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Journal of Special Jurisdictions

The Journal of Special Jurisdictions is an international peer-reviewed journal founded to advance knowledge of Special Economic Zones and other special jurisdictions. It publishes original papers on the theory, history, regulations and development of special jurisdictions. Research published here can be used to inform policymakers about special jurisdictions. The Journal maintains a non-partisanship approach to its topic. It is led by the team at the Institute for decentralized Governance at the Startup Societies Foundation. The production of this issue has been done in partnershiup with Seaphia.

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Journal of Special Jurisdictions

Letter from the Publisher

Joseph McKinney
Startup Societies Foundation

In the Published letter of our last issue, we wrote on how Covid-19 was a catalyst for examining the value of special jurisdictions. Now, with the worst of the pandemic over, and our eyes now turning to economic depression and global conflict, we continue to focus on building. International disorder and financial uncertainty is pervasive. These are exactly the types of problems special jurisdictions have the capability of addressing, and that we are happy to share with our readers through the Journal.

Recently, more special jurisdiction projects have been launched, and lumineers in technology and policy have advocated more for their creation. But the proliferation of special jurisdictions has not progressed uniformly. Some projects have been stymied, or even completely eliminated. These developments make it more vital than ever to develop a series of best practices, which the Journal intends to help provide.

While our focus in the Journal of Special Jurisdictions is international, in response to rising tensions over institutions in the United States, this issue emphasizes special jurisdictions in the United States. While long seen as the least likely place to create new, innovative jurisdictions, with the advent of Native American Digital Economic Zones, this looks to be changing. Also, since federal gridlock and political polarization is now a permanent fixture, policymakers and voters are now more open to devolving power from the federal level to nimbler jurisdictions.

As publisher, I and the Startup Societies Network, via our research arm, the Institute for Decentralized Governance, are happy to bring you pieces not just on theoretical best practices, or standard export processing Zones, but real life jurisdiction cases that have impacted or can impact the world, from Shenzhen to Catawba. We are excited to know that the field of special jurisdictions is progressing, evolving, and maturing. As policy makers across the world, including from the United States, continue to realize that decentralization can address more of their countries economic and political concerns, special jurisdictions will continue to innovate and spread more rapidly across the globe.

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Journal of Special Jurisdictions

Letter from the Editor

Dr. Nathalie Mezza-Garcia, PhD
Startup Societies Foundation

I want to start by thanking everyone from the IDG and Journal team who participated in the making of this issue, especially to the anonymous reviewers, including Sebastian Reil, Robert Mogielnicki and Maxwell Tabarrok.

I am proud of the excellent group of papers that made it to the third issue (Issue III) of the Journal of Special Jurisdictions. This issue could not come at a better time. The Institute for Competitive Governance and the Startup Societies Foundation have rebranded. We are now the Institute for DECENTRALIZED governance (https://www.decentralizedgovernance.institute/) and the Startup Societies NETWORK. We did this to be more encompassing with the types of startup societies and the focus of new zones that are emerging in the industry. And this Issue is certainly a reflection of the space. It discusses deterritorialized jurisdictions, de facto zones, innovative technologies zones, a Native-American Zone, and past and future co-existing in Shenzhen. Let's begin!

5 papers comprise this issue. One of my favorite ones is entitled Special Economic Zones: a Legal Framework analysis. The paper offers a comprehensive study of Special Economic Zone legal frameworks from across the world, from Kosovo to Malasya, to Belarus and Nigeria. If you have wondered about the commonalities in zone legal frameworks in various jurisdictions, this paper is for you. The author, Luis Freisler, did a great job in identifying that most zone frameworks usually have a description of the regulation's purpose, definitions, services provided by the zone, the zone structure, licensing, etc. Freisler uses his findings to derive best practices for future zone development.

Another great paper is entitled The Catawba Digital Economic Zone: A Native-American SEZ. The paper is written by Professor Tom W. Bel.. This paper discusses the first next generation Special Economic Zone in the United States: the CDEZ. This is a jurisdiction recently-created by the Catawba Indian Nation of the Carolinas. The paper discuses how the Catawba have exercised their sovereignty to create a fully fledged Zone and commercial code for the digital economy and digital assets industry: e-banking, cryptocurrencies, among others. The paper dives into the project's legal backbone and analyzes the CDEZ's positioning with respect to federal law and the Catawba settlement agreement. It also discusses how do CDEZ-created companies fit in the equation. The paper is a great read for anyone interested in how the Catawba are, in Professor Bell's words, "building a virtual trading post for the New World".

I'm also pleased pleased to share that one of the papers proposes the creation of Energy Innovation Zones. According to the author, Maxwell Tabarrok, EIZs would be zones in the United States with special exceptions and incentives for innovating in industries that have been stagnated due to regulatory constraints; namely energy. In the paper, Tabarrok focuses on nuclear energy and on the impact of an energy zone for the United States energy policy. The paper's narrative is driven by examples. It also has links for anyone who wishes to visit the sources directly–since most content is read online, this is a practice we are going to keep implementing moving forward.

This issue also contains a bold paper by Andrew Morriss entitled Non-Territorial Special Jurisdictions in the US Insurance Market. The paper claims that although there is not explicitly an SEZ, the US insurance market is so fragmented and contains exceptions and preferences created by Congress, that the US insurance market acts as if it was already a deterritorialized de facto SEZ. The paper discusses routes taken by various groups to enjoy benefits from the insurance market given only to certain providers. Certainly a great paper to learn more about how regulations can be used to reward competition.

And last, we have an excellent paper about Shenzhen and an interesting phenomena that occurs in it and other Chinese Zones: "Urban Viallages". The paper's author, Michael Castle-Miller, takes us in a 40 years trip through what has been one of the most successful experiments in history. But he does so from a very realistic perspective. Castle-Miller discusses how the larger Shenzhen metropolis was built around a small fishing village (now an enclave), and how old and new have integrated, while keeping their distinctiveness. The article has plenty of data on the growth of Shenzhen, its Urban Villages and others across China, and on how the villages have organized to ensure they benefit from the region's economic growth. The merging of these two world is, as the author puts it, a great example of how economic development and special policy incentives can occur without displacement, and, one of the things I cannot stress enough, by benefiting local stakeholders first and foremost.

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Special Economic Zones: A legal framework Analysis

Luis Freisler
Free Cities Foundation
luisfreisler@yahoo.com
ORCID 0000-0003-4262-8317

Abstract:
With the increasing number and importance of special economic zones worldwide, more and more countries are thinking about establishing their own zones or improving their existing zones. This paper shows the model structure of a legal framework needed for such zones and gives corresponding recommendations. For this purpose, more than 80 laws from over 50 countries were analysed regarding to their commonalities. This results in a basic model scheme with different possibilities for individual deviation. Due to these deviations, which are adapted to the respective needs of each country, it is therefore not possible to develop a universal perfect law. Nevertheless, there are 3 points that seem essential for a successful zone law. These are the special tax incentives, the reduction of national regulatory complexity and the option of private participation in organization and operation of each zone.

Keywords: Special Economic Zones, SEZ, Free Zones, legal framework, legal framework structure, SEZ law, privatization, recommendations.

Resumen:
Con el aumento del número y la importancia de las zonas económicas especiales en todo el mundo, cada vez más países están pensando en establecer sus propias zonas o mejorar las zonas existentes. Este documento muestra la estructura modelo de un marco legal necesario para tales zonas y brinda las recomendaciones correspondientes. Para ello, se analizaron más de 80 leyes de más de 50 países en cuanto a sus puntos en común. Esto da como resultado un esquema de modelo básico con diferentes posibilidades de desviación individual. Debido a estas desviaciones, que se adaptan a las respectivas necesidades de cada país, no es posible, por tanto, desarrollar un derecho universal perfecto. Sin embargo, hay 3 puntos que parecen esenciales para el éxito de una ley zonal. Estos son los incentivos fiscales especiales, la reducción de la complejidad regulatoria nacional y la opción de participación privada en la organización y operación de cada zona.

Palabras Clave: Zonas Económicas Especiales, SEZ, Zonas Francas, marcos regulatorios, estructura legal, ley de zonas, privatización, recomendaciones.

1. INTRODUCTION

According to the UNCTAD World Investment Report, there were about 5,400 special economic zones (SEZs) in over 140 countries in 2019. For this calculation a SEZ was defined as "geographically delimited areas within which governments facilitate industrial activity through fiscal and regulatory incentives and infrastructure support" (UNCTAD, 2019). Nevertheless, as there is no unified definition of what a SEZ exactly is, this number varies widely. If single-factory zones, i.e. zones with incentives for one single enterprise, are included, up to 10,000 SEZs can exist worldwide (Bell, 2017). This lack of a unified definition for the rather general term SEZ is a result of different legislation, as each country has its own unique legal framework for the zones within its territory.

It is the aim of this paper to present the similarities and differences between those unique laws from different countries. For this objective, the second section presents a model framework of a "universal SEZ law", on which the various implementation options are elaborated. Subsequently, in the third section, based on the possibilities described, some recommendations are made that can be implemented in future frameworks to ensure successful zones.

2. A UNIVERSAL SEZ LAW

The legal framework of a SEZ varies from state to state and can be a law, an act, a decree or any other type of legal norm on national or federal state level. There might as well be more than one framework within a country for different zone types (e.g. Belize Commercial Free Zones (CFZ), Belize Processing Zones (DAP); Indonesia Special Economic Zones (SEZ), Indonesia Industrial Estates (IE)). Nevertheless, almost all frameworks are based on a similar pattern, which, as a model framework, can be structured as follows:

1. Purpose;
2. Definitions;
3. Establishment, structure, and functions of a new authority;
4. Establishment and structure of new zones;
5. Licensing and the role of operators and developers;
6. Zone services;
7. Zone regulations;
8. Special legal regime;
9. Penalties;
10. Disputes;
11. Miscellaneous.

It should be clarified that not every framework follows this structure. There are both frameworks with more as well as fewer attributes, ranging from two (e.g. Fiji) up to more than fifty (e.g. Egypt) pages of content. The sample structure as well as the following explanations are only a compilation of the most frequently occurring chapters and attributes within the different frameworks.

2.1. Purpose

The purpose, usually set at the beginning of the framework, enumerates the goals to be achieved with the establishment of the zones. The most common, general goals are the creation of new jobs, economic development, attraction of foreign direct investment and the increase of international competitiveness. Nevertheless, the purpose of the zones is always adapted to specific needs and objectives of each country. In addition to the general objectives, there are some that are more specific. Countries with low export levels for example want to increase their exports. Countries with no significant manufacturing industry want to explicitly promote industrialisation and the production of goods. This also includes the development of skill expertise in the labour force, which can be increased through zones that attract high-tech industries. It is furthermore possible to specifically promote structural weak regional areas through the establishment of new zones. The cooperation of local companies with companies within the zone is then a special target in the purpose. Some economies only want to target specific economic sectors or industries with their zones as for example production, tourism or high-technology industry which is then specified in the purpose.

The goals mentioned in the purpose are not only generally desirable achievements, but in addition provide the indicators by which the performance and the concrete success of a zone can be measured. This is done, inter alia, by comparing the contribution to the stated goals between the zone companies and the companies in the rest of the country (e.g. Uruguay, Art. 1-BIS). For example, if a zone generates new jobs, but is too limited to service companies and has no manufacturing or producing companies, it does not contribute to an increase in exports. But if an increase in exports is listed as an important goal in the purpose, the zone does not contribute to its achievement and may even be closed due to its weak performance in this regard (e.g. Bolivia, Art. 56; Kosovo, Art. 18).

2.2. Definitions

The purpose is typically followed by a section with definitions, sometimes called interpretation, where specific terms are defined or precisely determined. This does not include detailed definitions, descriptions or provisions on content, but rather refers to the section in the law where the content is regulated (e.g. Botswana, Art. 2 "In this act, "special economic zone" means an area of land established as such under section 29"). The number of definitions ranges from a few (e.g. Argentina, Art. 1, definitions for the terms "free zone", "general customs territory", "special customs territory" and "third countries") to high two-digit numbers (e.g. Jamaica, Art. 2, definitions for over 30 terms, including "Authority", "customs territory", "developer", "infrastructure", "occupant", "Special Economic Zone" and "zone area"). The main definitions that can likewise be found in almost every framework, are the following:

The authority: most states have a special zone authority, also called a board or zone council, to manage the administrative matters concerning the zones (e.g. Botswana, Art. 6; Uganda, Art. 3).
The developer: a developer is responsible for setting up the zone along with its basic infrastructure (e.g. Ethiopia, Art. 5,6) and for land arrangements (e.g. Belize CFZ, Art. 9).

The operator: an operator, also called a managing company of the zone, is responsible for the administrative control as well as the day-to-day operations of the zone (e.g. Rwanda, Art. 2 (16)). An operator and a developer might, but do not have to be the same entity (e.g. Cameroon, Art. 3).

The licensee: a licensee is a person or company that is allowed to conduct an economic activity within the zone (e.g. Jamaica, Art. 2). If there are different types of zones within a country, there could be different types of licensees (e.g. Bolivia, Art. 3). Licensees are as well referred to as zone enterprises, users or entrepreneurs.

The zone type: Special economic zone (SEZ) is a recently popular term, characterized by UNCTAD (UNCTAD, 2019) and can be understood as a general term for "universal" zones. Nevertheless, in addition to those general SEZs, there are also specialised "sub-forms" of zones with expanded or reduced purposes and different definitions. Their used terminology is not uniform among the countries which is why only a rough classification for the most common types can be made here (for a detailed explanation of the definitions, see Bost, 2019).

- Special Economic Zone (SEZ): UNCTAD defines SEZs as clearly demarcated geographical areas with a regulatory regime distinct from the rest of the economy (most often custom and fiscal rules, but potentially covering other relevant regulations, such as foreign ownership rules, access to land or employment rules) and infrastructure support (UNCTAD, 2019). While infrastructure support is not mentioned in most definitions, the other two key criteria, i.e. a delimited area within the national custom territory and a special legal regime, are mentioned as minimum requirements in the majority of the zone definitions (e.g. Congo, Art 2; Indonesia SEZ, Art. 1).
- Free Zone (FZ) / Free Trade Zone (FTZ): A free zone, sometimes called free trade zone, is also a demarcated area with a special legal regime, but with peculiarities regarding the customs territory. It is that either the area is considered a separate customs territory, i.e. separated from the national customs territory (e.g. Jordan, Art. 2; Lithuania, Art. 2), or that special customs regulations apply within the zone (e.g. Guatemala, Art. 2). The purpose of FZs is mostly focused on warehousing or trade facilitation (e.g. Colombia, Art. 2; Montenegro, Art. 1).
- Export Processing Zone (EPZ): EPZs are likewise demarcated areas with a special legal regime, but their purpose and focus are specified to increase exports. The companies and infrastructure of an EPZ are thus dedicated to the production of export goods or in the pro-

vision of services required for exporting activities (e.g. Vietnam LI, Art. 3 (21)).
- Industrial Zone (IZ) / Industrial Estate (IE): IZs are demarcated areas with a special legal regime whose purpose is particularly directed towards the production of industrial goods and on industrial development (e.g. Kosovo, Art. 3).

As mentioned above, there may be different types of zones within one state, each addressing different economic or industrial sectors or purposes (e.g. Kosovo, Art. 3; Philippines, Sec. 4; Russia, Art. 4).
Taxes and Duties: the law often refers to various tax regulations, as for example the sales tax or the corporate tax, and their legal basis is mentioned here (e.g. Malaysia, Art. 2).

Even though the definitions do not yet contain any major content-related provisions, they are nevertheless important for identifying the important keywords and making it easier to find them. In addition, they serve as a kind of priority content specification since the terms mentioned there mostly have a greater significance. So likewise in the following subsections, where the terms mentioned are further specified.

2.3. Establishment, Structure and Function of a New Authority

To administer the zones and exercise state control, a special regulatory authority is created within the frameworks. The main elements to be regulated with regard to such an authority are its structure and its functions and powers.

2.3.1. Structure

The most important organ within the authority is the Governing Board, which is the policy-making organ responsible for carrying out the functions mentioned below and the management of the authority. The board usually consists of 8-15 members (sometimes more, e.g. Bangladesh, Art. 21 with over 30 members), which may be composed of the following persons:

- Ministers or representatives of one or more ministries related to the zones (e.g. Ministries of Industry, Commerce, Finance, Trade, Labour and Employment, etc.);
- Other government officials;
- Representatives of different chambers (e.g. Chambers of Commerce, Industry, Technology, etc.);
- A representative of the central bank of the country;
- Private representatives.

In addition, the meetings of the board and how they are to be proceeded, as well as the funding of the authority, are regulated. The fund mostly consists of a budget determined by the parliament or the government, fees paid to the authority for services such as registration or licensing and donations. Furthermore, there is a Chief Executive Officer (CEO) of the authority, ordinarily appointed by the government.

2.3.2. Functions and Powers

Each authority has clearly delineated and defined functions and powers. These can be summarised as follows:

- Report function: The authority must report regularly to the relevant body within the government on the performance of the zones. For this purpose, it shall register all activities within the zone and maintain records for the corresponding figures. Moreover, its function includes advising the government and making suggestions for future policies or legislative changes and formulating a national strategic master plan for the zone program.
- Promotional function: The authority has the function of promoting the zone program on national and international level in order to attract numerous investors. Especially if the regulatory authority is an investment promoting agency, the general promotion of investment or the promotion of exports is part of the authority`s tasks in addition to the promotion of the specific zone program (e.g. Gambia, Art. 6).
- Administrative function: The authority must fulfil all administrative tasks that are related to the zones and its activities. It can set administrative fees for services like registration or licensing or set fines for breaches. The administrative function may as well include the establishment of police, customs or immigration offices within the zones along with the establishment or acting as a one-stop shop.
- Compliance function: The authority shall ensure that all national or zone-specific laws and regulations, especially the administrative and customs regulations, are complied with. To ensure that the authority has the right to carry out regular inspections of the facilities and goods in addition to monitor the processes by appropriate measures.
- Land power: The authority has the power to acquire and hold land. Therefore, it can lease, rent, or sell it to developers, operators or licensees. Furthermore the authority might identify suitable areas and propose them to the government (e.g. Ghana, Art. 7), so that the government can make the final decision and designate the area as a new zone.
- Licensing power: The authority is responsible for receiving, reviewing, and issuing all kinds of licences as well as determining the respective application procedures and forms. Thereby, the authority has the right to modify, revoke or cancel licences. In addition, it can be res-

ponsible for granting work permits and visas for foreigners (e.g. Philippines, Sec. 10).
- Regulating power: It has the power to make rules and regulations concerning the zones, e.g. the mentioned application or licensing process, the incentives or the entry and exit of persons or goods. It shall furthermore monitor the activities within the zone and must then allow, restrict, administer, regulate or prohibit certain activities of all kinds that contravene other laws.

The authority is mostly either overseen by or reports directly to the President or other high government officials such as the prime minister (e.g. Indonesia SEZ, Art. 15).
This authority is usually a body corporate with its own common seal, which is empowered to enter into contracts in its own name and which can sue and be sued.

2.3.3. Exemptions

As this is only a general structure, with common characteristics used by the majority, there are as well some possible exemptions which will be presented here:

- Structural exemptions: Not all countries have established only one federal authority, but rather one authority at national level and several authorities at regional or provincial levels (e.g. Indonesia SEZ, Art. 15, 9; Pakistan, Art. 5, 10). The national authority is then responsible for rather general tasks such as formulating general policies and a national master plan, while the provincial authorities administratively monitor the zones in their area and attend to more specific matters such as licensing.
- In addition to a national authority, called Board of Approval, India has even set up authorities for each individual zone, which monitor the performance of their zones (India, Art. 34).
- Other countries do not have a special authority at all, but simply transfer the zone related tasks to an already existing ministry (e.g. Guatemala, Art. 6). For the sake of simplicity, in the following the corresponding ministry is included when referring to the authority.
- Functional exemptions: In addition to these structural exceptions, there are as well some exceptions to the functions mentioned above. These include, in particular, the exception of licensing power, which is sometimes transferred to the individual zones themselves (e.g. South Africa, Art. 38). But also, individual aspects of the regulatory power, such as adopting rules or regulations for businesses within the zone are at times transferred to the operator (e.g. Kenya, Art. 22). Yet, the authority can not only be deprived of powers, but it might be granted extended competences. In some exceptions for example, it is empowered to designate certain areas as zones or to establish zones by itself, without the involvement of a central government (e.g. Papua New Guinea, Art. 41; Zimbabwe, Art. 31).

The structure of the authority is mostly based on the general structure of the administration of the individual state, whereas the distribution of functions and powers is based on which are still to be assigned to developers and operators.

2.4. Licensing and the Role of Developers and Operators

Once the authority has been established as an external setting, the internal structure of the individual zones still needs to be determined. Essential for this are the developer and the operator. The main tasks of a developer are to design, construct, and extend the zones. This can include leasing, renting or selling land or facilities to licensees and operators, providing facilities for the relevant authorities, and providing an adequate enclosure. In some cases, the developer might either select an operator or act as one (e.g. Uganda, Art. 34). The main tasks of an operator are to run, manage, administer, maintain and promote the zones. This can include adopting rules and regulations for business activities and the movement of goods or persons within the zone, entering into agreements with licensees, capturing their rights and obligations, maintaining the space provided by the developer and linking local industries to the industries within the zone. For the legal form of developer and operator there are 3 possibilities on how this is to be designed:

- The private design: In the private design, developers and operators are private companies with clearly defined powers and obligations (Rwanda, Art. 18). In such cases, the operators or developers enter into investment contracts with the licensees and the zone is then a complete private company, where the losses are borne by the respective owners.
- The public design: In the public design, developers and operators, usually called zone administration in such cases, are public entities, which are appointed and controlled by the national authority or the government (e.g. Belarus, Art. 15).
- The public-private design: The zones can furthermore be run in form of public-private partnerships (PPP), for example in the form of a public limited company where the state holds a certain number of shares or has a certain number of votes within the supervisory board (e.g. Poland, Art. 6).

Some frameworks implement all three options for zone operation, seeking private developers or operators or appointing public entities depending on needs and demand (e.g. Nigeria 2004, Part 4 Art. 1). The permission or licence to act as a developer, operator or licensee is normally granted by the authority upon successful application. The documents which are required for application are regulated in each respective framework or by the authority itself. Usually basic information about the applying company, developer or operator and a business, marketing, or development plan for the corresponding zone are required. It is often compulsory that the company is registered in the host country. Licences are either perpetual, limited by the duration of the zone or renewable after a defined period. The licence may also be withdrawn for various reasons such as illegal activities, breach of contract, bankruptcy or suspension of operations. If an operator loses his licence, an interim administrator is usually hired (e.g. Pakistan, Art. 22).

The tasks and powers assigned to the authority, developer as well as operator arise in almost every country an zone program. However, who gets assigned the tasks from the 3 mentioned differs massively. This important part of the law therefore decides how the individual zones are managed and, above all, what amount of autonomy and flexibility they are granted.

2.5. Establishment of New Zones

Zones do not come into being randomly out of nowhere, but specific areas within the national territory must be selected and then declared as zone areas. Usually, the proposal to declare a particular territory a zone area comes from the authority, which forwards it to the government. The government then officially declares the area as a zone area and establishes a new zone. In some frameworks, proposals are furthermore allowed from the private sector (e.g. India Art. 3; Rwanda Art. 7). The minimum requirements for such a zone are clear boundaries and a minimum or maximum size. In addition, some countries require their zones to be established only on land that is state-owned (e.g. Angola, Art. 5 I). As far as infrastructure is concerned, some states require a pre-existing basic infrastructure before an area can be declared a zone (e.g. Philippines, Art. 6), while other states leave the construction of infrastructure entirely to the authority or developer. It is also possible that the potential area must be located near a port, airport or rail connection (e.g. Bosnia and Herzegovina, Art. 3). The establishment of so-called single-factory zones, i.e. zones in which only a single company is located, is permitted only in exceptions (e.g. Botswana, Art. 30 II).

Apart from these few clear rules, hardly any other concrete aspects are regulated regarding the establishment of zones or the designation of areas as zones within the frameworks; instead, terms that can be interpreted are used. The location should often be competitive and attractive for investment, in harmony with the purpose, and take environmental concerns into account. This ensures a great deal of leeway in the selection of potential areas as well as in the final decision.

2.6. Zone Services, Activities and Regulations

To ensure the development of a zone, the law prescribes several services that must be provided either by the developer, the operator or the authority. This mainly involves the provision of essential infrastructure such as roads, electricity, telecommunication, gas and water supply as well as waste management. Also, appropriate measures must be taken to ensure adequate security within the zone. A further important service is the establishment of a one-stop shop, a shop where all relevant and competent agencies and authorities are represented. Some countries might require extended services within the zones, for example green areas for recreation (e.g. Dominican Republic, Art. 9) or sanitary facilities in which medical care is guaranteed (e.g. Haiti, Art. 38).

