

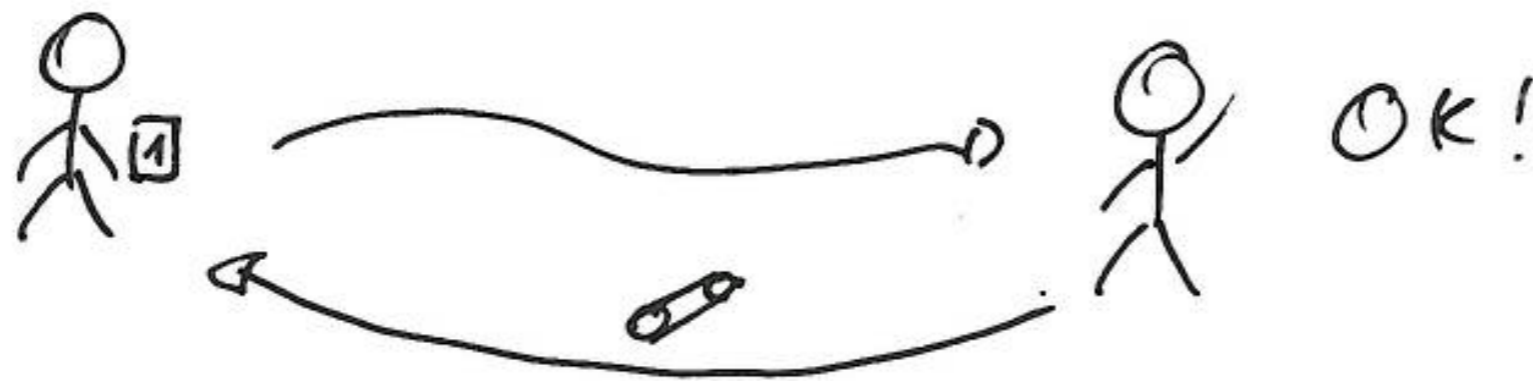
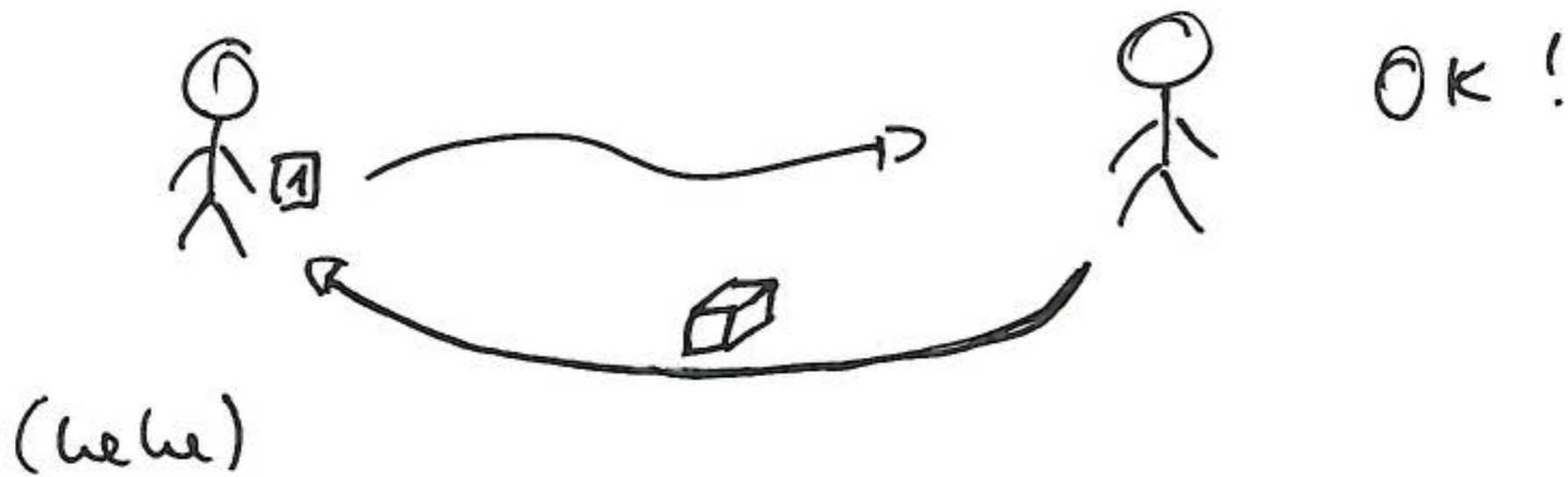
All you need to  
know about  
bitcoins (and  
some)

[md@gonium.net](mailto:md@gonium.net)

# Bitcoin

- Buchhaltung, kein Geld
- P2P-System, keine zentrale Komponente
- Open Source

# Double Spending



# Transaction

View information about a bitcoin transaction

77c550500403d9d94573e21010f4ef9b0c7dd1436a31ebd1cf647d0219ca5214

1eoTLfkPTbFKq4scCkEF1BmijzbaoX4dG



1GA3JX2YEpWrjUcpZmKrU4i1S5uFCDtcT4  
1Hj9pKP9SoCgEjGs7triWDKSbCSxYyLjbD

1.05 BTC  
305.27735557 BTC

**Unconfirmed Transaction!**

**306.32735557 BTC**

## Summary

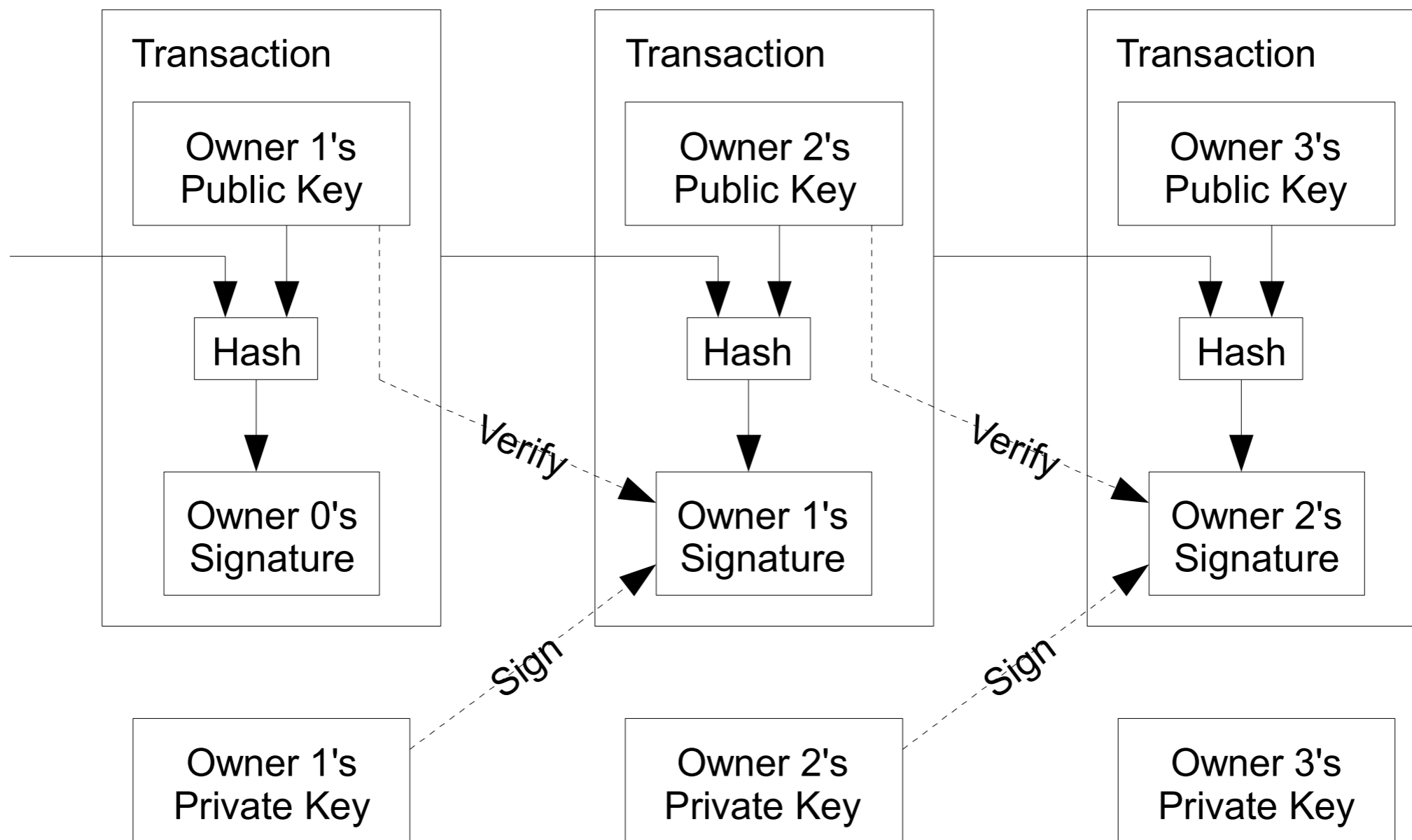
Size	227 (bytes)
Received Time	2013-09-17 09:49:52
Estimated Confirmation Time	8 minutes (queue position 118)
Relayed by IP	<a href="#">194.8.75.249 (whois)</a>

