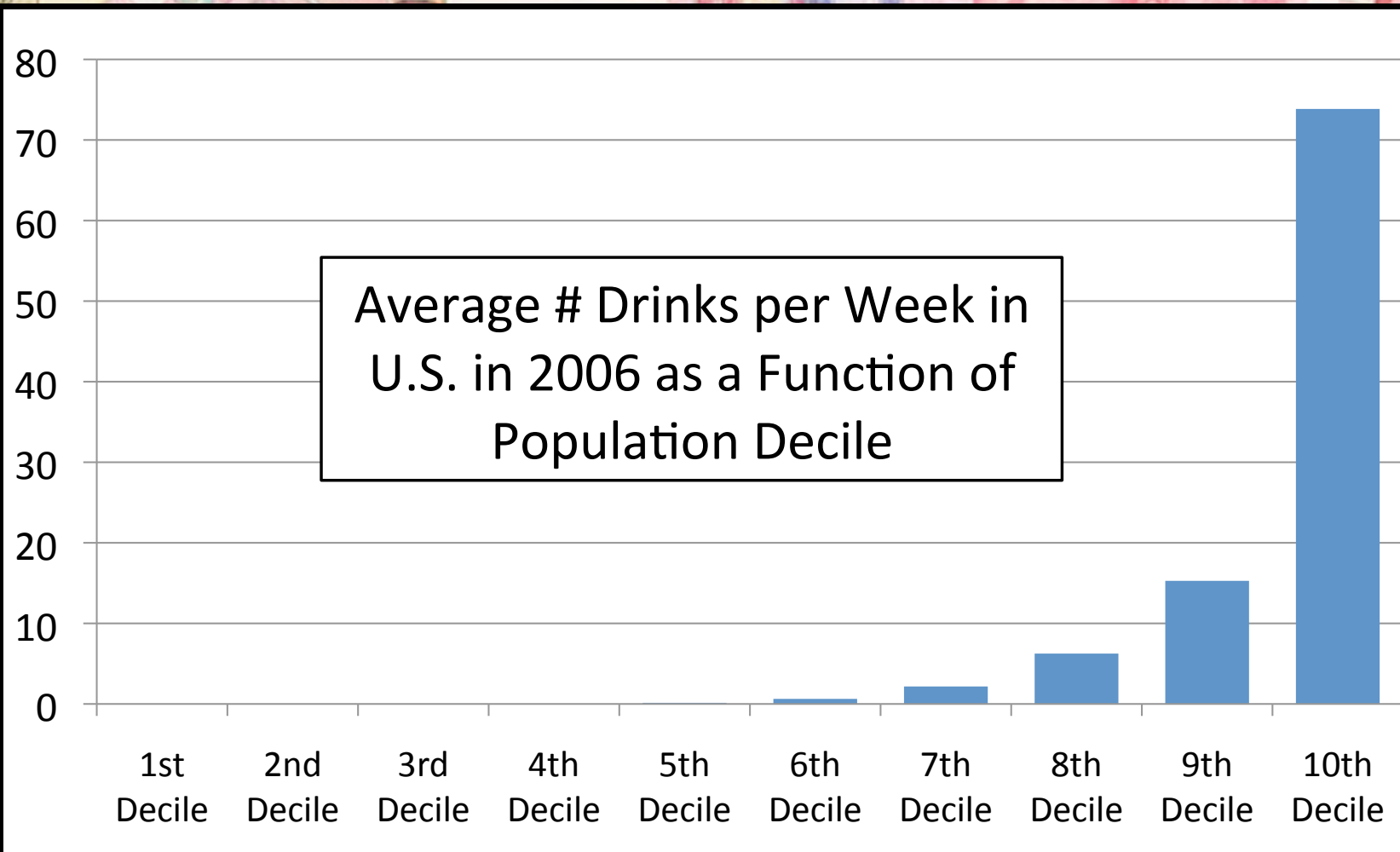


# Drugs

- Most tobacco, methamphetamine, and heroin users are dependent on these substances.
- Thus, although no formal data, it is reasonable to assume that most consumption is done by addicts and the ***large majority of the revenue from purchasing these products comes from addicts.***



# Alcohol Consumption



[US National Epidemiologic Survey on Alcohol and Related Conditions \(NESARC\)](#)



# Alcohol Consumption

## The top 10% of drinkers account for 60% of alcohol consumed in the United States

“.....the heaviest drinkers are of greatly disproportionate importance to the sales and profitability of the alcoholic-beverage industry. If the top decile somehow could be induced to curb their consumption level to that of the next lower group (the 9th decile), then total ethanol sales would fall by 60 percent.”

