
Nash Judge: An incentive structure to promote global cooperation

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Abstract

Global cooperation is currently scarce due to a significant misalignment of interests between governments, whereby rational self-interested decision-making often leads to mutual defective behavior that prevents humanity to face global threats such as climate change and warfare. Humankind has previously created incentive structures within pockets of society that aim to reduce the self-destructive aspects of competition. Modern legislation, for example, acts as an incentive structure that reduces defective behavior by aligning the interests of actors concealed within a regulatory umbrella with the interests of a broader collective. Nevertheless, we currently fail to extrapolate effective incentive structures to a global scale. This limits global cooperation, which is essential to promote global interests. This paper presents a bottom-up incentive structure that utilizes the collective intelligence of a free market to judge and reward governments. This opens the door to a new form of soft global governance that leverages the collective intelligence of a free market to influence the decision-making of important socioeconomic agents.

Disclaimers

- I plan to gather the feedback and resources necessary to implement a working version of the idea presented here. Any updates on that regard will be posted via this channel: www.nashjudge.org. Feedback will be collected via this channel: info@nashjudge.org.
- This paper has not been heavily supervised. I am writing down my honest ideas here and they might contain major flaws. My intention with this paper is not to present a final idea, but rather an early prototype that is primitive enough to encourage other participants to redesign it.

1 Introduction

When multiple agents coexist in a constrained environment with limited resources, they have to compete to survive and evolve. The consequences of competition are double-edged. On one hand, competition acts as an optimization procedure through which populations of agents adapt and evolve (natural selection), which has enabled life on Earth to flourish. On the other hand, rational behavior in competitive environments with poor incentive structures often results in self-destructive mutual defective conduct, leading to violent conflict, thievery, unfair inequality, etc.

Incentive structures are mechanisms that encourage a certain type of behavior by establishing positive or negative reinforcement that influences decision-making. Incentive structures can be designed to promote cooperation within a community by influencing the decision-making of individual agents in a way that aligns their interests with the interests of the collective. Game theoretically, cooperative incentive structures are designed to maximize the number of win-win interactions in an environment by imposing an offset in the payout matrix of individual agents to make the Nash equilibrium compatible with the common good (see figure 1).

The ability of humankind to create effective cooperative incentive structures is not unprecedented. Hundreds of thousands of years ago, humans were competing in a constrained environment with limited resources and poor incentive structures in place that resulted in unhealthy competition. To compete with other individuals for territory, food, and mate attention, humans had to violently fight and steal, which led to blood spill, murder, misery, and unfair inequality. Ancient examples of incentive structures are belief systems like

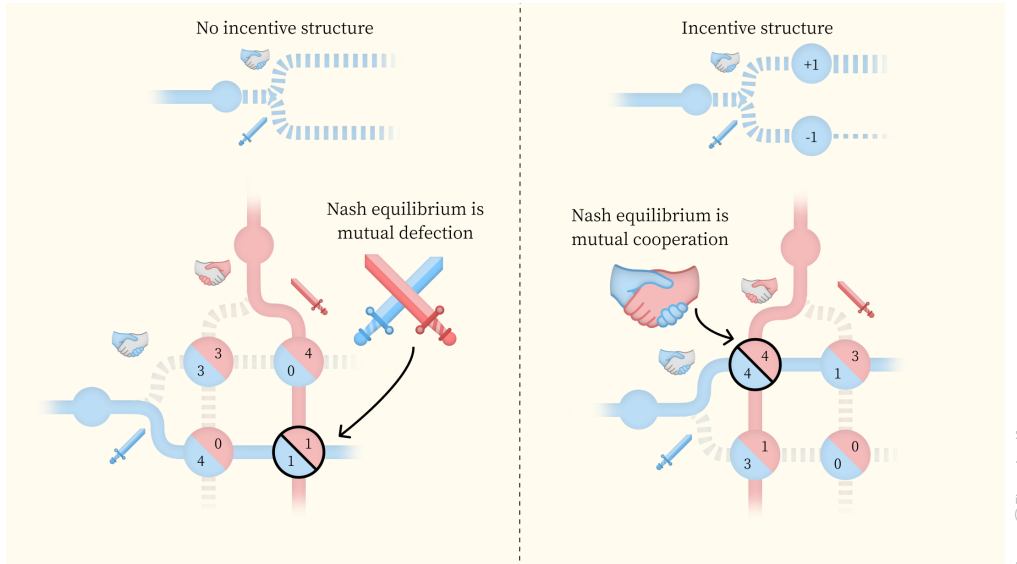


FIGURE 1 – Effect of cooperative incentive structure from game theory perspective

religion and culture. Such belief systems promoted cooperation by creating a belief of reward associated with altruistic behavior and a belief of punishment associated with defective behavior. Such cooperation resulted in a paradigm shift that led to the rise of new collective agents such as communities (see figure 2).