Visualize [View Tree Chart](#)

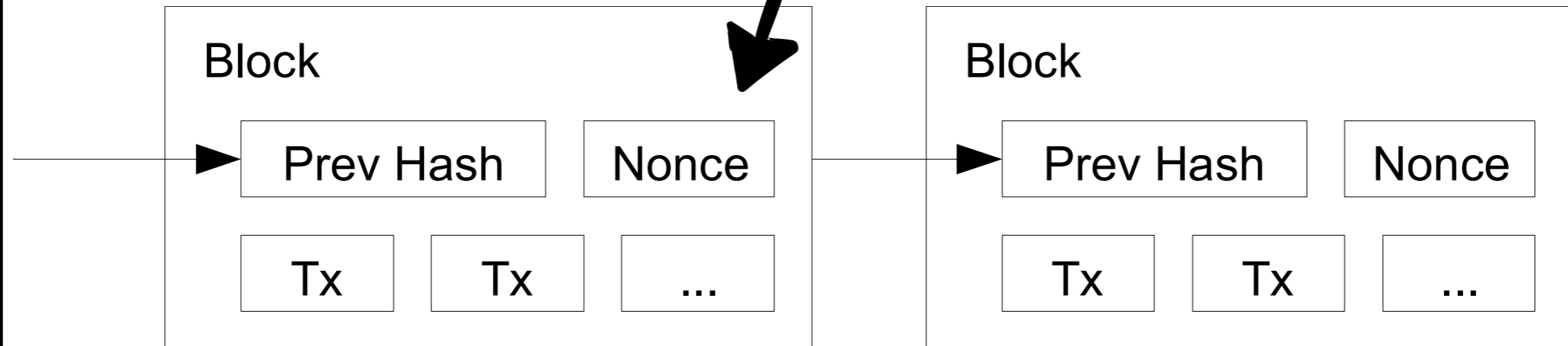
## Inputs and Outputs

Total Input	306.32785557 BTC
Total Output	306.32735557 BTC
Fees	0.0005 BTC
Estimated BTC Transacted	1.05 BTC

Scripts [Show scripts & coinbase](#)



# Mining



Demo

# Geld: Versprechen



Bundesarchiv, Bild 183-2005-0728-526  
Foto: o. Ang. | 1947 ca.



# Münzgeld



# Heute: Fiat-Geld



## Gold Standard

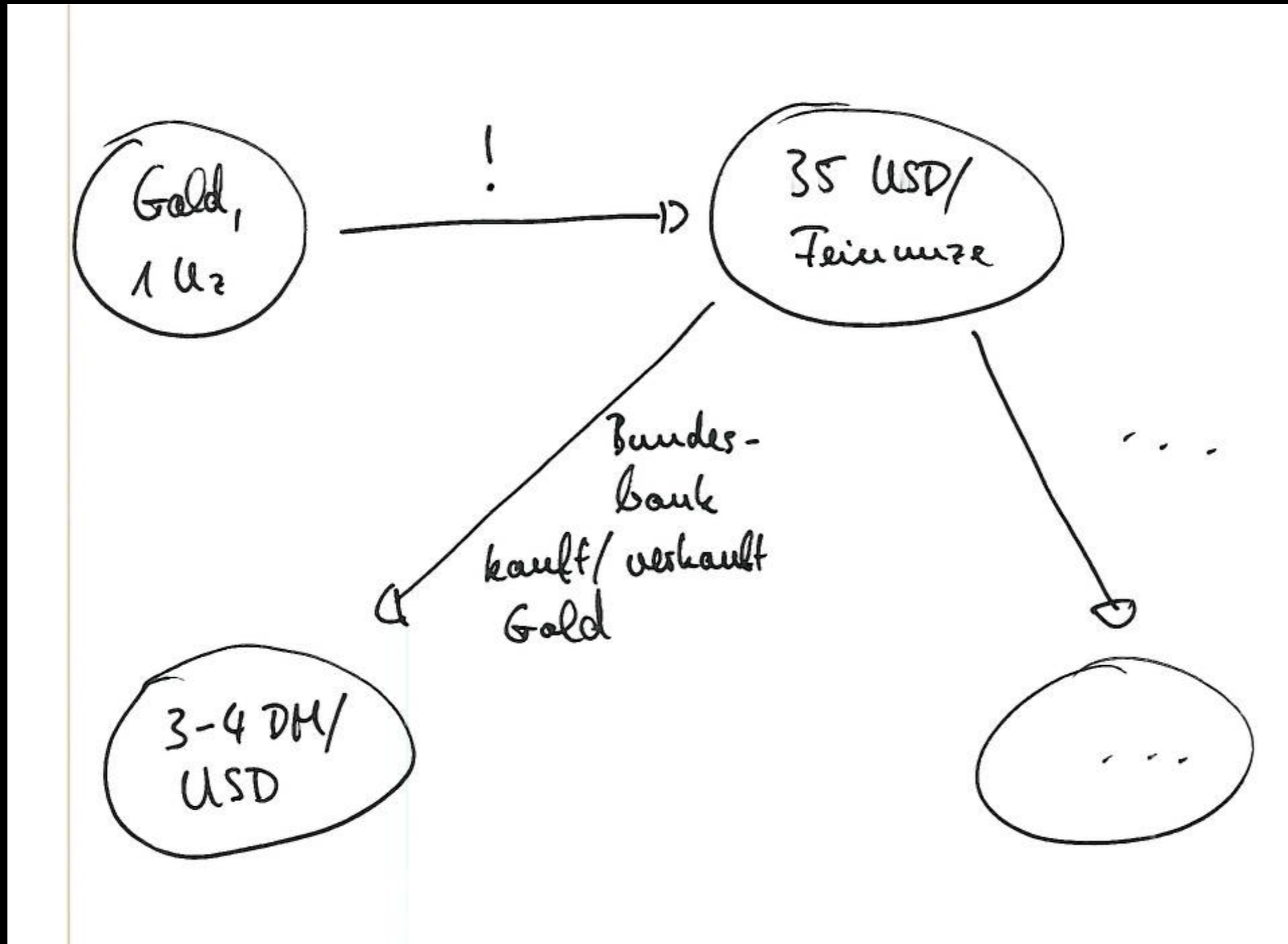
Filed Under » [Forex History](#), [Gold](#), [Macroeconomics](#), [Monetary Policy](#)



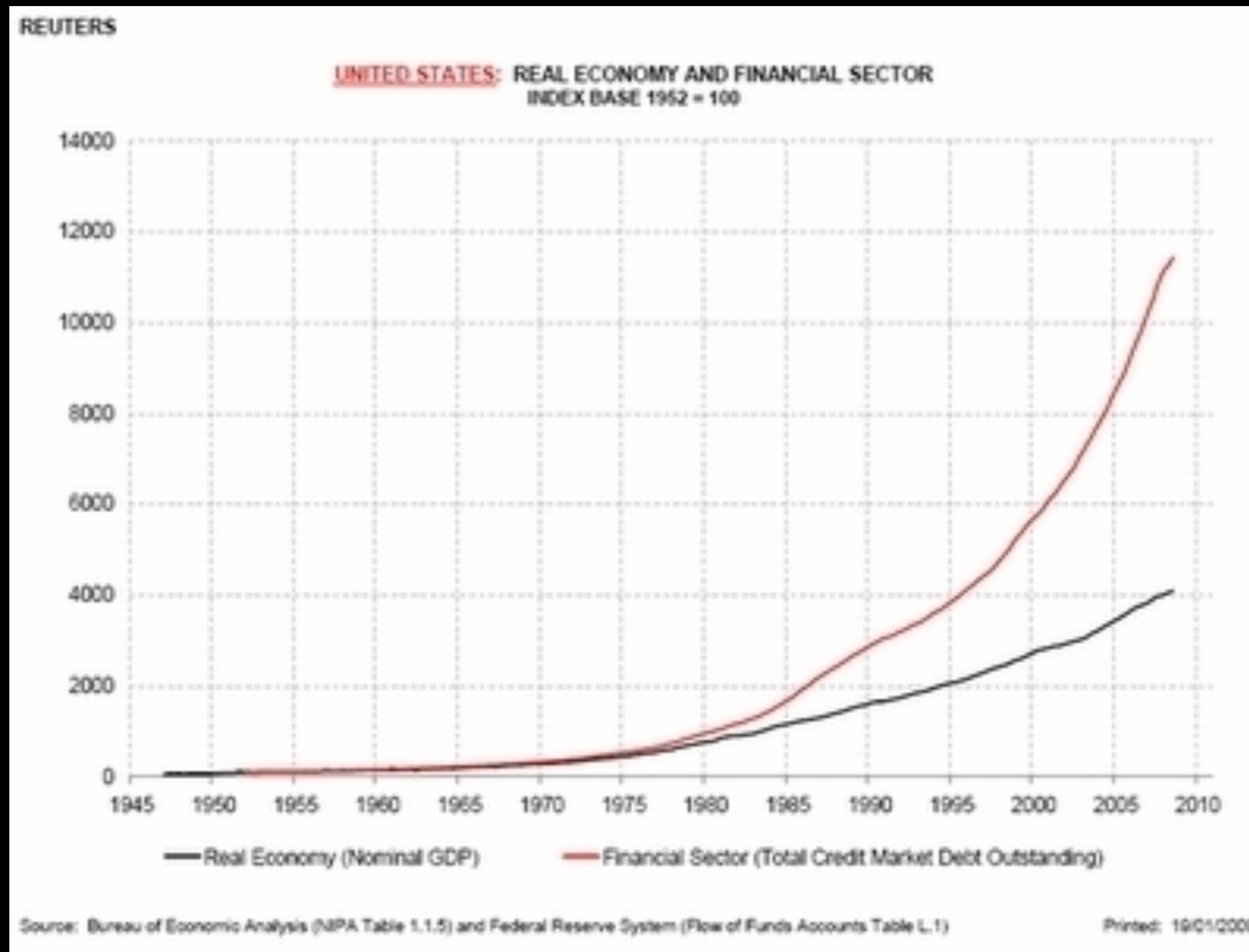
### Definition of 'Gold Standard'

