

WHITE PAPER

FAVR Coin

Unlocking the Value of a Universal Personal Currency

November 1, 2018

Abstract

Advanced societies require a means of rewarding cooperation and storing value. Physical currency was created by humans as a formal means of reward for cooperation in achieving certain objectives and as a store of value. Before formal currencies existed there were informal currencies like barter that had limited transferability. One such informal currency that has changed little throughout centuries is favors. Favors are a socio-economic phenomenon that are universally present in all human societies; make up a large portion of the informal economy; and, are a form of currency that is valuable. However, the value of a favor is unquantified (and often unquantifiable) and generally non-transferable. Every favor has a different value – ranging from negligible to priceless. Due to the wide variation in the value of a favor, there is no way for a coin to hold the value of a favor. So transferability requires a different, innovative approach.

Described herein is a new coin, referred to as FAVR (using the symbol it is expected to be listed as), that is designed to act as a catalyst for special favors and to extend the benefits of favors. FAVR brings efficiencies that enables a wider range of participants to use the currency by introducing structure to this informal economy. But how is this possible when all favors are unique and therefore each has different value? The key point is that FAVR does not represent the value of the favor; rather, it represents the value of a right to a favor. It is a means of assuring the grantor that the favor can be reciprocated by the grantee or a third-party who would be able to provide a favor of roughly equal value and perhaps greater value. Like a lottery ticket represents a right to some potential value, except that with FAVR the holder always gets value. Research has established a clear powerful connection between willingness to grant a favor and the grantor's belief that it will be reciprocated. FAVR provides this assurance by essentially transferring the right to be granted a favor.

1 Introduction

A. History

Favors are a special form of personal currency that have been deployed since the dawn of civilization. They are informal and difficult to quantify. Based on an IMF Report on the global informal market, favors are estimated to result in \$413 Billion of economic activity worldwide in 2015 (see section 6 “Research”, below). For reference, that is nearly 4x the value of all Bitcoin as of November 1, 2018. Most favors have little cash value, but some are priceless. For example, what is it worth to get an audition for a movie that can kick-start an actor’s career? Typically there is a *quid pro quo* – a simple form of barter. “I owe you one,” is an expression of gratitude but also an admission of the debt incurred to one who helped you out. Most favors are requested by, and done for, people with whom one is acquainted – rarely does a favor involve strangers. In part, that is due to the greater likelihood of a favor being reciprocated by someone who is known.

Favors are the ultimate local currency. This feature means favors have limited velocity. They generally begin and end with only two people. Most favors are ordinary. Some favors are special. Special favors are the ones that ask a lot of someone or they call on people who have no kinship between them and therefore have no reason to do a favor for you, such as someone in a superior position who may risk a lot by helping you and for whom you cannot return a comparable favor.

B. FAVR Coin

FAVR is a coin that facilitates a portion of the informal economy. Favors are typically bespoke, unquantifiable and based on reciprocation and therefore illiquid. Favors typically involve some form of kinship – persons known to each other – because most favors inherently involve some form of reciprocity – direct (back to the grantor) or indirect (back to another party). Favors will largely continue in their current form and FAVR is not designed to change this socioeconomic phenomenon. It is designed to enhance and improve a segment of the favors – those that are performed by a person

with whom there is no kinship and the form of reciprocity is indirect. It's asking a lot – from someone you don't know well.

FAVR coin is a token of appreciation for the favor that is granted and it can be used by the recipient to ask a favor of another person.

C. Favor Ledger, Recognition and History

Social status is a factor in favors. Those who do favors for others hope to maintain or improve their social status. They are in a superior social position because they are in a position to help another person achieve a desired objective that they could not achieve on their own. Due to the social aspect of favors, recognition for doing a favor that significantly helps someone can be beneficial. However, some who grant favors want to remain anonymous and FAVR can help them achieve this goal as well.

FAVR, a favor begets a favor. Each FAVR can have its own history. Every time someone does a favor and hence a FAVR is transferred, it adds to the FAVR blockchain. This blockchain is unique because it is built not only by computing power but also by participation of each FAVR recipient. Eventually each FAVR has a chain of favors requested and granted. There is value to being among the first one on the chain and to know the history of the FAVR. Therefore it is contemplated that each FAVR will carry an identifier so that each will have its own Internet presence and a public ledger so that FAVR participants can view the history and add their participation. It creates a tapestry of a special form of human interaction that is unique and a type of digital art. In that sense, every coin is as unique as every favor it was used for. A digital work of art – FAVR stores the hope, dreams of thousands some of whom will have had their life change dramatically due to a FAVR.. Imagine if Elvis used a special favor to get his first break – an audition. That would be reflected in the FAVR history.