Unfortunately, communities found themselves yet again competing in a constrained environment with limited resources and poor incentive structures in place that resulted in unhealthy competition. To protect their own interests in an unregulated competitive environment, communities were often making huge efforts to either attack other communities to exploit their people and resources, or to defend their own resources. This obviously led to a lot of blood spill, murder, misery and unfair inequality too. This issue was addressed with the creation of a new incentive structure: modern legislation. Legislation acted as an incentive structure that promoted cooperation by sanctioning the defective behavior of agents within a regulatory umbrella. The course of history then organized such communities into higher-level structures that led to the creation of governments, which used legislation to promote cooperation within larger groups of people independently of their culture or religion (see figure 2).

Unfortunately, as of today, governments currently find themselves again competing in a constrained environment (planet Earth) with limited resources and a lack of incentive structures in place that results in unhealthy competition. To compete with other powers and protect their geopolitical interests, governments are forced to engage in military activities, which results in a large amount of military spending, loss of lives, and refugees. To compete with other powers and maintain economic relevance, governments are forced to keep increasing short-term economic growth at a staggering pace disregarding long-term climate and economic sustainability, which often leads to overconsumption and harmful debt cycles. And to prevent wealth from escaping to foreign nations, assets, and currencies, governments are forced to implement monetary and fiscal policies that limit equal opportunities among their citizens, which leads to a combination of high wealth concentration and low social mobility. Unfortunately, as of today, we haven't developed an incentive structure to mitigate the self-destructive nature of competition between governments (see figure 2).

The above does not imply that competition between governments results in a negative net outcome for humanity. The above also doesn't imply that governments are malevolent agents choosing to cause self-destruction on Earth. The above acknowledges that the behavior of governments is driven by a poor incentive structure that humankind is yet to develop.

Escalating modern legislation to a global scale is currently unfeasible. Legislation is a top-down mechanism that requires control over subordinates. This requires either one power dominating planet Earth or an unprecedented level of agreement between governments to decide who composes the legislative organs, what is the magnitude of the rewards or sanctions they impose, by which channels are they imposed, and on what basis are they established. This paper presents a bottom-up incentive structure that can live without a central governing system.

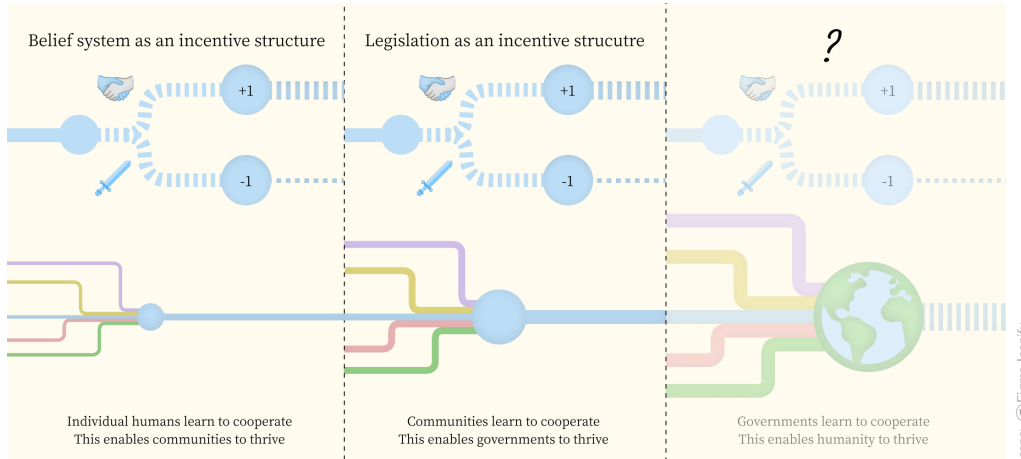


FIGURE 2 – Incentive structures throughout the course of history

2 Definitions

Global interests

Aggregate of interests of individual humans that populate, and will populate the world. The following is a list of some commonly accepted global interests.

Prevention of harmful destabilizing factors such as warfare, climate change, spread of misinformation, disproportionate wealth gaps, etc.

Promotion of human rights and freedoms such as the right to life and liberty, freedom from slavery and torture, right to work and education, etc.

Prevention of self-destruction by means of weapons of mass destruction, genetic engineering, artificial general intelligence, future scientific discoveries, etc.

Government Nash tokens

Government Nash tokens represent the ability of a UN-recognized government to behave in the benefit of global interests. Nash tokens can be transacted on a peer-to-peer basis in a permissionless blockchain, and their value is driven by their demand in a free market.