A monetary system in which a country's government allows its currency unit to be freely converted into fixed amounts of gold and vice versa. The exchange rate under the gold standard monetary system is determined by the economic difference for an ounce of gold between two currencies. The gold standard was mainly used from 1875 to 1914 and also during the interwar years.

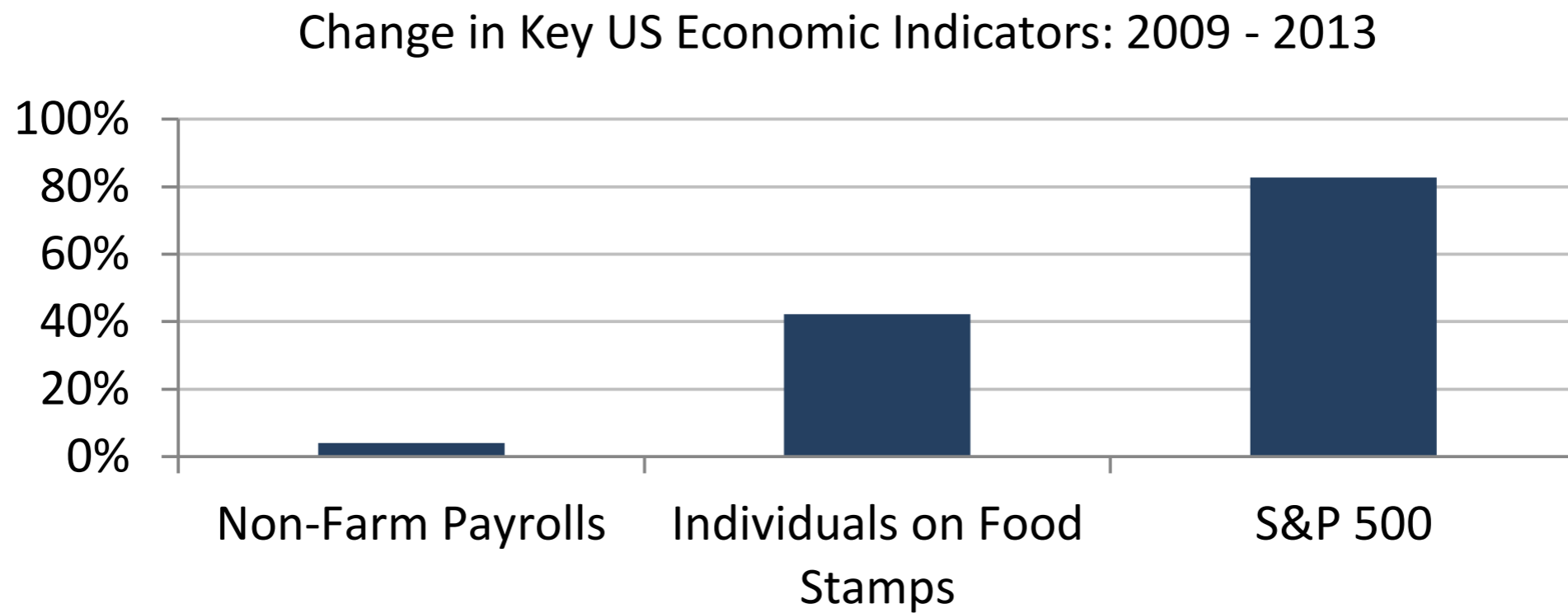
# Bretton Woods (nach 45)