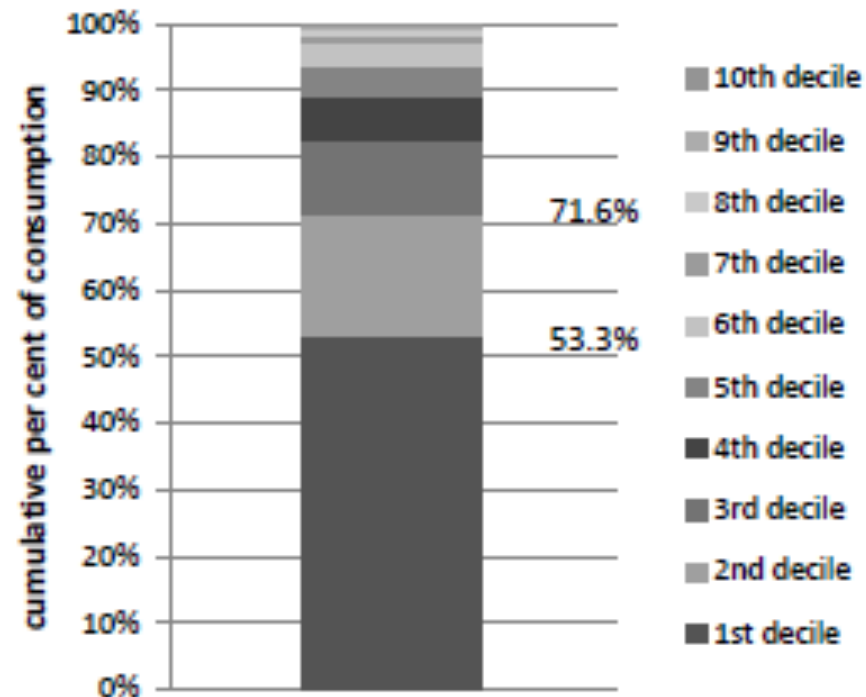
Dr. Philip Cook (Duke Professor of Public Policy). Sept 2014. Cook, P. J. (2007). [\*Paying the Tab\*](#). Princeton, NJ: Princeton University Press.

[How much do the top 10% drink?](#)



# Alcohol Consumption

Figure 2: Cumulative percentage of drinking by annual volume of intake, general population age 15 +, Canada, 2004



Source: Stockwell, Zhao & Thomas, 2009.

Top 10% of Canadian drinkers account for 53.3% of all alcohol consumed. Top 20% account for 71.6%



# Gambling Revenue

## Online Gambling Records

- Bwin Interactive Entertainment 2005 - 2007
  - 2.8% of gamblers accounted for 50% of revenue
  - 10.7% of gamblers accounted for 80% of revenue
  - [Transparency Project, Division on Addiction, Cambridge Health Alliance](#)