Nash protocols

Nash protocols are smart contracts that periodically mint Government Nash tokens in a government-owned address (if the government provides one). See figure 3.

Nash Judge

The Nash Judge is a free market that establishes the value of Government Nash Tokens. It acts as an incentive structure that uses the collective intelligence of a free market to define the rewards and sanctions imposed on governments.

Nash ecosystem

The Nash ecosystem is the set of all the elements designed to empower the mission of promoting global interests. Since governments have a right to claim, accumulate and sell their Government Nash tokens, it is in their own interests to ensure their tokens retain value. This creates the conditions to form a marketocracy - a new form of soft global governance that leverages the collective intelligence of a free market to influence the decision-making of important socioeconomic agents. Under the conditions discussed in section 3, this aligns the interests of governments with global interests.

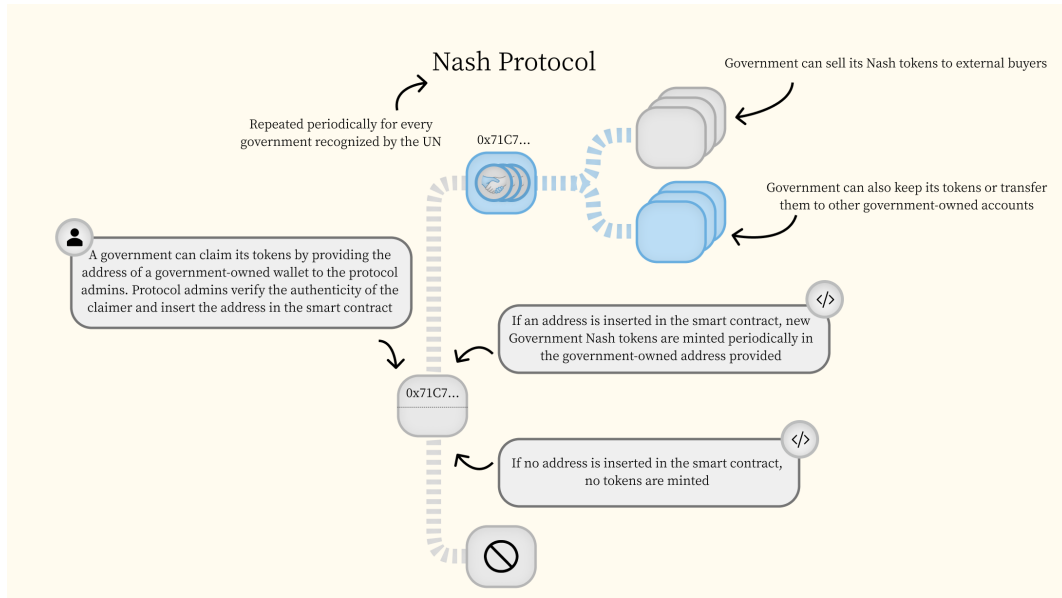


FIGURE 3 – Nash Protocol

3 Magnitude and correlation

The effectiveness of the Nash ecosystem in promoting global interests is conditioned on the following two requirements:

- C1** The value of Government Nash tokens should be of a **magnitude** relevant enough to influence the decision-making of governments
- C2** The value of Government Nash tokens should have a positive **correlation** with the true ability of governments to behave in the benefit of global interests

The market value of a financial asset in a free market only exists as a result of human interaction. In a free market, assets are only valuable if other participants perceive them to be valuable. This is no different in the Nash ecosystem, where Government Nash tokens are only valuable (C1) if others perceive them to be valuable, and are only correlated with the true ability of a government to behave in the benefit of global interests (C2) if others perceive such correlation.

A social construct is something that exists not in objective reality, but as a result of human interaction. Social constructs are typically formed when they provide a utility. The ability of humans to form social constructs to evolve to a better state is not unprecedented. Languages are social constructs that enable effective communication between humans. Money is a social construct that enables the storage, exchange, and account of value. Financial securities are social constructs that enable capital flow from those who have it to those who can be productive with it. Such social constructs create incentive structures that act as a

catalyst to promote productivity. The Nash ecosystem aims to be a social construct that enables conditional capital flow from those who have it to those who have the ability to promote global interests, thereby creating an incentive structure that acts as a catalyst to promote global interests.

This paper does not provide rigorous proof that both C1 and C2 can be met, and rather acknowledges that they depend on a social construct being formed. Instead, this paper reasons about what are some potential design choices that can accelerate C1 and C2.

4 Feasibility and fairness of the Nash Judge

This section evaluates the feasibility and fairness of a Nash Judge (free market) as an incentive structure to promote global interests. To reason about the characteristics of a Nash Judge, the following three hypothetical judgment systems are compared on a qualitative basis:

Nash Judge: a procedure that uses the collective intelligence of a free market to decide how much governments should be rewarded or sanctioned based on their ability to promote global interests.