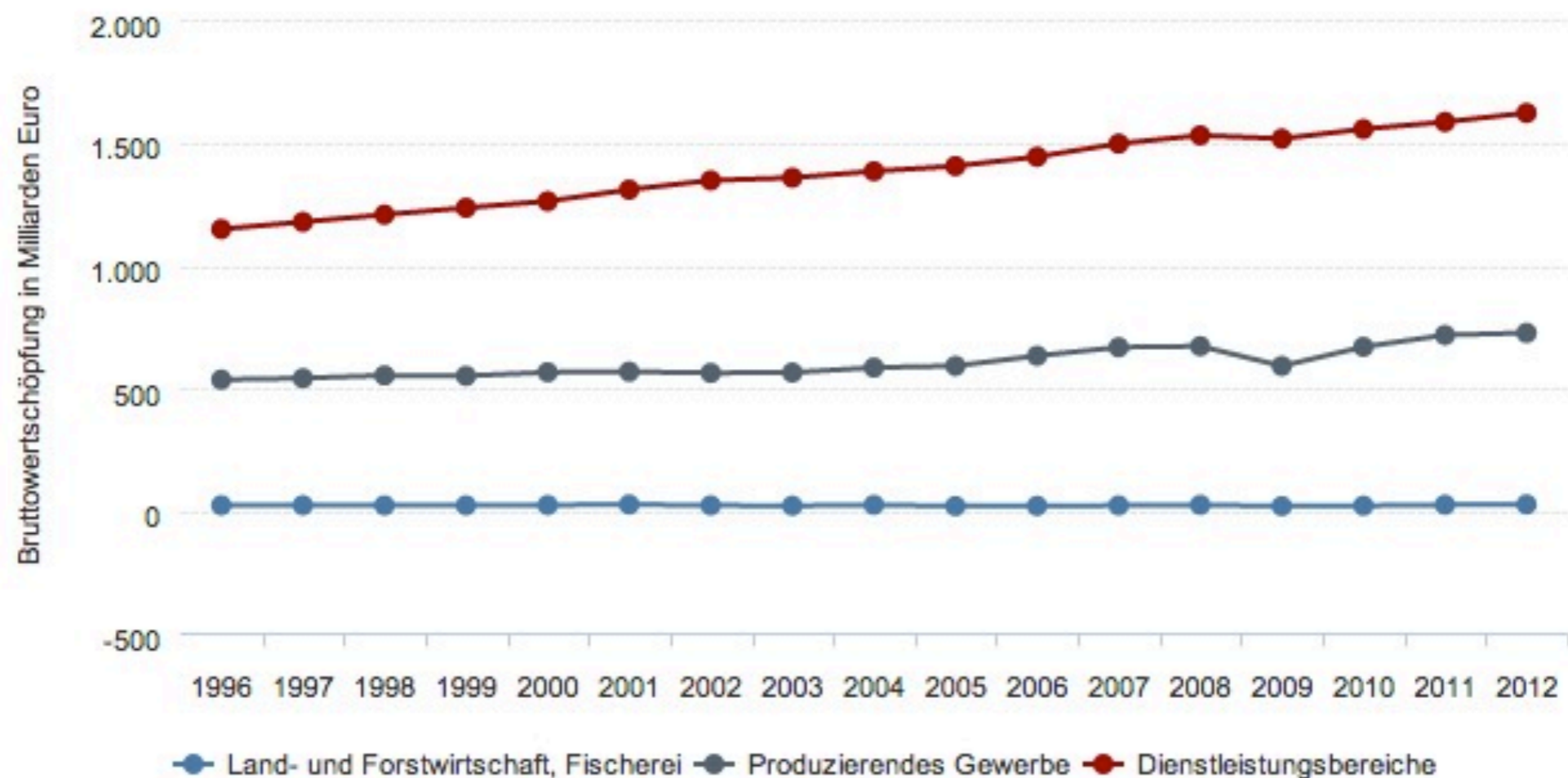
# Ab 1970: Freie Wechselkurse



**FIGURE 2 - EFFECTS OF MONETARY EASING**



## Entwicklung der Bruttowertschöpfung in Deutschland von 1996 bis 2012 nach Wirtschaftsbereichen (in Milliarden Euro)



i Deutschland

Quelle: Statistisches Bundesamt

© Statista 2013

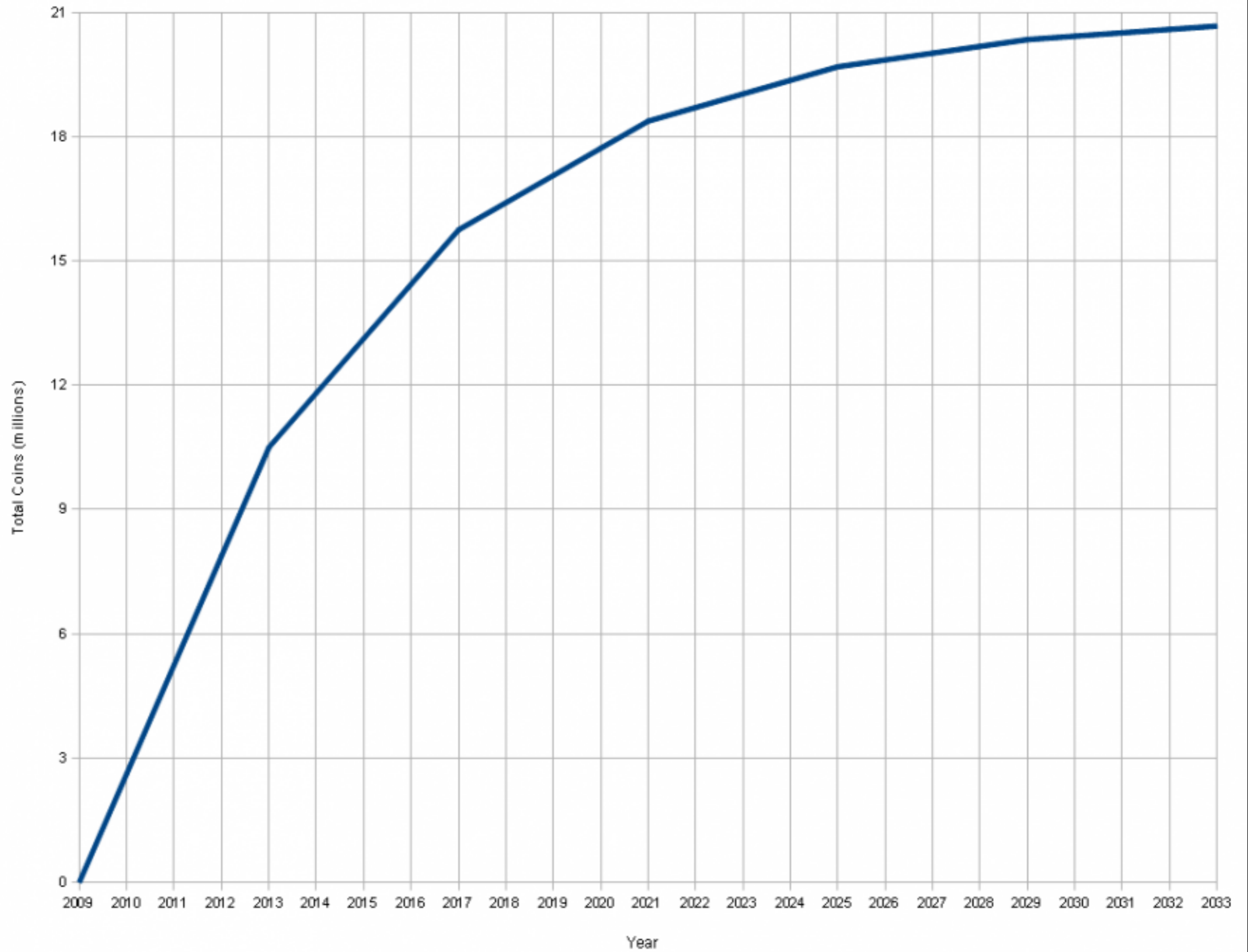
# Keynes vs. Hayek

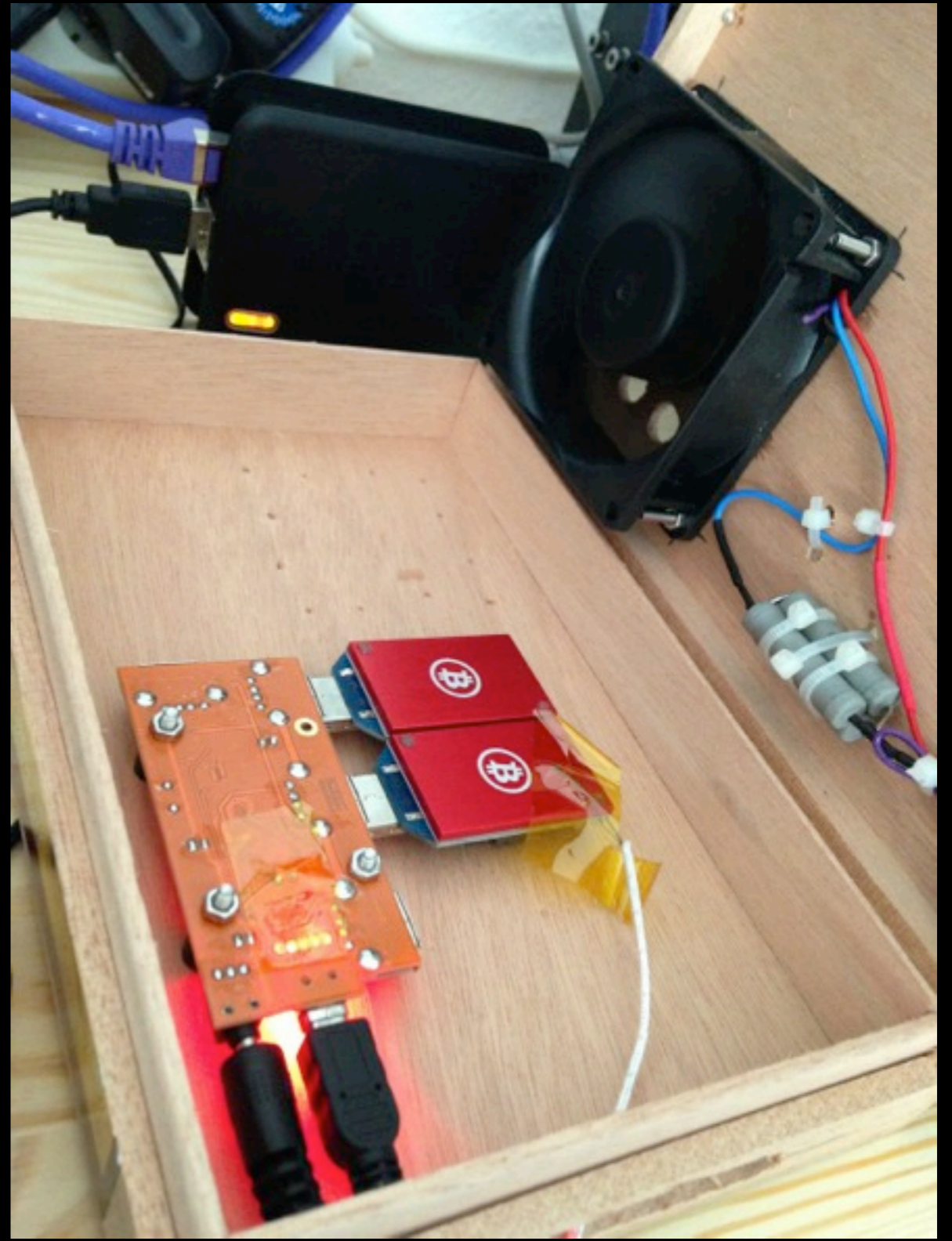


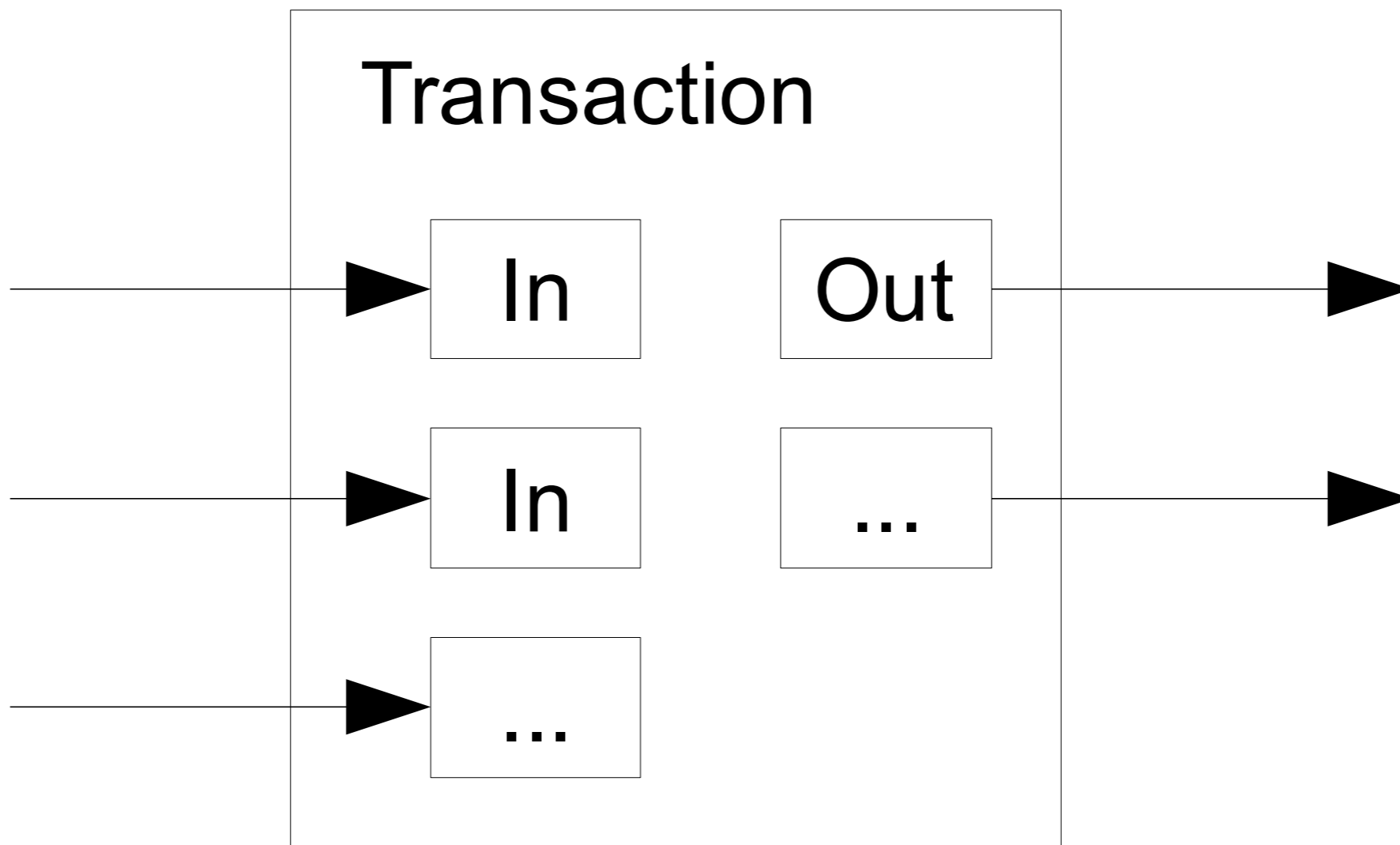
— <https://www.youtube.com/watch?v=d0nERTFo-Sk>



Total Bitcoins over time







# Network Speed and Difficulty

Zoom 1m 3m 6m YTD 1y All



## Market & Hardware Parameters

ASICMiner Block Erupter USB 4

### Hardware Values

Hash Rate (GH/s) 1.344

Power Use (W) 10

Cost of Hardware (\$) \$99.7

Initial Mining Date September 2013

### Additional Costs

Shipping Costs 0

Misc Costs (psu, cables, etc) 0

Pool Fee (%) 2

### Network Stats

Current Difficulty (MM) 112.63

Difficulty Increase / Month (%) 80

### Conversion and Electricity

Conversion Rate (\$/BTC) 138.48