D. Competition

People are naturally competitive. FAVR captures the competitive spirit by capturing data that allows the ranking of each region by the amount of favors. Which FAVR has helped the most people? In which region are people most likely to benefit from favors?

2 FAVR Stability

Fiat currencies gain value from its use in the underlying economic activity of the sector they are linked to – usually the sector is a geo-political unit such as a state. The state further supports the currency with taxing power. A virtual currency also derives value from economic activity within its sector – but the sector cuts across geo-political boundaries and instead is bound by a socio-economic sector. A virtual currency is not managed by a government and therefore is subject to potential volatility that can adversely impact its efficacy as a means of transacting and as a store of value. The solution is to back the currency with assets that dampen volatility. FAVR achieves that through a very small transaction fee (effectively a tax) on each transaction with any organized exchange on which that FAVR is listed. The transaction fee will go to a trust that benefits the holders of FAVR.

(a) Exchange Fee. A small transaction fee, perhaps equal to \$0.001 (one tenth of one cent) in USD or Euro or Bitcoin is payable to a Trust.

(b) FAVR Trust. The Trust accumulates value that backs all FAVR. Eventually the Trust may have billions of dollars of value backing FAVR. The Trust must be independent. Trustees have a duty to the Trust. Trust assets must be managed or advised upon by a registered investment advisor that is properly regulated. The investment advisor's fee should be less than one percent and should decline as assets increase. The investment advisor can be affiliated a significant holder of FAVR and thereby the investment advisor has an interest in ensuring that the FAVR is adopted for use and is listed on exchanges. The investment advisor can be replaced by Trustees if the trust assets are not managed appropriately.

(c) FAVR Exchange with Trust. FAVR may be exchanged with the Trust for the lower of 90% of the FAVR market value (as measured by an average of the prior 5 consecutive days FAVR transactions on all organized exchanges) or 1/45,000,000th of the Trust assets. The last person to exchange FAVR receives all the residual value of the Trust.

3. Economic Utility / Use Cases

It is universally understood that the best use case for a coin or token is to take an inefficient market or economic activity and add new utility and/or efficiencies. Bitcoin presented a new coin that enabled secure and anonymous transacting via the internet and digital platforms. As is true of any currency, it is a store of value and a means of transferring value from one person to another. It does not create value. For example, if you buy a lawn mower with currency, you are just trading one value (in paper or coin) in return for the value of a product or service. Like Bitcoin, FAVR also enables a transfer of value and a store of value – but it does more. It actually creates value for the holder. That's because every favor adds value to the grantee that is far above the cost to the grantee. The value of a favor is determined by the grantee who requested it. The grantee receives that value simply by signaling that he/she will reciprocate in some way – meaning the grantor may be reasonably sure that the grantor will have the favor returned. And grantors gain something too – social status and good will and an implied right to ask the grantee to return the favor at a future time.

A. Value Dynamic

There is an economic disparity between cost and benefit of favors. It typically costs the favor grantor little or nothing, other than a bit of time or thought, to provide a favor but it can be worth a great deal to the grantee. The key factor is convincing the grantor that they should do the favor in a way that is not presumptive or otherwise insulting. Favor grantors naturally consider what's in it for them. Research shows favors are much more likely to be granted if the grantor believes the grantee may be able to reciprocate in the future. Naturally every person mentally calculates what's in it for them. They consider the value of a potential relationship with the grantee or with an organization that the grantee is a part of – such as an alumni organization where there may be a shared affinity. Of course, the most motivating factor is some means of assuring the grantor that the favor can be reciprocated by the grantee or by a third-party who would be able to provide a favor of equal value. FAVR provides this assurance by essentially transferring the right to be granted a favor. A transfer of the obligation to reciprocate.

FAVR is valuable. But its value varies by person and by circumstance. What is the value of a right to be granted a favor that could be priceless? But the meta value is not any specific favor but the ability to act as a catalyst for this informal and illiquid currency.

B. Individual Utility

Better chance that you can ask for a huge favor and not an ordinary favor.