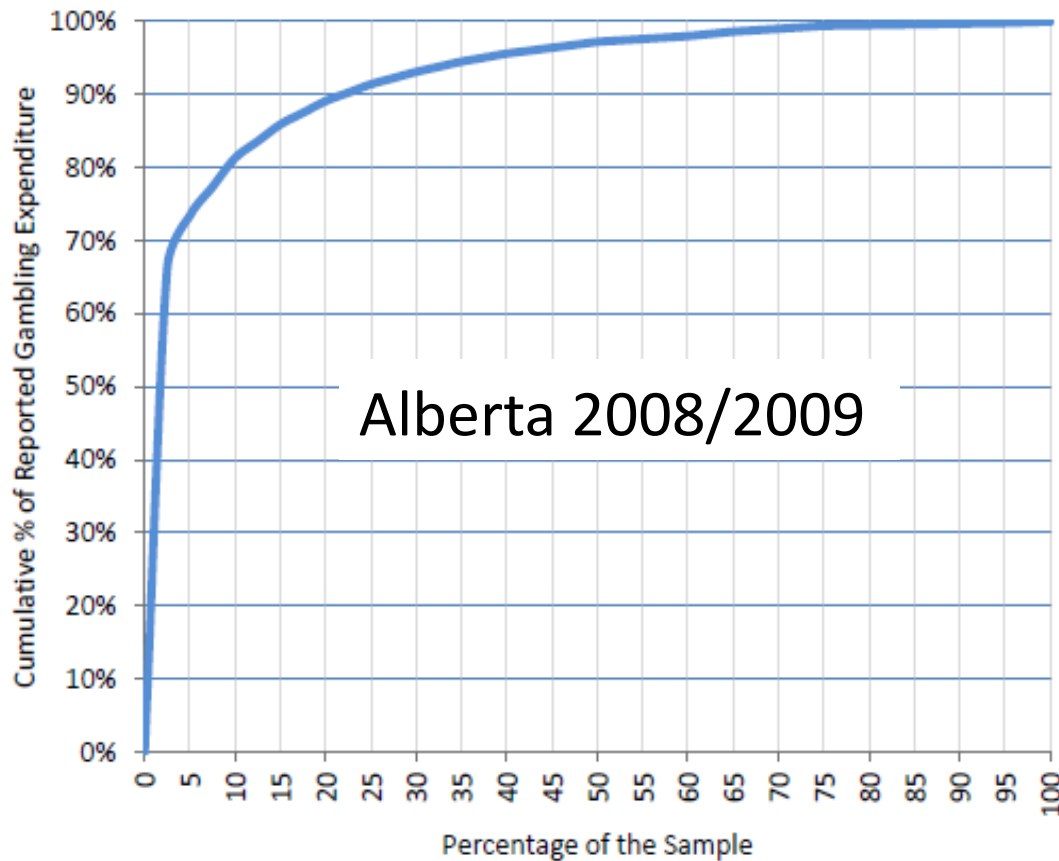
# Gambling Revenue

## Player Card Data

- Australia
  - 2.0% of gamblers account for 80% of revenue
  - Banks, G. (2011, March). [\*Evidence and Social Policy: the Case of Gambling\*](#). Presentation to South Australian Centre for Economic Studies, Corporate Seminar, Adelaide, Australia.
- U.S. Native Casino
  - 9.3% of gamblers account for 80% of revenue (Manchanda & Park, 2013)
  - “Politically, we don't want to talk about it being more concentrated than other industries,” said Andrew Klebanow, a marketing specialist who has consulted for dozens of casinos. He said the Bwin results are in line with his own estimates, based on confidential casino data, that many U.S. casinos get about 90% of their revenue from 10% of customers.  
[\*Wall Street Journal\*](#), Oct 17, 2013.

# Gambling Revenue

## Population Surveys



Alberta 2008/2009

5% of  
gamblers

73.4%  
revenue

10% of  
gamblers

81.3%  
revenue


20% of  
gamblers

89.1%  
revenue



# % of Revenue from Problem Gamblers

<b>4 U.S. states &amp; 3 Canadian provinces;</b> Lesieur, 1998	30%
<b>United States;</b> Gerstein et al., 1999	15%
<b>Australia;</b> Productivity Commission, 1999	33%
<b>New Zealand;</b> Abbott & Volberg, 2000	19%
<b>Canada;</b> Williams & Wood, 2004a	32%
<b>Ontario;</b> Williams & Wood, 2004b, 2007	30%
<b>Australia;</b> Productivity Commission, 2010	36%
<b>U.K.;</b> Orford et al., 2013	1 – 30% depending on type
<b>Australia (ACT);</b> Davidson et al., 2016	20.5%

A collage of various international banknotes including US dollars, Indian rupees, Chinese yuan, and Singapore dollars. The notes are overlapping and scattered across the frame. A central white box with a black border contains text.