Conversion Increase / Month (%) 0

Electricity Costs (\$/kWh) 0

Calculate

## Mining Payout Schedule by The Genesis Block

Display Currency **USD**

Share your analysis: [Copy http://mining.thegenesisblock.com/a/0ed49f67f8](http://mining.thegenesisblock.com/a/0ed49f67f8)

Break Even Period: No break-even in first year Total Fixed Costs: \$99.7  
Max Profit: \$ Monthly Power Costs: \$0

Month	Difficulty (MM)	Time per Block (days)	Monthly Revenue	Monthly Profit	Cumulative Return
Sep-13	113	4166	\$24	\$24	\$(75)
Oct-13	203	7499	\$14	\$14	\$(62)
Nov-13	365	13497	\$8	\$8	\$(54)
Dec-13	657	24295	\$4	\$4	\$(50)
Jan-14	1182	43732	\$2	\$2	\$(48)
Feb-14	2128	78717	\$1	\$1	\$(46)
Mar-14	3831	141691	\$1	\$1	\$(46)
Apr-14	6895	255044	\$0	\$0	\$(45)
May-14	12412	459079	\$0	\$0	\$(45)
Jun-14	22341	826343	\$0	\$0	\$(45)
Jul-14	40214	1487417	\$0	\$0	\$(45)
Aug-14	72386	2677350	\$0	\$0	\$(45)

# 51%-Attacke

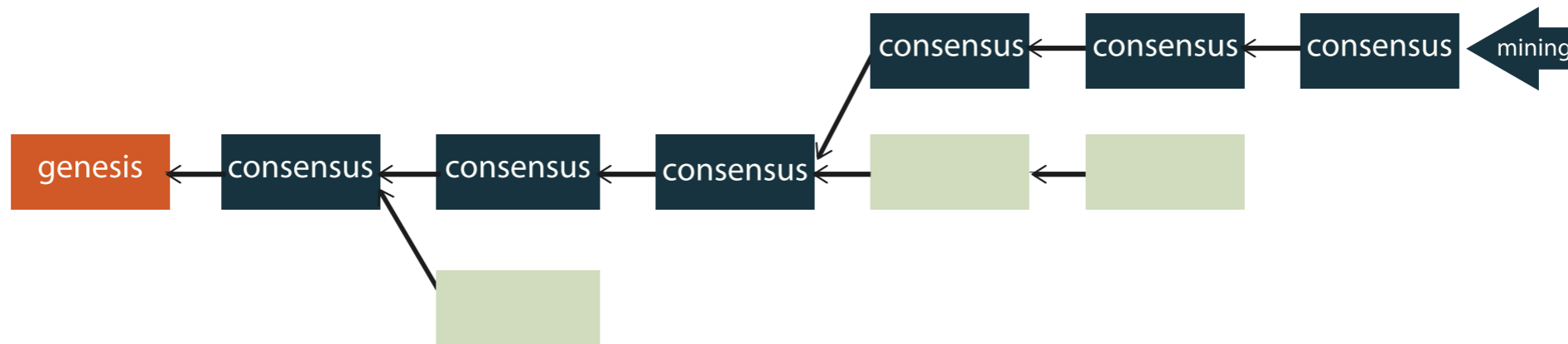
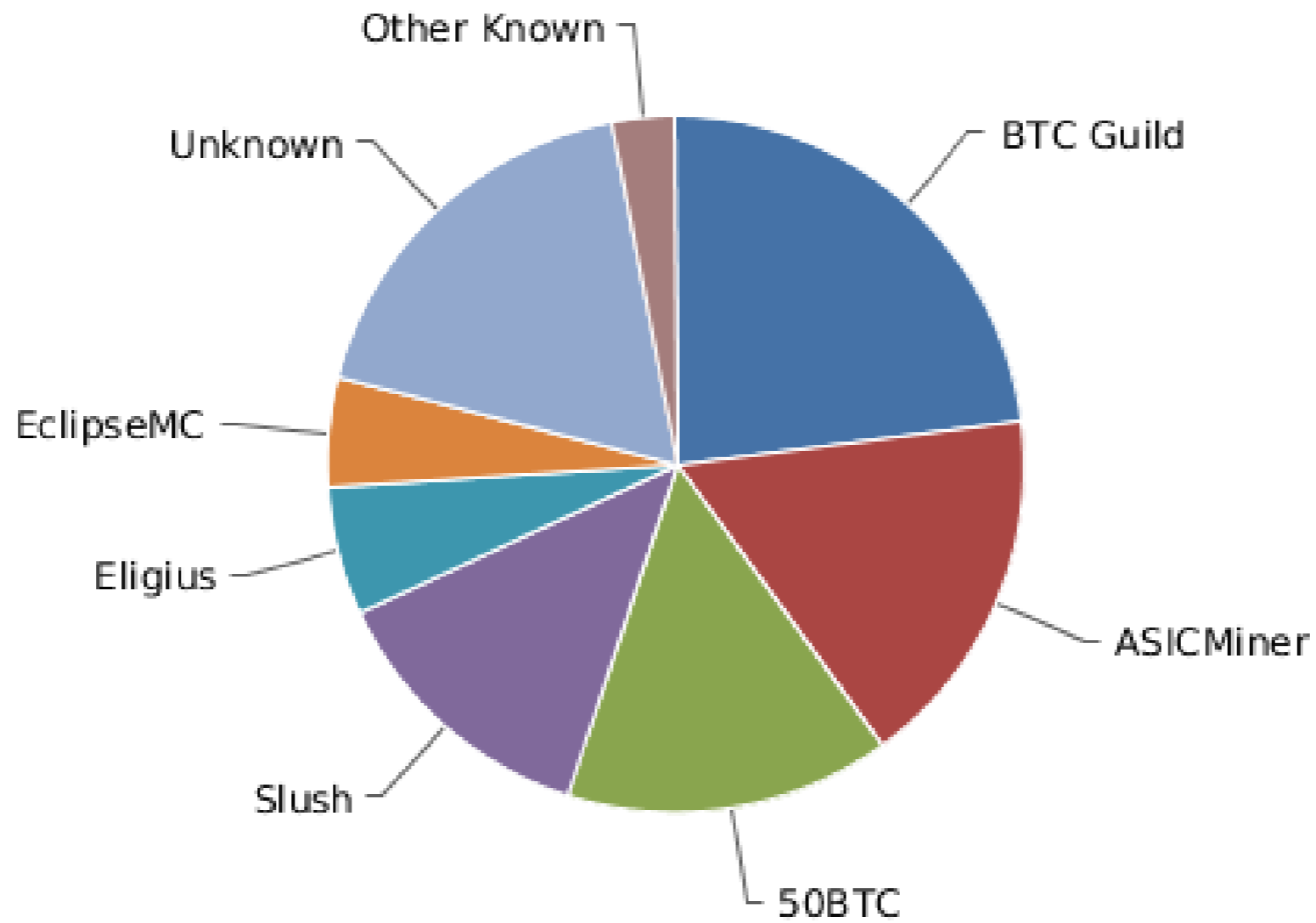