Increased likelihood that your request for a favor will be granted.

- (a) Something to Exchange – Favor for a Favor. Having something to offer in return for a favor is critical. Studies show that people are much more likely to grant a favor if they know that the requesting party can reciprocate. Also, people do not want to be viewed as charity cases. If they have nothing to offer, they are simply relying on charity.
- (b) Ice-breaker. Having a way to start the conversation to ask for a favor is very important and valuable.
- (c) Signaling that your request for a favor is extraordinarily serious. This makes it more likely that it will be granted.
- (d) Signaling that you are a reciprocator. Research shows that people are more likely to do a favor for someone if they know that the person requesting it has done, or is willing to do, favors for others (see Boyd, 1989, the Evolution of Indirect Reciprocity). In fact, people want to avoid those who are not social cooperators (Sylvester & Roberts 2013, Reputation-Based Choice...Indirect Reciprocity). Those who are non-reciprocators act as free riders and essentially social parasites. It is very important that non-cooperators be avoided because reciprocal social structures are ruined when favors are not-reciprocated. A mechanism for identifying cooperators (Whitelisting) is as effective as identifying the non-reciprocator (Blacklisting). FAVR acts as a whitelisting mechanism because those who hold it almost always will have come to do so by having done a favor.
- (e) Social Standing. Being recognized for providing assistance and the goodwill that can engender is important to grantors.

C. Group/ Society Benefits

Transactional Velocity. Favors are generally limited by kinship and interpersonal relationships. This means favors are rarely done for strangers because its unknown if a stranger is a reciprocator. The coin allows for favors to go viral. If the aggregate monthly volume of favor increases by a velocity factor of 3 it will generate significant economic value in the informal economy.

Metrics for Informal Economy. This coin enables researchers to better understand a key portion of the informal economy.

D. FAVR is Not Barter. It's Currency that Delivers More Than Face Value

Barter is different from a favor because parties that barter want reciprocity of objectively equal value. Favors' value are never equal because a favor's value is determined by the recipient of the favor. This is a very important distinction. To illustrate, consider an introduction to a celebrity. I may value a backstage pass to meet the entertainer John Legend to be worth a million dollars. But many others wouldn't even pay a nickel to meet him. In economic terms, I have achieved my highest utility using a fungible currency.

The good thing about FAVR is that it does not assign value to the favor or act as compensation for a favor. It conveys the right to request a favor. Its value is the right. One way to think of it – it is the lottery ticket that conveys the right to receive something. The lottery ticket has value – but you do not know what value you will get. Now to be clear, FAVR is not a game of chance. Holders of FAVRs always get something of value. It's just that the value they get, like beauty, is in the eye of the beholder.

FAVR is therefore unique because it is the only fungible currency that can deliver value to its users that is greater than its face value. In that sense, it's an anomaly among currencies. Economists love these anomalies because they provide great insight into human interaction and economic activity.

4. FAVR Use and Market

A. FAVR Value

FAVR is given in return for a favor. The favor could be worth zero dollars or it could be priceless. The FAVR value is not meant to equal the value of the favor. A key part of FAVR's value is its ability to transfer the grantees obligation to reciprocate a favor that has been granted. The transferability mechanism allows for greater willingness on the part of grantors, greater liquidity and therefore an increase in the absolute numbers of favors. FAVR value is further enhanced by the value of signaling the seriousness of the request, the white-listing of the requestor, the ability to accelerate the number of favors, the FAVR history and digital artistry;

What is the value of a right to be granted a favor where the favor could be priceless?

B. Networks/ FAVR breaks through Tribe, Clan and Affinity Barriers

Only a lucky fraction of the population will ever be a part of the Harvard alumni network and benefit from the favors that alumni are willing to do for each other. The same is true with other elite schools, clubs, fraternities, sororities and other social organizations. With FAVR, you don't need to spend four years and \$240,000 to graduate from Harvard. Everyone who has FAVR has the ability to achieve the same favors as the members of the elite club. In fact, FAVRs have a way to breakdown barriers between rival organizations. A Yale might not be keen to do a favor for a Harvard grad/ or an Oxford grad for a Cambridge fellow – but a FAVR removes the act from one based solely upon the affinity to one that is based on indirect reciprocity.

C. Dual Use

FAVR has a feature that is rare among coins – it has a dual-use. Dual use means it can be a currency – but also can be functional for another purpose. The following are examples of dual-use coins.

