



ASSOCIATION FOR SAFER DRUG POLICIES

Should drugs be regulated like gambling?

Dagfinn Hessen Paust
Association for Safer Drug Policies



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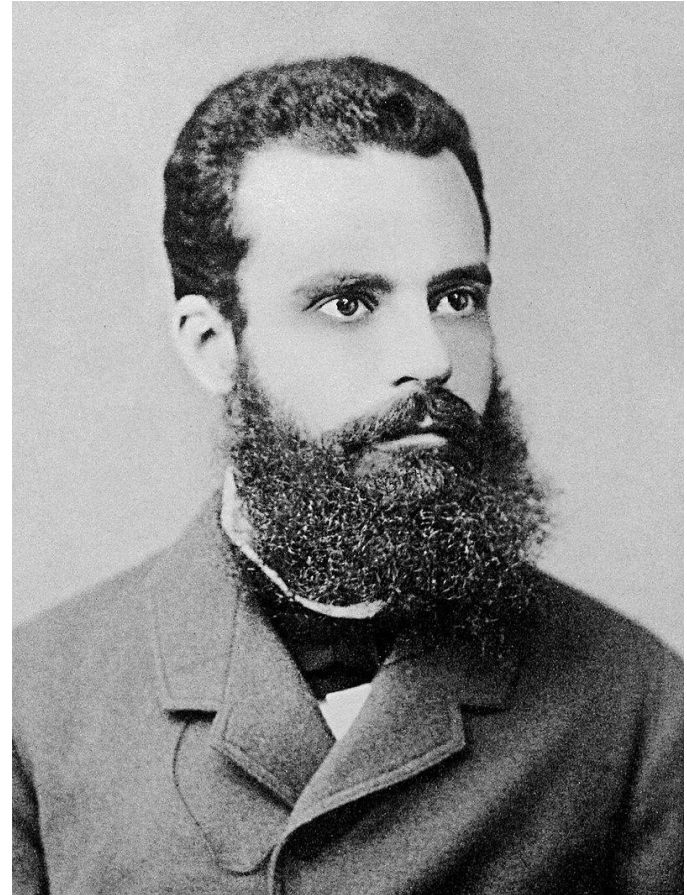
The standard model (universal, price-based)

- Each unit (of same potency) equally taxed and available
- Availability limited by **thresholds**
- Price is primary regulatory device, only **ceiling** on consumption over time



1. The Pareto rule

- Heavily skewed consumption, 80/20 and 50/10 distribution
- Excessive consumers bear the brunt of any increase
- Predatory industry



Vilfredo Pareto

2. The total consumption model

- Excessive consumption increases by **more** than the average
- *Also* when average is measured only among moderate consumers
- Higher average = even more skewed consumption



Ole-Jørgen Skog

3. The prevention paradox

- Small risk \times great number of people = significant occurrence
- Significant harm caused by moderate consumers (largely from bingeing)
- Increased normal consumption significantly harmful in itself



Geoffrey Rose

Non-standard models

(individual, availability-based)

- Rationing
- Self-limiting
- Discounted self-limiting*
- Progressive profit-limiting*



Norsk Tipping



1. Rationing (quotas)

- Monthly quota limits consumption
- Low price
- Alcohol in Sweden, 1917-1955 (strong wine and spirits)
- Alcohol in Greenland, 1979-1982
- Alcohol in Spitsbergen (not wine)
- Legal cannabis in Uruguay
- Cannabis clubs in Spain



Alcohol buying card, Spitsbergen

The Abolition of the Swedish Alcohol Rationing System: effects on consumption distribution and cirrhosis mortality

THOR NORSTRÖM

Swedish Institute for Social Research, Stockholm University, S-106 91 Stockholm, Sweden

Summary

From the mid-fifties, Sweden experienced a much sharper rise in male cirrhosis mortality than should be expected from the development in per capita consumption. The present paper attempts to explain this anomaly.