Figure 2: An example abstract blockchain. The genesis (first) block is on the left. Mining occurs on the longest branch of the branching tree. Other branches and branches with invalid blocks are ignored.

**FIGURE 15 - MINING POOL NETWORK SHARE (VIA [BLOCKCHAIN.INFO](http://BLOCKCHAIN.INFO))**















Aktueller Bitcoin Kurs: ↗ 95,57 € ↗ \$139,51 (Stand 17.09.13 12:00)

 **Kaufen »**

Menge (min.)	Preis/BTC	Volumen	Zusatzinfo	Kaufen
0,96 (0,96)	95,29 €	91,47 €	 	<b>KAUFEN</b>
15 (10)	95,40 €	1.431,00 €	 	<b>KAUFEN</b>
20 (10)	95,45 €	1.909,00 €	 	<b>KAUFEN</b>
20 (10)	95,50 €	1.910,00 €	 	<b>KAUFEN</b>
1,3053 (1,3053)	95,99 €	125,29 €	 	<b>KAUFEN</b>
1 (1)	96,00 €	96,00 €	 	<b>KAUFEN</b>

[Weitere Verkaufsangebote »](#)

 **Verkaufen »**

Menge (min.)	Preis/BTC	Volumen	Zusatzinfo	Verkaufen
0,52736475 (0,52736475)	94,83 €	50,00 €	 	<b>VERKAUFEN</b>
20 (2)	94,70 €	1.894,00 €	 	<b>VERKAUFEN</b>
10 (5)	94,66 €	946,60 €	 	<b>VERKAUFEN</b>
12,145 (1)	94,60 €	1.148,91 €	 	<b>VERKAUFEN</b>
0,1011 (0,1)	94,56 €	9,56 €	 	<b>VERKAUFEN</b>
1,13 (0,1)	94,55 €	106,84 €	 	<b>VERKAUFEN</b>

[Weitere Kaufanfragen »](#)

CAN HAZ BTC: OTC



```
md — md@beachhead: ~ — ssh — 362
Market: BTCUSD | Account: No info (yet)
sum_bid: 14,092,678 USD | sum_ask: 53,755 BTC | ratio: 262.16 USD/BTC | o_lag: 0.000 s | s_lag: 0.253 s
147.50000 11131.16193592 172.00 *****
147.00000 10427.07226692 170.00 *****
146.50000 9725.80404608 168.00 *****
146.00000 9225.46398376 166.00 *****
145.50000 8433.86735340 164.00 *****
145.00000 7639.65247805 162.00 *****
144.50000 5547.36342122 160.00 *****
144.00000 4594.87365043 158.00 *****
143.50000 3229.84154817 156.00 *****
143.00000 2631.81504606 154.00 *****
142.50000 2026.60329249 152.00 *****
142.00000 1724.07286974 150.00 *****
141.50000 987.77705885 148.00 *****
141.00000 642.20536113 146.00 *****
140.50000 106.84765480 144.00 *****
140.04447 3.81766880 142.00 *****

140.02419 0.02882787 140.00
139.00000 5.76150310 138.00
138.50000 242.10839845 136.00
138.00000 1081.08246979 134.00
137.50000 1709.12163531 132.00
137.00000 1856.07844037 130.00
136.50000 2979.93888027 128.00
136.00000 3904.29979952 126.00
135.50000 5212.50424231 124.00
135.00000 6196.70987505 122.00
134.50000 6376.67797977 120.00
134.00000 6750.02496752 118.00
133.50000 7087.81748360 116.00
133.00000 8437.98754945 114.00
132.50000 8684.96623832 112.00
132.00000 9353.04607684 110.00

depth: ask: -12.31000000 @ 147.41978 total vol: 0.00000000 (age: 0.32 s)
depth: bid: 0.10765556 @ 126.27001 total vol: 0.86146039 (age: 0.18 s)
depth: ask: 12.31000000 @ 147.30647 total vol: 12.31000000 (age: 0.13 s)
depth: bid: -4.20000000 @ 138.11001 total vol: 8.40000000 (age: 0.79 s)
tick: 140.02419 140.04447
depth: bid: 4.20000000 @ 138.51001 total vol: 21.00000000 (age: 0.14 s)
depth: bid: -0.10772753 @ 126.27001 total vol: 0.75373286 (age: 0.16 s)
[0] 0:irssi- 1:goxtool* "beachhead" 12:06 17-Sep-13
```