Global Direct Democratic Judge: a democratic voting procedure that takes place periodically to decide how much governments should be rewarded or sanctioned based on their impact on global interests.

Global Centralized Judge: a central governmental administration that decides how much governments should be rewarded or sanctioned based on their impact on global interests.

4.1 Feasibility

Difficulty on agreement

A top-down mechanism such as a global centralized judge requires control over subordinate governments. This requires either one power dominating planet Earth or an unprecedented level of agreement between governments to agree on who is the central judge, what is the magnitude of the rewards or sanctions imposed, by which channels are they imposed, and on what basis are they established. Direct voting procedures are not much different in terms of the difficulty of agreements. Governments must agree on the suffrage used on the voting procedures, the magnitude of the rewards or sanctions imposed, by which channels are they imposed, and on what basis are they established.

A Nash Judge is a bottom-up, bilateral participatory system. Both governments and tokenholders can, but are not required to participate. Arguably, the best property of a Nash Judge (free market) is that it is an opt-in mechanism for governments and thus, does not necessarily require their participation to start operating. The Nash Judge can be fully operational before a government decides to claim their Nash tokens as long as there is some initial liquidity that can be transacted and valued in a peer-to-peer basis. Of course, governments can try to regulate any kind of Nash tokens transactions within the sector of the population they have control over, but they can not globally disable the Nash Judge, as it is based on peer-to-peer transactions that live in a blockchain.

Cost and update frequency

A fair global centralized judge would probably require the coordination of several disconnected organs with their checks and balances. The costs of operating such administration, despite being large, would most likely be negligible relative to the potential value gained by fueling an incentive structure that maximizes global interests. In terms of speed, even though governmental administrations are typically criticized for being slow, such a slow pace is often required to coordinate the different organs of a government to act with responsibility.

A global direct democratic judge has the disadvantage that it relies on a voting procedure that is costly and slow. Establishing a global fair voting system requires proving the identity of billions of humans on Earth while preventing multiple identity attacks. Furthermore, voting systems have a very low update frequency, as they require an effort to educate and mobilize voters. Such disadvantages, however, might be only a small opportunity cost to pay for promoting global interests.

A Nash Judge is relatively cheap and fast to operate. The system mainly requires a blockchain to operate in, an effort to verify the authenticity of the addresses provided by governments, expertise to develop and maintain smart contracts, and educational content to help understand the Nash ecosystem to a broader community. In terms of speed, traders in free markets compete to inject information and belief into the market as fast as possible, and thus, the update frequency is as fast as information and belief can travel around the globe.

4.2 Fairness of Judge

Disclaimer: This section only provides a framework that you can use to evaluate the fairness of a Nash judge under your own criteria.

Honesty of Judge

In the context of a global judge, objective reality is the true impact that a government has on global interests. Human judgment is connected to reality through perceptive and cognitive bridges. Our perception system processes reality through our own subjective lens and our cognitive system distorts our perceived judgment to protect our own interests. An honest judgment system is one that should aim to remove deceit and corruption from the perceptive and cognitive bridges of human brains.

There exists an important distinction between voting and investing in the context of honest judgment. Voters (if behaving rationally) are incentivized to vote for the outcomes that maximize their own interests, even when those are not aligned with the interests of a broader community. In other words, in a voting system, reality is distorted in the cognitive system of voters. Moreover, voters are highly susceptible to propaganda, which might distort reality in their perceptive system too.

There exists a hybrid space between voting and betting that consists of incentivizing voters to provide honest responses by comparing their responses with collective ones. On the other end of such a continuum is investing. Investors are not incentivized to bet on the outcome they find most desirable in a market, but rather on the outcome they consider more likely in a market. From a price definition perspective, investors are competing to predict reality as depicted by the market. This encourages investors to remove all distortions that exist in the interface between their judgment and the reality as depicted by the market.

Representation of participants

The permissionless nature of token transactions is a double-edged sword. What allows everyone to participate, also allows everyone to participate by an arbitrary amount. A permissionless system can't prevent an uneven representation of a class (e.g wealth or nationality) on the demand of a token. This can imply that the belief system used to evaluate the Nash token might not be representative of the belief system of a more heterogeneous distribution of global participants.