1. Gold. It is an example of a dual-use instrument. It is used as an alternative currency but also as a component in jewelry and industrial products.
2. Ether. It is used as an alternative currency and as a factor in the Ethereum platform. Ether currently has no hard cap. 10% new Ether was mined in 2017.

Dual use instruments are very valuable because the added utility fuels demand. Value is driven by two or more use cases while supply remains relatively constant. – as a side note, Gold supply increases by about 1% per year due to mining. Ether supply has seen increases each year as well with a maximum mint.

C. Pricing/ Supply and Demand Factors

People have two ways to acquire FAVR: (1) by doing a favor for someone who transfers FAVR to them; or, (2) by purchasing FAVR in the market. It is expected that 90% of FAVR acquisition will occur in return for a favor. The other 10% will be acquired by purchase – either on an exchange, an auction or a direct purchase from an individual.

The fact that there are two way to acquire FAVRs presents an interesting price dynamic because it means there will be less supply available in the market anytime a FAVR is used for a

favor instead of sold.. The combination of a limited mint and a lower market supply should put upward pressure on price.

D. Demographics of FAVR Participants.

It is expected that most of those who grant favors will have many contacts and more influence that makes them valuable as a source of a favor. Therefore grantors will tend to be older, more social and more connected. Those who request favors will tend to be younger have less influence and less experience.

E. Transfer

(a) Peer to Peer – favor part of the dual use

FAVR is a peer to peer instrument. The use is not for monetary gain but rather to achieve objectives that have unquantifiable value.

FAVRs make a very personal gift – especially if it is meant to allow someone to ask a favor of the person giving the FAVR.

Examples of favors people may ask for:

- (1) get estranged relative to meet you or to come to your event;
- (2) an audition or interview
- (3) to jump to the front of the line or to hold your spot in line
- (4) an invitation to an exclusive event
- (5) a meeting or a call or other contact
- (6) advice
- (7) a date
- (8) a favor from a remote party – perhaps on the internet
- (9) an introduction to someone
- (10) to try your new product or service
- (11) an extension of time to do something
- (12) to babysit or walk the dog
- (13) selection for desirable work assignment / project
- (14) friends / postings on social media – such as an intro on LinkedIn
- (15) tutoring or instruction
- (16) volunteer,
- (17) give a speech
- (18) provide an endorsement
- (19) reconnecting with old friends

(b) Exchange – Currency Dual Use

Those who may come to hold FAVR by purchasing the FAVR - they are not free riders. They contribute to the community by enabling a transfer value of the FAVR. To reiterate, whatever the market value of FAVR – it is not a value of the favor requested. It is a value of the FAVR to set this request apart from any other and the other utility described previously.

(c) Badges

Badges are a way for people to signal they are willing to grant favors. It also means they are seeking FAVRs. It's a smart thing to do because they will usually get a FAVR for less than the market price if they do a favor. Best way is to put a badge on their social media pages or link to a matching service for favors.

(d) Commercial Road Map for Developers

Developers can employ the FAVR identifier to provide customized services – such as a FAVR marketplace which could include a matching service that connects favor grantees and grantors. Such a service could be available on a mobile App to ease the transfer of FAVRs. People looking for a favor or willing to do a favor can advertise on the developers' website.

5. Operation

(a) Website. www.favr.io will provide information to the FAVR community. It will be operated by Vyril Media, a unit of HUTN.

(b) FAVR operation. See Section 5 “Coin Info”.

6. Coin Info

A. Platform

FAVR is built on the Ethereum Platform.

B. Protocol

FAVR uses the ERC-721 Protocol. FAVR has an identifier. The identifier allows for value-

added service and social recognition.

Smart contracts keep the FAVR ledger (a unique identifier for each FAVR that is used by a web service to keep a diary that is a user contributed history of the FAVR).

C. Coin Mint

The maximum number of FAVR coin is 40 million. There are only about 4.3 FAVR coins for every 1,000 people in the world. Scarcity adds to the impact of FAVR.

D. Coin Governance

There is no person or entity that governs FAVR.