1. Rationing (quotas)

- Sweden: **50 %** increase in cirrhosis deaths when replaced by high price
- Suggests **1.5 to 3 times** effect of prohibition in U.S. (10-20 %)
- Accomplished **without** reducing moderate consumption

Alcohol Prohibition and Cirrhosis

Angela K. Dills, Jeffrey K. Miron

NBER Working Paper No. 9681

Issued in May 2003

NBER Program(s): The Health Economics Program

This paper uses state-level data on cirrhosis death rates to examine the impact of state prohibitions, pre-1920 federal anti-alcohol policies, and constitutional prohibition on cirrhosis. State prohibitions had a minimal impact on cirrhosis, especially during the pre-1920 period. Pre-1920 federal anti-alcohol policies may have contributed to the decline in cirrhosis that occurred before 1920, although other factors were likely substantial influences as well. Constitutional prohibition reduced cirrhosis by about 10-20 percent.

Black market sales

- Majority satisfied if high quota + low price
- Buyers will exhaust their quota **before** approaching illicit market
- Scalping of quota points = buffer



الجمارك السعودية @SaudCustoms | 12 ديسمبر 2016
جمارك حرس الحدود: لقد بحثنا مطولاً لثورة 12 نقطة حرم تجارة السلع التي تأتي بزيادة الثروة
http://t.me/1000000

Photo: Saudi customs

Underage access

- Diversion occurs at the expense of buyers' own access
- Diversion of large quantities requires many cooperating
- Buying privilege revoked if caught diverting



Industry motives

- Limits potential industry profit per consumer
- Extreme consumption no longer profitable = less predatory incentive



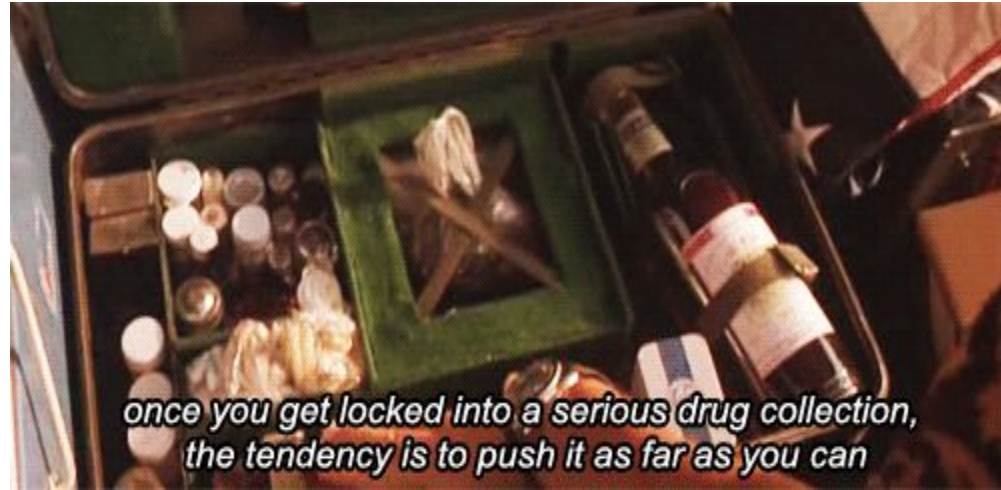
Binge consumption

- 24 hour quota limits stockpiling
- Serving quota in nightlife limits excessive intoxication
- **If** purchasing for others is allowed, personal points could be transferred digitally (w/ limits)