Some concern about the fact that these proportions are sometimes different between jurisdictions and sometimes do not have a good match to actual gambling revenues



# Reported Expenditure/Actual Revenue

<p><b>United States</b> (Gerstein et al., 1999)</p>	<p>0.3 lotteries 0.0 casinos (reported <u>winning</u> \$3 billion) 0.0 racetracks (reported <u>winning</u> \$2 billion)</p>
<p><b>Australia</b> (Productivity Commission, 1999)</p>	<p>1.4 lotteries Ratio lower than actual for wagering &amp; EGMs</p>
<p><b>New Zealand</b> (Abbott &amp; Volberg, 1999)</p>	<p>Ratio much higher than actual for lotteries ~1.0 horse &amp; dog racing Ratio much lower than actual for casinos &amp; EGMs</p>
<p><b>6 U.S. States</b> (Volberg et al., 2001)</p>	<p>4.5 horse racing                      2.4 lottery 4.1 casino table games    1.1 EGMs 3.1 bingo</p>
<p><b>Canada</b> (Williams &amp; Wood, 2004a)</p>	<p>2.1 overall</p>

# Some question wordings produce much better match between expenditure & revenue

- Asked about gambling expenditure 12 different ways to 2,424 randomly selected Ontario adults

Roughly how much money do/did you	spend	on gambling	in a typical month?	What we mean here is how much you are ahead or behind, or your net win or loss.
		in total on lottery, raffle and instant win tickets, Sports Select, slot machines and table games at Ontario casinos and racetracks, horse race betting, and bingo		
come out ahead or behind		on specific gambling activity (8 different types)	last time you purchased/played (this activity)? How often do you purchase/play (this activity)?	

- Compared each of these 12 ways against actual Ontario gambling revenue and one month prospective diaries amounts of subset of 364 Ontario gamblers (+ 211 Alberta gamblers)



## Some question wordings produce much better match between expenditure & revenue

- Reported expenditure varied by FACTOR OF 5 depending on question.
  - LOWEST: “Roughly how much money do you come out ahead or behind on gambling in a typical month?” (significant underestimate)
  - HIGHEST: “Roughly how much money did you spend on [specific format] the last time you purchased/played [specific format]. How often do you purchase play [specific format]? (significant overestimate)
- Poor correlation between estimates and subsequent diary amounts for most questions
- Best match to diary amounts and actual gambling revenue:  
***“Roughly how much money do you spend on [specific format] in a typical month?”***
- Wood, R.T. & Williams, R.J. (2007b). How much money do you spend on gambling? The comparative validity of question wordings used to assess gambling expenditure. *International Journal of Social Research Methodology: Theory & Practice*, 10 (1), 63-77.

# Expenditure/Revenue Match using this Wording

	% Expenditure from Problem Gamblers	Expenditure/Revenue match
Alberta 2010/2011	50%	108%
Ontario 2011	24%	88%
Massachusetts 2013	16%	110% horse racing 217% lottery





# Conclusions

Converging lines of evidence indicate that a substantial portion of gambling revenue derives from problem gamblers

➤ **Ranging from 15% – 50%**



# Conclusions

The exact proportion depends on:

## 1. Type of gambling

- much higher for continuous forms (e.g., EGM) & much lower for non-continuous forms (e.g., lotteries)

## 2. The specific jurisdiction

- jurisdictions vary in the types of gambling available, strength of their initiatives to prevent problem gambling, and vulnerability of their population

## 3. The specific time period studied

- problem gambling highest after initial introduction of gambling, then declines
- gambling availability and prevention policies change



# What about these contrary claims?

... “**5% to 15%** of gross gaming revenue comes from problem and pathological gamblers”

- National Center for Responsible Gaming (2016)

[\*Do Casinos Make Money off of Problem Gamblers?\*](#)

- 5% to 15% figure is from a single study: [Gerstein et al. \(1999\)](#)
- Misrepresentation of the actual findings: 15% overall, with a range of 8% for lotteries to 22.1% for casinos (pages ix & 33-34)
- Study conducted 18 years ago in U.S. before major casino expansion
- Study with the poorest match between reported expenditure and actual revenue:
  - 0.3 lotteries
  - 0.0 casinos (U.S. citizens reported winning \$3 billion)
  - 0.0 racetracks (U.S. citizens reported winning \$2 billion)

# What about these contrary claims?

“we conservatively estimate the share of total gaming revenue from Ontario problem gamblers to be much closer to 5.7%”

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- Added revenue from U.S. gamblers to the denominator, but restricted numerator to expenditure of just Ontario problem gamblers
- Used **2003** revenue, when U.S. gamblers accounted for 42% of revenue, rather than 2011 when U.S. gamblers accounted for just 2.5%.
- Used **2011** prevalence of problem gambling (1.0%), rather than the problem gambling prevalence in 2003 (3.0%).





Thank you!