# CAN HAZ BTC: Börse

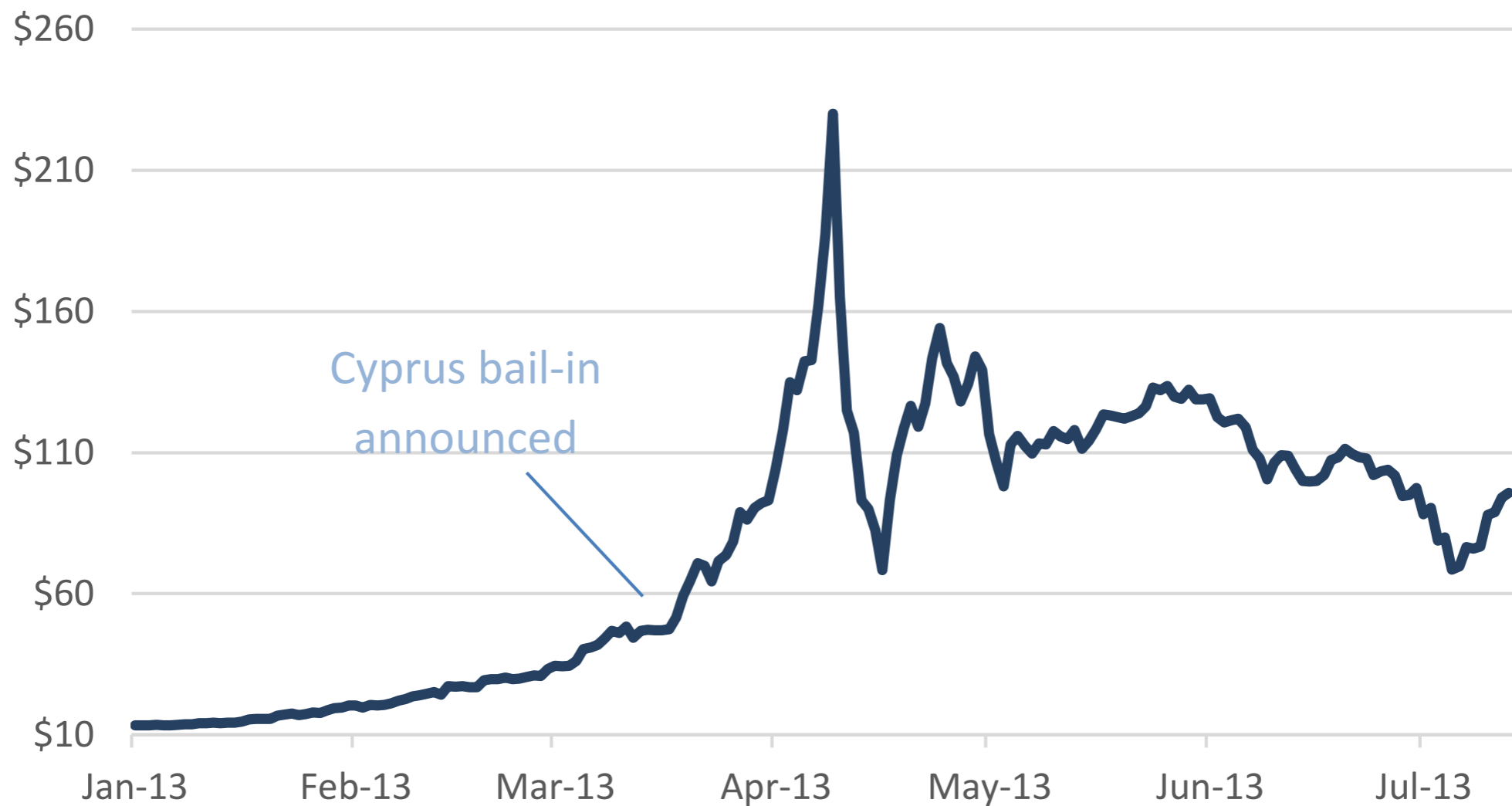


As seen on



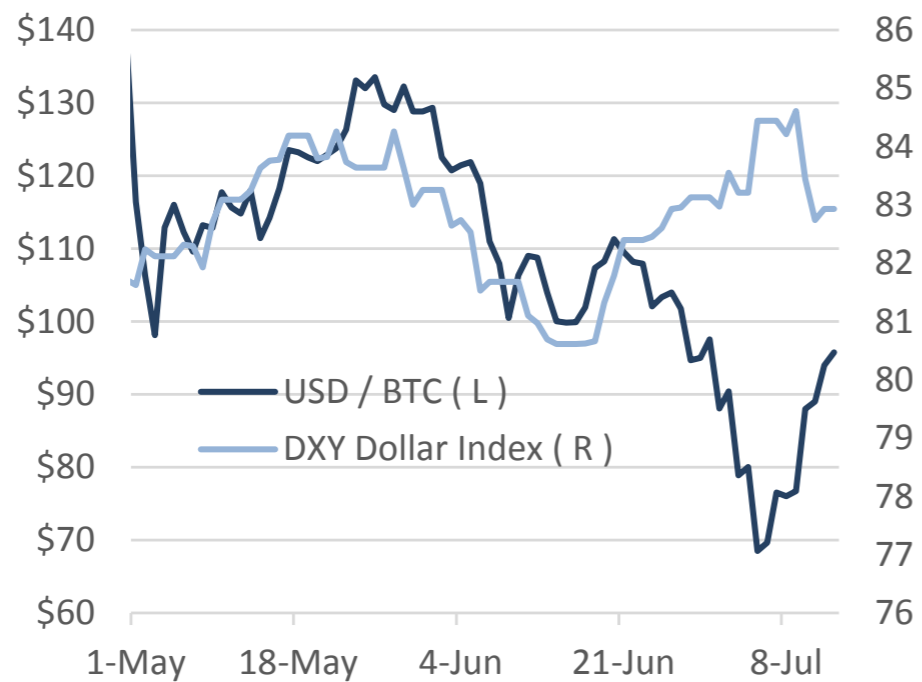
CAN HAZ BTC: [kondoco.in](http://kondoco.in)

**FIGURE 1 – 2013 USD/BTC EXCHANGE RATE**

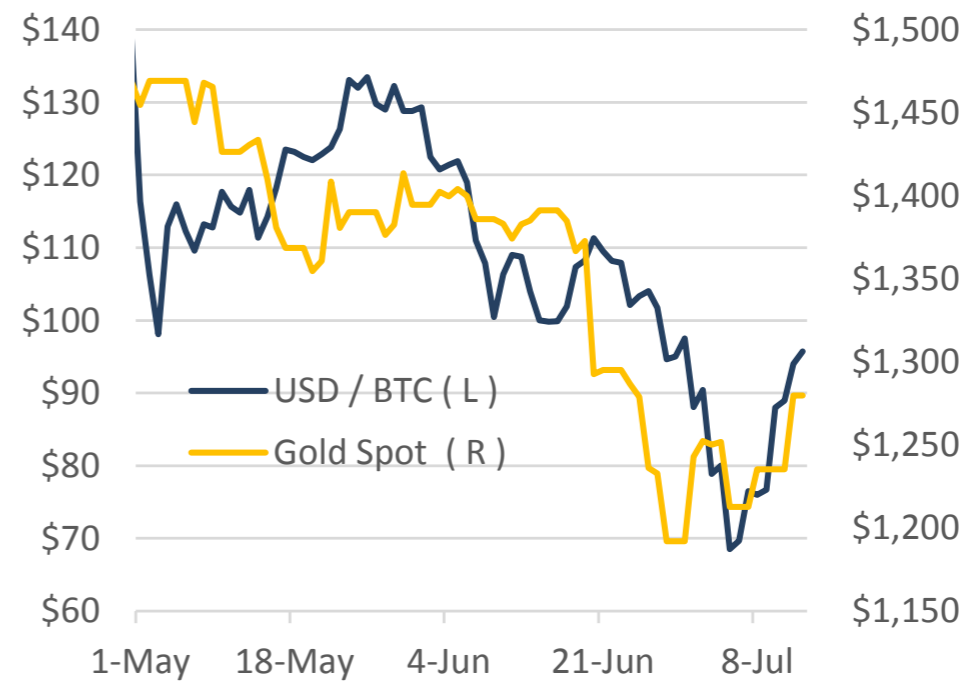


Cyprus bail-in  
announced

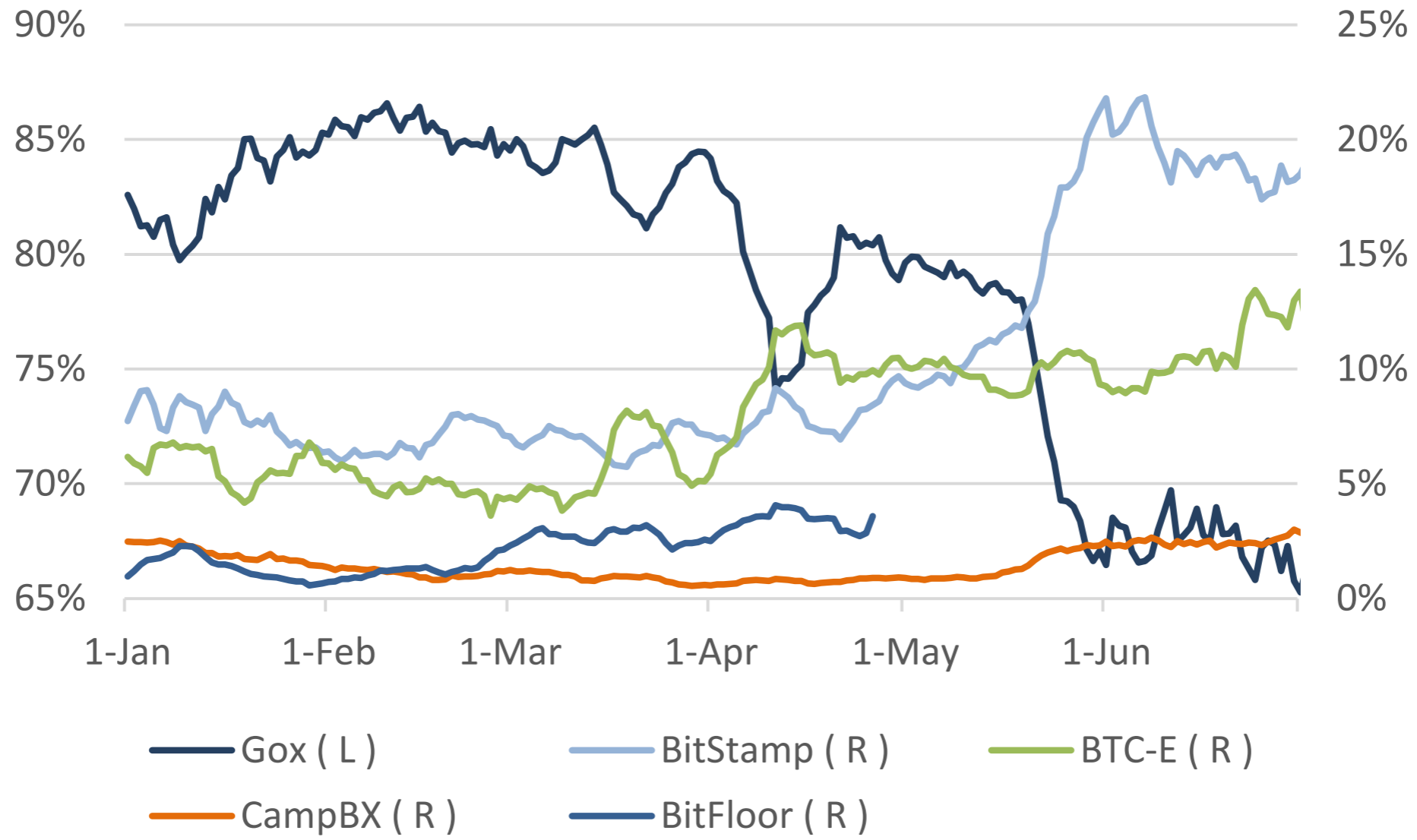
**FIGURE 9 - USD / BTC CORRELATION INVERTS FOLLOWING BERNANKE'S JUNE 19 TAPER MESSAGING**