7. Research

Informal Economy

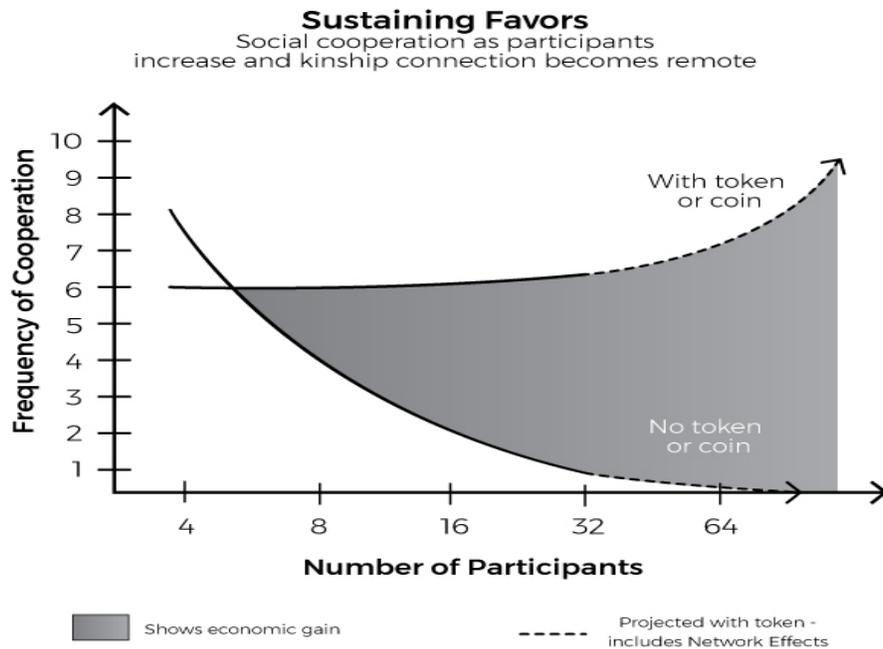
According to the IMF Working Paper (Medina & Schneider 2018), the informal economy, as last measured in 2015, amounted to 27.8% of global GDP across all countries. World GDP in 2016 was US\$ 74.43 Trillion. Therefore, the informal economy amounted to US\$ 20.69 Trillion. Assuming Favors represent just 2% of the informal economy, they amounted to US\$ 413.8 Billion economic value worldwide on 2015. That is nearly four times the amount of all Bitcoin in circulation.

Coin Utility

Favors are a form of personal currency and almost all are direct favors – those done for a specific person with a belief that person will return the favor. Typically the grantee is a close friend or family member. A person with whom the grantor feels a strong sense of “kinship” (Hamilton 1970).

Favors are also done for persons with whom kinship is remote or for whom the grantor may not expect the grantee to reciprocate directly. These are called Indirect Favor.

Studies have shown that Indirect Favors can be sustained even as the number of participants who share no kinship increases (Camera et al, 2013). This research is clear support for FAVR.



Motivated by Arbitrage Potential

Those who get a FAVR, whether by granting a favor or by buying a FAVR are seeking to arbitrage the difference between the value of a right to a favor (FAVR) versus what they can receive from a favor request. The arbitrage is clear for those who grant an arbitrage request. It costs them very little to grant the request, but they gain a FAVR that allows them to request a favor from someone which could be worth hundreds or thousands of dollars or save them hours of time. Inherently, the favor is worth a great deal to the person requesting it and costs the grantor little or nothing.

To illustrate, Jane asks for an introduction to Oprah (*\$5,000 value to the grantee*) with a hope that she will agree to write a review of her brilliant new book. She heard a speech by Jerry who mentioned he is best friends with Oprah's husband. She calls Jerry and asks if he will do a favor for a favor, a FAVR – will he introduce her to Oprah? Jerry asks her about herself and why the favor is so important. Jerry agrees to grant the favor (*\$.15 cost to grantor*) and calls his friend and explains the situation for 10 minutes. A phone introduction with Oprah is then scheduled for the next day. Jerry receives the FAVR. Later that day, Jerry arranges to buy tickets for the latest Broadway show – Bill, the agent, says front row tickets cost \$150 each – but all the front row tickets are being held for VIPs. Jerry asks Bill if he will do a favor for a favor – a FAVR ? Jerry will pay the cash cost of the tickets but he asks Bill to give him two of the VIP tickets (*\$1,000 value to the grantee*). Bill doesn't know Jerry and has no rational reason to grant the favor but for the FAVR. Bill agrees to grant the favor (*\$0 cost to grantor*) and subsequently Bill receives the FAVR. Bill decides to give the FAVR as a gift to his daughter (*\$200 value to grantee*), Liz who is graduating from college. Liz think about selling FAVR for \$80 (*\$80 value to grantee*) but instead decides to use it to snag an interview she could not get yesterday. She asks the human resources coordinator of a major tech company if he can include her on the college interview schedule ? A favor for a favor – a FAVR. The HR coordinator does not know Liz and has no rational reason to grant the request other than gaining a FAVR. He agrees to grant the favor (*\$0 cost to grantee*) and subsequently receives the FAVR. The HR coordinator cannot think of any favor to request now so decides to put it up sale for \$75 and if it does not sell at that price he knows he will either lower the price or will eventually find a favor to ask someone (*value to him of right to ask a favor is \$75 more than it cost him to grant the favor*).