Licensees, however, are not only subject to services, but also to regulatory restrictions that have to be fulfilled. In order to get a licence in the first instance, it might be that only certain activities may be conducted. Some states allow almost any economic activity and have only a small negative list of prohibited activities such as the trade in firearms or explosives, gambling or the production of alcohol or tobacco products (e.g. Belarus, Art. 5). Whereas other zones only allow certain economic activities within a positive list, while everything not included is illegal. Especially when it comes to specialised zones such as export processing zones, the permitted economic activities are limited to fit the purpose (e.g. Nigeria 1992, Art. 6). The economic activity of an enterprise is sometimes limited to the zone, i.e. the enterprise may only carry out its economic activity within the zone and not in the rest of the national territory (e.g. Uruguay, Art. 14). Other regulations concern the ownership of land, which is not always possible for all private parties. In some zones, licensees can only lease or rent land from the respective authority or developer (e.g. Vietnam Hi-Tech, Art. 7). Another significant difference between the zones occurs in the regulations of permanent residence. There are countries that prohibit any kind of living or housing within the zone (e.g. Djibouti, Art. 27), and retail trade may also be prohibited (e.g. Kenya, Art. 26) or only possible with a special permit (e.g. Nigeria 1992, Art. 14). They are then merely work zones. Others allow both retail and/or living within the zone (e.g. Ethiopia, Art. 15), whereby the possibility of living might be limited to service or security staff (e.g. Uruguay, Art. 4). Occasionally it is furthermore pointed out that the environmental and labour regulations in particular must be strictly complied with (e.g. Bangladesh, Art. 33,34; Philippines, Sec. 33; Rwanda, Art. 39). As far as the design options here are concerned, there are no limits for the legislator, which is also reflected in the variety of possibilities. They only have to be aligned with the objectives defined in the purpose and the type of zone.

2.7. Special Legal Regime

The special legal regime is one of the most important points of a zone, as this is where the incentives for investors are created. In general, there are three distinct types of regimes that may be regulated differently within the zone than in the rest of the national territory. These are the tax regime, the economic regime and the customs regime.

2.7.1. Tax Regime

Most zones offer certain tax concessions to licensees and developers or operators within the zones, which are outlined below.

- Exemption from corporate tax: Almost all zones offer a corporate tax exemption of up to 100%. The exemption is either for the entire duration of the zone, or for a fixed period after which the exemption is cancelled or reduced by a certain percentage.
- Exemption from value added tax (VAT) or other consumption taxes: VAT can either be excluded in general or only for specific goods such as production goods, raw materials, equipment and machinery or for imported goods. There is also the possibility of an exemption from consumption tax, for example on gas, oil, fuel or electricity.
- Exemption from property or land tax: Possible exemptions here are the exemption from the property transfer tax or an exemption from the property or land tax, usually limited in time (mostly for the duration of the construction phase).
- Exemption from other taxes: Other common tax incentives are the exemption from the capital gains tax, the tax on dividends, the personal income tax, from local taxes or from stamp duties.
- Foreign exchange and currency related incentives: Currency related incentives often include rules concerning foreign exchange or foreign currencies. Foreign exchange regulations may not apply within the zone (e.g. Nigeria 1992, Art. 18) or there can be an exemption from the currency export tax (e.g. Cameroon, Art. 17).

2.7.2. Economic Regime

The special economic regime here refers in particular to the regulatory incentives and facilitations that apply to economic activities within the zones. Regulatory incentives are exceptions to or amendments of rules applicable at national level. This applies to exemptions from national licensing requirements, quota restrictions or government monopolies (e.g. Cameroon, Art. 22). Besides, it is possible to make exceptions to rent restrictions (e.g. Belize CFZ, Art. 26) or to allow foreign ownership within the zone more easily or on an increased percentage basis. Furthermore, labour regulations can be changed within the zone (e.g. Angola, Chapter VII).

2.7.3. Customs Regime

The zone is sometimes (especially in the case of FTZs, but also possible in other zone types) considered to be a separated area outside the national customs territory (e.g. Jordan, Art. 2; Zimbabwe, Art. 2; different in Bosnia and Herzegovina, Art. 2; Montenegro, Art. 2, where zones are considered as part of the customs territory). That is, goods that are inside the zone are to be considered outside the national customs territory. Goods moving from a zone into the national territory are to be considered as imports, goods moving into the zones from the national customs territory as exports. As far as imports and exports are concerned, customs duties are commonly not levied on goods. Nevertheless, the exemption may be limited to capital goods or raw materials or machinery and equipment. The import and export of goods is subject to the usual customs regulations and fees, with some exceptions. These exceptions include goods that are imported or exported for a short period of time for maintenance, service or testing reasons. The national customs authority is responsible for the customs control regarding the zones.

2.7.4. Requirements

In order to take advantage of those incentives, or to obtain a licence in the first place, certain conditions are imposed on companies and investors at times. The most used requirement is a guaranteed minimum investment, which might range from a few tens of thousands (e.g. Jamaica) to several millions (e.g. Indonesia SEZ) of U.S. dollars. The amount of the minimum investment can additionally depend on the type of investment made or be reduced by complying with other requirements such as the creation of new jobs. Other common requirements are a minimum export quota, the creation of a minimum number of new jobs or a minimum number of national employees in each zone enterprise. Often several of these requirements are used at once. Regarding the tax exemptions, the quantity of the granted exemptions may depend on the amount of the investment made or the number of jobs created.

Thus, also in the case of special legal regulation, there is a wide range of different regulation and combination possibilities, always depending on the type and purpose of the zone. For free zones, the rules on the customs regime are primarily relevant, while the attractiveness of the zones, i.e. the tax regime, is important for the attraction of foreign direct investment as defined in the purpose. Particularly via the requirements, it is simple to control what kind of licensees enter a zone and in what scale.

2.8. Penalties, Disputes and Miscellaneous

While national criminal law also applies, most countries additionally penalize specific misconduct within the zone. A distinction can be made here between internal and external penalties. In this case, internal penalties are penalties whose consequences remain within the scope of the zone, such as fines paid to the authority or operator, a revocation of the granted incentives or even a revocation of the particular licence. External penalties are penalties at national level, including fines paid to other state authorities and imprisonment. Which zone-specific misconduct leads to which punishment and whether there are internal or external consequences at all differs greatly between the countries. There is the possibility to regulate the penal provisions generally and to prescribe the payment of a fine for each violation of the rules and regulations applicable within the framework of the law. A minimum and a maximum amount will be set, and the competent authority will decide the amount depending on the severity of the breach of the rules (e.g. Jordan, Art. 45; Uruguay, Art. 42). Some countries have offence catalogues that punish certain misconduct with different penalties depending on the severity, ranging from a fine or to the revocation of the licence up to imprisonment (e.g. Korea FTZ, Chapter VII; Thailand, Chapter V). The most common misconducts contained in those catalogues are the endangering of the environment, giving misleading information to the authority, conducting a business without permission, acting against custom rules (for example by importing or exporting goods without registering them or storing illegal items) or entering/living inside the zone without permission. The severity of the punishment correspondingly varies significantly. For example, importing goods contrary to the rules is sometimes punished only by a fine (e.g. Dominican Republic, Art. 47), sometimes directly by imprisonment (e.g. Ghana, Art. 40). Since federal criminal law remains in force, it is possible that for one single action both a fine under zoning law and a fine or imprisonment under federal law will be imposed. Federal criminal law can furthermore be relevant when a conviction under federal criminal law may have zone internal consequences. If the company, or its chairperson, is convicted of particular federal offences, this may lead to the revocation of the respective licence (e.g. Belize DPA, Art. 21; Costa Rica, Art. 32).

2.9. Disputes

In many cases, a conflict will have preceded the imposition of a penalty. In the event of such a dispute, it is then important to determine the procedures and courts where decisions will be made. In a zone, a basic distinction must be made between two types of possible dispute constellations. First, there can be disputes between the respective private parties (licensees or developers/operators), and secondly there can be disputes between a private party and the competent state authority. The alternative settlement options mentioned below are limited to civil, commercial, administrative or investment-related disputes. Other issues, such as criminal offences, will be dealt with in accordance with the same laws and procedures applicable outside the zones. This applies equally if the framework does not contain any specific provisions for dispute resolution.

One option is to authorise the relevant competent authority by law to settle disputes arising between licensees or licensees and employees (e.g. Nigeria 2004, Part 2 Art. 24). If the dispute is about the revocation or rejection of a licence, there can be created a special board of appeal within the authority which could be consulted in such cases (e.g. Belize DPA, Art. 24). Another increasingly used option is the use of international arbitration services. This is not limited to disputes between individual private licensees but is sometimes also explicitly applied to disputes between licensees and the operator or authority (provided both parties have agreed on this beforehand). Some restrict the explicit use of international arbitration services in disputes with the authority to foreign investors, for example under the International Centre for Settlement of Investment Disputes (ICSID) rules, whereas national investors must seek the competent national courts if they have no special arbitration agreement with the respective state body (e.g. Madagascar, Art. 10; Tanzania, Art. 34). In other frameworks, all licensees have access to international arbitration services in the event of disputes with the authority regarding zoning activities or made investments within the scope of the zone (e.g. Ghana, Art. 32; Papua New Guinea, Art. 72). But again, the two parties must have contractually agreed on such alternative dispute resolution beforehand.

2.10. Miscellaneous

At the end of most frameworks, general points are regulated in a short section. These include, the date of entry into force, or how already existing zones that have a different or older legal basis are to be treated. It is also stated that, unless provided otherwise for in the zones framework, the remaining national provisions, in particular labour and criminal law, apply.

The structure of a framework presented so far has proven itself over time. It is used as such by the majority. This is to say that the points mentioned are mostly regulated in terms of content, although of course other names or a changed order are used among different frameworks for the mentioned points. Major differences in content mostly arise in the determination of the authority or developer/operator which are sometimes not referred to at all. In such a case, the arising tasks usually assigned to the authority have already been transferred to an existing ministry or to other government agencies. If developers or operators are completely omitted, the tasks usually attributed to them have been assigned to the authority instead. Due to this transfer of tasks, the creation of the standard institutions is just not necessary. Other differences mainly occur in the setting of priorities or in the implementation of details. Especially when private parties are involved, precise specifications must be made. If, for example, only public parties are involved in the designation of new zones, the whole matter could be regulated in an article consisting of two sentences. This article then names the competent body that has the power to declare the zones and, if necessary, that it must be published in the gazette with its precise boundaries (e.g. Kenya, Art. 15). If private individuals can propose possible areas as zones as well, and thus apply directly for a developer licence for that new zone, then detailed regulations must be laid down. This includes the documents that must be attached, e.g. a master plan for the zone, to whom the application must be addressed and how this has to be proceeded (e.g. India, Art. 3; South Africa, Art. 23).

Regardless of private participation, some countries have regulated some issues more extensively than others due to country- or zone-specific needs and situations. This becomes particularly clear in the example of the different frameworks for the Free Trade Zones (Korea FTZ) and the Industrial Sites (Korea IS), both in the Republic of Korea. If comparing the two frameworks, it is noticeable that although they follow a similar structure in essence (purpose, definitions, administration/development, incentives and penalty provisions), there are enormous differences in emphasis. A free trade zone always has special customs laws, which is why the FTZ framework focuses on regulating the import and export of goods. Korea's industrial sites, on the other hand, do not have any special customs regulations, which is why regulation is just not necessary here. Industrial sites are rather about the development of industry, which is why the IS framework focuses on regulating the development of industrial complexes and their maintenance/renovation and does not mention any custom procedures. There are also clear differences in the penal provisions. The FTZ framework contains 14 penal provisions, the IS framework only 3. This results from the nature of the matter, as in the case of industrial sites one might mainly violate licensing provisions, but in the case of free trade zones, various goods are subject to different provisions, which then differ in type and severity of the penalty, and confiscation of goods must be regulated as well. But again, these are only focal points that must be individually adapted - the general structure presented here does not change as a result.

3. RECOMMENDATIONS FOR MODERN ZONES

When it comes to the implementation of zone programmes, there are several possibilities for the legal basis. Several individual laws might be enacted, each of which regulates different aspects of the zones (e.g. Senegal, which has a SEZ law, but the incentives are regulated in a separate law). Or already existing laws, such as the Customs Act, could be amended in such a way that the establishment of zones becomes possible. However, in order to avoid unnecessary complications and ambiguities, a single new zoning law should be created in which all zoning-relevant aspects are regulated in a structured manner. Based on the structure presented so far, some recommendations for such a law will now follow at the individual points, which contribute to efficient and profitable zones.

3.1. Structure of the Authority

Since the authority is the central administrative body of the zoning programmes, its structure is of particular importance. Private participation within the governing board should be taken into essential consideration. In addition to state members, all relevant private parties, such as licensees and operators or developers, should have a seat within the governing board (e.g. Dominican Republic, Art. 20). This ensures that the interests and concerns of both groups are considered and that new rules or regulations concerning the zones are not subject to the problem of being far from reality because authority and state members lack realistic insight in the zone operations (Moberg, 2015). In order to be able to act independently, the authority's fund should be adequate and clearly defined.

Depending on the country, regional specificities might be of enormous importance in both the success of a zone and its failure. It can therefore make sense to create not only a national authority, but in addition regional authorities, as in the example of Indonesia (Indonesia SEZ, Art 14). These could then take special account of regional characteristics when planning new zones and support and advise the national authority accordingly.

3.2. Functions and Powers of the Authority

It is advisable to endow the authority with extended powers that are normally incumbent on other authorities. Of particular interest here are the issuing of visas (or work permits) to foreigners and customs licences. Especially for zones close to international borders, it can be an advantage if foreign workers do not have to deal with the occasionally complicated visa procedures at different national authorities. It is furthermore feasible that the national visa regulations are unsuitable for the specific situation within the zone. Instead, either the employer or the employee could quickly and easily apply to the zone authority for a visa (or work permit) adapted to the labour situation within the zone, which might then only be valid within the zone.

The same applies to customs procedures as well. In order to avoid the potentially complicated application to the national customs authority, the zone authority could likewise directly issue certain approvals or carry out the licensing of certain goods. In this way, administrative processes can be accelerated and simplified, saving time and money. This not only increases the performance of zoning activity, but also serves as an indirect incentive for investors.

3.3. Establishment and Structure of New Zones

The problem of regional specificity already described could additionally be counteracted by the option for private parties to propose certain areas as possible new zones (e.g. India Art. 3; Rwanda, Art. 7). Federal authorities may not have detailed knowledge of every area within the national territory and therefore may overlook suitable areas. The private sector on the other hand, may have this accurate knowledge of regional locations, and thereby can present detailed plans for certain areas (Moberg, 2015). Due to the more specific knowledge, these plans take better account of local aspects and needs. Furthermore, the plans are made on the own costs of the private parties, with the intention to establish profitable zones.

This intention, and the fear of losing private investment, ensures the selection of promising areas. The local conditions might change at any time, which should be kept in mind when planning and structuring new zones. A certain flexibility concerning the physical borders may be necessary for the optimal development of a zone. It is conceivable that a new company wants to construct facilities with great advantages for the zone, but the zone borders are suboptimal for its projects. It is therefore advisable to allow subsequent changes to the zone boundaries, to which certain requirements are imposed in order to prevent any arbitrary expansion.

3.4. Developer and Operator Design

Although it does not seem that the type of developer or operator design (private, public or private-public partnership) has a major impact on the overall performance of the zone (Frick et al., 2019), it is recommended to implement the 3 options in the framework. On the one hand, the government can establish the zones where it considers it useful and administer and operate them according to its vision. However, if those public zones fail, the public budget may be heavily burdened. This in turn may weaken the support of the entire zoning program in parliament or among the population and may lead to its termination. On the other hand, private individuals could be given the opportunity to develop and manage zones and, if successful, contribute to the fulfilment of the goals stated in the purpose. Should a private zone fail, only the private participants bear the losses and do not charge the state treasury. The state would be "out of responsibility". Besides, private participants might solve the knowledge problem better. Zones do not exist and operate in a void, detached from the surrounding environment, but must fit into it, especially to be successful (Frick et al., 2019). This integration and connection with the environment, with the infrastructure outside the zone and the linkages with local businesses, could often be better achieved and planned by private parties due to their detailed knowledge and existing connections to local businesses. They also usually already have a large network of potential investors to the zone, which can help to kickstart its activities. Due to their entrepreneurial risk of loss, but likewise the possible prospects of profit, private developers mostly plan their zones faster and more efficiently than state actors (Hachmeier/Mösle, 2019).

In addition, various forms of public-private partnerships could prove to be the ideal solution for zone management in certain situations, as it depends on good cooperation with the local authorities. Especially in structural weak areas, good off-side infrastructure is very important, as goods need to be delivered and picked up efficiently. Here, the competent authorities play a central role in developing the off-side infrastructure and efficient cooperation in form of different public-private partnerships can be crucial for the success of a zone (e.g. Zimbabwe, Part VII with detailed regulations concerning public-private partnerships). There is no perfect, universal applicable developer or operator model, but it is of great importance to be able to respond to different challenges in different ways, with the best option in the specific situation.

3.5. Powers of Developers and Operators and Licensing

Each zone is different, both in terms of infrastructure and future development. The person or entity who best knows the opportunities as well as the problems and needs of a specific zone is the respective zone operator. It is therefore sometimes counterproductive to leave the licensing of new businesses or enterprises solely to a central state authority that does not know all the particularities of a zone. It is more effective to either let the operator decide for himself which new business is suitable for the zone or to involve him in the decision-making process (e.g. Pakistan, Art. 20). For example, a new application for a licence might be forwarded to the operator first, who then, if accepted, forwards it to the authority that gives its final approval. The operator bears the risk of loss of profit in case of bad zone management and hence has no intention to accept not suitable companies. In this way, it could be ensured that the businesses within the zone match together and use the infrastructure in the best possible way so the zone can develop at best. Besides, the licensing process should be as clearly structured and bundled as possible, and not complicated by different competent authorities for different forms. Especially for zones that want to promote local industry and attract small regional businesses, a complicated administrative structure can often be a hindrance. It is the small businesses without their own legal office that tend to fail due to formalities.

The broader a developer's or operator's competencies are, the faster and more efficiently he can respond to changes or problems within the zone, ideally ensuring efficient zone management. However, there are core competencies, for instance customs control, that an authority does not necessarily want to give away. Of importance at this point is merely to clearly delineate the competences of the authority and the developer or operator so that no problems or disputes about competence arise that waste resources and thus hinder progress of the zones.

3.6. Incentives or Legal Regime

Tax incentives are certainly of interest to many investors, especially at first glance, but they are usually not enough to create successful zones in the long term (Farole & Akinci, 2011; Frick et al., 2019). Due to various requirements and regulations, especially in the area of labour laws, conducting business can be complicated and cumbersome, a temporary exemption on the corporate tax cannot always compensate for this. Therefore, it is much more important to offer companies an attractive framework for their business activities, which is not available in the rest of the country. This includes the regulatory incentives mentioned under 2.7.2., and the economic regime, but is not limited to them. It is not about circumventing workers' rights, but rather about finding alternative solutions to national rules which sometimes pointlessly complicate the conduct of business in some industrial or economic sectors. If the rules applied in the zones prove their worth, they could further be applied in the rest of the national territory. Another important incentive that should be considered when formulating a new zoning law is the establishment of a one-stop shop. To avoid bureaucratic hurdles and inefficiency through long waiting times and many visits to different authorities, it is advisable to set up a one-stop service centre in each zone. This guarantees that with one stop at the shop most matters can be resolved, even if there is uncertainty about the competences of special authorities. Especially for small companies, this will avoid bureaucratic obstacles and grants fast administrative procedures.

3.7. Disputes

No matter how sophisticated a law is, there will always be disputes. It is therefore inevitable that the procedure to be followed in the event of a dispute must also be regulated or negotiated. The most straightforward option, at least from a regulator‘s point of view, is to simply refer to the ordinary procedure before the national courts. Nonetheless, the possibility of dispute resolution before international arbitration courts should still be considered. Especially if the intention is to attract as much foreign direct investment as possible. It may be the case that foreign investors in particular do not necessarily favour the national regulations. The possibility of using international arbitration, similarly between licensees and state actors such as operators or even authorities, can put such concerns aside and, above all, keep the zones internationally competitive and attractive.

3.8. Miscellaneous

The final provisions should foremost regulate, if not already done elsewhere, how to proceed should the zone cease its operations. Larger investments in the form of factories or other facilities are regularly only made if the investor does not have to fear losing ownership of the investment and if there are no adverse changes in the laws to be suspected. In addition to a guarantee against expropriation, it could therefore be beneficial to implement legal safeguards that protect the law within the zone from changes or additions in the national law. For example, even if there are new tax laws introduced on a national level, zone businesses will not be subject to those new laws due to safeguards implemented in the zone framework. In case of a zone shutdown, the government might end the zone status for that area and deprive all the granted incentives, but the companies continue to operate normally under national rules. A purchase option could be created for the leased land, e.g. after the actual end of the zone (Kazakhstan, Art. 24; Serbia, Art. 30).

The given recommendations have the advantage that they are independent of zone types and can therefore be implemented in almost any framework in order to profit from the described benefits. There are certainly many other factors that might influence the success or failure of a zone. For example, the provision of enhanced services within the zone, such as hospitals, restaurants or sports fields can contribute to its prosperity. However, this is country and zone specific, as not all want such activities in their zones, but sometimes want to limit them to just conducting business activities. These, as well as factors external to the law, must always be decided by the people involved according to the circumstances and needs of the respective country or region.

4. CONCLUSION

A framework for special economic zones must not only be desirable and well planned, but furthermore survive the government offensives that can (and will) take place over several decades. In other words, a good framework still needs relevant acceptance by society and policymakers to not succumb to the speeches and wishes of those who believe that there is injustice in this process.

It is noted that there is no magic formula for creating an area of prosperity within a country's territory. Although several options might fit in different countries, all alternatives mainly point in three directions: to reduce the amount of taxes paid by individuals and companies, to reduce the complexity of laws and rules, which often are impractical or actually irrational, and to allow the option of private participation in organization and operation of each zone. To the point that this becomes clearer, it is possible to understand that the natural demand for private governance services (which already exists today) tends to increase considerably over the next few years and the effort to adjust to this is already happening. Bearing in mind that the path to private governance zones is very desirable, its economic viability can be questioned, and it makes sense. The framework has the function of protecting the investments and interests of the stakeholders, both for the pioneers in the project and for all parties that are interested in the region in the long term. Private participation might be essential for the success of the project and there is a fundamental difference, but little observed, in how the business model can prove to be superior to established state governance. The equity participation model is the alternative that seeks to overcome problems of traditional state projects in terms of results. There is an incentive to improve the goods and services that exist, since costs and profits are directly felt by the shareholders, who will make smarter decisions for supply their needs and directing the demand for goods and services more efficient than it is done today. This simple vision of how to provide private governance, or partnership with governments, might be a big change for the acceptance of these proposals by the public and by policymakers. A single solution to create successful zones worldwide is impossible; each place, people and culture presents its unique barriers that can and should be reduced with ideas and projects well executed for that situation.

A legal framework therefore faces the challenge of, on the one hand, allowing the necessary flexibility to respond to the specificities of each zone and its environment, but, on the other hand, creating clear rules and structures to avoid conflicts of competence and to ensure efficiency.

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The Catawba Digital Economic Zone: A Native American SEZ

Prof. Tom W. Bell
Chapman University, Fowler School of Law
tbell@chapman.edu
ORCID 0000-0001-6693-7216

Abstract
The Catawba Indian Nation recently announced the launch of a new kind of special economic zone (SEZ) on its reservation lands in the Carolinas piedmont region. The Catawba Digital Economic Zone (CDEZ) aims to provide "A Jurisdiction Built for the Fintech and Digital Asset Industry." Federal and state law affirms that the Nation has original and exclusive jurisdiction over two categories of disputes: those arising from contracts to which the Nation or its members are a party and those arising under any civil code that the Nation issues for the conduct of businesses and individuals on its reservation. Together, these give the Nation sovereign authority over commerce, real or virtual, that takes place on Catawba lands. The Nation has invoked this power to create the CDEZ. The Catawba General Council, a democratic assembly of tribe members, recently enacted the a civil ordinance creating a legal framework specially designed to support e-banking, cryptocurrency, non-fungible tokens, and other fintech and digital asset industries. This paper, written by one of a team of coders who worked on it, describes the origins, legal foundation, and basic structure of the CDEZ, the latest and most advanced example of a special jurisdiction focused on digital assets.

