

## Coordination problems in Dark Net drug markets

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## Our study

- Drug markets on the encrypted web
  - Dark net markets or cryptomarkets
  - Silk Road 2.0

- Economic sociology and transaction costs economics
  - Coordination problems (Beckert & Wehinger, 2013)



### Aim

- To gain a better understanding of the structure of dark net markets
  - An online context a different market structure?

- Analyzing empirical data by linking it to broader theory on:
  - Organization of illegal drug distribution
  - And economic activities



## Background info

- The original Silk Road
  - February 2011 November 2013
  - First and largest cryptomarket
- Silk Road 2.0
  - November 2013 November 2014
  - A near copy of the original version
- The Onion Router (TOR)
  - A software offering an encrypted, open network



## Drug market structure

- Risk management
  - Visibility vs. security
  - Open vs. closed

- Dark net drug markets new possibilities
  - Anonymity
  - Physical distance
  - Visibility



## **Economic sociology**

- Ideal type structures for economic activity
  - Markets, networks and hierarchies (Thompson, 2003)

- Illegal markets are inefficient
  - Coordination problems (Beckert & Wehinger, 2013)



## Coordination problems

(Beckert & Wehinger, 2013)

- Competition
  - Lack of competition
- Cooperation
  - No contracual obligations or legal recourse
- Valuation
  - Information asymmetry



### Method and data

Qualitative analysis of profiles and product sites

- Top 20 vendors from Silk Road 2.0
  - Gathered in September 2014
  - Almost 600 screen shots



#### **ThePinkPanther**

send a message

51 listings

vendor score: 85 out of 100 has been a vendor for 10 months
was last seen: today
ships from: Netherlands
ships to: Worldwide

report this vendor

#### vendor profile

STATUS: 15-09-14 - Please people do not forget to leave a "5" star feedback if you are satisfied otherwise it appears completely empty.

ADMIN QUOTE: All 2/5, 3/5, 4/5 currently appear as 1/5. The development team are actively working on fixing it.

Hello everybody,

As you all noticed i have been away for a while due to security reasons. I have noticed major bad feedback in the past few days. this is something im not happy about. Please wait with leaving feedback to early as i was not able to answer messages in the mean time while i was away. I am a 100% sure that most of you whom left bad feedback will eventually still receive there order, and yet you will not be able to change your feedback afterwards!! thnx for that

To BE CLEAR I have been vending here for 9 months and gained one of the most successful status on SR. I would appreciate if some of you respect that and understand that this job aint always the easiest.

I never scammed one of you in my entire carrier!! I am positive that eventually this will have its turn in the right direction. Even thou i am back the once who left me 1 star without even given me a chance to solve it will not be helped whatsoever.

For those who kept there faith i want to apologize for my sudden disappearance there was no option for me left at that point. I will make everything right with you as i always do. And i want to thank you for your patients my hart is filed with gratitude towards you. Thank you for understanding.

Sincerely yours, ThePinkPanther

√ Update: 27-07-2014 - NEW PREMIUM Cocaine batch! This is truly the best cocaine you will find on here. Real quality cocaine is very hard to find these days. The prices went up everywhere so also with us. We choose quality over price!

 $\sqrt{}$  Update: NEW: Cocaine batch. Flake cocaine only the BEST of the BEST

 $\sqrt{\text{Update: NEW: Rolls-Royce 3D XTC pills rectangle with breaking line. The new generation 160mg MDMA party pills!}$ 

√ Update: 100gr Premium dutch MDMA Crystals 84% EURO 997.- !!!

 $\sqrt{}$  Update: 50 gr Premium dutch MDMA Crystals 84% EURO 525.- !!!