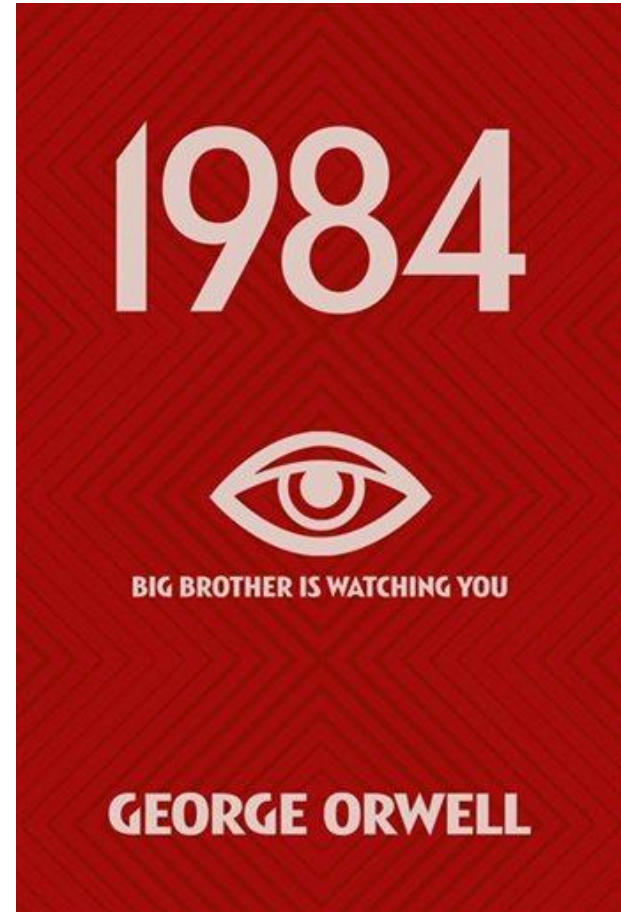
Poly-drug consumption

- Points quota (à la Greenland)
- Consumption of one drug limits access to other
- Could be weighted to favor less harmful drug
- Could prevent dangerous drug combinations (serving)



Objection 1: Privacy

- Buyer must document purchase history for current period
- Solution 1: Voucher system
- Solution 2: Pseudonymization (third party, biometric)
- Private clubs over state monopoly



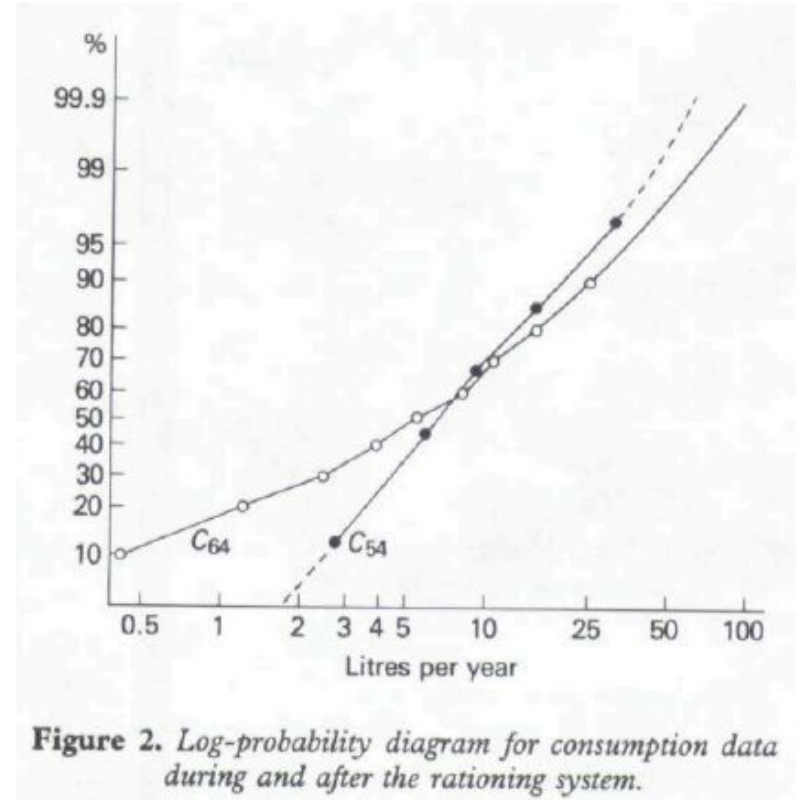
Objection 2: Autonomy

- Violates personal liberty
- Possibly unpopular, high rates of circumvention
- Easily abolished by populist governments (if mainstream drug)



Objection 3: Increased *normal* consumption

- Loss aversion (FOMO)
- May increase mid-level consumption more than it reduces excessive consumption
- Difficult to decide universal quota due to skewed consumption



(Norström, 1987)