Keywords: Special jurisdiction; special economic zone; SEZ; American Indian; Native American; Catawba; digital commerce; fintech; cryptocurrency; blockchain

Resumen
La Nación Indígena Catawba anunció recientemente el lanzamiento de un nuevo tipo de zona económica especial (SEZ) en sus tierras de reserva en la región del piedemonte de las Carolinas. La Zona Económica Digital de Catawba (CDEZ) tiene como objetivo proporcionar "Una jurisdicción construida para la industria de activos digitales y Fintech". Las leyes federales y estatales afirman que la Nación tiene jurisdicción original y exclusiva sobre dos categorías de controversias: las derivadas de contratos en los que la Nación o sus miembros son parte y las derivadas de cualquier código civil que expida la Nación para la conducción de negocios y individuos en su reserva. Juntos, otorgan a la Nación autoridad soberana sobre el comercio, real o virtual, que tiene lugar en las tierras de Catawba. La Nación ha invocado esta facultad para crear la CDEZ. El Consejo General de Catawba, una asamblea democrática de miembros de la tribu, promulgó recientemente una ordenanza civil que crea un marco legal especialmente diseñado para respaldar la banca electrónica, las criptomonedas, los tokens no fungibles y otras industrias de activos digitales y fintech. Este documento, escrito por uno de un equipo de codificadores que trabajó en él, describe los orígenes, la base legal y la estructura básica de la CDEZ, el ejemplo más reciente y avanzado de una jurisdicción especial centrada en los activos digitales.

Palabras Clave: jurisdicción especial, zona económica especial, SEZ, Nativo-Americano, Catawba, comercio figital, tecnologías financieras, blockchain.

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1. INTRODUCTION

The Catawba once thrived as warriors, hunters, farmers, craftspeople (specializing in pottery and baskets), and traders. Then, the Europeans came. The territory and population of the Catawba shrank as those of the United States grew. The Catawba suffered devastating epidemics, dispersion to other tribes and distant regions, abject poverty, and knavery and neglect by colonial, state, and federal governments. They never gave up, though. The Catawba rewon their standing as a sovereign nation and now aim to expand into an entirely new kind of territory–a place where digital assets, e-banks, cryptocurrencies, non-fungible tokens, and other fintech innovations roam free. In that virtual wilderness, where the power of terrestrial sovereigns falters, the Catawba Indian Nation have established a trading post they call the Catawba Digital Economic Zone (CDEZ).

This paper, written by one of the team of coders who worked under contract with the Nation, describes the origins, legal foundation, and basic structure of the Catawba Digital Economic Zone. Section two describes how the Catawba's long but successful struggle to regain their sovereign status has won them the exclusive power to govern commerce on reservation lands, the genesis of the CDEZ. Sections three and four detail the federal and state laws, respectively, that affirm the Nation's sovereignty over commerce in the zone. Section 5 outlines the structure and operation of the CDEZ.

This paper only introduces the Catawba Indian Nation's Digital Economic Zone. There remain many important unanswered questions. What will be the exact effect of state and federal criminal laws, tax laws, regulations, and executive orders on the zone? What day-to-day rules will the CDEZ's Zone Authority issue, how will that institution function, and who will staff it? How will technological and legal changes in the outside world affect the fortunes of the zone? The paper concludes in section 6 by offering not the last word on the Catawba Indian Nation's Digital Economic Zone, but merely an introduction to this bold new experiment in American government.

The CDEZ is not the first special jurisdiction in the world to offer laws and regulations tailored specifically for e-banking, cryptocurrency, non-fungible tokens, and other fintech and digital assets and services. The Cagayan Economic Zone in the Philippines began catering to offshore virtual currency and digital token businesses as early as 2018 (Cagayan Economic Zone Authority, 2018a & 2018b). That same year saw the launch of the Belarus Hi-Tech Park, which offers special regulatory treatment for qualifying companies not just at a specified location but anywhere in the country. (Hi-Tech Park Belarus, 2022). Several zones in the United Arabs Emirates have more recently taken aim at the same sorts of businesses, including the Abu Dhabi Global Market and Dubai Multi Commodities Centre, both of which have launched special regulatory regimes, and the Dubai International Financial Centre, which has proposed one (Abu Dhabi Global Market, 2019; Dubai Multi Commodities Centre, 2021; Dubai International Financial Centre, 2022). Próspera ZEDE in Honduras recently announced its entry to the field, touting itself as the first crypto-friendly jurisdiction that is fully AML-KYC compliant (Honduras Próspera, Inc., 2022). Other countries, including Switzerland, Russia, Georgia, Armenia, and Iran, have plans in the works for special jurisdictions with their own, crypto-friendly regulations (Serlet, 2021; Benzinga, 2021; O'Neal, 2019).

Despite those precedents, the Catawba Indian Nation has established several firsts with its CDEZ. Never in living memory has a Native American tribe done so much to assert its jurisdiction over an entire class of commerce and to invite the world to enjoy the fruits of its civil governance. Furthermore, unless one counts the states themselves, the United States has never before hosted a special jurisdiction exercising such far ranging and exclusive authority over commerce within its boundaries. For these and other reasons, the CDEZ merits close study.

2. ROOTS OF THE CATAWBA INDIAN NATION'S SOVEREIGNTY

The Catawba Nation today occupies a reservation near the town of Rock Hill, South Carolina. This 1,012 acre (410 hectare) reservation represents a small fraction of the territory that they once occupied. Their ancestral lands, held for over 6,000 years, stretched through the Piedmont region of North and South Carolina and into southern Virginia. When European settlers arrived, the Catawba numbered 15,000 to 25,000 people. Today the Nation has less than 3,400 enrolled members (Catawba Indian Nation, About The Nation, n.d.; BIA Letter, 2020).

After long fighting to secure their political status and sovereign rights, the Catawba Indian Nation reached a settlement agreement with South Carolina on February 20, 1993. Entitled the Agreement in Principle By and Between the Catawba Indian Tribe of South Carolina and the State of South Carolina (Settlement Agreement), it has much the effect of a treaty. Soon after, the state and federal governments ratified the Settlement Agreement by statute. The Settlement Agreement, statutes, and higher authorities combine to give the Catawba Nation considerable autonomy in select areas, including those necessary for creation of the CDEZ. The relevant rules, in order of authority:

- International Law of Nations;
- U.S. Constitution;
- Catawba Indian Tribe of South Carolina Land Claims Settlement Act of 1993 (US Settlement Act);
- The Catawba Indian Claims Settlement Act, S.C. Code Ann. § 27-16-10 et seq. (SC Settlement Act); and
- Settlement Agreement.

Taken together, this stack of authorities gives tribal courts exclusive original and appellate jurisdiction over a wide range of cases, including the two broad categories used to create the Catawba Digital Economic Zone.

The first category of such cases: disputes arising out of contracts to which the Nation or its members are a party (on condition the contracts provide for that jurisdiction expressly and in writing). As a tribal body, the CDEZs' contracts will fall within the scope of this sovereign power. People will contract with the CDEZ to win entry to the virtual trading post, form legal persons under its law, transact between each other, and otherwise enjoy contractual relations with the Nation. Because the CDEZ (or more precisely, its Zone Authority) operates as an organic law of the nation, it can invoke this jurisdiction in its contracts with visitors, resident companies, and others (Zone Civil Ordinance, 2022, Tit. II Ch. 1 § 1). This allows the CDEZ to put any disputes arising under those contracts within the Nation's exclusive original and appellate jurisdiction.

The second category of cases where tribal courts have exclusive jurisdiction: Those raising claims under any Catawba civil code that the Nation issues for the conduct of businesses and individuals resident on the Catawba reservation. This sovereign power protects the autonomy of the Nation's legal system from the judgments of state or federal courts in questions about the application of Catawba civil code within its reservation. This gives transactions arising under any Catawba civil code on their reservation—specifically, under the Zone Civil Ordinance—a second defense against interference by outside sovereigns with the Nation's exclusive power to enact, interpret, and enforce Catawba law on Catawba land–specifically, a server farm operating within the CDEZ.

Being for the most part virtual, built in computer code and trading in information, the CDEZ need not be large. The Zone Resolution launches it with an initial property of only 1.89 acres (0.76 hectares) (Zone Resolution, 2022). In that small space, though, the Catawba Nation can build a virtual marketplace big enough for a whole world of commerce.

3. FEDERAL LAW AND THE CATWABA DIGITAL ECONOMIC ZONE

In the law that most affects the CDEZ, the US Settlement Act, the United States federal government approved, ratified, and confirmed the Settlement Agreement by and between the Catawba and South Carolina. As described in subsection 3.1, this has the intent and effect of making the Settlement Agreement effective as federal law. Subsection 3.2 discusses the somewhat unusual statutory mechanism through which the Nation and South Carolina can effectively amend the Settlement Agreement without further involvement by federal lawmakers. Subsection 3.3 examines language in the Settlement Agreement describing the scope of the Nation's sovereignty.

3.1. Purpose and Effect of the US Settlement Act

The US Settlement Act federalizes the SC Settlement Act, which itself incorporates the Settlement Agreement between the Catawba Indian Nation and South Carolina. The US Settlement Act embraces the Settlement Agreement directly, providing in § 2(b), "It is the purpose of this Act--(1) to approve, ratify, and confirm the Settlement Agreement entered into by the non-Indian settlement parties and the Tribe, except as otherwise provided by this Act…."

One might say that the US Settlement Act gives the Settlement Agreement between the Catawba and South Carolina federal effect. The US Settlement Act provides in § 4(a)(2) that:

> the Settlement Agreement and the State Act are approved, ratified, and confirmed by the United States to effectuate the purposes of this Act, and shall be complied with in the same manner and to the same extent as if they had been enacted into Federal law.

Consistent with the quoted provision, § 15(e) of US Settlement Act specifically provides that "the provisions of South Carolina Code Annotated, section 27-16-40, and section 19.1 of the Settlement Agreement are approved, ratified, and confirmed by the United States...." These two cited provisions–SC Settlement Act § 27-16-40 and Settlement Agreement § 19.1–concur in placing the Catawba Indian Nation, its members, and properties under the civil, criminal and regulatory jurisdiction of the State except as otherwise provided in state or federal law.

How far does that "otherwise" reach? Applicable state and federal law recognize that the Catawba Indian Nation has exclusive original and appellate jurisdiction over contracts with tribal parties, of which the CDEZ itself is one, and over the civil regulation of persons and businesses engaged in commerce on the Catawba reservation. The Settlement Act's grant of jurisdiction also arguably reaches contracts that intentionally benefit the Nation as a third party, a topic discussed below.

What happens in the event of conflict between the US Settlement Act, the SC Settlement Act, and the Settlement Agreement? The earlier-listed document prevails. As US Settlement Act § 15(b) says, "In the event of a conflict between the State Act and the Settlement Agreement, the terms of the State Act shall govern." SC Settlement Act § 27-16-140(C) agrees: "If there is a conflict between this chapter and the Settlement Agreement, this chapter governs." Happily, there do not appear to be any major conflicts between the three documents, creating a stable hierarchy of rule sets.

3.2. Can the Nation and the State Make New Federal Law?

The US Settlement Act gives the Catawba Indian Nation and South Carolina an unusual power: Allied, they can amend the Act. The Nation and the state can thus effectively make new federal law without any need of further action by congress or the president. This reflects an abiding federal interest in bringing peace between the Nation and South Carolina.

Federal respect for the comity between the Nation and South Carolina first appears in § 4(a)(2) of the US Settlement Act, which provides that:

> the Settlement Agreement and the State Act are approved, ratified, and confirmed by the United States to effectuate the purposes of this Act, and shall be complied with in the same manner and to the same extent as if they had been enacted into Federal law.

Having thus embraced their agreeable relations, the US Settlement Act goes on to empower the tribe and the state to jointly amend federal law. US Settlement Act § 15(f) provides:

> Consent is hereby given to the Tribe and the State to amend the Settlement Agreement and the State Act if consent to such amendment is given by both the State and the Tribe, and if such amendment relates to:
>
> (1) the jurisdiction, enforcement, or application of civil, criminal, regulatory, or tax laws of the Tribe and the State;
>
> (2) the allocation or determination of governmental responsibility of the State and the Tribe over specified subject matters or specified geographical areas, or both, including provision for concurrent jurisdiction between the State and the Tribe; [and]
>
> (3) the allocation of jurisdiction between the tribal courts and the State courts…."

Together, these provisions give the Nation and South Carolina the power to create new federal law within limits. This special delegation operates only within the US Settlement Act. The two sovereigns could not re-write, say, the federal tax code. They evidently could however change the Nation's tax treatment under South Carolina law, give the Nation's exclusive jurisdiction over all intentional torts occurring on the reservation, or otherwise change relations between the two sovereigns. US Settlement Act § 4(a)(2) would then make those and other amendments effective as federal law.

3.3. The Nation's Sovereignty Under Federal Law

An Indian nation's sovereign power reaches as far as those of any sovereign under customary international law, minus those specific powers enumerated in federal law. The minus amounts to quite a lot in many cases, leaving the formerly autonomous Indian nations somewhat the wards of the trustee federal government (Cherokee Nation v. Georgia, 1831). Nonetheless, in theory, Indian nations remain fully sovereign, subject only to customary international law and specific federal limits.

Chief Justice John Marshall, no laggard in asserting federal power, described the default sovereignty of Indian nations in the Supreme Court case of Worcester v. Georgia:

> Congress has passed acts to regulate trade and intercourse with the Indians; which treat them as nations, respect their rights, and manifest a firm purpose to afford that protection which treaties stipulate. All these acts … manifestly consider the several Indian nations as distinct political communities, having territorial boundaries within which their authority is exclusive and having a right to all the lands within those boundaries which is not only acknowledged, but guaranteed, by the United States.
> 31 U.S. 515, 556-57 (1832).

The United States Constitution ranks Indian nations with foreign and domestic states. When the Constitution gives congress the power to regulate "Commerce with foreign Nations, and among the several States, and with the Indian tribes" (U.S. Constitution, Art. I, § 8, cl. 3), it lists all of the counterpart sovereigns congress might face. In the Constitution as in customary international law, the federally recognized Indian tribes stand as peers to their federal and state counterpart sovereigns, their sovereign powers subject only to concessions forced by the exigencies of war, fortune, and fate.

The Catawba Indian Nation thus enjoys all the sovereign powers of any sovereign nation, subject to express federal limitations. US Settlement Act 4(e) seems to take a different view. It says, "This Act shall not be construed to empower the Tribe with special jurisdiction or to deprive the State of jurisdiction other than as expressly provided by this Act or by the State Act."

This provision limits any grant of jurisdiction in the US Settlement Act to the express terms of the statute. Impliedly, § 4(e) recognizes that a power outside the Act might vest the Nation with special jurisdiction or deprive the State of jurisdiction over it. That power might arise from the law of the constitution or of the international customary law of nations. Indeed, on the traditional constitutional theory, that is the seed and sustaining roots of Indian sovereignty. Contrary to the default of Indian sovereignty, § 4(e) continues: "The jurisdiction and governmental powers of the Tribe shall be solely those set forth in this Act and the State Act."

That facially limits the Nation's sovereignty, binding it to jurisdiction and powers set forth in federal and state legislation. Query, however, whether those other statutes could overcome the constitutional presumption of the sovereignty of Indian Nations. That sovereignty takes root not in federal statute but in the same customary international law that regulates all nations and the Constitution's command that Congress treat Indian nations like other nations.

Regardless of the philosophical gaff in the second sentence of § 4(e), the US Settlement Act provides the Catawba Indian Nation with more than enough authority to claim exclusive original and appellate jurisdiction over cases arising out of commerce in the CDEZ. Details on that count follow below. FIrst, the discussion turns to how the US Settlement Act confirms the Nation's immunity from civil suit. Suppose for example that the CDEZ stood accused of copyright infringement under federal law. The Catawba would presumably like other Indian nations enjoy sovereign immunity against that claim. As a federal appellate court explained in recognizing Mashantucket Pequot Tribe's immunity to such a claim, "Nothing on the face of the Copyright Act 'purports to subject tribes to the jurisdiction of the federal courts in civil actions' brought by private parties, and a congressional abrogation of tribal immunity cannot be implied" (Bassett v. Mashantucket Pequot Tribe, 204 F.3d 343 at 357, 2000) (the internal quotes reference Supreme Court authority).

The US Settlement Act confirms this result, albeit in a roundabout way. US Settlement Act § 10.1 provides, "All matters involving tribal powers, immunities, and jurisdiction, whether criminal, civil, or regulatory, shall be governed by the terms and provisions of the Settlement Agreement and the State Act, unless otherwise provided in this Act." To understand the import of that provision requires further scrutiny of the SC Settlement Act. It elsewhere says that the Catawba Indian Nation:

> enjoys sovereign immunity including damage limits and, except as provided in this subsection, immunity from seizure, execution, or encumbrance of properties, to the same extent as the political subdivisions of the State as provided in the South Carolina Tort Claims Act, Chapter 78 of Title 15 (SC Settlement Act § 27.16.80(F)(1)).

Following that reference in the last lines of the quote, the chase for understanding sovereign immunity must next plunge into the thickets of the South Carolina Tort Claims Act (SCTCA). That Act provides at § 27-16-80(F)(1) that a government entity shall not be liable for legislative action, id. at (1), administrative action of a legislative nature, id. at (2), or the adoption of any law, ordinance, or rule, id. at (4). In essence, these exempt the CDEZ's operators from liability for misgovernance.

The SCTCA commands that doubts about the scope of sovereign immunity be resolved in favor of immunity at § 15-78-20(e)(f):

> (e) Nothing in this chapter is construed as a waiver of the state's or political subdivision's immunity from suit in federal court under the Eleventh Amendment to the Constitution of the United States nor as consent to be sued in any state court beyond the boundaries of the State of South Carolina.
> (f) The provisions of this chapter establishing limitations on and exemptions to the liability of the State, its political subdivisions, and employees, while acting within the scope of official duty, must be liberally construed in favor of limiting the liability of the State.

That passage speaks of states but by operation of SC Settlement Act § 27.16.80(F)(1), its words encompass the Catawba Indian Nation. Unless the Catawba Indian Nation has expressly waived sovereign immunity by statute or contract, therefore, it appears to enjoy a perfect defense to lawsuits brought against it. This immunity extends to the CDEZ, which operates as an organic arm of the Nation (Zone Civil Ordinance, 2022, Tit II Ch. 1 § 1).

4. STATE LAW AND THE CATAWBA DIGITAL ECONOMIC ZONE

The state of South Carolina surrounds the Catawba reservation. The two sovereigns have a long and mixed history. This section describes the scope of South Carolina's jurisdiction over the Nation, with special emphasis on the areas most relevant for the Catawba Digital Economic Zone. Subsection 1 discusses the presumption of the SC Settlement Act that South Carolina law controls the Catawba on their reservation, absent specific provision to the contrary (of which there is contrary enough to support the CDEZ). Subsection 2 describes the civil jurisdiction of the Catawba Indian Nation's courts.

4.1. Presumption of South Carolina's Jurisdiction

Chief Justice Marshall described the relationship between the federal government, the states, and the Indian nations thus: "The treaties and laws of the United States contemplate the Indian territory as completely separated from that of the States, and provide that all intercourse with them shall be carried on exclusively by the government of the Union." Notwithstanding that, the SC Settlement Act voices a presumption that the Tribe is subject to state law:

> The Catawba Tribe, its members, lands, natural resources, or other property owned by the Tribe or its members, including land, natural resources, or other property held in trust by the United States or by any other person or entity for the Tribe, is subject to the civil, criminal, and regulatory jurisdiction of the State, its agencies, and political subdivisions other than municipalities, and the civil and criminal jurisdiction of the of the State to the same extent as any other person, citizen, or land in the State, except as otherwise expressly provided in this chapter or in the federal implementing legislation (§ 27-16-40).

As the last sentence makes clear, the state enjoys only a presumption of jurisdiction, reversible by specific provisions in state or federal law. In that, South Carolina perhaps spoke too boldly. Commentary has it that state courts are not free to apply state law even when exercising concurrent jurisdiction, to say nothing of when they have no jurisdiction at all (Gardina, 2010). Regardless, federal lawmakers have effectively federalized the SC Settlement–subject to limitations–in the US Settlement Act.

None of that means much for the CDEZ. It does not need anything more than the provisions expressly provided in state and federal law to justify the Catawba Indian Nation's sovereignty over commerce on its reservation. The plain language of the SC Settlement Act and the US Settlement Act give the Catawba Indian Nation a solid legal foundation for the CDEZ, based in its exclusive original and appellate jurisdiction over commerce in the zone. Details follow next.

4.2. Civil Jurisdiction of Tribal Courts

SC Settlement Act § 27-16-80 has a number of provisions relating to the civil jurisdiction of tribal courts. It begins with a general statement of the scope afforded to tribal adjudication: "(A) The Tribe may provide in its constitution for a Tribal Court having civil jurisdiction which may extend up to, but not exceed, the extent provided in this chapter and the federal implementing legislation. The Tribe may have a court of original jurisdiction, as well as an appellate court." The section continues with a series of separate provisions for distinct areas of law. Three areas in particular--contract law, tort law, and civil regulation on businesses or persons resident on the reservation--receive further consideration in the next three sub-subsections.

Tribal courts have exclusive original and appellate jurisdiction in select areas of law. This sovereign control provides the legal foundation for the CDEZ. The Settlement Act allows tribal courts to exercise exclusive original (but not necessarily appellate) jurisdiction in the following cases:

- Actions on contracts with a tribal party that expressly and in writing give the tribal court exclusive jurisdiction, SC Settlement Act § 27-16-80(A)(1), (B), (D)(1)(c);
- Internal matters of the Tribe, id. (A)(3), (D)(1)(c);
- Enforcement of tribal civil regulations on businesses or persons resident on the reservation enacted pursuant to § 10.2 of the Settlement Agreement, SC Settlement Act § 27-16-80(A)(5); or
- Enforcement of tribal civil regulations on businesses or persons resident on the reservation enacted pursuant to § 17 of the Settlement Agreement, id.

The first and third of these four areas offer solid ground to build an autonomous commercial legal system. The first allows the CDEZ to contract with users to submit disputes to tribal courts created for the zone, a condition easy for a virtual trading post to implement at its gates. The third area–conduct regulated by the Nation pursuant to § 10.2 of the Settlement Agreement–has a broad reach discussed more fully below.

The other second and fourth areas in which tribal courts have original and exclusive jurisdiction are not as relevant to the CDEZ. The second concerns internal matters rather than the transactions involving non-members hosted in a virtual trading post. The fourth area, concerning § 17 of the Settlement Agreement, offers a potentially useful defense to foreign interference with the CDEZ. That section defines the scope of the Nation's autonomy with regard to building codes, environmental laws, planning and zoning, health codes, hunting and fishing, riparian rights, and alcoholic beverages. It has little impact on the legal foundations of the zone, though.

Even in areas where tribal courts have original and exclusive jurisdiction, they may lack appellate jurisdiction, leaving outside courts with the power to finally decide disputes. SC Settlement Act § 27-16-80(D)(1) provides:

> All final judgments entered in actions tried in Tribal Court are subject to an appeal to the Family Court, the Court of Common Pleas, or the United States District Court, depending upon whether that court would have had jurisdiction over the appealed matter had it been commenced in that court, if all of the following circumstances exist:
>
> > (a) A party to the suit is not a member of the Tribe;
> > (b) The amount in controversy or the cost of complying with an equitable order or decree exceeds the jurisdictional limits then applicable in the magistrates' courts of South Carolina;
> > (c) The subject matter of the suit does not fall within subsection (A)(1)(a) [contracts with a tribal party] if jurisdiction is exclusive or subsection (A)(3) [internal tribe matters] or (A)(5) [conduct under 10.2 or 17 of the Settlement Agreement, both of which give the Nation jurisdiction over tribal civil regulation of commerce on its reservation].

Such appellate judgements by South Carolina Courts are binding on tribal courts under SC Settlement Act § § 27-16-80(E)(1). In all but a few areas of law, therefore, the decisions of tribal courts may be heard or appealed to and finally resolved by non-Nation courts. The CDEZ stays within those few areas. In conclusion, these in two jurisdictional grants give the CDEZ room to operate:

- Actions on contracts with a tribal party that expressly and in writing give the tribal court exclusive jurisdiction, as per SC Settlement Act § 27-16-80(A)(1), (B), (D)(1)(c); and
- Enforcement of tribal civil regulations on businesses or persons resident

on the reservation enacted pursuant to § 10.2 of the Settlement Agreement.

Together, these two areas give the Catawba Indian Nation a double claim to exercise sovereign control over all commerce with and in its Digital Economic Zone. Its courts have exclusive jurisdiction over all disputes with zone authorities or arising under the Zone Civil Ordinance.

4.2.1. Jurisdiction of Tribal Courts Over Contract Law

The Catawba have jurisdiction over contract cases to which they are a party. SC Settlement Act § 27-16-80(A)(1) says:

> With respect to actions on contracts, the Tribal Court may be vested with jurisdiction over an action on a contract:
>
> > (a) to which the Tribe or a member of the Tribe is a party, which expressly provides in writing that the Tribal Court has concurrent or exclusive jurisdiction.

The SC Settlement Act confirms at § 27-16-80(B) that tribal courts may exercise exclusive jurisdiction over such cases: "The original jurisdiction of the Tribal Court over the matters set forth in subsection (A)(1)(a) must be concurrent or exclusive depending upon the agreement of the parties." It should more than suffice for the parties to expressly agree that tribal courts have exclusive jurisdiction.