Overview

The relation between uneven representation and honest judgment is paramount to understanding the fairness of a free market. We have seen that the permissionless nature of blockchains can result in an uneven belief system used to evaluate Nash tokens. We have also seen that investors are incentivized to actively remove biases that connect their judgment to reality as depicted by the market. However, the reality as depicted by the free market can sometimes diverge from objective reality. This is because a free market is a social construct that exists as a result of human interactions, and thus it depicts reality through the belief system of human participants. If investors become aware of an over-represented belief system driving market forces,

they start making investment decisions based more on the study of the belief system of other participants and less so on the study of the underlying characteristics of the assets being valued. When that occurs, the value established by markets becomes speculative. Section 6.1 explores regulatory forces that could be designed to strengthen the correlation between reality as depicted by the market and objective reality. That is; the value of Government Nash tokens established by a free-market (Nash Judge), and the true ability of governments to promote global interests (C2).

5 Monetary Policy

Disclaimer: The monetary policy proposed here is preliminary and can be subject to change.

Monetary policy is the control of the supply of tokens available in a free market and the channels by which new tokens are provided. The proposed characteristics of the monetary policy of Government Nash tokens are the following:

- 1: The monetary policy is non-discretionary (pre-established and run by algorithms)
- 2: The amount of periodically minted tokens is decreasing over time and the max. supply is finite

The following sections explain the reasoning behind such properties and their practical consequences.

Token generation phase

At $t = 0$, Nash Protocols are launched for all governments recognized by the UN, and an initial supply of Government Nash tokens is given to early contributors and investors. After $t = 0$, Government Nash tokens can be transacted in a permissionless blockchain, and thus, their value can be established by the collective intelligence of a free market.

Any time after $t = 0$, governments have the right to claim their Government Nash tokens by reaching out to the Nash Protocol admins and providing them with the address of a government-owned wallet. If no address is inserted in the smart contract, no new tokens are minted (this is to protect early investors against dilution before a government recognizes the token). If the address of a government-owned wallet is provided in the smart contract, new Government Nash tokens are periodically minted. The amount of Government Nash tokens periodically minted is decaying over time (this is to incentivize early participation of governments). See figure 4.

From a monetary policy perspective, governments are highly incentivized to participate in the protocol (they obtain a stream of valuable Government Nash tokens). However, Government Nash tokens don't pretend to be a complete replacement for taxpayers any time soon, and they also don't pretend to be an ever-increasing value asset for tokenholders. In established free markets, margins of buyers and sellers are razor-thin due to competition, and success is only warranted by being better than the competition. One has to consider that the Nash Judge (free market) also operates between different governments, and thus, competition between governments places an incentive on them to find the best mechanism to compensate their tokenholders in order to retain the long-term value of their tokens. What generates value in a free market is not so much the great deals buyers and sellers get from time to time but rather the utility that is created by trading a liquid asset: enabling a collective intelligence to establish (without friction) the price of such asset. In the Nash ecosystem, that translates to enabling a collective intelligence to establish the value of Government Nash tokens, which potentially places an incentive on governments to behave in the benefit of global interests.

Post token generation phase

After the token generation phase, the supply of new tokens is ceased and Government Nash tokens are no longer dilutive. After this point, governments stop receiving a stream of Global Nash tokens, and thus they only increase the value of their possession by increasing the value of every unit of Government Nash tokens they own. This is only possible by behaving in accordance with global interests (assuming a non-speculative market). Governments have to be meticulous about how they manage their Government Nash

tokens before the end of the token generation phase. If governments fail to retain a considerable portion of Nash tokens during the Nash production phase, the incentive structure on them disappears and the value of Government Nash tokens would likely plummet. To inspire trust, governments may transfer their tokens to cryptographically vested accounts where they can prove that their tokens will be locked during a certain period, thereby postponing their sale of tokens.