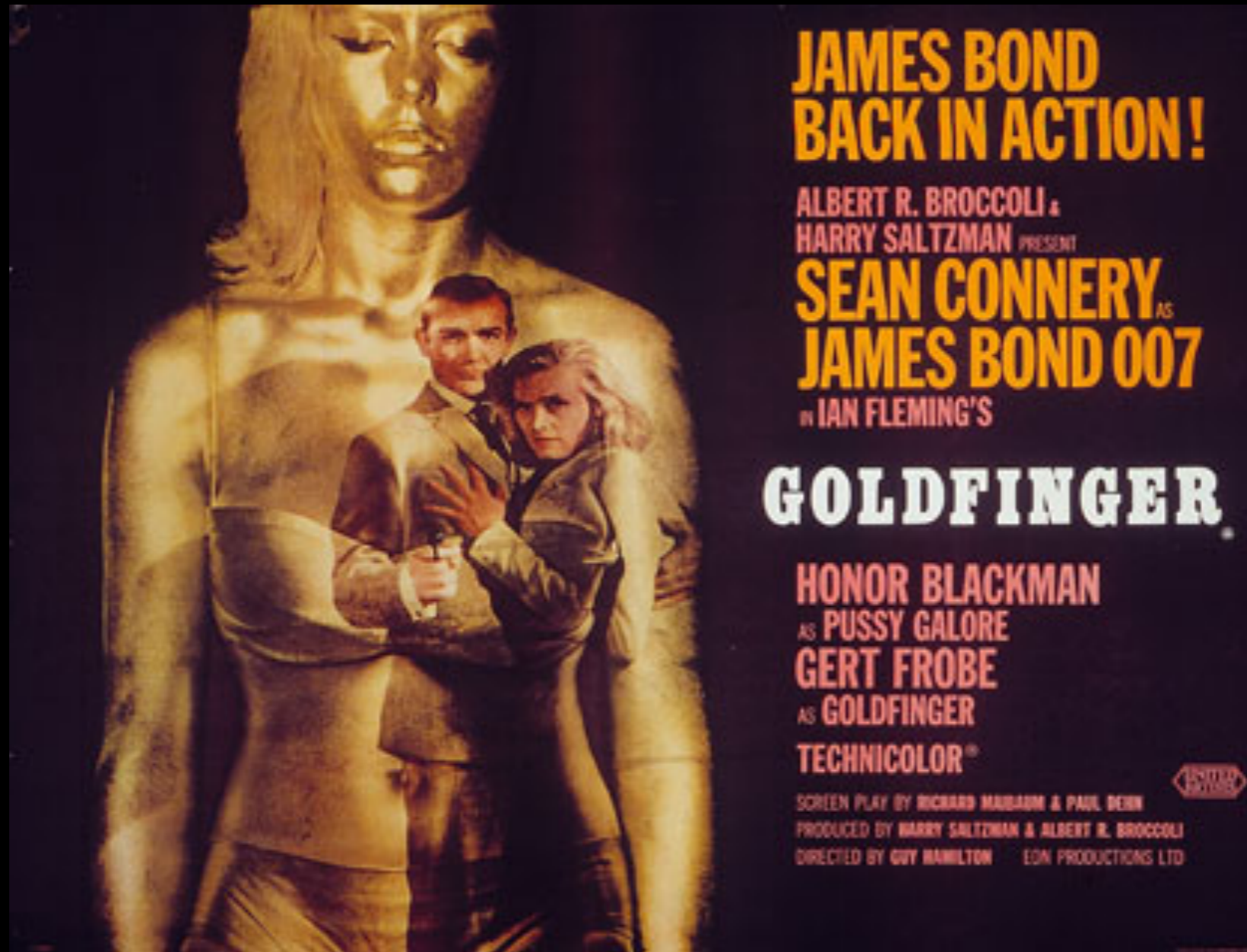


**FIGURE 10 - GOLD AND BTC FIND CLOSE CORRELATION FOLLOWING BERNANKE'S JUNE 19 TAPER MESSAGING**



**FIGURE 11 - USD / BTC EXCHANGE MARKET SHARE BY VOLUME**





# Goldfinger-Attacke

Kroll et al, "The Economics of Bitcoin Mining, or Bitcoin in the Presence of Adversaries"

- Animal world (16)
- Art (148)
- Audio & Hifi (157)
- Beauty & health (339)
- Books (570)
- Cars & vehicles (94)
- Clothes & Accessories (1044)
- Collectables & Rare goods (568)
- Computer (1693)
- Digital goods (1204)
- Electronic (938)
- Esoterism (27)
- Food and drinks (197)

Recently added   Soon ending   Hot auctions   Bestseller   **Local listings**

Set location   **Your location: Kaiserslautern, Germany**

### Don't Starve Steam Gift (Survival Game)



Buy now **9.99 EUR**  
= 0.09916 BTC  
Auction **6.00 EUR**  
= 0.05955 BTC  
0 Bids

55 km away - Alshelm, DE



5 days 7 hours

### Seagate Momentus 160 GB 2,5"



Buy now **0.40 BTC**  
= 40.30 EUR  
Auction **0.10 BTC**  
= 10.08 EUR  
0 Bids

69 km away - Heidelberg, DE



4 days 3 hours

### DVD Trainspotting



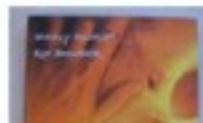
Buy now **0.20 BTC**  
= 20.15 EUR  
Auction **0.09 BTC**  
= 9.07 EUR  
0 Bids

69 km away - Heidelberg, DE



4 days 3 hours

### DVD 9 1/2 Wochen



### DVD Denn sie wissen nicht, was sie tun



### DVD Inside Job



# BTC ausgeben

# The Secret Online Weapons Store That'll Sell Anyone Anything



**"We are professionals that understand the needs of real shooters."**

**BTC ausgeben**



Digitale Wahrung

## Deutschland erkennt Bitcoins als privates Geld an

16.08.2013 · Die deutsche Bundesregierung hat die digitale Wahrung Bitcoin als „Rechnungseinheiten“ anerkannt. Damit seien sie eine Art „privates Geld“, welches in „multilateralen Verrechnungskreisen“ eingesetzt werden kann.

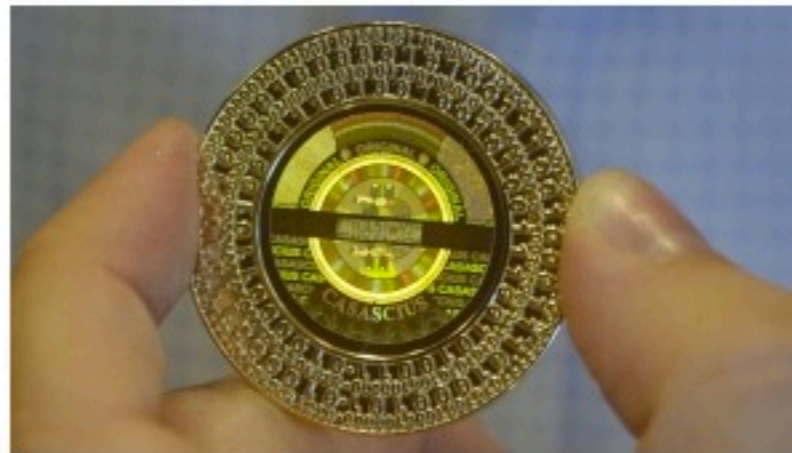
Von FRANZ NESTLER

Artikel

Bilder (1)

Lesermeinungen (7)

Die Internetwahrung Bitcoins hat in Deutschland einen weiteren wichtigen Schritt Richtung Rechtssicherheit gemacht. So erkennt die Bundesregierung die digitale Wahrung als „Rechnungseinheiten“ an. Damit seien sie eine Art „privates Geld“, welches in „multilateralen Verrechnungskreisen“ eingesetzt werden kann. Das Herstellen von Bitcoins ist somit „private Geldschopfung“, wie das Bundesfinanzministerium



© AP

Kursgewinne aus Bitcoins sind nach einem Jahr steuerfrei.

# BTC: Experiment++

- Dezentral
- Keine Geldmengenpolitik
- Minimale Transaktionskosten
- nicht per se anonym