That condition should not be hard to satisfy. Non-members will be required to create and register LLCs or other legal persons with the CDEZ. In doing so, they will contract with the Nation or a member of it. Such contracts may include choice of law and forum clauses specifying applicability of the Zone Civil Ordinance and vesting courts formed under it with exclusive jurisdiction to hear disputes arising under the agreement. Furthermore, the CDEZ's eCompanies will presumably have to agree to operate under the Zone Civil Ordinance as a condition of registration (They will doubtless have the right to choose other laws or fora in contracts with other parties made in the zone).

Note that SC Settlement Act § 27-16-80(A)(1)(a) vests the tribal court with jurisdiction over an action on a contract "to which the Tribe or a member of the Tribe is a party". It does not require that the tribal party be in privity with that contract. How can someone be party to a contract without being in privity under it? By winning standing as an intended beneficiary of a contract formed by and between parties who are in privity. The common law grants standing to such a third party if the parties in privity intend the third party to benefit from their agreement and giving the third party standing to sue is appropriate to effectuate that intention. In that case, the intended beneficiary becomes a party to the contract–a third party–with standing to sue (Restatement (2d) Contracts (1981) § 302). Application of these rules in the particular case of the Catawba Nation would means that its court has exclusive original and appellate jurisdiction not only over actions arising under a contract between the CDEZ and its guests, but also over contracts between non-tribal parties if it "expressly provides in writing that the tribal court has concurrent or exclusive jurisdiction" (SC Settlement Act § 27-16-80(A)(1)(a)).

More specifically, contracts between parties in the CDEZ might be placed under the exclusive original and appellate jurisdiction of the tribal courts if they included express written notice that the tribal court has that jurisdiction and that the Tribe is an intended beneficiary of the contract with standing to sue for enforcement of its choice of law and forum clause. The parties would represent and warrant that they intend the Tribe to benefit from their respect for the Zone Civil Ordinance, which indeed would contribute to the good will enjoyed by the Nation through its CDEZ. They would likewise acknowledge that it is appropriate for the Nation to sue to enforce the choice of law and forum clauses in Zone contracts, which indeed it is, because the Nation wants to assure others transacting in its jurisdiction that they will enjoy its protection against foreign interference.

The CDEZ will also doubtless want to require each resident eCompany to maintain a registered agent with a physical address and mailbox on the reservation and to host operations transactions on servers running there. Why? Because SC Settlement Act § 27-16-80(A)(1)(b) gives the tribal court jurisdiction over an action on a contract, "between the Tribe or a member of the Tribe and other parties or their agents who are physically present on the Reservation when the contract is made, and which is to be performed in part on the Reservation …." Note that the language of SC Settlement Act § 27-16-80(A)(1)(b) cannot be extended to give standing to the Nation as an intended third party beneficiary to contracts between non-tribal parties. The phrase, "between the Tribe or a member of the Tribe and other parties or their agents," rules out that interpretation.

These measures establishing the exclusive jurisdiction of tribal courts may be applied to any contract between the Nation and a non-tribal party that expressly and in writing provides for them, to a contract between non-tribal parties that provides likewise and adds the Nation as an intended beneficiary, or to contracts between tribal parties and non-tribal parties (or their CDEZ agents) at least partially performed in the CDEZ. Those same contracts may provide at the same time that all disputes arising under the contracts will go not to the tribal court but to private arbitration, such as might be offered by a CDEZ Arbitration Center.

Given the effect of the Federal Arbitration Act, these arbitration agreements should be enforceable as a matter of course (Federal Arbitration Act, 1926). In the unlikely event that such an arbitration clause is not enforceable, tribal courts would have exclusive jurisdiction over actions on the contracts. Foreign courts would face a double defense against the unwarranted exercise of jurisdiction over such contracts: First, the arbitration clause; Second, the exclusive original jurisdiction afforded to the tribal court by federal and state law. To these defenses a properly structured market might add another, as described below.

4.2.2. Jurisdiction of Tribal Courts Over Tort Law

The Catawba have original but not exclusive jurisdiction over various torts occurring on their reservation. Settlement Act § 27-16-80(A)(2) says,

> the tribal Court may be vested with jurisdiction over an action arising out of:
>
> (a) an intentional tort, as defined by South Carolina law, committed on the Reservation, in which recovery is sought for bodily injuries or damages to tangible property located on the Reservation.
>
> (b) negligent tortious conduct occurring on the Reservation or conduct occurring on the Reservation for which strict liability may be imposed, excluding, however, accidents occurring within the right-of-way limits of a highway, road, or other public easement owned or maintained by the State or its subdivisions or by the United States, which abuts or crosses the Reservation. However, the action in tort involving a nonmember of the Tribe as defendant may be removed to a state or federal court of appropriate jurisdiction if the amount in controversy exceeds the jurisdictional limits then applicable to magistrate's court in South Carolina.

Under § 27-16-80(A)(2)(a), therefore, tribal courts have jurisdiction over certain intentional torts that physically harm persons or property on the reservation. The section does not expressly deny tribal courts jurisdiction over other types of intentional torts, such as fraud or unfair competition, that cause intangible damage. Section 27-16-40, described above, pretends to have that preclusive effect, though. Under § 27-16-80(A)(2)(b), tribal courts may hear negligence claims for which strict liability might be imposed except for those arising from accidents that occur on easements of the North Carolina or the United States. Again, § 27-16-40 would claim to preclude tribal courts from hearing negligence claims outside of that expressly delineated area of jurisdiction.

Even with regard to tort claims they can hear, the jurisdiction enjoyed by tribal courts must be shared with State courts. SC Settlement Act § 27-16-80(B) provides, "The original jurisdiction of the Tribal Court over the matters set forth in … (A)(2) ... must be concurrent with the jurisdiction of the Court of Common Pleas of South Carolina, the Family Court, and the United States District Court for South Carolina." Also, as set forth in SC Settlement Act § 27-16-80(D)(1), any final judgements in tribal court are subject to appeal to SC courts if a party to the suit is not a Tribe member and the amount in controversy exceeds $7,500, the current limit for the jurisdiction of a South Carolina magistrate's court (Concurrent civil jurisdiction, 2004).

4.2.3. Jurisdiction of Tribal Courts Over Civil Regulation

Crucially for their Digital Economic Zone, the Catawba have sovereign power to pass civil regulations for conduct on their reservation. SC Settlement Act § 27-16-80(A)(5) provides:

> The Tribal Court also may be vested with jurisdiction to enforce against a business located on the Reservation and members or nonmembers residing on the Reservation, tribal civil regulations regulating conduct on the Reservation enacted pursuant to Section 10.2 ... of the Settlement Agreement.

In contrast to the requirement in § 27-16-80(A)(1) that a contract make express reference to tribal courts for them to have jurisdiction over claims arising under it, § 27-16-80(A)(5) presumes their jurisdiction in cases arising out of tribal civil regulations. The above-quoted passage continues:

> The entity or person is charged with notice of the Tribe's regulations governing conduct on the Reservation and is subject to the enforcement of the regulations in the Tribal Court unless the Tribe specifically has exempted the entity or person from any or all regulation or enforcement in Tribal Court.

As noted above, tribal courts have exclusive original and appellate jurisdiction over cases arising under the Zone Civil Ordinance. No foreign court can decide these matters.

To interpret the scope of SC Settlement Act § 27-16-80(A)(5) requires reference to § 10.2 of the Settlement Agreement, which provides in relevant part:

> [I]n any constitution adopted by the Tribe, the Tribe may be authorized to the extent which is consistent with this Agreement
> (i) to regulate the use and disposition of tribal property;
> ...
> (iii) to regulate the conduct of businesses located on the reservation and individuals residing on the reservation;
> ...
> (v) to grant exemptions, abatements or waivers from any tribal laws, tribal regulations, or tribal taxes, except the Tribal Sales and Use Taxes, otherwise applicable on the reservation,

> including waivers of the jurisdiction of any tribal court; [and]
> ...
> (ix) to charter tribally-owned economic development corporations and enterprises provided the corporations or enterprises register with the Secretary of State for South Carolina as a domestic or foreign corporation when doing business off the reservation.

Though each of the quoted provisions might have applications useful to the CDEZ, Settlement Agreement § 10.2(iii) appears to have the broadest scope. A great deal might fit under the heading of regulations on the "conduct of businesses located on the reservation and individuals residing on the reservation." The Nation could bolster claims of autonomy it makes on that front by also invoking Settlement Agreement § 10.2(i), under which it enjoys exclusive authority over the use and disposition of tribal property. The Nation can moreover argue that its bespoke regulations, embodied in the Zone Civil Ordinance, speak with the same force as federal law, as discussed above.

The combination of SC Settlement Act § 27-16-80(A)(5) and Settlement Agreement 10.2(iii) allows the Nation to use its exclusive original and appellate jurisdiction over cases arising under the Zone Civil Ordinance to forestall interference by South Carolina. Once identified as arising under "tribal civil regulations regulating conduct on the Reservation enacted pursuant to Section 10.2 ... of the Settlement Agreement," SC Settlement Act § 27-16-80(A)(5), a dispute falls within the exclusive original and appellate jurisdiction of tribal courts per SC Settlement Act §§ 27-16-80(A)(5), (D)(1). That leaves no basis for a South Carolina court to adjudicate the dispute.

Nor would courts of other states or the federal government have jurisdiction. The US Settlement Act makes clear in § 4(a)(2) that the just-cited provisions of the SC Settlement Act and the Settlement Agreement have the force and effect of federal law. If those provisions say that the Nation has exclusive original and appellate jurisdiction over cases arising under its civil regulatory code--and they evidently do--nothing less than the Constitution or a new federal statute can make it otherwise.

4.3. Authority of Nation Courts to Delegate Adjudication of Civil Disputes

The US Settlement Act provides at §10(1), "All matters involving tribal powers, immunities, and jurisdiction, whether criminal, civil, or regulatory, shall be governed by the terms and provisions of the Settlement Agreement and the State Act [of South Carolina], unless otherwise provided in this Act." Without contradiction to the federal Act, § 27-16-80(A) of South Carolina's Settlement Agreement says, "The Tribe may provide in its constitution for a Tribal Court having civil jurisdiction [to] the extent provided in this chapter and the federal implementing legislation." The same section adds, "The Tribe may have a court of original jurisdiction, as well as an appellate court."

As noted above, applicable law recognizes the exclusive original and exclusive jurisdiction of Nation Courts over two classes of disputes of particular interest to the CDEZ: those having a tribal party and those arising under any Catawba civil code applicable to businesses or individuals resident in the Digital Economic Zone on tribal lands. Tribal courts are not required to provide a forum for such cases, however. Like other sovereigns, the Catawba Nation can delegate the ultimate responsibility of settling civil disputes under its jurisdiction to private dispute resolution services operating under guidance and supervision.

Sovereigns have long customarily allowed private parties to resolve disputes arising under law. And South Carolina Settlement Act § 27-16-80(A)(5)(v) expressly recognizes that the Tribe may "grant exemptions, abatements or waivers from any tribal laws … including waivers of the jurisdiction of any tribal court". By both inherent sovereign power and statutory recognition, the CDEZ may specify private arbitration conducted under its rules as the default forum for disputes over which tribal courts have exclusive original and appellate jurisdiction.

4.4. Criminal, Tax, and Unlegislated Law

This paper focuses on the civil jurisdiction of the CDEZ and its courts over commerce in the zone. It finds that the Catawba Nation has sovereign power over private disputes arising on the reservation and under the Zone Civil Ordinance. That covers much ground, but not everything of concern to would-be traders. They might also want to know whether and to what extent the Catawba Indian Nation exercises exclusive jurisdiction over criminal law, tax law, administrative agency regulations, and executive orders. The still-formative status of the CDEZ and complexity of these matters allow only preliminary and general observations at this time.

Federal recognition renders an Indian tribe exempt from federal income taxes (Internal Revenue Service, 1967). As an organic part of the Catawba Indian Nation, the CDEZ would presumably benefit from the same exemption. The same exemption does not however extend to members of the tribe or non-tribal parties doing business in the zone.

The Catawba have a somewhat complicated tax relationship with South Carolina. Absent a specific cessation of jurisdiction or federal legislation to the contrary, "a State is without power to tax reservation lands and reservation Indians" (County of Yakima v. Confederated Tribes and Bands of Yakima Nation, 1992, p. 258). In the case of the Catawba, however, the Settlement Agreement and subsequent state and federal legislation allow for South Carolina to collect some but not all sales taxes on the reservation and require it to remit some but not all of the taxes it collects to the tribe (South Carolina Department of Revenue, 2019).

As discussed in more detail above, it appears that state criminal laws and regulations remain generally applicable in the CDEZ. US Settlement Act § 10.1 provides, "All matters involving tribal powers, immunities, and jurisdiction, whether criminal, civil, or regulatory, shall be governed by the terms and provisions of the Settlement Agreement and the State Act, unless otherwise provided in this Act." Firm conclusions about the reach of federal criminal laws and regulations, as well as of state or federal executive orders, will have to await further development of the CDEZ and review of the many relevant rules.

5. STRUCTURE AND OPERATION OF THE CDEZ

The above pages establish the CDEZ's foundation on a stacked hierarchy of laws, stretching from the Settlement Agreement at the bottom to international law at the top. All recognize the sovereign authority of the Catawba Indian Nation to enact, interpret, and enforce a civil code for its own territory. Pursuant to that authority, on February 19, 2022, the Catawba Indian Nation passed the Resolution Establishing the Green Earth Zone, Approving the Green Earth Zone Civil Ordinance, and Designating Initial Property for the Green Earth Zone (Zone Resolution, 2022). Through this resolution, the Nation adopted the Zone's foundational law, the Green Earth Zone Civil Ordinance (Zone Civil Ordinance, 2022). The following sections describe the status of the Green Earth Zone (d.b.a. "Catawba Digital Economic Zone") in the Nation's system of government and the major features of the Zone Civil Ordinance.

5.1. The CDEZ in the Nation's System of Government

The Catawba govern themselves through the General Council, an assembly of Tribe members. The General Council passes ordinances, creates administrative bodies and appoints their officers, engages in diplomacy, and otherwise exercises the Nation's sovereign power. The Catawba have two such administrative bodies: The Executive Committee, which governs the Tribe and its territory (Catawba Indian Nation, The Catawba Nation Executive Committee, n.d.) and the Catawba Corporations (formerly known as the Economic Development Committee), which handles business matters (Catawba Corporations, n.d.).

The General Council created the Catawba Digital Economic Zone through the Zone Resolution and attached Zone Civil Ordinance. The zone takes form as an unincorporated governmental instrumentality of the Executive Branch of the Catawba Indian Nation, thereby sharing with it all of the Tribe's privileges and immunities (Zone Civil Ordinance, 2022, Tit II Ch. 1 §§ 1, 3). A five-member Zone Authority Commission governs the CDEZ by establishing overall policies and issuing regulations using delegated powers (Id., § 2). The Executive Committee appoints two members of the Zone Authority Commission, the Catawba Corporations appoint two, and a private Nation-majority-owned management company, the Green Earth Zone Services Corporation (Zone Corporation), appoints one. (Id., Tit. II Ch. 2 § 1).

Because the CDEZ enjoys the same sovereign immunity as the Nation itself, it also qualifies for the provisions of the US Settlement Act, discussed above, giving the Nation exclusive original and appellate jurisdiction over cases with non-tribal parties. Because all who visit the CDEZ will have to contract with it, the zone can assure that it regulates commerce in the zone with no less authority than any sovereign exercises over markets in its territory. The Zone Civil Ordinance likewise emphasizes the Nation's authority to "govern the activities of those businesses and persons who operate within the jurisdiction of the Zone" (Id., Tit. II Ch. 3 § 2) by making the Ordinance applicable therein.

5.2. The Zone Civil Ordinance

Prefatory to approving the Zone Civil Ordinance, the General Council by resolution explains its motives in a series of "Whereas" clauses, establishing the Zone, and designating its initial location (Zone Resolution, 2022). The Resolution attaches the Zone Civil Ordinance, a law having ten titles (Zone Civil Ordinance, 2022). The first title covers general provisions, the second covers administration of the zone, and the remaining titles set forth the substantive and procedural rules that govern activities in the CDEZ. Details of the Ordinance's contents follow.

Title I of the Zone Civil Ordinance lays the legal groundwork for the rest of the Ordinance. It includes nuts-and-bolts issues like interpretation of the Ordinance, modifications to it, and its scope. Title II creates the Zone Authority Commission and Zone Corporation, introduced above.

The next 6 titles, III through VIII, import provisions of Ulex, the open source legal system, into the Zone Civil Ordinance. Ulex offers an open source legal system suitable for startup communities, special jurisdictions, and other systems of government (Ulex Opensource, n.d.). It has already seen use in Próspera ZEDE's Roatán Common Law Code, which incorporates Ulex's substantive rules. (Próspera ZEDE, 2018). A similar Ulex kernel provides the CDEZ with rules for contracts, torts, and a wide range of other legal relations. Both jurisdictions thereby partake of the same objective, expert, and tested set of flag-free rules.

The Zone Civil Ordinance's last two titles return to nuts-and-bolts matters. Title IX gives the Tribal Court or any other special court organized by the Executive Committee general jurisdiction in law or equity. Title X makes the Ordinance effective as of its approval by the General Council, which occurred February 22, 2022.

6. CONCLUSION

With the Catawba Digital Economic Zone, the Catawba Indian Nation can lay fair claim to creating the first special economic zone (SEZ) in the United States. Other contenders for the title fall short. Foreign trade zones, created in 1934 and now found throughout the United States, do little more than ease customs, duties, and tax burdens (Bell, 2018). The various states of the United States, in contrast, do so much that they qualify as normal jurisdictions rather than special ones. More complex than an FTZ and less grandiose than a state, the CDEZ thus represents the first true SEZ in the United States.

In but not of; though documented in state and federal law, the CDEZ is not a creation of any foreign sovereign. It arises from the Catawba Indian Nation's own sovereignty. Digital commerce in the zone operates under the Nation's law; its courts have exclusive original and appellate jurisdiction over cases arising under the rules of the CDEZ. Before anyone places the CDEZ in the United States, therefore, they should place it on the reservation lands of the Catawba Indian Nation. The Nation–not the United States or any state–created this new American special economic zone. A special jurisdiction within a special jurisdiction, the CDEZ offers a double guarantee against outside interference. It testifies to the grit, genius, and sovereignty of the Catawba Indian Nation.

This bold innovation in governance will present the CDEZ with many challenges. Though its small size will allow the zone to respond nimbly to the rapid changes characteristic of the high tech industry, it also leaves it without all of the financial and human resources enjoyed by larger organizations. Other special jurisdictions that have attempted to serve the digital assets sector have struggled to avoid becoming havens for money laundering and other illicit activities. For that reason, the CDEZ has already announced that that all who plan to use its platform will "have to go through KYC and AML checks in compliance with International and Federal Law" (Catawba Digital Economic Zone, 2022). Only time will tell how the CDEZ weathers these and other storms.

This paper has documented the origins, legal status, and basic structure of the Catawba Indian Nation's CDEZ. At its foundation, the CDEZ relies on state and federal recognition of the exclusive jurisdiction of tribal courts over two broad kinds of disputes: those arising out of contracts to which the Nation or its members are a party and those arising under rules for conduct of businesses and individuals on the reservation. Wielding that power, the Catawba General Council ordained the creation of a civil code and administrative structure to govern e-banking, cryptocurrency, non-fungible tokens, and other fintech industries hosted in its Digital Economic Zone. There, the Catawba Indian Nation will build a virtual trading post for a new New World.

DISCLOSURES AND DISCLAIMER: As detailed in Your Next Government? From the Nation State to Stateless Nations (Cambridge University Press 2018), the author created Ulex, the open source common law-based legal system incorporated into the Zone Civil Ordinance. He worked on the Catawba Digital Economic Zone through Archer Sage Ventures, a joint effort of Archimediate LLC and Sage Prospect LLC, under contract with eTribe LLC, which itself contracted with the Catawba Indian Nation, and holds a small equity interest in the latter LLC. Opinions expressed herein represent those of the author only, who bears sole responsibility for their publication, and do not represent the opinions of any employer, client, or associate.

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Unexpected Laboratories Within the State-Sanctioned Laboratory: Shenzhen's Urban Villages

Michael Castle-Miller
Politas Consulting
michael@politasconsulting.com
ORCID 0000-0003-3659-7198

When at dusk the neon lights come on in Shenzhen, China, they look from the top of its tallest building like small fires dotting a mist-shrouded landscape. The massive city of dreams lends itself to naturalistic metaphor––the eye scans skyscraper groves amid fields of striated worker housing and middle-class midrises like dragons playing, according to one interpretation, or like the undulating peaks of Guilin, interrupted by the clusters of tight, jumbled, low-growth of the so-called urban villages. Sixty-nine stories below the cityscape sparks, oozes, and shudders along rivulets of light refracted in the humidity, the inky black of Hong Kong's New Territories across the border accentuating the lustrous Leviathan that is Shenzhen. It all fuses together in urban rhythm and meter, reminding me of a description I encountered in a government-issued coffee table book about Shenzhen's Central Business District: "Construction is a poem, written by poets, who wrote them with steel and cement." . . . Construction as poem captures Shenzhen as a paean to modernity, for it is, in its own way, the very equivalent of 1920s Berlin or New York in its urban intoxication, its inexorable nowness, its multiple, overlapping fantasies of progress, promise, and peril (Bach, 2010: 421).

Abstract
When Deng Xaoping announced his special economic zone "experiment" in 1979, few could have predicted the startling growth that would occur in Shenzhen. In just over three decades, the collection of fishing and agricultural villages on the border of Hong Kong grew from a population of 300,000 to 14 million (Feng, 2011). Surprisingly, Shenzhen's growth did not come at the expense of displacement of the original population as zones in India and many other countries have (e.g., Cook, 2013). Instead of squashing the small, rural clan-based villages, the city was forced to build around them and the villagers became a rare,elite landowning class in a country in which all urban land is supposed to be owned by the government. Despite the Shenzhen government's efforts to erase and absorb them into its own vision of city civility, the villagers resisted and held onto their lands, remaking them into chengzhongcun, or "urban villages." The urban villages became accidental experimental enclaves within the larger planned experimental enclave of the city. Today, about seven million indigenous villagers and migrant tenants inhabit the 318 remaining urban villages. This paper argues that, in keeping with the experimental ethos of Shenzhen, the urban villages should be viewed as their own inadvertent experiments that demonstrate the ability of relaxed planning and residency regulations to promote equity, inclusion, and economic development. Part one will describe Shenzhen's rapid growth and the formation of its urban villages. Part two willdiscuss the dominant discourses concerning the urban villages. Part three will explore the effects of the urban villages as means of economic growth and inclusion for both indigenous inhabitants and migrants.

Keywords: Special Economic Zone, Shenzhen, chinese SEZ, Urban Villages.

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Resumen
Cuando Deng Xaoping anunció su "experimento" de zona económica especial en 1979, pocos podrían haber predicho el sorprendente crecimiento que ocurriría en Shenzhen. En poco más de tres décadas, el conjunto de pueblos pesqueros y agrícolas en la frontera de Hong Kong creció de una población de 300 000 a 14 millones (Feng, 2011). Sorprendentemente, el crecimiento de Shenzhen no se produjo a expensas del desplazamiento de la población original. como lo han hecho zonas en la India y muchos otros países (p. ej., Cook, 2013). En lugar de aplastar las pequeñas aldeas rurales basadas en clanes, la ciudad se vio obligada a construir alrededor de ellas y los aldeanos se convirtieron en una clase rara de terratenientes de élite en un país en el que se supone que todas las tierras urbanas son propiedad del gobierno. los esfuerzos del gobierno por borrarlos y absorberlos en su propia visión de la civilidad de la ciudad, los aldeanos resistieron y se aferraron a sus tierras, transformándolas en chengzhongcun, o "pueblos urbanos". Los pueblos urbanos se convirtieron en enclaves experimentales accidentales dentro del enclave experimental planificado más grande de la ciudad. En la actualidad, alrededor de siete millones de aldeanos indígenas y arrendatarios migrantes habitan las 318 aldeas urbanas restantes. Este documento argumenta que, de acuerdo con el espíritu experimental de Shenzhen, las aldeas urbanas deben verse como sus propios experimentos involuntarios que demuestran la capacidad de las regulaciones relajadas de planificación y residencia para promover la equidad, la inclusión y el desarrollo económico. La primera parte describirá el rápido crecimiento de la ciudad de Shenzhen y la formación de sus aldeas urbanas. La segunda parte discutirá los discursos dominantes sobre los pueblos urbanos. La tercera parte explorará los efectos de las aldeas urbanas como medios de crecimiento económico e inclusión tanto para los habitantes indígenas como para los migrantes.

Palabras Clave: Zona Economica Especial, Shenzhen, SEZ en China, Villas Urbanas.