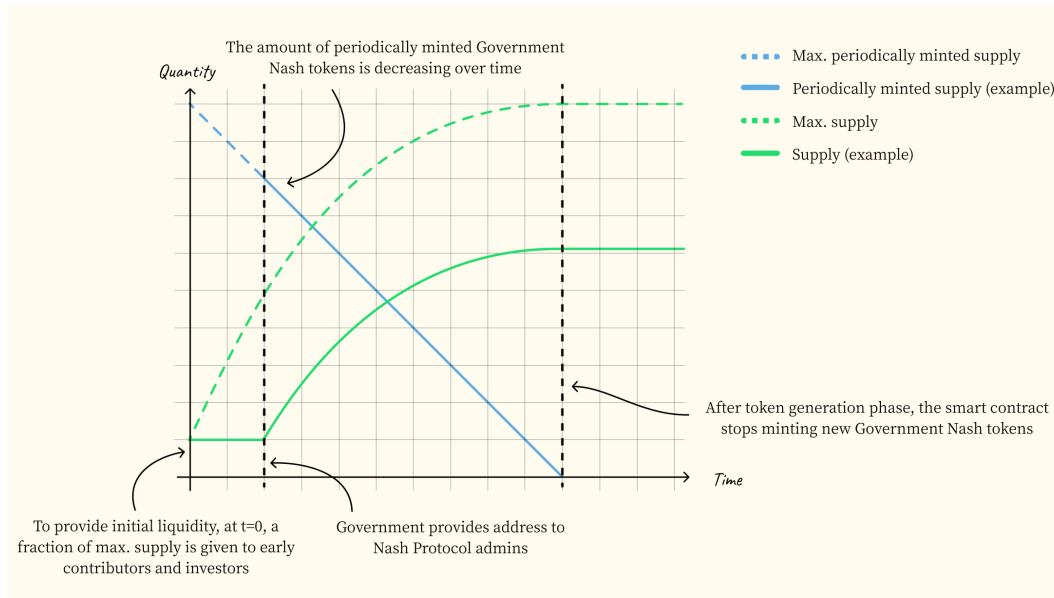


FIGURE 4 – Monetary Policy of Nash Protocols

6 Potential expansions of the Nash ecosystem

This section presents an overview of additional elements that could be incorporated in the design of the Nash ecosystem in order to empower the mission of promoting global interests. The ideas presented in this section are not guaranteed to be implemented in practice, and are presented only to open the debate and receive feedback to reason about their effectiveness in the context of the mission.

6.1 Combating speculative forces

Government Nash tokens belong to a class of financial instruments that are not backed by physical objects or other financial instruments. They are the pure essence of a social construct. Unfortunately, this class of financial instruments can often be subject to high levels of speculation (see section 4.2). When markets are speculative, the market value of the underlying assets being traded can lose correlation with respect to their pragmatic value - the value that would lead to the most success in terms of its practical implementation. In the Nash ecosystem, this would translate to a poor correlation between the value of governments' Nash tokens and their true ability to promote global interests (C2).

This section explores the use of a regulatory mechanism that could be implemented to strengthen the correlation between the value of governments' Nash tokens and their true ability to promote global interests (C2). In short, such a mechanism consists of a procedure that uses a non-market-driven approach to evaluate the behavior of governments (using Nash Valuation Multiples) and then imposes an incentive structure that rewards tokenholders of cooperative governments and sanctions tokenholders of defective governments (with Global Nash tokens).

6.1.1 Nash Valuation Multiples

A valuation multiple is a ratio that reflects the valuation of a company in relation to a specific financial metric. Similarly, a Nash Valuation Multiple is a metric that reflects the valuation of a Government Nash token in relation to a specific behavioral quantifiable metric of a government. As opposed to a Nash Judge, a valuation multiple is not driven by the collective intelligence of a free market, but rather by information and belief provided by reliable sources of information. Such sources can be, for example, intergovernmental institutions such as the UN, semi-centralized networks of participants that are incentivized to provide truthful information, blockchain oracles, or even trustless smart contracts (to collect on-chain information). Such valuation multiples can be designed to capture a handful of metrics that are representative of the impact of governments on global interests, such as carbon emissions, engagement in military activities, etc. Saying that a few metrics can encapsulate the impact of governments on global interests is easier said than done. Using a purely data-driven approach might not only be subject to human data manipulation but can also fail to encapsulate complex contextual information. Allowing human judgment in the loop can provide richer context, but can be subject to human deceit and corruption if the system is not well designed (see section 4.2). Section 6.2 presents a potential approach to address this problem.

Nash Valuation Multiples can be used (if necessary) as additional non-market judgment mechanisms to encourage C2. In short, this can be done by establishing a systematized procedure to score governments according to a handful of Nash Valuation Multiples and then rewarding tokenholders that are holding tokens of governments that are scored higher. Such reward is provided in the form of Global Nash tokens.

6.1.2 Global Nash tokens

Global Nash tokens are tokens used as a currency to compensate all participants that are essential to maintaining the long-term mission of promoting global interests. The monetary policy of Global Nash tokens is a discretionary one (run by humans), as opposed to the monetary policy of Government Nash tokens, which is non-discretionary (run by algorithms). The reason why Global Nash tokens are discretionary is to enable humans to create flexible incentive structures to empower the mission of promoting global interests in the best possible way.

Use cases

If there exists significant evidence that the value of governments' Nash tokens is not sufficiently correlated with their ability to behave in the benefit of global interests (C2), Global Nash tokens could be used to compensate tokenholders of governments that are scored higher according to Nash Valuation Multiples. Global Nash tokens might also be used to replace protocol admins (centralized power) with a decentralized consensus that is incentivized to provide honest inputs by receiving Global Nash tokens (this is to be investigated further). Finally, Global Nash tokens might also be used to compensate for additional services that are essential to maintain the Nash ecosystem: blockchain and cybersecurity expertise to maintain Nash protocols, legal and diplomacy expertise to establish communication channels with governments, campaigns to help understand the Nash ecosystem to a broader community, etc.