In all of the above examples, the favor was worth a lot to the grantee and the grantor could grant it at little or no cost. The grantor's reward is a FAVR – the right to request a favor and become a grantee.

Coin Personalization

Favors are, by their nature, personal. Each FAVR is personalized and a ledger records each recipient. That personalization allows each person to gain recognition for their support. To build good will beyond the single individual to whom they granted a favor.

Coin Value - Collectible

Each coin is identifiable and personalized as described above. This means some coins may come to be more valuable than the average coin. For example, a coin may become collectible if its history includes celebrities or special events (such as a FAVR used to request a lottery ticket that then wins \$90 million). Collectible coins gain value from notoriety. Such coins will not trade on any exchange but may be auctioned.

REFERENCES

1. IMF Working Paper. Shadow Economies Around the World (Report on Informal Economies) Medina and Schneider, January 2018.
2. Nowak MA, Sigmund K. Evolution of indirect reciprocity by image scoring. *Nature*. 1998;393:573–577. doi: 10.1038/31225.
3. Nowak MA, Sigmund K. Evolution of indirect reciprocity. *Nature*. 2005;437:1291–1298. doi: 10.1038/nature04131.
4. Bolton GE, Katok E, Ockenfels A. Cooperation among strangers with limited information about reputation. *J Public Econ*. 2005;89:1457–1468. doi: 10.1016/j.jpubeco.2004.03.008.
5. Boyd R, Richerson PJ. The evolution of indirect reciprocity. *Soc Networks*. 1989;11:213–236.
6. Seinen I, Schram A. Social status and group norms: Indirect reciprocity in a repeated helping experiment. *Eur Econ Rev*. 2006;50:581–602.
7. Fehr E, Fischbacher U. The nature of human altruism. *Nature*. 2003;425:785–791. doi: 10.1038/nature02043.
8. Hoeben, C. LETS' be a Community: Community in Local Exchange Trading Systems, vol. 94 (Rozenberg Publishers, 2003).
9. Coleman JS. Social capital in the creation of human capital. *Am J Sociol*. 1988;94:S95–S120. doi: 10.1086/228943.
10. Portes A. Social capital: Its origins and applications in modern sociology. *Annu Rev Sociol*. 1998;24:1–24. doi: 10.1146/annurev.soc.24.1.1.
11. Cook KS. Networks, norms, and trust: The social psychology of social capital: 2004 Mead Award Address. *Soc Psychol Q*. 2005;68:4–14.
12. Horne, C. The enforcement of norms: Group cohesion and meta-norms. *Social psychology quarterly* 253–266 (2001).
13. Hechter, M. *Principles of Group Solidarity* (University of California Press, 1987).
14. Hechter M, Kanazawa S. Group solidarity and social order in Japan. *Journal of Theoretical Politics*. 1993;5:455–493. doi: 10.1177/
15. Buskens V, Corten R, Weesie J. Consent or Conflict: Coevolution of coordination & networks. *Journal of Peace Research*. 2008;45:205–222.