1. THE ORIGIN OF SPECIAL ECONOMIC ZONES, SHENZHEN, AND THE URBAN VILLAGES

1.1. The Special Economic Zones and Shenzhen

In the late 1970's Deng Xaoping announced a startling new vision that steered China away from the turmoil of Mao's cultural revolution. His rhetoric was noticeably market-friendly:

> I am of the view that we should allow some regions, some enterprises, some workers and farmers, who because of hard work and good results achieved, to be better rewarded and improve on their livelihood . . . . [T]hey will engender powerful demonstrative effects on their neighbors and lead people in other regions' work units to follow their examples. In this way, the national economy will, wave-like, surge forward, with all the people becoming relatively well-off (Yeung, et al., 2013: 222).

Two specific reforms proved particularly momentous. In 1978, he allowed farmers to implement a "contract responsibility system," in which families could keep some of the proceeds of their labor and thereby be incentivized to produce more–a model that was reproduced throughout the country (Yeung, et al., 2013). Secondly, in 1979 he announced a Special Economic Zone (SEZ) program that would be implemented in Shenzhen, Zhuhai, Shantaou, and Xiamen (Yeung, et al., 2013). Under the SEZ program, the four cities could adopt market-friendly reforms designed to stimulate growth and attract foreign investment. SEZs would be slightly different from Export Processing Zones, which had existed in several countries for the past two decades because the Chinese SEZs would primarily serve as testing grounds for innovative policies that, if successful, would be implemented nation-wide (Muchlinski, 2011). The SEZs were deliberately positioned far from the capital in Beijing, to reinforce their ability to experiment with policy without interference (Yeung, et al., 2013). While all of the SEZs grew, none grew as fast or as large as Shenzhen. Between 1980 and 1984, Shenzhen's GDP grew 58% per year, almost single handedly pushing the national growth rate by 10% per year (Yeung, et al., 2013). Among the city's policy innovations were a contract-based labor and wage system that broke from the former fixed salary system, a social insurance package for workers that was superior to anything available in China, land auctions in which private parties could purchase long-term leases to use state-owned land, and a decision to turn away from offering investors short-term incentives in favor of a more stable legal regime that attracted investors more naturally (Yeung, et al., 2013).

Figure 1: First Chinese Special Economic Zones in the Hong Kong region

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Figure 2: Shenzhen. The shaded areas are the original SEZ. The non-SEZ portions were incorporated into the city in 1996 (Hao, et al., 2012)

China responded to the perceived success of this experiment by creating variants of the SEZs elsewhere and implementing national-wide reforms based on what it learned in Shenzhen. Since China's accession to the WTO, there are few differences in economic policy remaining between Shenzhen and the nation as a whole (Krusekopf, 2011). Despite this harmonization, Shenzhen still stands poised to conduct crucial experiments in environmental and social policy that will prove essential as the country's middle class expand and demands greater protections and accountability from its government (Krusekopf, 2011).

1.2. Shenzhen's Original Inhabitants

Contrary to the experience of other major foreign-direct-investment fueled developments, the dramatic urbanization of the Shenzhen SEZ by in large brought tremendous profit to the original population of the area. For several centuries, the area that became Shenzhen consisted of numerous rural villages, each with distinctive cultural, linguistic, and religious characteristics (Wang, 2013). Each village was built around a dominant clan, with members all having the same surname, and each clan retained the right to build a ancestral hall in the center of its village (Wang, 2013).

The decades prior to the development of Shenzhen exhibited significant strain on the viability of the villages. Chairman Mao's Great Leap Forward (1957), Four Clean Up Campaigns (1963–1966), and Cultural Revolution (1966–1976) all led to significant chaos and disruption of the villagers' way of life (Wang, 2013). Throughout these periods, taogang, (literally, "fleeing to Hong Kong") stripped the villages of large numbers of able-bodied men. Taogang only stopped as a phenomenon with the development of Shenzhen in the 1980s (Wang, 2013).

The establishment of Shenzhen seemed to spell the demise of the villages. Villagers had little or no formal education and lacked city-registration status, which mostly relegated them to low-paying or illegal work on the outskirts of the city (Bach, 2010). Nevertheless, the villagers remained even as the city grew up around them. The villager's permanence can be partially explained by peculiarities of Chinese land law. Though the government owns all urban land and merely leases "use rights" to inhabitants, it allows individual rural families to own the land their home sits on and to own village land collectively with other village members (Wang, 2013). Even as Shenzhen urbanized, the original inhabitants, and their land, remained "rural" for administrative purposes and thus title remained with the villagers (Wang, 2013).

Title to land proved to be crucial for the future of the urban villages. Throughout the 1980s, inland migrants teemed in at breathtaking rates to find jobs in construction and in the factories they helped build. Most of these migrants lacked formal urban status and thus found it very difficult to find housing, especially at prices they could afford (Bach, 2010). A few found housing in factory dormitories (Wang, 2013) though many had to sneak in to anywhere they could find (Bach, 2010).

In the face of this tremendous demand for housing, the villagers quickly embraced real estate as an occupation. Though the Shenzhen government had only granted the villagers permission to build up to three stories on the plots designated for their homes, most built them as high as they could without elevators––typically up to 8 or 9 stories––with shops on the first floor (Bach, 2010). Each village family would normally occupy only one floor of their building and would rent the rest to migrants (Bach, 2010). Buildings were packed tightly together and occasionally encroached over onto non-village land (Wang, 2013). According to Wang (2013), the city government chose not to respond forcefully at the early stages because it was not overly concerned with the zoning violations and because it sought to maintain Shenzhen's reputation as a place of policy reform and experimentation.

Since every village family was entitled to at least a small plot for their home, many families divided themselves into more discrete households to claim more plots (Bach, 2010). With practically every family owning a building filled with tenants, rental income became a significant source of income. Many villagers used the income to pay property management companies to manage the buildings for them and started their own enterprises elsewhere.

The villagers also built upon their collectively held village land as well. The Shenzhen government was initially required to assign each village collective 100 square meters per resident for industrial and commercial uses and 200 square meters per household for roads, infrastructure, open space, cultural facilities and other public uses (Hao, et al., 2012). As the land became more valuable, the villages formed joint stock companies that held title to the land and leased it to high-end residential and commercial office towers, factories, and other enterprises (Wang, 2013). Each villager was given a share of stock in their village company and received corresponding dividends (Wang, 2013). The village companies also began providing for social welfare through community clinics, kindergartens, and activity centers (Wang, 2013). The companies became a source of unity for villagers and helped them negotiate effectively with powerful entities like the city government and real estate developers (Wang, 2013).

Hao, et al. (2012) have carefully examined the phases that village-owned properties have gone through as they urbanized. As urbanization has increased, village-owned properties have become highly multi-functional, with residential, industrial, commercial, and public service uses all mixing together. These properties have stood in stark contrast to the standard Chinese planning philosophy, which involved separating out functions to different areas (Hao, et al., 2012). As urbanization has increased, however, urban villages tend to reverse direction and become monofunctional. Hao, et al. (2012) explain this phenomenon by observing that as land becomes more valuable, villagers have a greater incentive to sell their multi-functional, collectively held property to the city, which then leases use rights to formal developers who follow official zoning guidelines.

Figure 3: Caiwuwei Urban Village (Bach, 2010)

Today, urban villages retain much of their traditional social structure. There are 318 urban villages, which house an estimated 7 million indigenous and migrant residents and still provide a significant proportion of manufacturing-sector employment (Hao, et al., 2012). Currently 54% of Shenzhen's buildings (333,576 of 615,702) are in urban villages. 94% of these village buildings are classified as private dwelling houses. This figure is misleading, however, because buildings are classified based on their "primary" use; thus, the large number of commercial store fronts on the ground floor of residential buildings are ignored.

Since 2002, all villagers have been upgraded to urban registration status according to the hukou system (Bach, 2010). As a result, their legal claim to the land is somewhat ambiguous, though, in practice, they still own and lease their land in the same say as before (Bach, 2010). The Shenzhen government has not appeared to seriously contest their claim.

The villages are still strongly clan-based, cohesive social units, typically run by a male village head, and centered around an ancestral hall (Wang, 2013). They have evolved into their own nearly autonomous zones, consisting of densely packed buildings, narrow passageways, and village security forces. Vehicles entering the villages must pass through a gate, receive a ticket, and pay upon exiting (Bach, 2010). Village security forces enforce village codes of conduct, and, except for occasional raids, the Shenzhen police are largely absent (Bach, 2010). Organized crime and prostitution are common, though village-run social safety nets, including medical care, pensions, and education, are considered superior to state programs (Bach, 2012). Migration from China's diverse regions has alsoturned urban villages into melting pots of various cultures and diverse restaurants and the villages still offer significantly more affordable housing than anywhere else in the city (Wang, 2013).

2. SHENZHEN "CIVILIZATION" VS. THE "BACKWARD" URBAN VILLAGES

The discursive treatment of Shenzhen's urban villagers must be viewed in light of the larger social and legal distinctions between "urban" and "rural" people in China. Under China's hukou, or household registration, system all citizens are assigned either an urban or rural status. Residents with urban status are allowed to rent apartments, send their children to higher quality schools, visit better doctors and hospitals, move easily between cities, buy housing, apply for passports, and, as Bach (2010) puts it, "become trendy, sophisticated, harried–in a word, modern." Rural residents, on the other hand, are denied most forms of formal employment and the ability to migrate (Bach, 2010). Though rural-status citizens enjoy certain privileges urban residents lack––such as the ability to have more than one child, to individually own homes and collectively own village land, and to pass down property by inheritance––the hukuo system, as Dorothy Solinger (1999:36) puts it, effectively "barricad[es] the cities against the peasants."

Since the rapid urbanization of China, the rural-urban distinction has grown far beyond the legal realm. During the Cultural Revolution, the rural was rhetorically treated as a romantic ideal under official party doctrine, even though it was in practice subordinated to the urban (Bach, 2010). After Deng Xaoping's market reforms in the 1980s the urban became associated with progress and the discourse of civilization began to emphasize the reformation of peasants (Bach, 2010). Rural residents became thought of as "backward" and "docile, disposable, trespasser[s], and drudges." (Solinger, 1999: 36–45).

As cities grew to encompass rural villages, the villages nevertheless retained their rural identity. Initially, part of the Shenzhen experiment was to create a space where the rural and urban could interact on an equal footing (O'Donnell, 2008). The indigenous rural inhabitants would maintain their farms and sell fruits and vegetables to the urban workers, with the occasional few opening small factories. (Bach, 2010) The rate of urban expansion surprised everyone and the romantic visions of farms in the city became unrealistic. The vision was never replaced with an alternative, however, and the city has still not found an adequate administrative process for incorporating the villages into the formal urban system.

As a result, the urban villages grew up and became visual embarrassments to the government's attempts to control and shape Shenzhen into its vision of a civilized, urbane, and orderly city (Bach, 2010).

Today, the official discourse regarding the ubiquitous urban villages is that they no longer exist, having vanished into a civilized, urban order. Bach (2010) describes how in the center of the Shenzhen City History Museum stands a gleaming model of the city. The model has no people, cars, or pollution and the tangled, winding, narrowly packed, dense urban villages are replaced with regimented buildings (Bach, 2010). Beside, a plaque explains that Shenzhen is "the first Chinese city with no villages, allowing for harmony among urban economy and society as a whole and the establishment of a firm basis for sustainable development." Anyone who spends any time in Shenzhen, however, knows that the statement expresses a vision, not a reality. Just a short distance from the museum exists a chaotic and vibrant urban village that stands in stark contrast to the model (Bach, 2010).

3. LESSONS FROM THE URBAN VILLAGES "EXPERIMENT"

Shenzhen's urban villages experiment presents a strong counter image to the popular notion that equity and economic growth are at odds. The urban villages managed to enhance the city's economic growth by promoting the long-term financial benefit of original residents and breaking down the barriers to the city erected against rural migrants. They therefore lend important insights for a truly inclusive model of economic growth and urban expansion.

First, the urban villages preserved the rights and culture of Shenzhen's original once-rural inhabitants and protected them from displacement. Urban villagers managed to overcome the legal and social exclusion resulting from being registered as rural through a combination of two potent factors: Chinese land tenure laws for rural residents and a cohesive social structure (Hao, et al., 2012). Chinese land law enabled them to become the only private property owners in the city and to position themselves to profit from rising land values. Collective tenure encouraged the well-being of all members of a village by giving each member a share of stock. The villager's strong, clan-based identity encouraged them to refrain from selling their property too early to the formal market (Hao, et al., 2012).

At the same time, the economic empowerment of the villagers has not promoted their social integration with the rest of the city. Bach (2010) recounts several interviews with wealthy villagers who comment on their difficult lives before urbanization and contrast it with their present condition, in which they can enjoy relatively expensive vacations to Europe and can "do nothing and earn money" (Bach, 2010: 443). Middle-class professionals view the villagers with contempt and describe them as "lower then migrant laborers" both morally and politically (Siu, 2007: 334). Low-income migrants, however, are not nearly as contemptuous, perhaps because of the affordable housing, public services, and protection from local officials that they provide (Bach, 2010).

Many of the villagers have sought an identity with the "civilized" image promoted by Shenzhen while simultaneously maintaining their holdings in the villages. Since attaining urban status, they can now move into luxury apartment buildings and continue renting their rural "homes." Bach (2010:443) recounts that they say they are most happy with "not being looked down upon."

Secondly, the lightly enforced nature of the land regulations in the urban villages provided greater upward mobility for poorer inhabitants. Urban villagers were able to respond to tremendous demand from rural migrants by increasing density and thereby providing far more housing than the formal sector would have provided (Hao, et al., 2012). This increased supply of housing kept prices low for poorer inhabitants. The mixed-use nature of the urban villages also placed employment opportunities in close proximity to migrant's homes (Hao, et al., 2012). Additionally, village security forces protected illegal residents from local authorities, enabling them to stay and work in the city. Even legal migrants with temporary permission to stay in Shenzhen settled in the urban villages because of the low prices and the protection from extortion and harassment from local authorities (Hao, et al., 2012).

Finally, the abundant affordable housing in the urban villages fueled Shenzhen's rapid development. As Bach (2012) points out, the city could never grown at its rapid rate if the villages hadn't responded to the demand for low-cost housing. Most of the laborers teeming into the city to build Shenzhen's many skyscrapers and work in its factories simply would not have found places to live. If they had been relegated to factory barracks, they would have been limited in their exposure to other employment opportunities.

The villages also provided for social services for poorer residents that Shenzhen would not have been able to provide without significantly more public resources. Urban villages invested millions on roads, water, and power infrastructure (Wang, 2013). They provided schools and security forces, as well as management of city-provided sewage, water, and electricity services (Wang, 2013). These expenditures enabled the municipal government to avoid taking responsibility for social, economic, and infrastructure development in the villages (Bach, 2012).

4. CONCLUSION

The urban-villages phenomenon shows that Shenzhen has proven to play an essential role as an incubator of policy experiments in more ways than intended by the Chinese government. The effects of the urban villages provide useful lessons for the age of rapid urbanization that China, and all nations, are in the midst of.

First, they demonstrate the possibility for urban development to occur without displacement. Shenzhen's urban villages show that rural inhabitants can be brought included the city and profit from rising land values. By promoting their existing social structures and ensuring them an equitable participation in land ownership, they can overcome legal barriers against their right to the city.

They also demonstrate that if given sufficient autonomy, they can not only secure rights for themselves but also rights to the city for migrants. Through village-based administrative structures, they serve a useful function as a shelter and an intermediary between migrants and the local authorities. Finally, the urban villages demonstrate that when original inhabitants are empowered they can promote the city's economic development by providing services and a gateway for poor laborers to find employment.

Shenzhen also demonstrates that the national government plays a crucial role in experiments like the urban villages. The urban villages would not have happened without national measures the conferred rights that the local authorities would have been unwilling to confer themselves. The Shenzhen government has actively resisted the urban villages and sought to replace them with its own vision of ordered urban civilization. The central government played a crucial role in this regard, by implementing policies at the national level that provided land tenure that the local authorities were forced to acknowledge.

Additionally, the national government has a role in responding to the lessons learned from experiments like the urban villages and implementing them nationwide. Just as the Chinese government has implemented economic reforms first tested by the Shenzhen government, it should secure greater rights for rural inhabitants and migrants. The urban villages of Shenzhen demonstrate that doing so would not only ensure that these people share in the benefits of urbanization but would also facilitate economic growth by providing necessary labor inputs to urban economies.

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Non-territorial Special Jurisdictions in the U.S. Insurance Market

Andrew P. Morriss
Professor, Bush School of Government & Public Service Professor, School of Law, Texas A&M University
amorriss@tamu.edu
ORCID 0000-0002-0810-3835

Abstract
Like most nations, the United States heavily regulates the insurance business. Regulators focus on pre-approval of forms and rates, insurer solvency, and licensing providers. Because insurance regulation is almost exclusively the province of state governments, the U.S. insurance market is highly fragmented. In three areas, however, the federal government has preempted state regulation to a degree, creating opportunities for a law market to develop. This article discusses how the preemptions created by the US Congress for purchasing groups (PGs), risk retention groups (RRGs), and surplus lines insurance have created non-territorial special economic zones (SEZs) for portions of the insurance market. The paper backs this idea by, first, analyzing how surplus lines insurance gives insurance buyers access to insurers not licensed in the buyers' jurisdictions for coverage not available otherwise; second, by examining how risk purchasing groups (PGs) allow buyers to band together to buy insurance despite state laws prohibiting the practice; and third, by discussing how risk retention groups (RRGs) allow groups of insurers to create their own insurer, obtain regulatory approval from a single state, and then provide insurance nationwide. The regulation of these non-territorial SEZs differs in kind from the more traditional state regulation of insurance. It is less "one-size-fits-all" and it is more focused on solving the problems of market gaps. Several states have emerged as leading domiciles, embracing a regulatory approach that sets them apart from those jurisdictions which have not. All three examples provide valuable lessons for constructing non-territorial SEZs in other areas. In this article, I argue that although these federal laws created to expand access to insurance, were not explicitly focused on creation of an SEZ, they do in fact create non-territorial SEZs. Thus there are de facto SEZs for surplus lines, RRGs, and PGs, defined by subject matter rather than geographical boundaries. This, in turn, suggests an alternative pathway to geographical SEZs, one which can expand competition among legal systems. By examining the experience with the federal government's creation of a national "law market" for these types of insurance, the paper shows how non-territorial SEZs can be used to facilitate regulatory competition that expands the choice set for consumers.

Keywords: Risk Retention Groups, Risk Purchasing Groups, Surplus Lines Insurance, Insurance, Federalism, Special Jurisdictions, Special Economic Zones.

Resumen
Como la mayoría de las naciones, Estados Unidos regula fuertemente el negocio de los seguros. Los reguladores se centran en la aprobación previa de formularios y tarifas, la solvencia de las aseguradoras y los proveedores de licencias. Debido a que la regulación de seguros es competencia casi exclusiva de los gobiernos estatales, el mercado de seguros de EE. UU. está muy fragmentado. En tres áreas, sin embargo, el gobierno federal se ha adelantado hasta cierto punto a la regulación estatal, creando oportunidades para que se desarrolle un mercado legal. Este artículo argumenta que las preferencias creadas por el Congreso de los EE. UU. para los grupos de compra (PG), los grupos de retención de riesgo (RRG) y los seguros de líneas excedentes han creado zonas económicas especiales (SEZ) no territoriales para partes del mercado de seguros. El documento respalda esta idea, primero, analizando cómo el

seguro de líneas excedentes brinda a los compradores de seguros acceso a aseguradores que no tienen licencia en las jurisdicciones de los compradores para una cobertura que de otro modo no estaría disponible; segundo, examinando cómo los grupos de compra de riesgo (PG) permiten a los compradores unirse para comprar seguros a pesar de que las leyes estatales prohíben la práctica; y tercero, discutiendo cómo los grupos de retención de riesgos (RRG) permiten que grupos de aseguradoras creen su propia aseguradora, obtengan la aprobación regulatoria de un solo estado y luego brinden seguros a nivel nacional. La regulación de estas ZEE no territoriales difiere en su tipo de la regulación estatal más tradicional de los seguros. Es menos "una talla única para todos" y está más enfocado en resolver los problemas de las brechas de mercado. Varios estados han surgido como domicilios principales, adoptando un enfoque regulatorio que los distingue de aquellas jurisdicciones que no lo han hecho. Los tres ejemplos brindan lecciones valiosas para construir ZEE no territoriales en otras áreas. En este artículo, argumento que si bien estas leyes federales creadas para ampliar el acceso a los seguros no se centraron explícitamente en la creación de una ZEE, de hecho crean ZEE no territoriales. Por lo tanto, existen ZEE de facto para líneas excedentes, RRG y PG, definidas por tema en lugar de límites geográficos. Esto, a su vez, sugiere un camino alternativo a las ZEE geográficas, que puede expandir la competencia entre los sistemas legales. Al examinar la experiencia con la creación por parte del gobierno federal de un "mercado legal" nacional para estos tipos de seguros, el documento muestra cómo las zonas económicas especiales no territoriales pueden usarse para facilitar la competencia regulatoria que amplía el conjunto de opciones para los consumidores.

Palabras Clave: Grupos de Retención de Riesgo, Grupos de Compra de Riesgo, Seguro de Líneas Excedentes, Seguros, Federalismo, Jurisdicciones Especiales, Zonas Económicas Especiales.

1. INTRODUCTION

While special economic zones (SEZs) traditionally are territorially defined as specific locations which are exempt from tariffs or other taxes or which receive special regulatory treatment (UNCTAD 2019, 128),[1] the United States has created several legal frameworks that produce cross-state competition for insurance regulation. Although at first glance they do not resemble a traditional SEZ, these can be seen as non-territorial SEZs because they share with traditional, territorial SEZs two important characteristics. First, just as with a firm that relocates into a territorial SEZ, these legal frameworks enable firms to opt out of an existing regulatory regime and into an alternative one. Second, firms that participate in these non-territorial SEZs choose to do so because the regulatory package the SEZ offers is preferable to the regulatory regime applicable outside the SEZ. Just as territorial SEZs compete to offer attractive regulatory regimes, so state regulators compete for insurers to select them as their domicile in these insurance

[1]The territoriality of SEZs is largely a means of limiting the benefits of the SEZ regime to those within it, allowing SEZ hosts to effectively engage in regulatory price discrimination in their broader markets. This can be seen in the development of the Cayman Islands' Enterprise City SEZ, which is today based in a physical location but which when formed merely required location in one of four designated, non-contiguous office buildings on Grand Cayman (Cayman Compass, 2012). There was nothing special about these buildings other than their designation by the government as allowable locations. This enabled the SEZ to launch before its permanent site was created.

markets. By making it possible for insurers and insurance buyers who opt into their preferred regulatory regimes in these areas to operate nationally, these laws provide the equivalent of an SEZ. Non-territorial SEZs expand the law market, creating additional opportunities for jurisdictional competition.

Surplus lines insurance, risk purchasing groups (PGs), and risk retention groups (RRGs) all enable buyers of particular types of insurance to purchase insurance from entities not regulated by the insured's home state. As a result, competition occurs between state insurance departments to gain the business of the entities that provide insurance (surplus line insurers and RRGs) or purchasing services (PGs). These measures thus create a "law market" in insurance regulation (O'Hara & Ribstein, 2009) for the parts of the insurance market to which these apply (coverage not available from an insurer admitted in a state for surplus lines and liability insurance for PGs and RRGs).

As detailed below, in those three insurance markets, the U.S. federal government intervened to create or improve the law market through legislation forcing state regulators to accept various degrees of competition. Congress did not use these opportunities to substitute federal regulation for state regulation. Instead, Congress opted to preempt particular state regulatory actions (RRGs, PGs) or reduce transaction costs for the inter-state law market (surplus lines) to enable regulatory competition among state insurance regulators.

In this article, I argue that although the laws created by Congress to expand access to insurance through the requirement that states allow entities licensed by other states to provide specific forms of insurance were not explicitly framed as creating an SEZ, they do in fact create a non-territorial SEZ. Thus there is a de facto SEZ for these insurance markets, defined by subject matter rather than geographical boundaries. This, in turn, suggests an alternative pathway to geographical SEZs, one which can expand competition among legal systems. What I call here "non-territorial SEZs" offer a way to bring greater competition to federalist polities in particular, expanding the zone of competition beyond "voting with one's feet" across jurisdictional boundaries (see Tiebout, 1956). They also offer a pathway for jurisdictions engaged in cooperation in regulating particular economic spaces, since such arrangements can cross national boundaries, as well as ones internal to particular federalist polities.[2]

To put these into context, I begin by describing the use of a 'fronting' insurer to access non-admitted insurers in the overall U.S. state-based regulatory environment for insurance. Fronting serves as a baseline level of regulatory competition. I then explore how insurance can be procured outside any single state's confines through the three SEZ-like measures mentioned above and how they are created. I next discuss how these regulatory regimes have features which create non-territorial special jurisdictions.