## The top 20 vendors

- 19 of 20 vendors had been selling for 10-11 months
- 18 of the vendors had been active that day
- Average vendor score was 91.9/100
- 13 vendors from English-speaking countries, the other 7 were from European countries
- 14 vendors shipped «worldwide», the other «domestic» in US/Canada/Australia



# Coordination problems in cryptomarkets

Competition

Cooperation

Valuation



## Competition in cryptomarkets

- A visible drug market
  - Profiles and product sites
  - Easy to compare prices and goods



Drugs 13966

Stimulants 1791

Psychedelics 1658

Prescription 3611

Precursors 29

Other 472

Opioids 362

Ecstasy 1923

Dissociatives 104

Cannabis 1801

Steroids/PEDs 1006

Alcohol 354

Apparel 543

Art 4

Books 176

Computer equipment 26

Custom Orders 85

Digital goods 348

Drug paraphernalia 192

Electronics 33

Frotica 55

Forgeries 112

Hardware 12

Herbs & Supplements 1

Jewelry 52

Lab Supplies 1

Lotteries & games 8

Medical 28

Money 138

Packaging 27

Services 121

#### browsing drugs

sort by: bestselling







#### 1g Platinum Standard Pure Fire MDMA

B0.220730

ships from: United States ships to: United States



sold by Platinum Standard 95



#### 5g White Widow B0.155024

ships from: Netherlands ships to: Worldwide



sold by DutchMagic 92



#### Symbiosis - 1g MDMA - UK First Class

B0.098102

ships from: United Kingdom ships to: Worldwide

**\*\*\*\*** \*\* (1835)

sold by Saint Symbiosis 93



## Competition in cryptomarkets

- Increased competition
  - 450-550 active vendors (Munksgaard, Demant & Branwen, 2016)
  - Competing for attention
    - Profiles and discussions
    - User name as brand



# Coordination problems in cryptomarkets

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## Cooperation in Cryptomarkets

Formal market structure

- The administrator, moderators and website
  - Sanctions

- Formalizing reputation: feedback system
  - Ranking scores and comments



#### vendor feedback

30 day average: 4.60 60 day average: 4.70 Overall average: 4.80

rating	feedback	item	freshnes
****	awesome stuff, clean, mega rushes, can redose more than you would normally get any feeling from too so mega long session possible!! nice!!	item	today
****	10/10 thank you	item	today
****	10/10 tank	item	today
****	Splendid! (=^_^=)	item	today
***	Very Good Quality Fast shipping.	item	today
****	thx a lot :)	item	today
****	intoxicator - germany: Always 2-3 Days shipping / best Stealth / best Stuff / best Vendor	item	today
****	3 day delivery, nice stealth bang on weight. lovely gear, best 90€ blow i ever had, thanks mate, keep on the good work! will be back for sum more soon!	item	today
****	Everything great as usual!!	item	today
***	Generous weight, good gear, will buy again	item	today

## Cooperation in cryptomarkets

 Motivated vendors to run clean businesses and show customer service

- Safer buyers due to an open reputation system
  - Feedback and discussion forum



# Coordination problems in cryptomarkets

Competition

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Valuation



## Valuation in Cryptomarkets

• Transparency of cryptomarkets (Tzanetakis et al., 2015)

Product presentation



This is the RG Deal of the Week! Here you'll find weekly specials on a select choice of my offerings for a great price!

This weeks (2/3-2/10) deal includes:

- 1. QUAD DOSE C&C Bars! (X4) \$55 value
- 2. Hash Gummies! (X16) \$53 value
- 3. FREE First Class Mail Shipping \$4 value

All this for only \$79.99 when it would normally cost \$112! You will save a whopping 29% off normal prices if you purchase this deal :) Buy now before it's too late! No limit to how many you can purchase!

"The connoisseur's first choice, the best quality, the strongest potency, the ultimate seduction. (...)
Flawless delivery rate – Buy with confidence!"

"I'm a small farmer who grows his herb with care and has the medical user in mind. So clean, healthy and potent cannabis. Supplied also to local clinics. This is a passion of mine and I enjoy providing this wonderful plant to others to enjoy and utilize in whatever way they choose whether recreationally or medically."



## Valuation in cryptomarkets

- New risks
  - Border control, hacker attacks and scams

- Vendors setting limitations and restrictions
  - Such as delivery destinations



# Summary of coordination problems in cryptomarkets

- Competition problem
  - Highly decreased due to the visibility that makes it easier to compare prices and goods
- Cooperation problem
  - A more formalized structure with sanctions and feedback/reputation makes it easier to cooperate
- Valuation problem
  - Transparency makes it easier to validate products, vendors and buyers. But new risks also appear.



### Conclusion

 Silk Road 2.0 experiences less coordination problems than physical drug markets

 A more efficient drug market due to new opportunities to be highly visible without risking too much

**THANK YOU!** 



### References

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