Value

The value of Global Nash tokens after $t = 0$ is injected from Government Nash tokens using the following mechanism. During the token generation phase, the Nash protocol may deviate a fraction of the supply received by governments to a smart contract that sells Government Nash tokens to buy Global Nash tokens and then burns the Global Nash tokens (reduces supply by putting them out of circulation). The net outcome of that process is an appreciation in the value of Global Nash tokens and a depreciation in the value of Government Nash tokens (see figure 5).

Since Global Nash tokens are then redistributed to tokenholders of governments that are scored higher (according to Nash Valuation Multiples), the net outcome is a mechanism that rewards tokenholders of

high-scored governments and sanctions tokenholders of low-scored governments - hence the correlation (C2). Note that this additional incentive structure would only be implemented in case there exists significant evidence that it has the potential to improve the mission of promoting global cooperation, and would be used meticulously by always entitling the free market to the major role of establishing the value of a token.

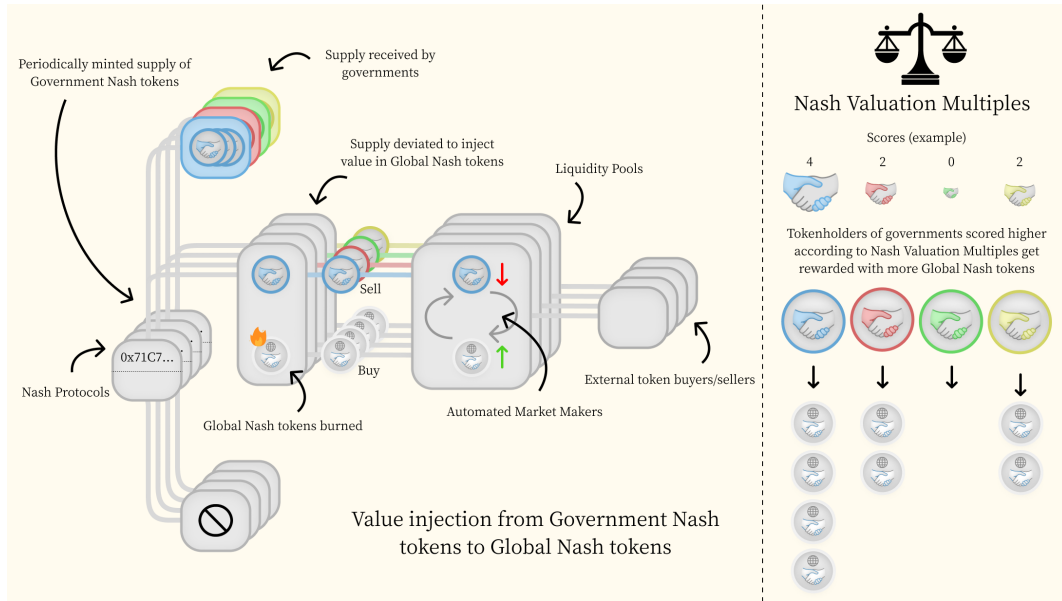


FIGURE 5 – Global Nash tokens value injection and Nash Valuation Multiples

6.2 Marketplace of judgment systems

Section 6.1 provides some insight into the potential use of non-market judgment systems that act as regulatory forces to increase the correlation between the value of governments' Nash tokens and their true ability to promote global interests. The implications of the design choice of such regulatory forces are far from trivial. Should the judgment be purely data-driven? Should human judgment be involved in the loop? What level of decentralization should there be? What metrics should we use to evaluate governments? By which channels should we regulate a market? Should there even be regulatory forces? etc. A practical way to find out which approach works best is to conduct a simple experiment: implement multiple of them each using separate protocols with separate token supply, and then ask the market which one is best. This creates a market of judgment systems. A judge of judges, a metajudge.

Having a competitive free market of regulatory systems could act as an optimization procedure, but this also comes with a few practical challenges. First, having Government Nash tokens specific for each regulatory system could be overwhelming for investors that want to judge the behavior of governments and not the underlying characteristics of regulatory systems. Second, the constant entry of new protocols with their own supply of Government Nash tokens could be harmful to early investors, as their market share could be diminished. And finally, having a free entry to create new protocols with new supplies could be exploited by fraudulent actors as a tool to deceive vulnerable public into participating in flawed, scammy systems.