Finally, I conclude by discussing how this approach can be used in other areas to expand competition

[2] For the purposes of this article, jurisdiction should be understood as referring to U.S. states as well as both independent and non-independent territories with law-making power over the relevant subject area (e.g, British Overseas Territories such as Bermuda).

within the law market.

2. THE U.S. LAW MARKET IN INSURANCE

The market for insurance in the United States is highly regulated. Indeed, insurance is globally one of the most heavily regulated industries (Krutov, 2010). For historical reasons, in the United States this regulatory activity occurs primarily at the state rather than at the federal level. This makes it, as one expert put it, "a feudal regulatory system with each state acting as its own fiefdom" (Diemel, 2016a, 7). The reliance on state regulation of insurance "is peculiar given the interstate operations of many insurers" (Grace & Klein, 2000:79). Regardless of the historical origins of their near-complete jurisdiction, state insurance regulators tenaciously defend their regulatory turf against federal encroachment. States' resistance to expansion of the federal role is one of the key factors in permitting the law market to emerge through these non-territorial SEZs.

2.1. The Legal & Regulatory Environment for Insurance

Traditional U.S. state insurance regulation is dominated by concerns over the solvency of insurers (who, after all, accept money today in exchange for a promise to pay later, should the insured against event occur) and protection of consumers against exploitation by insurers with respect to both price and coverage. For purposes of this Article, the key features of state insurance regulation are:

> (1) Unless specifically permitted by law, insurers wishing to sell insurance covering a risk must be licensed by the state where the insured is resident (be an "admitted" insurer).
> (2) Regulation of admitted insurers primarily focuses on:
>
> > a. insurer solvency, via required minimum capital and surplus requirements;
> > b. participation in the insurance industry, via evaluating insurers' officers and directors to ensure they are fit and proper people to be engaged in the insurance business;
> > c. the substance of insurance policies, by requiring insurers to file proposed policies and receive approval for their use; and
> > d. rates, by requiring insurers to file proposed rates in advance and receive approval.

These regulations are justified primarily on the basis of information asymmetries: insureds have limited ability to judge whether an insurer will likely be in a position to make good on its commitments when a future claim is made (solvency, keeping fraudsters out of insurance companies), knowing whether they are being charged a fair price (rate regulation), or understanding complex policies filled with technical and legal jargon (policy form regulation) (van den Berghe, 1990; Grace & Klein, 2000; Butler & Ribstein, 2008:09). In addition, regulators often seek to alter market outcomes in pursuit of distributional goals (e.g., via cross-subsidization). Although there has been some deregulation of insurance in most U.S. states over the past few decades, in particular a reduction in reliance on price regulation, state insurance regulators continue to control product offerings, company finances, and market behavior to a considerable degree.

State regulatory dominance in the U.S. market can be traced to the U.S. Supreme Court's 1868 decision in Paul v. Virginia, 75 U.S. 168, that insurance was not "commerce" and so not subject to regulation under the federal government's power to regulate interstate commerce. By the time the U.S. Supreme Court reversed itself on federal authority in a 1944 decision, United States v. South-Eastern Underwriters Association, 322 U.S. 533, state regulators were both firmly entrenched and well organized (They formed their first national association in 1871 and have been organized continuously since.) As a result of this organization, states reacted quickly to South-Eastern Underwriters by pressuring Congress to pass the McCarran-Ferguson Act in 1945, mostly closing the door to federal involvement that South-Eastern Underwriters had opened. States also began to undertake more aggressive regulation of insurers, both in response to specific incentives to do so in McCarran-Ferguson and to help forestall future federal efforts at regulation (Harrington, 2000).

States' desires to preserve their primary role in insurance regulation are powerful motivators for state regulatory activity. Despite periodic efforts to create a "federal option" for insurance regulation such as the choice available to banks between federal and state charters, states have successfully blocked any full-scale federal intrusions into their regulatory turf. (Butler and Ribstein catalog the reasons why a federal option is insufficient to induce genuine regulatory competition. (Butler & RIbstein, 2008-09, 38).) Although Congress has not (yet) supplanted the state role or offer full-fledged competition, it periodically threatens federal regulation as a means of pressuring state regulators to alter particular regulatory practices. For example, after a rash of insurer insolvencies in the 1980s "generated concern about the quality of state solvency regulation," states rushed to increase their regulation of insurers' solvency and the state regulators' trade group, the National Association of Insurance Commissioners (NAIC), quickly developed risk-based capital requirements and a program of accreditation for state regulators. These measures were sufficient to relieve the pressure from Congress and, thus far, end the threat of federal regulation (Harrington, 2000:31, 35).

The state-based regulatory system imposes considerable transaction costs on insurers. An insurer seeking to sell a product nationally needs to obtain licenses and policy language and rate approvals from all fifty states and the District of Columbia. As insurance lawyer and long-time RRG advocate John Harkavy put it, "[m]Iulti-state regulation of insurance has not advanced in many ways beyond when

America was governed by the Articles of Confederation after the [American] revolution" because the states make it hard to buy insurance from out of state by regulating brokers and insurance companies (Harkavy, 2013). In general, alternative insurance products that do not fit into the standard regulatory model are opposed by most state insurance regulators. One attorney specializing in alternative insurance described this as treating "anything they can't get their hands around as 'bad'" so that "[i]f an insurance company wants to operate on a non-admitted or surplus lines basis, reasons the regulator, surely they must be up to something and that something is probably no good" (Kravetz, 1996, 7).

Indeed, one of the certainties of insurance regulation is the intensity with which many state regulators guard their authority by restricting potential insurance customers in their jurisdiction from purchasing insurance from non-admitted (unlicensed in the jurisdiction) carriers. For example, regulators oppose non-admitted carriers from having any contacts with potential insureds. Thus, if an insurer admitted in State A but not in State B contacted a potential client in State B, responded to an inquiry from an individual or business in State B, made a phone call to a prospective insured in State B, or mailed an invoice or policy to an insured in State B, State B's insurance regulator would consider the insurer to be conducting unauthorized insurance business in State B. Of course, the prospective client in State B could physically leave State B and have all its contacts with the State A insurer from locations outside State B, but the transactions costs of doing this would be immense (Pomerantz, n.d.). In addition, most states tax such 'direct procurement' of insurance from non-admitted carriers at much higher levels than they tax premiums paid to admitted insurers, reducing the ability of non-admitted carriers to compete on price. Some states provide an "industrial insured" exemption from many of their insurance regulations, allowing commercial brokers to buy insurance for more sophisticated clients who meet minimum size and premium requirements without requiring as much traveling out of the state to transact business. These exceptions are expensive and limited.

Economist Scott Harrington argues that this costly system of state regulation has persisted despite the considerable transaction costs it imposes for two main reasons. First, insurance markets, in conjunction with state oversight, often perform reasonably, if not remarkably, well. Many states have economically sensible regulatory systems that focus attention on areas where the government can help achieve an orderly market, as opposed to taking actions that substantially undermine efficiency and redistribute wealth. The second cause is related. Although there have been exceptions earlier in this century, especially for life insurers, the insurance industry has traditionally supported state regulation (Harrington 2000: 37).

Harrington's assessment suggests that states primarily benefit from generating income from insurance regulation (as well as jobs for regulators) and enabling state politicians to extract rents from insurers, but do so without being too greedy in rent extraction. Insurers accept the costs of the balkanized market because they benefit from the barriers to entry it creates, blocking potential new entrants. As J.R. Hicks noted in 1935, "[t]he best of all monopoly profits is the quiet life" (Hicks, 1935, 8); raising the cost of entry by requiring multiple licenses to reach a market of sufficient size is an effective way to procure quite a bit of quiet.

Moreover, insurance issues rarely reach high degrees of political salience. While we occasionally hear of political disputes over insurance regulations – particularly involving aggressive regulatory efforts in California (Jaffee and Russell, 2002) – for the most part, insurance regulation is not front-page news. The first part of Harrington's conclusion, that state regulation works "reasonably" well, thus seems to be true for many purchasers of insurance (e.g. home owners, car owners, etc.). Where it does not function reasonably well is with respect to new types of coverage (e.g. cyber risks, cannabis businesses) and niche groups (e.g., oral surgeons), particularly during the periodic "hard" markets when various lines of insurance coverage become more expensive and/or less available. As we will see below, these are the areas where the non-territorial SEZs have been created.

One important means by which state regulators have fended off federal regulation is that their national trade association, the NAIC, has successfully worked to harmonize state statutes and regulations in many areas (Patrikis, 2000). The NAIC also works closely with federal regulatory agencies to address their concerns (Chesson, 2000), reducing pressure for federal intervention. This has attenuated the benefits of regulatory competition; as Butler and Ribstein note, "The states have had 60 years since McCarran-Ferguson to evolve toward jurisdictional competition and have instead embraced a state cartel under the NAIC" (Butler & Ribstein, 2008-09, 39). Importantly, there is no existing federal regulator in place seeking to expand its turf, as there is in banking (Wallison, 2000). The Dodd-Frank Wall Street Reform and Consumer Protection Act created the Federal Insurance Office in 2010, but, so far, this office has been limited to a coordinating and information provision role. Of course, a variety of federal regulations touch on various aspects of insurance (e.g., the Employee Retirement Income Security Act has a large impact on the insurance components of employee benefits programs and preempts state law in that area), and so federal law is more relevant in particular areas, but even these intrusions are exceptions to the broad principle of state regulation.

The fundamental problem that state insurance regulation poses for U.S. insurance buyers is that it limits buyers to a restricted set of insurance sellers (only those licensed to do business in the state where the buyer is located), offering a restricted set of insurance products (only those authorized by the relevant state regulator), at a price sometimes subject to regulatory constraints. Further, the insurers with whom buyers can transact and whose products buyers can purchase will be only those which are willing to bear the fixed costs imposed by each state's regulators of selling in the buyers' jurisdiction. This disproportionately limits choices for those seeking innovative, niche, and new products, because insurers are more likely to be willing to incur the fixed costs of regulation for mass products than for ones for which the market is uncertain or limited. More generally, as Henry Butler and Larry Ribstein noted, "the current state-based regulatory system does not capture the benefits of jurisdictional competition that are found in other areas of the law, notably corporate law" (Butler & Ribstein 2008:09, 36)–(Butler and Ribstein do not discuss any of the areas of insurance analyzed here, focusing on a broader view of general licensing.)

Because these are the insureds more likely to be sophisticated buyers than the average buyer of insurance, they are also the group that receives fewer benefits from state regulation of insurers' forms, rates, and solvency, as these buyers are unlikely to need regulators' help in understanding policies, bargaining for coverage, or avoiding being hoodwinked by charlatans. Sophisticated buyers are also more likely to have problems that require tailor-made solutions. And they are more likely to be capable of monitoring insurer solvency without regulators' help. Thus the costs of state regulation for these insureds are higher and the benefits lower than for retail customers.

Two federal statutes have created three non-territorial SEZs for different parts of the insurance market. In 1981, reacting in part to an insurance crisis provoked by the vast expansion of tort liability in the 1960s and 1970s by many American state courts and in part to an exceptionally hard insurance market, the U.S. Congress passed the Product Liability Risk Retention Act (PLRRA). It created "risk purchasing groups" (PGs) and "risk retention groups" (RRGs). The initial proposal came from the Federal Interagency Task Force on Product Liability, which focused on measures to expand competition in the insurance market by facilitating means of self-insurance. One of those involved in developing the proposal stated that a key breakthrough in getting it through Congress was the suggestion from Senator Howard Cannon's office that the law be made self-enforcing, with no role for the federal government. An early version's role for the Department of Commerce was dropped and the statute passed with support from a coalition that included manufacturing and business groups. (Schwartz, 1997: 5). In a sign of the amount of pressure on Congress to increase the supply of products liability insurance, the PLRRA partially opened U.S. liability insurance markets to insurers domiciled in Bermuda and the Cayman Islands.

Congress amended the PLRRA in 1986 despite opposition of most state insurance regulators, expanding it beyond product liability, with the Liability Risk Retention Act (LRRA) (on an astonishing 96-1 vote in the Senate and a unanimous voice vote in the House), primarily expanding its reach but also tweaking it in a few ways to make it more acceptable to state regulators (e.g., dropping the eligibility of Bermudan and Caymanian domiciled insurers). The expansion of the PLRRA by the LRRA can be at least partially attributed to the "elimination of capacity as well as severe price increases" in 1984, a combination which meant that "[t]he traditional insurance marketplace had virtually pushed [traditional insurers'] clients into finding alternative ways to finance their risk." (Sterling, 1992: 8). Under the LRRA, insurance companies can be formed by groups of insureds, obtain a license to operate from any state willing to grant the company one (the "domicile"), and then offer liability insurance to their owners in any of the fifty states (plus the District of Columbia) without being subject to regulation by the non-domiciliary jurisdictions. These risk retention groups (RRGs) thus avoid the considerable transaction costs of complying with multiple states' regulations. In addition, insurance customers may form purchasing groups (PGs) to collectively negotiate for and purchase insurance, including from non-admitted carriers. The LRRA provided more limited preemption of state regulatory measures with respect to PGs than it did for RRGs.

The second major federal intervention that focused on expanding the insurance market was the Non-admitted and Reinsurance Reform Act (NRRA), passed in 2010 as part of Dodd-Frank, after nearly a decade of unsuccessful efforts to pass it as a standalone measure. The NRRA streamlined the surplus lines process (the name for the means by which states allowed non-admitted insurers to write a type of coverage if no admitted carrier does so) and made the criteria for providing such coverage more uniform, thus expanding the number of insurers able to provide insurance in it and easing the transaction costs of doing so.

These two statutes provide models for how federal preemption can create a dynamic typical of what I refer to here as non-territorial SEZs, as they incentivize more entrepreneurial state regulators to compete for business. By establishing a regulatory regime that facilitates RRGs and PGs, states can attract business (earning the registration fees and promoting the growth of law, accounting, insurance, and other service firms in their jurisdiction). As a Vermont regulator noted, Vermont's captive insurance industry (which includes RRGs) brings the state more revenue than the state lottery and, while it is a small business, "it's a very big business for Vermont" (Gjertsen, 2017: 7). By facilitating access to surplus lines coverage, states can promote economic activity that requires innovative or new forms of risk transfer through insurance. The key is that both statutes restrict state-level protectionist measures without adding a new federal layer of regulation or substituting federal regulation for state regulation. This was possible in insurance regulation in part because of the strength of the state insurance regulators enabled them to resist federalization, deterring Congress from grabbing control of insurance regulation from the states.

The U.S. insurance market would thus appear ripe for disruption through regulatory competition if the problem of how to substitute an alternative regulator for an obstructionist state's regulator could be solved. It is a heavily regulated market in which expensive-to-comply-with consumer protection regulation such as form and rate regulation is applied even to insurance bought by sophisticated commercial parties. The market is fragmented among fifty-one regulators, who jealously guard their regulatory turf. Unfortunately, a traditional SEZ cannot enable such disruption because state regulators remain able to prevent entry into their protected markets. To get the benefits of regulatory competition, something other than a territorial SEZ is thus needed.

2.2. Fronting

One simple means of expanding the choice set available to insurance buyers in a state–something traditional SEZs do–is for an insurer not licensed by the relevant state (referred to as either 'foreign' (an insurer licensed by another U.S. jurisdiction) or 'alien' (an insurer not licensed by any U.S. jurisdiction)) to act as a reinsurer for an insurer licensed in the relevant state. Reinsurers are important players in insurance generally, serving to spread risks beyond what any single insurer wishes to bear, and deploying substantial capital to support insurance policies. Reinsurance itself is inherently international as risk-spreading within even a large market like the United States is inferior to doing so on an international scale (Neave 1980). If authorized insurers can simply reinsure risks to an insurance company not licensed in the jurisdiction, there is considerable potential for expanding the choice set for the jurisdiction's insureds by creating or locating reinsurers in other jurisdictions. This is known as "fronting" and is often used to enable captive insurance companies (insurers owned by their insureds) to cover their owners' risks without securing multiple state licenses.

Fronting saves the non-admitted insurer the cost of obtaining a state license in the insured's state but does not necessarily avoid the other transaction costs imposed by state regulation. The fronting insurer must still comply with the rate and form filing requirements of the relevant state(s), be licensed, and bear some residual risk (if the non-admitted reinsurer fails to deliver on its promise to pay). Of course, fronting insurers want to be paid for their services and the risks they assume, adding to the cost of the transaction. However, particularly in the captive context, state regulators "offer some regulatory relief to these companies based on the presumption that owners of captive companies have sophisticated knowledge about managing their risks and would protect their own interests" (GAO 2011: 7). And the state allowing the fronting still has the fronting insurer on the regulatory hook for any problems that might occur, giving the regulator some security that its regulatory objectives will be achieved. Importantly, the fronting insurer will be unlikely to risk its license to permit a dubious captive reinsurer to make use of it, providing market pressure for avoiding inadequately capitalized reinsurers.

Although state regulators acquiesce in some fronting (which they can monitor as the regulated fronting insurer must disclose to the regulator its reinsurance arrangement with the non-admitted carrier), regulators impose limits on the circumstances under which fronting can occur. For example, the NAIC's Fronting Disclosure and Regulation Model Act (1993) provides that when fronting occurs the licensed insurer must make disclosures to the regulator of the identity of the reinsurer and the identity of any third party to whom underwriting or claims settlement procedures have been delegated. These requirements apply where the ceding insurer is delegating underwriting or claims settlement authority to an unlicensed (by the state where the ceding insurer is writing the coverage) reinsurer in a reinsurance transaction that exceeds 5% of the ceding insurer's surplus or where the gross annual premium for business covered exceeds 15% of the ceding insurer's surplus (NAIC, 1999, III-5). Prior approval of the transaction by the ceding insurer's state regulator is required when the transaction exceeds those thresholds and where at least 15% of the risks subject to the reinsurance are in that state (NAIC, 1999, III-5 to III-6). State regulators thus have several tools to control the degree of fronting that occurs in their jurisdiction.

Fronting serves as a partial escape valve for pressure by insureds on state regulators to expand insureds' choice set of potential sellers of insurance and reduces the cost to a subset of insureds of state regulations that limit the opportunity to purchase insurance from non-admitted insurers. However, because the transaction costs of establishing and operating a captive insurance company in another domicile to reinsure the insured's risks via a fronting carrier are substantial, this is primarily an option for large organizations. (In general, captive solutions become cost-effective when annual premiums reach the $1-2 million level, as establishing and maintaining a captive requires substantial fixed costs.) It also is potentially costly to scale across multiple states, because a front and approval for the reinsurance must be obtained in each.

Large organizations are more likely to be able to effectively lobby state legislatures for regulatory relief. As a result, regulators are more likely to permit an exit option where state regulation limits their choices in a costly way. Loosening constraints on politically powerful interests helps state regulators avoid pressure to deregulate more generally. The use of fronting is thus more a form we might refer to as "regulatory price discrimination" than a generalizable solution like an SEZ. Nonetheless, fronting points to an important element shared with territorial SEZs around the world: fronting creates a means by which an insured can bypass at least some of the transaction costs imposed by the insured's state insurance regulator and choose an alternative regulator (the captive's domicile) without forcing the insured to physically move to another state. Further, it does so by substituting another entity (the fronting carrier) for the ultimate insurer for a number of regulatory purposes, relieving the ultimate insurer of regulatory burdens while giving the regulator a proxy motivated to ensure there are no problems that would put its own license at risk. This is why I have referred to this as a non-territorial SEZ solution. That said, given the cost and complexity of establishing a captive and organizing a transaction with a fronting carrier, this escape valve still involves significant fixed costs, particularly if deployed across multiple states, each requiring a front. Demand thus remains for other means of accessing non-admitted insurers.

2.3. Surplus-Lines Insurers

Where a particular type of insurance is unavailable within a state (e.g. coverage for satellites), U.S. state regulators often permit resort to "surplus-lines" insurers. Insurance for high value art, hazardous materials handling, and floods are common types provided via surplus lines insurers. Other examples include unusual coverages such as for food trucks, high-rise window washing, or raising unusually dangerous animals. These are insurers licensed by a state other than the state where the insured or insured activities are but not by that state and that meet some additional criteria (GAO 2014)–Surplus lines insurers can be either foreign or alien insurers. Buying surplus-lines insurance– 'exporting' the risk from the insured's state in insurance terminology– generally involves buying policies which "differ from standard market products in terms and conditions, pricing, claims handling, risk control services, and risk management support provided by intermediaries" (AICPCU 2017, 1.9). Because they do not need regulatory approvals for the terms and prices of the coverage they provide, surplus-lines insurers have more flexibility in designing coverage than do insurers subject to rate and/or form regulation. "This flexibility to tailor the coverage provided and the price at which they provide it enables non-admitted insurers to manage unique or large risks" (GAO, 2014: 8).

To qualify for the surplus lines exception to the general rule that insurance may be purchased only from admitted insurers, buyers must generally:

- purchase the insurance using a broker licensed to handle surplus lines by the state in which the buyer operates or resides;
- conduct a "diligent search" for coverage from an admitted carrier prior to resorting to a surplus-lines carrier;
- deal only with surplus-lines carriers that meet minimum surplus and capital requirements;
- receive a policy containing a notice stating that the surplus-lines carrier is non-admitted and that the policy is not covered by the state's guaranty fund; and
- pay a tax (collected by the broker and generally higher than the tax on premiums paid to admitted insurers) on the premiums.

These conditions ensure that the surplus-lines market does not swallow the admitted market by restricting surplus-lines purchases to policies that fill gaps in the admitted market, give the regulator a regulated entity (the broker) to punish if things go awry, and require a basic level of solvency.

One important benefit of surplus-lines coverage is that it provides insurance products for needs which the admitted carrier market is not meeting. This often involves new lines of coverage, high-capacity policies, and distressed or unique risks. Surplus-lines carriers–just twenty-five provide more than two-thirds of the market (GAO, 2014: 15)–focus their efforts on "loss exposure analysis to ensure that new products meet the needs of targeted customers" (AICPCU, 2017: 4-6).

Surplus-lines carriers can meet these needs in part because they avoid the policy form filing and rate regulation of admitted carriers. For the types of risks handled by surplus-lines carriers, "[t]he time and expense required to make the filing needed to properly handle such risks are seldom, if ever, justified by the resulting premiums. … Freedom from form and rate regulation reduces the time and expense required to bring new insurance products to the market" (AICPCU, 2017: 1.7-1.8). An additional benefit is that as insurers' experience with some of these risk categories grows, coverage often migrates from the surplus lines market to the admitted carrier market.

While all states now permit surplus-lines coverage, this was not always the case. When New York became the first to authorize such coverage 1890, the National Convention of Insurance Commissioners (NCIC), the forerunner of the NAIC, reacted by forming an Unauthorized Insurance Committee to examine the issue. The committee began decades of resistance to surplus-lines markets, seeking a complete ban in 1928 (although it did not persuade the larger group to endorse this position). Over time, more state regulators began to see value in being able to fill gaps in coverage and adopted a strategy of regulating the market rather than attempting to shut it down. In the 1930s, California started a trend toward providing state-sanctioned lists of the insurers eligible to write surplus-lines coverage. Nonetheless, the Unauthorized Insurance Committee continued its campaign against surplus-lines markets until finally giving in and developing a model act to regulate the market in 1948.

State regulation converged to focus on the role of the surplus-lines broker, who was required to be licensed and upon whom the state placed the burden of conducting the diligent search, maintaining records, and, crucially, calculating and collecting the surplus lines excise tax for the relevant states. The regulator's association's evolution to a less hostile position continued when the organization created the Nonadmitted Insurers Information Office (now the International Insurers Department (IID)), partly in response to pressure from a U.S. Senate Antitrust and Monopoly Subcommittee investigation into the effectiveness of state regulation of insurance in the early 1960s (AICPCU, 2017: 2.18). The Office/Department examined alien insurers' financial condition, officers' and directors' biographies, and insurers' audited financial statements and kept a list of those which met its standards. This list became a de facto general eligibility list for alien insurers writing surplus-lines coverage.

Use of surplus-lines insurance expanded considerably after the passage of the Gramm-Leach-Bliley Act in 1999. It pressured states to provide nonresident licensing of surplus lines brokers by authorizing creation of a federal licensing alternative if a majority of states did not enact legislation providing for uniformity or reciprocity in licensing insurance agents and brokers. States quickly passed the legislation necessary to prevent the federal alternative from going into effect. While only a "handful" of states offered nonresident licenses prior to Gramm-Leach-Bliley, afterwards there was widespread adoption of the NAIC's reciprocal licensing model. This expanded the pool of surplus-lines brokers able to operate in many states (AICPCU, 2017: 2.19; CRS 2015).