16. Burt, R. S. *Brokerage and Closure: An Introduction to Social Capital* (Oxford University Press, 2007).
17. Burt, R. S. *Structural holes: The social structure of competition* (Harvard University Press, 1992).
18. Gargiulo M, Benassi M. Trapped in your own net? Network cohesion, structural holes, and the adaptation of social capital. *Organization Science*. 2000;11:183–196. doi: 10.1287/orsc.11.2.183.12514
19. Sugden, R. *The economics of rights, cooperation and welfare* (Blackwell, 1986).
20. Kaplan H, Schniter E, Smith V, Wilson B. Risk and the evolution of human exchange. *Proc R Soc B*. 2012;279(1740):2930–2935.
21. Bowles S, Gintis H. *A Cooperative Species: Human Reciprocity and Its Evolution*. Princeton, NJ: Princeton Univ Press; 2011.
22. Seabright P. *The Company of Strangers: A Natural History of Economic Life*. Princeton, NJ: Princeton Univ Press; 2004.
23. Nowak MA. Five rules for the evolution of cooperation. *Science*. 2006;341(5805):1560–1563.
24. McCabe K, Rassenti S, Smith V. Game theory and reciprocity in some extensive form experimental games. *Proc Natl Acad Sci USA*. 1998;93(23):13421–13428.
25. Camera G, Casari M. Cooperation among strangers under the shadow of the future. *Am Econ Rev*. 2009;99(3):979–1005.
26. Spiegel M (August 23, 2002) Argentina's currency crisis: Lessons for Asia. *FRBSF Economic Letter*, 25.
27. Ostroy JM, Starr RM. The transactions role of money. In: Friedman BM, Hahn FH, editors. *Handbook of Monetary Economics*. Vol 1. New York: Elsevier; 1990. pp. 3–62.
28. Lian P, Plott CR. General equilibrium, markets, macroeconomics and money in a laboratory experimental environment. *Econ Theory*. 1998;12(1):21–75.
29. Duffy J, Ochs J. Intrinsically worthless objects as media of exchange: Experimental evidence. *Int Econ Rev*. 2002;43(3):637–673.
30. Camera G, Noussair C, Tucker S. Rate of return dominance and efficiency in an experim't economy. *Econ Theory*. 2003;22(3):629–660.
31. Duffy J, Ochs J. Cooperative behavior and the frequency of social interaction. *Games Econ Behav*. 2009;66(2):785–812.
32. Ohtsuki H, Iwasa Y. Global analyses of evolutionary dynamics and exhaustive search for social norms that maintain cooperation by reputation. *J Theor Biol*. 2007;244:518–531.
33. Pacheco JM, Santos FC, Chalub FAC. Stern-judging: A simple, successful norm which promotes cooperation under indirect reciprocity. *PLoS Comput Biol*. 2006;2:e178.
34. Kandori M. Social norms and community enforcement. *Rev Econ Stud*. 1992;59(1):63–80.
35. Ellison G. Cooperation in the prisoner's dilemma with anonymous random matching. *Rev Econ Stud*. 1994;61(3):567–588.
36. Camera G, Casari M, The coordination value of monetary exchange: Experimental evidence. *Am Econ J Microecon*, in press.
37. Camera G, Vesely F. Trading horizons and the value of money. *Eur Econ Rev*. 2007;51(7):1751–1767.
38. Axelrod, Robert; Hamilton, William D. (27 March 1981), "The Evolution of Cooperation" (PDF), *Science*, 211: 1390–96, Bibcode:1981Sci...211.1390A, doi:10.1126/science.7466396, PMID 7466396
39. Axelrod, Robert (2006), *The Evolution of Cooperation* (Revised ed.), Perseus Books Group, ISBN 0-465-00564-0
40. Axelrod, Robert (1997), *The Complexity of Cooperation: Agent-Based Models of Competition and Collaboration*, Princeton University Press, ISBN 0-691-01567-8
41. Dawkins, Richard (1989) [1976], *The Selfish Gene* (2nd ed.), Oxford Univ. Press, ISBN 0-19-286092-5
42. Sigmund, Karl; Fehr, Ernest; Nowak, Martin A. (January 2002), "The Economics of Fair Play" (PDF), *Scientific American*, pp. 82–87, archived from the original (PDF) on 18 May 2011
43. Trivers, Robert L. (March 1971), "The Evolution of Reciprocal Altruism" (PDF), *Quarterly Review of Biology*, 46: 35–57, doi:10.1086/406755
44. Bourke A., Hamilton's Rule and the Cause of Social Evolution, 2014 *Philos Trans R Soc Lond B Biol Sci*, 2014 Mar 31.

45. Panchanathan K, Boyd R. Indirect reciprocity can stabilize cooperation without the second-order free rider problem. *Nature*. 2004;432:499–502.

46 J. Glickman, January 12, 2011; *Harvard Business Review*. <https://hbr.org/2011/01/asking-for-a-favor-the>