To address such problems, the Nash ecosystem could play the role of creating a marketplace that generates the ideal conditions for a healthy competition of regulatory judgment systems to empower the mission of promoting global interests. Such roles could be for example:

- Filtering out judgment systems that are fraudulent, dishonest, impractical or flawed

- Setting up soft protocol standards and guidelines in order to reduce complexity and facilitate interoperability
- Designing mechanisms to protect tokenholders within the Nash ecosystem against a reduction in market share of their holdings (dilution) when new judgment systems enter the ecosystem
- Release of decentralized financial products that are designed to simplify the investment strategies of investors

6.3 Beyond governments

The idea of a Nash ecosystem is presented in this paper in the context of governments. This is because, in the status quo, governments have a large influence over subordinate agents (companies, citizens, etc). Nevertheless, such subordinate agents do have some independent influence over global interests. Companies can build products and services that benefit or harm global interests, and so do individuals.

The concept of a Nash Judge (free market) could be brought to different levels of the hierarchy of socioeconomic agents. One can imagine the concept of Enterprise Nash tokens, which represent the ability of companies to behave in accordance with global interests, or Individual Nash tokens, which represent the ability of individuals to behave in accordance with global interests. In the hypothetical scenario that both C1 and C2 could be achieved in the context of companies and individuals, this could open a realm of possibilities for new funding opportunities that are currently inconceivable. In such a scenario, companies would benefit from considering their impact on global interests when designing their services and products, and the rest of the world would obviously benefit too.

The implementation of Nash Protocols (smart contracts) for companies or individuals is relatively straightforward. Arbitrarily tokenizing a personal brand without regulation is, in fact, something abundant these days. Nevertheless, designing regulatory forces to impose a positive correlation between the value of tokens and the true ability of agents to promote global interests (C2) is, I believe, more challenging than in the context of governments. The approach of using quantifiable valuation multiples is difficult to apply to companies and individuals. Measuring the global impact of products and services requires complex contextual information and most time their effects are not fairly understood after they are fully operational. Furthermore, the number of existing companies and individuals is much larger than the number of governments, which hinders the involvement of a human in the loop. The implementation of non-speculative markets of Enterprise Nash tokens and Individual Nash tokens is, in my opinion, much more challenging than in the context of governments. The design of alternative regulatory forces to impose correlation (C2) in the context of companies and individuals will be analyzed in the future.

7 Conclusion

Society is a set of socioeconomic agents composed of humans that are constantly making decisions to maximize their own interests. Changing society requires changing the interests and incentives of individual socioeconomic agents.

This paper presents the idea of a marketocracy - a new form of soft global governance that leverages the collective intelligence of a free market to influence the decision-making of important socioeconomic agents. The magnitude of such influence is determined by the market itself. This provides society the opportunity to organize itself differently by imposing an offset in the payout matrix of governments that makes the Nash equilibrium more compatible with the common good.

The Nash Judge is a decentralized bottom-up system. This implies that the rewards or sanctions are not imposed by a centralized entity that has control over subordinates, but are rather decided by global participants that combine their information and beliefs in the form of the collective intelligence of a market. The Nash Judge is a bilateral participatory system. Both investors and governments can choose to participate. Governments can decide to either claim their Nash tokens or not. Investors who believe that there exist major flaws in the fundamentals of the Nash ecosystem can decide not to participate. Investors who believe that Nash tokens have the potential to one day heavily influence the decision-making of governments by having market caps that are relevant on a macro scale can decide to invest early.

Acknowledgements

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Appendix

A Long-term importance of incentive structures

Humans discovering productivity may be analogous to teenagers discovering energetic drinks. For a while, they made things awesome, but eventually, their health deteriorated and then died of related consequences. In the grand scheme of things, humans are teenagers that just discovered productivity. Productivity has enabled us to evolve to a state that we could never have imagined, and we continue to embrace it. Our whole financial system is in fact primarily designed to maximize productivity.

Nevertheless, the exponential growth in productivity also results in exponential growth in the production of tools that have the potential to influence the prosperity of the species. A social network can be a tool to share knowledge and love at unprecedented levels or can also be a tool to accelerate the spread of harmful misinformation around the globe. Scientific and technological discoveries can be tools that allow humans to find cheap and sustainable sources of energy, and can also be tools transformed into weapons of mass destruction available and affordable to everyone. Genetic engineering can be a tool employed to alter the phenotype of humans to make their interests compatible with the common good, or it can also be a tool employed to engineer pandemics. Artificial general intelligence can be a tool employed to complement humans in their existing weaknesses, or it can be a tool employed to cause mass destruction on Earth. The list goes on and on.

The above scenarios are neither optimistic nor pessimistic. They are speculative. But one thing is clear; the prosperity of the species depends on the incentives and interests of those who have access to the powerful tools we develop. This is why it is paramount to use our best and brightest to develop incentive structures that align the interests of individual agents with global interests. If we don't solve the problem of incentive misalignment we might find ourselves on a slippery slope towards self-destruction.