Nonetheless, the transaction costs of using surplus-lines insurance remained relatively high, because state taxation of surplus-lines premiums varied widely across the states as did regulations of the market, which even the NAIC educational materials conceded were "a hodgepodge of inconsistent and conflicting state rules and regulations" (AICPCU, 2017: 2.21). The NRRA reduced the transaction costs of surplus-lines purchases by:

- allowing only one state to tax the premiums;
- clarifying which state was the "home state" with authority to regulate and tax a surplus lines transaction by establishing a standard definition which was subsequently adopted by most states;
- creating a nationwide eligibility standard, based on NAIC model act language that allowed insurers to write surplus-lines coverage when they were licensed to write such coverage in their domiciliary jurisdiction so long as they met a capitalization requirement of the greater of $15 million or the minimum set by the state regulating the transaction, which effectively allows states to set their own minimum, so long as it exceeds $15 million; and

- effectively making the IID's "Quarterly Listing of Alien Insurers" a universal eligibility list for insurers by barring states from prohibiting placing coverage with an alien insurer which was on the IID list. (It remains an open question whether there are effective alternatives to the IID list.)

Although the NRRA did not accomplish the broader congressional goal of persuading states to create multistate compacts to divide the tax revenue from surplus lines premium taxes (the bigger "home states" generally opted to simply keep all of the revenue rather than agree to share it (GAO, 2014; Crawford 2015), it has lowered the cost of engaging in a surplus-lines transaction. Several alien insurers have entered the U.S. surplus-lines market, with the largest number domiciled in the United Kingdom and Bermuda; Lloyd's is largest source of surplus-lines coverage (GAO, 2014: 9).

After the NRRA's passage, the surplus-lines market became a something that we could say looks like a non-territorial SEZ. The market enables entry by insurers regulated by a variety of jurisdictions, including two non-U.S. jurisdictions with vibrant insurance industries and quite different regulatory strategies than American states, as well as from other U.S. states. The combination of the federal statutory provisions and the state statutes, prompted by both market and federal pressure, cabins state regulators into a narrow focus on solvency and information that restrains some of their more protectionist impulses. As a result, the choice set for insureds is expanded in those areas where the admitted market does not offer coverage. The key characteristics of the market are the transaction-cost reducing features of the NRRA combined with the reduction in state regulatory barriers to sale of surplus-lines coverage induced by Congress' threat of federal regulation. The shift in state regulatory focus to surplus-lines brokers and solvency allows states to pursue limited regulatory concerns without enabling the development of additional protectionist regulation. Thus, being listed on the IID list functions as the equivalent of being located in an SEZ, I argue, even though the limits on surplus-lines markets remain substantial. There must be no admitted carrier willing to write the coverage and the transactions costs of obtaining the required declinations and use of a licensed broker remain (albeit reduced by the NRRA's forced expansion of non-resident licenses for surplus-lines brokers). Nonetheless, post-NRRA, the surplus-lines market constitutes a type of non-territorial SEZ, even if it was not formally designed as such, albeit one with a restricted scope.

2.4. Risk Purchasing Groups

A risk purchasing group (PG) is "in its simplest form, … a group of insurance buyers, banding together for the collective purchase of insurance" (Harkavy, 2019). Members must share a commonality of purpose and risk. PGs do bear risk themselves but rely on third-party insurers for the insurance. To reduce transaction costs, some states allow PGs to develop "master policies" under which individual group members can receive certificates of insurance coverage, preventing fixed costs from being incurred for each policy (e.g., documenting declinations for surplus lines coverage).

Numerous state laws forbid or raise the transaction costs of forming such a group, including so-called "fictious name" statutes–a "barrier that has existed for generations" (Cummings,1995: 10)–that bar the formation of groups solely for the purpose of buying insurance and countersignature requirements and require obtaining a locally licensed broker's signature on any policy the group negotiates. Added to the PLRRA as "no more than an afterthought" (Russell, 1993: 4), federally authorized PGs developed into an important means of accessing the insurance market for many insureds.

PGs are usually, but need not be, a separately incorporated entity. A PG is domiciled in a single state and so subject to that state's regulation with respect to its formation and operations. In addition, non-domiciliary states may regulate PGs in some respects (in more ways than they can regulate RRGs, as discussed below). For example, the set of insurers eligible to sell liability insurance to a PG can be limited to admitted insurers, those surplus-lines insurers acceptable to the state, or RRGs registered in the state where the PG is operating. (State rules on which surplus lines insurers are eligible vary.) They can negotiate only for commercial liability insurance which provides coverage of risks that are common to their members. PGs are comparatively easy to create and operate, as they need not raise capital. Some are created by insurance companies on behalf of their customers; others are created by entrepreneurial brokers; others by trade associations. This development of "entrepreneurial" PGs was not anticipated by the LRRA's drafters (Kravetz, 1990).

One of the first PGs to form was the Pathologists' Liability Insurance Purchasing Group, which came into existence in response to the late 1986 withdrawal from the medical malpractice coverage of a traditional, regulated insurer (CIGNA subsidiary Pacific Employers). This left 1,700 pathologists who had purchased their insurance through a College of American Pathologists program with that insurer without coverage for the coming year. "Because time was of the essence to the physicians in obtaining liability insurance, the decision was made to form a purchasing group and not a risk retention group. Purchasing groups can be formed quickly, requiring nothing more than a resolution of the board of directors of an existing association" (Cutts, 1987d: 6). As the new insurer, Doctor's Company, was admitted only in six states, "it would have been virtually impossible to have written a nationwide program prior to the passage of the 1986 Act" (id.). The PG enabled the pathologists to get coverage that was otherwise unavailable and to do so quickly.

A 1990 survey of PGs by the Risk Retention Reporter found the primary benefits of PGs included the ability to:

- Design a rating structure based on the risks presented by the group members;
- Assemble insureds nationwide, rather than in a single state, to create the critical mass needed to make the group attractive to a carrier;

- Keep data on purchasing group losses, allowing the group to prove its members are a good risk to the existing carrier or to a future one;
- Use a policy form, tailored to the needs of the group (which would not be permitted by most states outside of the purchasing group context);
- Expand a regional program into a national one;
- Use volume buying to make coverage more affordable and available; and
- Ease regulatory restraints, particularly counter-signature requirements, rate approval and policy form (Cutts 1990b: 3-4).

As noted above, PGs were created by the PLRRA and modified by the LRRA, which tightened the definition of a PG from the "very loose" one provided by the PLRRA (MRRA Drafting Note, sec. 2(J). The LRRA specifically bars states from prohibiting the establishment of purchasing groups, prohibiting insurers from dealing with purchasing groups, requiring minimum periods before a PG can purchase insurance, requiring a minimum number of members, requiring that a minimum percentage of the PG buy insurance through the group, or otherwise discriminating against a PG. It also bars requiring the countersignature on a policy by an agent or broker licensed by the operating state. This is a significant cost reduction, since non-resident agents typically pay 5% of their commission to obtain a counter-signature from a resident agent (Cutts, 1999:5). It also represents an expansion on the surplus lines option, because the federal statute preempts state requirements that only resident agents be used for surplus lines coverage; by using a PG, purchasers can use non-resident brokers as well. Although some states–California, Georgia, Nevada–resisted this, most states changed their laws to allow non-residents to become licensed surplus-lines agents.

States can apply any of their non-preempted insurance regulations to PGs. For example, non-chartering states can require the filing of information on directors, officers, or managers of the PG if they also require other entities that purchase insurance on a group basis to do so. (Moving to non-discrimination is itself significant, even if the ability to impose broad controls on who forms entities that purchase insurance remains.) State authority remains over a PG's insurers, agents, and brokers (NAIC, 1999). States can apply cancellation and nonrenewal requirements to policies bought by PG members within those states and the federal Eighth Circuit Court of Appeals held that state laws applicable to surplus-lines insurance can be applied to PGs. Swanco Insurance Company v. Hager, 879 F.2d 353 (8th Cir. 1989). In addition, a Kentucky federal district court upheld a state regulation requiring PGs to buy insurance from an authorized carrier against a PG's argument the regulation was preempted by the LRRA. The court found the financial responsibility provision to be the sort of state regulation that Congress did not intend to preempt. Garage Services and Equipment Dealers Liability Association of America, Inc. v. Holmes, 867 F.Supp. 1301 (E.D. Ky. 1994). Because of the narrow scope of federal preemption, there is considerable variation in how states regulate PGs. For example, states retained the ability to impose financial standards on the non-admitted insurers with which PGs did business, but could not impose constraints on brokers to restrict access to the non-admitted market. A PG accessing the surplus-lines market could get more direct access to it. These measures could reduce premiums by up to 15% (Russell 1993).

From the beginning, PGs faced considerable hostility from some states and from the NAIC. In the first year after the LRRA's passage, PGs filed at least five lawsuits against state regulators over their efforts to control them (Cutts, 1987g: 1). As an example of state regulatory hostility, Florida demanded fingerprints on FBI fingerprint cards together with biographical statements and affidavits from PG officers and directors. State opposition ran deep: Iowa's regulator argued in a 1989 interview that "We have seen formations of purchasing groups which were outright facades designed to do nothing more than make an end run around the law. We can not justify this in the name of competition. The facts are simple: Insurance business is vested in the public interest and requires oversight. That is what the laws are for. If you remove laws, you increase the risk to the public" (Cutts, 1989c, 9). Similarly, the Deputy Superintendent of New York's Insurance Department wrote in 1990 that if only domiciliary states could regulate PGs, "purchasing groups and their insurers would gravitate to the most congenial jurisdictions – with the smallest regulatory resources, the biggest economic development appetite, and the least will to regulate" (Hsia, 1990, 3). State regulators have also argued that insurers were withdrawing liability policies to shift to providing such coverage through PGs to escape state regulation, although the NAIC provided only anecdotal support for this claim (Gates, 1989, 2).

The LRRA's lack of restrictions on PGs while preempting some state regulations was a sore point for state regulators. In a 1989 letter to the U.S. Department of Commerce, the NAIC particularly objected to the lack of a required "identifiable legal structure" or assets for PGs, arguing that this complicated efforts to enforce non-domiciliary state regulations against them (Gates 1989, 3). It also claimed that PGs used insurers who did not meet the financial requirements to write insurance in the traditional market (Gates 1989, 2). Finally, the NAIC was annoyed that entrepreneurial insurers and brokers were helping form PGs, objecting to "aggressive marketing" and alleging this was causing "nonexistent to dangerously liberal" underwriting (Gates, 1989, 5; Cutts, 1990a).

These complaints were unsuccessful in obtaining the imposition of federal limits on PG activities or the restoration of preempted state regulatory authority. As a result, despite the hostility, there was what one insurance executive described as an "explosion" of PGs being formed in the late 1980s and early 1990s (Sterling, 1992, 8). In the first year after the LRRA, at least 134 PGs were formed and, despite considerable market churn in the following year, there were over 400 PGs in existence at the end of the third year (Kravetz 1990, 4). In the first seven years of the LRRA, 939 PGs formed and 508 retired (Cutts, 1994).

PGs mostly appeared in large markets, where there are many potential members, and during soft markets, when competition to provide coverage is increased. The leading domiciles in the early 1990s

(Illinois, California, and Texas had just over half the PGs (Cutts, 1992b, 3)) were not that different from the leading domiciles in 2009 (Illinois, Delaware, Texas, California, and New York; Cutts 2009b). Only one of the 2009 market leaders–Delaware–was primarily a domicile that sought to develop the business. Both Illinois and Delaware attributed their success in growing their PG population "to creating an inviting and responsive regulatory environment that makes it easy for PGs to register in their state" (Cutts, 2014). Discerning welcoming jurisdictions is not hard, and, as one attorney put it, "[t]o deal with a very competent department that is very efficient and very fair is a big advantage" (Cutts, 2014).

Domiciles lacked the same regulatory power that they would have over a traditional insurance company (or an RRG) but nonetheless remained, as the Risk Retention Reporter put it, an "important link in the regulatory chain" as they can deregister a PG when the domiciliary regulator sees a problem arising. (Cutts, 1992c, 3). Indeed, some of regulators' complaints about PGs were more about which regulator had authority than a lack of regulation, as the domicile had the power to seek a nationwide shutdown of a PG by deregistering it, not merely to stop its activities within its own borders.

The market pressures unleashed by PGs did more than constrain regulators; they also improved the performance of the PG's members. For example, when a group of structural engineers formed a purchasing group, they required the members to undergo a "Technical Practice Review" by a structural engineer hired by the PG to ensure that members were complying with professional guidelines and "actively employing effective loss prevention techniques" (Cutts, 1988c: 5). PGs' rapid expansion after the LRRA's passage, with the number of PGs growing much faster than the number of RRGs, partly reflects the relatively soft nature of the insurance market in the late 1980s and early 1990s and partly is the result of the relatively low transaction costs involved in creating a PG.

Of course, there have also been problems with PGs. Bel-Aire Insurance Co., a Missouri-domiciled insurer and an early promoter of PGs, ran into trouble with regulators in multiple states, including Arkansas, California, Illinois, Louisiana, Kansas, New York, Pennsylvania, and Texas and was placed into receivership by Missouri regulators in 1990. Bel-Aire's president was also involved in an insolvent insurance company and had ties to Missouri state representative, the chair of the state House of Representative's insurance committee, who was convicted of multiple felony drug charges while serving on Bel-Aire's board of directors (Cutts, 1990c). The former president was convicted in 1994 in federal court on 27 out of 34 counts charged, including conspiracy, fraud, and money laundering. In general, while a number PGs have closed (sometimes even before purchasing any coverage), there have been relatively few problematic PGs actually operating, based on the comprehensive reporting of the industry journal, the Risk Retention Reporter.

PGs demonstrate the relatively narrow range of preemption of regulators necessary to create a functioning non-territorial form of SEZ. While non-domiciliary states retain broad regulatory powers over PGs (albeit powers which they can exercise only in a nondiscriminatory fashion), by simply preempting the primary protectionist measures used to exclude collective action by insureds (fictitious name laws and countersignature requirements), Congress kicked off a small but robust market that brought new players offering different and less costly coverage into various state insurance markets. Indeed, if the NAIC's complaints about the unintended consequences of the LRRA were all true – that it led to insurers participating in state markets via PGs who would not be able to participate in the admitted market – this could be interpreted as evidence of PGs' success rather than their failure. The most important lesson from the experience with PGs under the LRRA is that they illustrate how simply a non-domiciliary SEZ can be created and how targeted removal of protectionist measures can facilitate the appearance of a robust law market with a meaningful impact.

2.5. Risk Retention Groups

Risk retention groups (RRGs) are risk-bearing entities, chartered and licensed as an insurance company by a single state (the domicile); their primary purpose is to assume and spread commercial liability risks of the group's members. Federal law allows RRGs to operate in states other than their domiciles without being subject to much regulatory control by the non-domiciliary states. RRGs were created by the PLRRA, although it appears that few were formed under that statute. As one state regulator who later became a major figure in RRG regulation recalled, at first "[t]he number of RRGs was small, so few domestic insurance regulators—myself included—really knew the difference between a risk retention group and a doo-wop group" (Crouse, 2011: 9). Despite the lack of initial enthusiasm for them, efforts to broaden PLRRA began "almost from the date of enactment" (Myers & Harkavy, 1999, 1). The NAIC, soon after the PLRRA was passed, tried to restrict the scope of coverages that RRGs and PGs could offer by including a provision in its Model Risk Retention Act that would allow each non-domiciliary state to apply its own definition of "liability" in determining the qualification of an RRG or PG. Congress then amended the PLRRA in 1983 to preclude non-domiciliary states from applying a different definition of "liability," "personal risk" or "insurance" (PL 98-103; Harkavy 1994, 9-10).

The next step was the LRRA, a 1986 major expansion of the types of insurance RRGs could provide. As a former Colorado insurance commissioner put it in a 1989 speech, the statute "rocked the precepts and foundations of today's regulatory system. Regulators were collectively incredulous at the preemption of local control and the grant of basic regulatory power to one jurisdiction" (Kezer, 1989: 3). The LRRA expanded the types of coverage for RRGs beyond the initial products liability coverage authorized by the PLRRA to include all liability insurance, narrowed the permissible jurisdictions (excluding the Cayman Islands and Bermuda), and slightly narrowed the scope of preemption of non-chartering states' laws. In a nod to state regulators' interest in consumer protection, it also added a requirement that policies include a standard notice that the policy was issued by an RRG and so was not subject to the insurance laws and regulations of the non-domiciliary states (Model Act, Drafting Note, sec. 4(G)). Unsurprisingly, as the purpose of the federal statutes was for RRGs to write coverage across state lines, most RRGs write coverage primarily outside their domicile (GAO, 2011: 21).

Not just anyone can form an RRG. It must be owned by its insureds (if owned via a group entity, all members of the group must be insureds). It can offer only commercial liability insurance and reinsurance of other RRGs (or members of other RRGs) that have similar direct risk exposures (liability is defined to include commercial liability, auto liability, and general liability but excluding worker's compensation liability or property liability.) The requirement that the insured group be homogenous is a significant limitation relative to other insurers. For example, doctors could be members of a RRG for their medical malpractice insurance and truck drivers could belong to another for their liability for accidents, but these two groups could not belong to the same RRG insuring both medical malpractice and trucking accidents. By contrast, a traditional insurer could develop product lines for both groups. The required narrowing of RRGs' risk pools is the opposite of the traditional insurance focus on broadening risk pools. Finally, insurance companies were barred from owning RRGs, presumably to block them from using the statute to make a partial end run around state regulators.

An RRG may be organized in a variety of formats; the vast majority are organized as captive insurers and only states that permit organization as a captive have seen a significant number of RRGs choose them as their domiciles. Because the owners of the RRG are also the insureds, some (but not all) of the potential justifications for many regulations are not present. For example, RRGs have no incentive to design clever exclusions which would deny coverage to their insureds, and so form regulation to prevent the hoodwinking of insurance buyers is unnecessary. Eliminating these regulations reduces the cost of operating the RRG as those regulations can impose significant transaction costs. For example, obtaining a conventional insurance license from a state is a costly undertaking; a 1998 study found that the average market value of a state license was $50,000, providing an indication of the cost of obtaining one (Grace & Klein 2000). Nonetheless, the fixed costs of organizing an RRG are non-trivial and were estimated in 1988 to be $70,000 to $100,000. (Members typically make a share subscription of 50% of their first-year premium towards the RRGs' capital and surplus (Cutts, 1988b, 3)).

The crucial innovation introduced by the PLRRA/LRRA was that the regulation of RRGs is left almost entirely to the domiciliary state. Domiciliary states are constrained primarily by market and political pressures (from Congress and other states individually and via the NAIC). Thus the traditional areas of state regulation are the province of the domiciliary state, including form and rate regulation, if any. While solvency regulation has been harmonized to some extent over time by the development of NAIC standards, its implementation remains the responsibility of the domiciliary state.

Even in such relatively harmonized areas, states actively seeking to be RRG domiciles are more flexible than states that are not. South Carolina's chief alternative risk regulator noted this in a 2006 interview, saying that "We carefully monitor financial solvency, but we have reasonable and prudent regulation" (Hyatt, 2011a, 7). An example of the difference in approach taken by RRG-friendly states is the District of Columbia's willingness to allow RRGs to build their capital through partnering with outside investors, a step that D.C.'s regulator said it took because "the market demands it." D.C. recognized that

> "[i]mposing additional regulatory burdens or treating RRGs like traditional insurers will not solve the problem; it will only make the problem worse. The ART market in general and the District's Risk Finance Bureau in particular, exist for the purpose of providing insureds with affordable solutions to their risk finance needs. Too often insurance regulators take the position that if it has never been done before, disapprove it. In the District, we take the opposite view. If it has never been done before and it makes sense, bring it to us and we will take a look at it. If possible, we will work with you to make it work to our mutual satisfaction" (Sheppard, 2005: 10).

Similarly, Vermont's RRG regulator commented that RRGs could not exist without regulators' willingness to allow them to use letters of credit for part of their capital and surplus, something that traditional insurance regulation generally does not allow (Cutts, 2005a). And domiciles compete on service as well. As early as 1987, Vermont, an early and enthusiastic domicile, touted a 30-day turnaround for review of RRG applications, which it achieved by sending the applications out to "top actuarial firms for review and comment" on a short timeline rather than relying solely on an in-house review (Cutts 1987c).

Non-domiciliary states are severely restricted in their ability to regulate RRGs. To operate in a state, a RRG need only file with the operating state regulator an information document (which includes a copy of the plan of operation or feasibility study it submitted to the chartering state) before doing business (soliciting business). Critically, no approval is necessary from the non-domiciliary states. This is a substantial friction point with states that are primarily non-domiciliary states (e.g. California). It is also a significant market-expanding measure: One insurance lawyer estimated that it would take a traditional insurance company at least five years to get licensed in all fifty states, at considerable cost (Myers 2019); by contrast an RRG would take a simple filing, with many states accepting an NAIC common form.

The LRRA's preemption of non-domiciliary state regulation is broad, although some states have aggressively resisted its application. The justification for exempting RRGs from most operating states' regulations is that many consumer protection measures are unnecessary because policyholders do not need protection from an insurer they own. RRGs are exempted from virtually any state law, rule, or regulation of a non-domiciliary state that would restrict the RRG's operations except that an RRG must comply with the unfair claims settlement process and unfair trade practices laws of the states it is operating in, and pay nondiscriminatory premium taxes imposed by the non-domiciliary states. RRGs are also required to register for service of process in each state in which they operate.

One area of contention is the LRRA's ban on a non-domiciliary state charging RRGs fees. See NRRA v. Brown, 927 F.Supp. 195 (M.D. La, 1996). This ban has not prevented non-domiciliary states' efforts to find ways to charge fees, however. They have managed to do so with some success; a Risk Retention Reporter estimate in 2018 was that RRGs collectively pay over $750,000 a year in fees to non-domiciliary states, half of which goes to Indiana ($109,000), Missouri ($120,000), and North Carolina ($133,500) (Diemel, 2018b). Non-domiciliary states can require financial examinations only if the domiciliary state has not conducted one. RRGs must also comply with dissolution procedures in the non-domiciliary state. Further, non-domiciliary states can seek relief against RRGs only in the courts as RRGs are not subject to administrative relief outside the state of domicile.

Non-domiciliary states generally exclude RRGs from state guaranty funds (and RRGs are required to inform their members of this in 10-point type in the policy). However, the LRRA allowed states to require RRGs to participate in joint underwriting funds or similar mechanisms on a nondiscriminatory manner and if the requirement takes into account the LRRA's restrictions on RRGs' activities (i.e. a medical malpractice RRG could not be required to participate in a windstorm pool).

Several states insurance regulators have aggressively resisted out-of-state RRGs' operations, often leading to federal litigation over the extent of LRRA preemption. A 2009 survey of RRGs found that over 60% said that non-domiciliary states overreached in regulation; California, Florida, Kentucky, Louisiana, Massachusetts, North Carolina, and Texas were those most frequently named (Cutts, 2009a). Earlier, over half the attendees at the first meeting of the National Risk Retention Association in October 1987 indicated they were experiencing difficulties with state regulators, prompting Rep. Robert Kasten (R-Wisc.), speaking at the convention, to vow corrective action, stating that "[t]he Act is a national, not a state-by-state program. In drafting it, we intended to simplify and streamline the procedures for establishing self-insurance" (Cutts, 1987f, 7).

Non-domiciliary states do overreach in regulation, often in the areas of registration filing requirements, fees, requiring the use of an in-state agent or broker, reporting, and minimum capital. For example, New York's Insurance Department attempted in 1987 to require RRGs to file rates and forms for approval, a clear violation of the LRRA (Cutts, 1987e, 2). In some cases, the state actions appear to be blatant attempts to thwart the LRRA's goals and courts have found those efforts preempted. For example, in Attorneys' Liability Assurance Society, Inc, a Risk Retention Group vs. Fitzgerald, 174 F. Supp. 2d 619 (W.D. Mich, 2001), the court found a Michigan fee (0.5% of premiums, on top of the 2% tax on out-of-state premiums) to be preempted, noting that the statute "creates a general presumption that non-chartering state regulation of a risk retention group is preempted, unless one of a specific set of exemptions applies." Moreover, the court noted that the fee's stated purpose – to fund Michigan's regulation of non-Michigan-domiciled RRGs – was one "which, with a few minor exceptions, non-chartering states are foreclosed from doing under the LRRA. The fact that other insurers will have to pay the regulatory fee, and non-resident risk retention groups will not, does not save the fee, for those other insurers are not part of the Congressional plan implemented by the LRRA."

RRGs have also won several federal court cases quashing efforts by non-chartering states to impose substantive regulations upon them. One of the most contentious issues involved state "financial responsibility laws," that require carrying insurance that meets statutory criteria to engage in particular activities. One of the most common activities to which these laws are applied is operating a commercial vehicle. Several states excluded RRGs (and some other means of insurance) from the approved list. Louisiana made an especially aggressive, but ultimately unsuccessful, attempt to block RRGs by labeling a law establishing minimum capital and surplus requirements for non-domiciliary RRGs a "financial responsibility" law. NRRA v. Louisiana, 927 F.Supp. 195 (M.D. La. 1996), aff'd 114 F.3d 1183 (5th Cir., 1997). Some courts struck these down as discriminatory against RRGs in violation of the LRRA. For example, a Pennsylvania federal court held that a non-domiciliary state could not limit insureds to purchasing insurance from an insurer enrolled in a state guaranty fund given the LRRA's ban on requiring RRG participation. Charter Risk Retention Group vs. Rolka, 796 F.Supp. 154 (M.D. Pa., 1992). A similar result was reached in National Warranty RRG vs. Greenfield, 24 F.Supp. 2d 1096 (D. Ore. 1998).