Objection 4: Less tax revenue

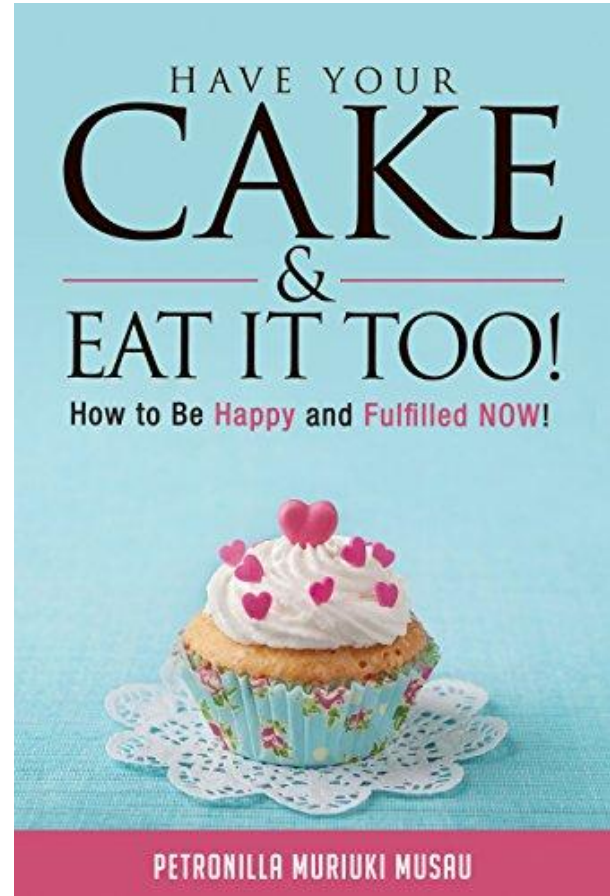
- Universal low price yields less tax
- Difficult to justify politically, illicit market harm hard to quantify
- May not pay for harm (of some drugs) if normal consumption increases substantially



What are the alternatives?

Could we reap all the apparent benefits of rationing **without**:

1. Maximizing normal consumption?
2. Sacrificing personal autonomy?
3. Reducing tax revenue?



Problem: Delayed reward discounting

- Immediate rewards valued over future ones
- Less price sensitive when craving
- Most extreme consumers hardly price sensitive
- **Consumption over time defined by moments of weakness?**

Steep delay discounting and addictive behavior: a meta-analysis of continuous associations

Michael Amlung¹, Lana Vedelago¹, John Acker², Iris Balodis¹ & James MacKillop^{1,3}

Peter Boris Centre for Addictions Research, McMaster University/St. Joseph's Healthcare Hamilton, Hamilton, Ontario, Canada,¹ Center for Integrated Healthcare, Syracuse VA Medical Center, Syracuse, NY, USA² and Homewood Research Institute, Homewood Health Centre, Guelph, Ontario, Canada³

Alcohol Demand, Delayed Reward Discounting, and Craving in relation to Drinking and Alcohol Use Disorders

[James MacKillop](#), [Robert Miranda, Jr.](#), [Peter M. Monti](#), [Lara A. Ray](#), [James G. Murphy](#), [Damaris J. Rohsenow](#), [John E. McGueary](#), [Robert M. Swift](#), [Jennifer W. Tidey](#), and [Chad J. Gwaltney](#)

Does Heavy Drinking by Adults Respond to Higher Alcohol Prices and Taxes? A Survey and Assessment

*Jon P. Nelson
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USA
(Email: jpn@psu.edu)*

2. Self-limiting (precommitment)

- Consumer decides limit/quota
- May be lowered freely, but not raised until next period
- Only moderate impulses heeded
- Utilized today in online gambling
- Proposed for tobacco/alcohol by Beshears et al. (2006)



Odysseus

Early decisions: A regulatory framework
John Beshears, James J. Choi, David Laibson
and Brigitte C. Madrian*

2. Self-limiting

(precommitment)

- **Increases** personal autonomy
(less vulnerable to exploitation)

- Less desire to circumvent?

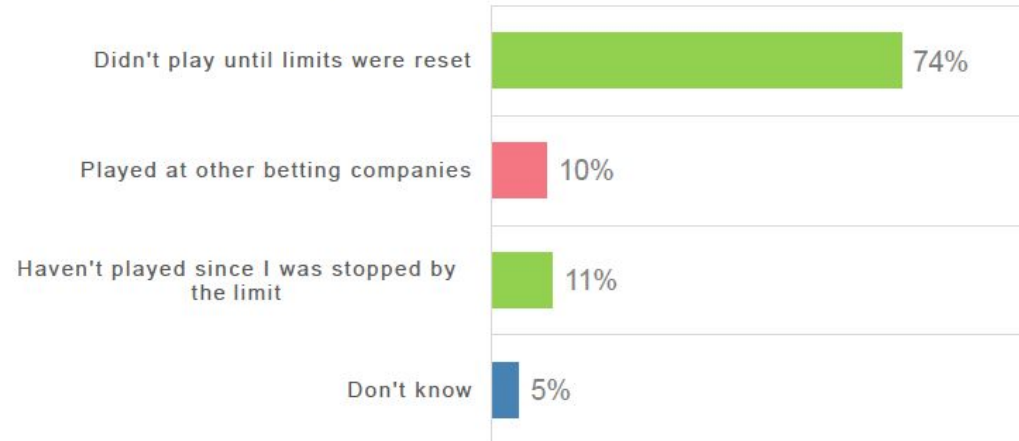
BUT:

- Doesn't allow low price
- Smaller effect on diversion
- Weak incentive + stigma



Norsk Tipping

What did you do when you were stopped by the limit?



(Survey by Norwegian state lottery, 2016)

3. Discounted self-limiting

- Self-limiting model in which unit price follows quota (until a point)
- Discount for moderation rather than price increase for excess
- Tax on **availability**, not consumption
- Marginal utility of last units vs. cost of every unit

40	40	40
40	40	

Quota: 5

Cost of 5 units: 200

44	44	44
44	44	44
44	44	44

Quota: 9

Cost of 5 units: 220

3. Discounted self-limiting

- Rewards reduced consumption
- Financial motive reduces stigma
- Likely increased price sensitivity
- Diversion expensive
- Still high tax revenue (Pareto)



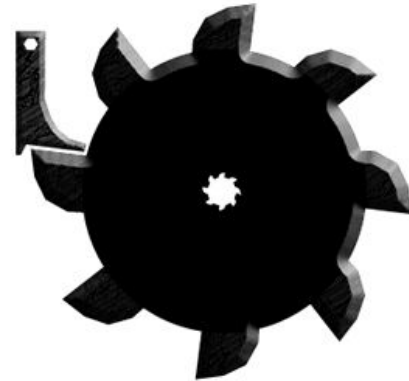
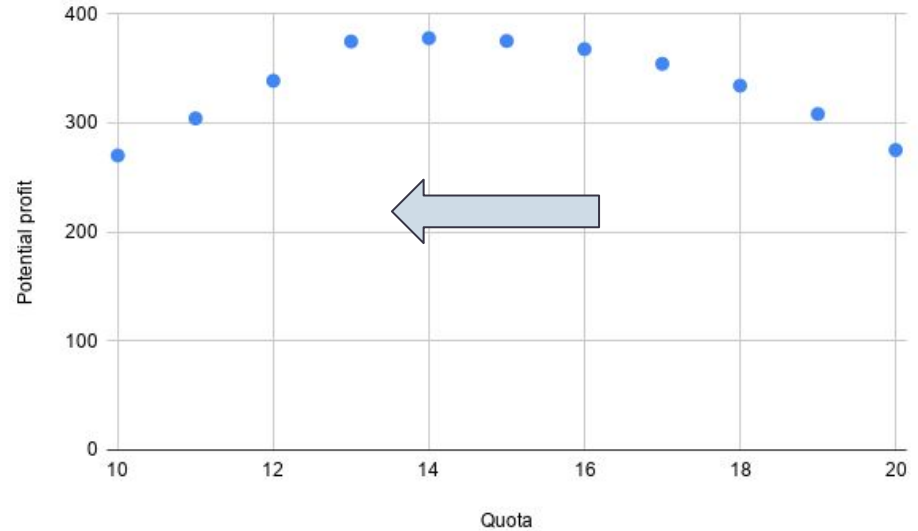
Progressive profit-limiting

- Unit tax increases by more than unit price past given quota level (diminishing returns)
- Indirect, progressive tax on potential profit per consumer
- Moderate quota **more** profitable than excessive quota

Quota	Unit price	Unit tax	Potential profit total
10	45	40 %	270
11	46	40 %	304
12	47	40 %	338.5
13	48	40 %	374.5
14	49	45 %	377.5
15	50	50 %	375
16	51	55 %	367.5
17	52	60 %	354
18	53	65 %	334
19	54	70 %	308
20	55	75 %	275

Progressive profit-limiting

- Tax revenue reflects actual harm
- Penalizes industry for skewing
- Industry can **increase profit** by **encouraging self-limiting**
- Self-limiting model means industry can only influence consumption in **one direction!**



A possible model?

- Distribution by private clubs
- Prevent multiple memberships (fees, waiting lists, licensing)
- DSL + PPL on monthly quota
- DSL on serving quota
- 24h quota = fraction of monthly
- Age-differentiated upper limits





www.saferdrugpolicies.com