However, RRGs have lost other court battles over with the issue, despite the relatively straightforward language in the statute. This was particularly true early in the statute's history. For example, in 1995 a divided panel of the Eleventh Circuit upheld a Florida requirement that an RRG requirement that taxis, limousines and similar vehicles purchase insurance from an insurer that was a member of the Florida Insurance Guaranty Association. Mears Transportation Company v. State, 34 F.3d 1013 (11th Cir., 1994), cert. den. 514 U.S. 1109 (1995). It is nearly impossible to reconcile the Mears majority opinion with the language of the statute. Nonetheless, the case remains on the books and continues to be cited as justification for ignoring preemption.

Even when RRGs lose in court, however, they are sometimes able to persuade states to bring regulation into conformity with the LRRA. For example, despite the Seventh Circuit reaching a similar result to the Eleventh Circuit in a suit involving a Wisconsin requirement that health care licensees demonstrate financial responsibility by purchasing insurance from an admitted insurer, Ophthalmic Mutual Insurance Company v. Musser, 143 F.3d 1062 (7th Cir. 1998), Wisconsin later amended its insurance law to allow RRG policies. Many states have gradually moved to draft financial responsibility laws to permit RRGs to qualify, presumably in response to complaints from the groups of insureds seeking to use RRGs. And, despite outliers like Meers, the federal courts have been generally receptive to efforts by RRGs to seek relief from state overreach. As a result, one of the most significant hurdles to restraining non-domiciliary states has been individual RRGs' unwillingness to invest considerable time and resources to seek judicial review. As Kevin Doherty, chair of the Alternative Risk Transfer committee of the Self-Insurance Institute of America, noted, "Right now, if a state disagrees with something an RRG is doing, all they have to do is deny them the right to do it. Many RRGs are pretty small—usually not more than $10 to $20 million in annual premium and many smaller than that—they can only go to federal court so many times" (Cutts, 2010, 1). Attempts by RRG proponents to amend the LRRA to give the Department of Commerce the authority to administratively overrule state overreaching have thus far failed. RRGs are largely domiciled in just a few states (Vermont, South Carolina, the District of Columbia, Nevada, Arizona, and Hawaii are the most active today), although almost half of U.S. states have at least one RRG domiciled in them. RRGs in some low volume jurisdictions have cited that as a reason to redomicile to jurisdictions with more – Georgia's then lone RRG moved to Vermont in the early 1990s, noting that it was "an odd duck" in Georgia and that Vermont's greater regulatory expertise was helpful to it (Hyatt 2011b, 11). Some of these jurisdictions (especially Vermont) have been active from the beginning; others are comparatively recent entrants into the market. Both South Carolina and D.C. developed their captive laws and RRG regulations after 2000 and had only a few licensed RRGs before that; both had considerable success in quickly attracting RRGs.

Successful domiciles stress that their approach to regulation is different for RRGs. Vermont's captive regulator described its overall approach as based on communication:

> "We have steady communication with the company, from the time they visit us to take about filing an application, through the application and approval process, to their first organizational exam, and continuing through the surveillance process once they are up and running. … During the exam, we are actually in the company offices talking with them, understanding their controls and processes, and getting to know the people involved" (Provost, 2011: 7).

Similarly, if a problem arises:

> "We had constant communications with the companies and said, 'How can we work through this?' We didn't force things down their throat—we didn't make companies change if the path they were on looked reasonable. If they were in trouble, we said, 'How are you going to get yourself out? Come up with some ideas, and if it's sensible we're going to approve it. We're going to let you do things that make sense'" (Id.)

South Carolina's regulator went even further, describing captives generally as a "regulator-driven industry," and saying that

> "you really need to get inside the heads of the regulators because they have a unique position. On one side, they need to make sure the companies are doing the right thing, following their business plans, conducting themselves properly in the marketplace, and doing all the right things financially so their company is solvent. On the other hand, the regulators need to have a relationship with the RRG that will facilitate the RRG owners/insureds apprecia-

> ting the maximum benefit from the captive. It is like a two-edged sword—a regulatory role focused on financial solvency and a pro-business role within the confines of statute and regulation" (Kehler, 2011: 10).

Another Vermont regulator stressed Vermont's culture "where it's known that we expect to hear about issues ahead of time. We prefer to work with a company on a solution if they encounter trouble" (Diemel, 2019c: 7).

The difference in regulatory approach produces some real differences in regulatory requirements for RRGs. Indeed, Vermont's former RRG regulator explained in 1992 that he had a different approach to regulating RRGs (and captives generally):

> "As these entities were formed and capitalized as self help mechanisms for and by the insureds, to apply the same level of consumer protection as I might to a traditional carrier would, in many ways, be as anomalous as protecting a policyholder against him or herself. Thus I would not review risk retention group/captive policy forms, and my only concern about their rates was that they be adequate to sustain the solvency of the facility. As these captives or risk retention groups provided coverages only to their members, I might not require the same level of capitalization that would be required of a traditional insurer, but such capitalization would have to satisfy my all important concern of solvency." On the other hand, he also noted that he required that they operate "strictly within the parameters of the business plan submitted to the state" or receive permission to amend it, something not required of traditional insurers (Meehan, 1992: 4-5).

As a result, RRGs tend to have lower surplus and capital requirements than traditional carriers. At the same time, traditional insurance regulatory practices often are inappropriate for an RRG. For example, the traditional regulatory rule of thumb is that a commercial carrier should have no more than 10% of its surplus exposed to any one insured risk. As Vermont's captive regulator noted,

> "[f]or some RRGs, such as those owned by a single hospital system, the imposition of a strict 10% risk limitation would imply the RRG is required to hold significantly more capital than what's needed for its own risk under a reasonable expected loss projection. That can create a burden on capital levels. While the 10% risk limitation might be appropriate for some RRGs, it's a regulatory standard that is more suitable to a traditional insurance carrier, writing thousands, or hundreds of thousands, of insurance policies" (Diemel, 2019b: 6-7).

RRGs have enabled insurance buyers unable to otherwise acquire insurance to do so and also enabled buyers to, as Colorado's former insurance commissioner put it, "stabilize and control their insurance programs to meet their needs" (Kezer 1989, 4). For example, in late 1985 Chem-Spec Insurance, Ltd., a Bermuda-domiciled captive owned by the Chemical Specialties Manufacturers Association (CSMA), which had been in operation since 1978, lost its fronting carrier through which it insured its clients. The CSMA was unable to find an alternative fronting insurer and decided to create its own insurer. By creating the D.C.-domiciled Consumer Specialties Insurance Company Risk Retention Group (CSI), CSMA found a solution and issued its first policy in October 1987 (Cutts, 1987g: 3).

RRGs' impact on the insurance market includes new forms of coverage. For example, a Nevada RRG formed in 2020 is offering cannabis industry coverage in states that have legalized marijuana products. The impact goes beyond new forms of coverage, however. An early RRG formed in California for non-profit medical clinics, Clinic Mutual Insurance Co. RRG (CMIC), was created to enable the clinics "to gain control over their own destinies" according to the broker who assisted them in creating it. The clinics had been lumped by the market in with individual physicians, which the clinics believed led to higher rates as their five-year loss ratio was just 13% compared to 126% for medical malpractice generally. CMIC retained the first $250,000 on policies with the balance reinsured through Lloyd's of London (Cutts, 1988a). The LRRA also brought about an important change by creating a means "of giving birth to new insurance entities" (Cutts 1989a, 2). Another early example is the Housing Authority Risk Retention Group (HARRG), created by the Council of Large Public Housing Authorities in 1987. HARRG focused on reducing its members' risks and its manager noted that "[t]he need to analyze and reevaluate the status of a given program cannot be stressed enough" was a key to success, citing its development of a slip-and-fall prevention program video educational program. A follow up survey revealed that the videos had been seen by only 60-70% of the intended audience. This prompted a change in distribution methods to get the materials to the proper audience. As a result of such measures, HARRG achieved a loss ratio of just 35%, compared to the industry average of 60% (Weslow, 1990, 6). RRGs thus provide new types of coverage, new insurance entities, and new means of risk reduction.

There have been problems with some RRGs, including some where the RRG's domicile's regulatory efforts proved insufficient. The Lancet Indemnity Risk Retention Group, Inc., a Nevada domiciled RRG, failed in 2008 and Nevada's regulatory efforts were slow at best. Even worse, Spirit Commercial Auto Risk Retention Group, Inc., also domiciled in Nevada, had to revise its 2017 annual statement in August 2018, a revision that turned a $13.4 million surplus into $703,088. Ultimately, considerable funds at Spirit turned out to be missing and the estimated total unpaid losses and loss adjustment expenses were almost $200 million (Diemel, 2019a, 2019b, 2021b). The failure of three RRGs linked to a Virginia-domiciled reinsurer and of the Cayman-domiciled National Warranty Insurance RRG were "major contributors to the findings of the first GAO report on the RRG industry," which pointed to these with alarm (Diemel, 2017, 5). Despite these instances – and RRG defenders are quick to argue that the overall insolvency rate is as good or better for RRGs than it is for conventional insurers – RRG regulation seems to have been at least as successful at avoiding insolvencies as the larger insurance industry.

Regulators seeking the business have refined their solvency and other regulations to attract business, new insurers have entered markets which were previously closed, and competition for liability insurance has increased. The complaints of non-domiciliary states that domiciliary states are engaged in a race to the bottom appear generally unpersuasive as there is no evidence of widespread failure of RRGs. Unlike surplus lines and PGs, non-domiciliary states have almost no regulatory handle with which to control RRG behavior and so they have had to work through the NAIC to establish standards that limit RRG operations. While they have successfully increased domiciliary state regulation – one RRG proponent referred to it as "death by a thousand cuts" (Diemel, 2018a, 3) – the continued demand for RRGs suggests that they have not yet been able to raise costs sufficiently to diminish the appeal of these entities.

3. EXPANDING THE SCOPE OF THE LAW MARKET VIA NON-TERRITORIAL SEZS

In all three areas discussed above, Congress used federal preemption to create non-territorial SEZs for particular kinds of insurance purchases. These range from the relatively limited surplus lines market to the intermediate case of PGs to the more expansive RRG market. Each of these cases provides a fundamental requirement of a functioning "law market": the ability to choose what law will govern a particular transaction, entity, or relationship. In The Law Market, Erin O'Hara and Larry Ribstein noted that Tiebout competition – people voting with their feet to choose the package of public goods and other services provided by governments – is based on a consumer market in governments. As they argued, "[t] here is no reason in principle that this market should not embrace laws which, after all, are an important type of government-provided goods" (O'Hara & Ribstein, 2009:14). Such a market "fundamentally alters the political process to the extent that it makes people 'consumers' or 'buyers' of laws rather than simply voters" (Id.) Each of these initiatives has made those insurance buyers able to take advantage of them buyers of regulatory regimes.

3.1. The Role of Regulator Reputation

O'Hara and Ribstein focused on the ability of choice of law clauses to enable the law market. The examples presented here rely on a different, but related, mechanism: cross-jurisdictional competition facilitated by preemption of protectionist laws. This mechanism is needed because few state regulatory authorities would willingly cede regulatory jurisdiction over ongoing insurance activities in their state merely because the parties to the insurance contract had designated another state as the regulator. Indeed, as noted earlier, state regulatory authorities object even to non-admitted carriers talking to their state residents by telephone and several states have taken aggressive positions on RRGs despite express federal preemption. Unlike corporate law, where the acceptance of the internal affairs doctrine means that states other than the state where a business is incorporated defer to the incorporating state's laws, in regulated markets like insurance, non-territorial SEZs offer one of the few, and perhaps the only, means other than voting with one's feet to develop a law market.

Moreover, non-territorial SEZs allow governments to slice off sections of the market where regulations are particularly costly or deliver relatively low benefits. In the examples described above, the benefits of state regulation appear particularly low as the buyers of the insurance are businesses rather than individual consumers and are often operating as a group (PGs and RRGs) or working with a licensed intermediary (surplus lines). Unlike an individual consumer puzzling over the dense wording of an insurance policy, vulnerable to clever insurance lawyers slipping in exclusionary clauses, the purchasers of policies in these circumstances either have the advantage of economies of scale (PGs) or are active participants in designing the coverage (RRGs, surplus lines). The consumer protection rationale for much insurance regulation is at least considerably weakened in these transactions if not completely absent. Moreover, in each of these examples, the motivation for incurring the fixed costs of participating in the solution (organizing a PG or RRG, incurring the search costs for surplus lines coverage) is that the existing regulated market is not meeting the purchasers' needs. The benefits of allowing additional suppliers in the market thus are likely substantial.

These three non-territorial SEZs are not pockets of anarchy but examples of different methods and amounts of regulation being deployed. In each case, a state regulator remains deeply involved in the transaction, it is just a different state regulator than it would be if regulation continued to be completely territorially based. As noted earlier, many non-domiciliary state insurance regulators are unhappy to lose their monopoly control over insurance transactions occurring within their states. These regulators argue that the domiciliary regulators are merely seeking the economic benefit of registering insurers and lack "skin in the game" and so will thus underregulate.

It is true that the successful domiciles are seeking economic benefits. From the beginning, states such as Vermont have been clear that their goal is to capture those benefits. Indeed, in a retrospective, Vermont's captive regulator described the decision to enter the captive field generally explicitly in those terms:

> "We started with George Chafee and Governor Snelling looking at the captive law and thinking 'what have we got to lose? …. This will bring in some tax revenue, it'll bring in some white-collar jobs, and it'll bring in some tourist dollars. The first captive domiciles were all tourist economies. That was the driver for Bermuda, Vermont, even Hawaii—we want to bring in more tourism revenue—but it turned into so much more" (Diemel, 2021a: 5).

Such arguments ignore the considerable reputational skin in the game the domiciliary regulators have, as well as the strong shared interest that all U.S. state insurance regulators have in avoiding federal substantive regulation of insurance. Even the most active domiciliary regulators (e.g., Vermont) are determined to avoid federal regulation. Moreover, it is Vermont's success in the RRG market, and captive market more generally, that makes it more concerned about the success of Vermont-chartered RRGs and captives, rather than less concerned. Just as a key to Delaware's success in the corporate law market is its heavy fiscal dependence on the revenue from corporate charters, so Vermont's insurance regulator is keenly aware of its state's dependence on these insurance markets. If a Vermont captive or RRG fails due to regulatory negligence, Vermont would lose considerable business as its customers (those from outside Vermont who charter insurers there) seek out more reputable locations. As far back as the first issue of the Risk Retention Reporter in 1987, the industry newsletter was reporting on Vermont regulators' desires "to be the national center for quality risk retention groups" (Cutts, 1987a: 4). The vigorous competition for this business among the states with the most charters would ensure that other potential domiciles would quickly be calling Vermont-chartered RRGs and captives, describing the benefits of the move.

Indeed, the entire race-to-the-bottom argument fails to appreciate the critical importance of jurisdictional reputation to those seeking insurance from these entities. Particularly where the insureds own (directly or via an association) their insurer these businesses know that their reputations require that their insurance come from a reputable jurisdiction. As Tony Freyer and I described in our history of the Cayman Islands' offshore financial center, when Harvard's hospital group decided to create its medical malpractice captive insurer in Cayman, it insisted that Cayman create an insurance regulatory system (Freyer & Morriss 2013). And as former Vermont regulator Edward Meehan commented in 1992, not sufficiently regulating RRGs and captives risked a state developing "a poor reputation among other insurance departments" and the development of a "vicious circle" in which

> "the solid alternative market facilities which a state wants to attract will be reluctant to domicile in a state whose insurance department is regarded as lax or a renegade by other regulators. A self-fulfilling prophecy of adverse selection may start, where the only captive/risk retention group applications that such a state receives are from the so called 'bad actors" (Meehan, 1992, 5).

It is not just Vermont's regulators who have such views; a Barbados-domiciled captive that redomiciled to a Vermont RRG attributed its choice to Vermont's "first rate regulatory climate, its proximity to hospitals, and its stellar reputation" (Cutts, 2005d, 6).

Regulators have also developed reputations as experts in particular subfields of insurance. For example, Jon Harkavy noted that "[a]n important factor [in domicile choice] is the prospective domicile's like or dislike of certain types of coverage. Some states avoid RRGs that provide warranty coverage while others don't like RRGs that cover taxicabs for example" (Diemel: 2016c, 7).

Non-territorial SEZs have advantages over the displacement of one regulator by another, as would be the case if the federal government took over insurance regulation from the states in the United States or simply entered into competition with them as a regulator, as is the case in U.S. banking regulation. Where a "higher level" regulator simply displaces a "lower level" one (as the United States Environmental Protection Agency has largely done with respect to motor vehicle pollution control in the United States, although California continues to play a substantial role (Morriss, 2000)), there is simply substitution of one monopoly provider for another. This has advantages in reducing the transaction costs of coping with multiple regulators in a market that incorporates multiple jurisdictions, precisely the reason that the Big Three U.S. automakers embraced federal regulation of automobile emissions in the 1970 Clean Air Act Amendments: to preclude the development of fifty separate state standards (Morriss, 2000). However, it does not produce competitive pressure on the new regulator to be innovative or more cost effective.

When a new regulator enters into competition with existing regulators, the increased competition can constrain regulators, as state-chartered banks' threats of switching to a federal charter does with state banking regulators.[3] The insurance examples discussed here potentially allow competition among 51 (the states plus the District of Columbia) regulators, although in practice an insurance buyer in most states has only handful of potential regulators for an RRG, PG, or surplus lines transaction. Nonetheless, most of those potential regulators (all but the home jurisdiction of the insured) are highly motivated regulators, seeking to expand their market share. These regulators seek to increase the fees they collect and to bring business to the consultants, attorneys, insurance managers, accountants, etc. which assist their licensed entities, but they will only do so if they can do so consistent with maintaining the long-term viability of their jurisdictions, thus giving them considerable reputational "skin in the game."

3.2. Obstacles to Creating Non-Territorial SEZs

While the above examples are encouraging to those who favor increased regulatory competition, they also illustrate some of the obstacles to increasing such competition. First, many regulators loathe com-

[3] Dodd-Frank, which allowed national banks to open branches in any state (subject to relatively easy to meet conditions). This incentivized states to allow the banks they charter to be able to establish branches in other states, since if they do not, a bank wishing to do so would switch to a federal charter. Unlike the insurance examples here, however, a bank wishing to make use of a charter in State A to operate in State B would need some presence in State A beyond its charter (typically, a home office). Even this restriction is becoming less meaningful as online banking spreads. Thanks to Julie A. Hill for directing my attention to this.

petition. This can be seen in the behavior of the NAIC. In general, it has taken the side of the non-domiciliary state regulators in attempting to expand their ability to regulate RRGs. Indeed, the National Association of Wholesalers-Distributors accused the NAIC of being "institutionally committed to gutting the Risk Retention Act" (Cutts, 1989b: 3). Similarly, RRG advocate Jon Harkavy noted in an interview that the NAIC has vigorously fought RRGs and PGs every chance that it had, arguing that "[t]he NAIC program of accrediting state insurance departments appears to me to be a hijacking of democracy by an unelected trade association through violation of anti-trust principles applicable to trade associations" (Harkavy, 2013: 8).

Since the passage of the LRRA, the NAIC has consistently pushed for greater regulation of RRGs by domicile states and for that regulation to look more like the regulation of traditional insurance companies. For example, as a result of NAIC efforts, RRGs generally now report quarterly to their domiciliary regulator, must meet financial solvency ratios similar to (but often not identical to) those applied to traditional insurers, and meet minimum capital and surplus requirements (albeit at generally lower levels than traditional insurers).

The organization takes an aggressive position on restricting preemption of information filing requirements, arguing that "a non-chartering state is not precluded [by the LRRA] from requesting information that it believes necessary to determine compliance with any law not preempted by the LRRA" (NAIC, 1999, II-3). (This author believes that a better reading of the LRRA is that this is incorrect and that the non-domiciliary state is largely restricted to requesting information except from the domiciliary regulator.)

The NAIC has also worked to pressure domiciliary states to increase regulation of RRGs. For example, its Model Risk Retention Act requires domiciliary states to verify a proposed RRG's members' historical and expected loss experiences and similar exposures nationally; require pro forma financial statements and projections as well as "appropriate opinions" from an independent actuary about minimum premium participation necessary to operate and avoid a hazardous financial condition; and ensure the existence of appropriate procedures for management, underwriting, and claims, as well as investment policies and reinsurance agreements; and material revisions to plans of operation and feasibility studies. (NAIC 1999, II-2). RRG proponents sometimes found NAIC proposals likely to "gut" the LRRA (Cutts 1987b, 2).

The key concern of the NAIC has been that the main domiciliary states are underregulating RRGs. For example, the NAIC told the Commerce Department that it was "gravely concerned" about "the lack of protection of the public from unsound financial practices and commercial abuses permitted by the Risk Retention Act of 1986", in part because it "discarded … the experience of one hundred and fifty years of regulation" (Gates, 1989: 3). Among the NAIC's concerns were that RRGs were undercapitalized and had "inexperienced management." Conceding that states had "widely varying requirements for capitalization," the NAIC argued this was not a problem in traditional insurance "because the company must meet the requirements of each state within which it wishes to do business." RRGs, however, "may form, and frequently have formed, pursuant to state statutes originally enacted to ease the formation of limited risk bearing captive insurance companies" and then are allowed to "go into every state writing highly volatile liability lines" (Gates, 1989: 3). The NAIC also objected to allowing differences in the type and amount of assets an RRG maintains from those required of traditional insurers, noting some states allowed the use of letters of credit as part of the capital assets, while others did not (Gates, 1989:3). The NAIC argued that RRGs may not write much insurance in their state of domicile and "[s]tate insurance departments with limited resources may have minimal incentives to expend those resources closely monitoring and regulating the activity of a company not insuring its citizens" (Gates, 1989, 3). The NAIC also objected to the rapid growth of RRGs and RPGs, arguing that the "seasoning" requirements of traditional insurance regulation, which limited insurers to slow, steady growth was a virtue (Gates, 1989:4).

As a partial solution to what it unsurprisingly perceives as a problem of underregulation, the NAIC developed an accreditation program for state regulators on RRG issues and all fifty states and the District of Columbia are now accredited under it. The accreditation process involves the NAIC assessing "how each state insurance department reviews and monitors the solvency regulation of multistate insurance companies and RRGs to ensure states have (1) adequate solvency laws and regulations to protect consumers, (2) effective financial analysis and examination processes, and (3) appropriate organizational and personnel practices" (GAO, 2011: 7). (The NAIC and Vermont fought a lengthy battle over whether Vermont had to change its captive and RRG regulation approach to be accredited, with Vermont eventually prevailing.)

The NAIC Risk Retention Working Group also launched a corporate governance project for RRGs in response to GAO criticisms of lack of uniformity among domiciliary states regulatory efforts (Myers 2007, 1). Non-domiciliary regulators told the GAO that domiciliary states were lowering regulatory standards to attract business; the NAIC also complained that RRG domicile states lacked "skin in the game" to properly regulate, putting insureds at risk (GAO, 2011: 23). This experience suggests that one obstacle to regulatory competition is the pressure to harmonize regulation.

Four important lessons from these experiences emerge for promoting non-territorial SEZs. First, a successful non-territorial SEZ requires getting a regulator on board with defending its regulated entities against other regulators. With RRGs, there is an example of how a regulator can fail to support a regulated entity, which undermines regulatory competition. California issued an administrative cease-and-desist order against a Montana-domiciled RRG, the Auto Dealers Risk Retention Group. Because it was plainly barred from doing so by the LRRA, California alleged Auto Dealers was not a valid RRG under the LRRA and thus the statute's bar did not apply. The federal district court hearing the case rejected this argument, ruling in an unreported opinion that once an RRG was licensed by another state, a non-domiciliary state could challenge its validity as an RRG only in court, not in administrative proceedings (Cutts 2008a); Auto Dealers Risk Retention Group, Inc. v. Steve Poizner, 2:07CV02660 (E.D. Cal. 03/07/2008). This result is unsurprising as this is consistent with the LRRA; the surprise is the extent to which California was willing to go to attempt to regulate in the face of the LRRA's clear prohibition on its action. Illustrating the problem mentioned above, however, this case settled with the RRG agreeing to convert its coverage to a fronted program reinsured by reinsurers established by the RRG. The RRG attributed its willingness to settle short of victory to the Montana domiciliary regulator not being fully supportive (Cutts, 2008b). The RRG eventually gave up in 2009 and merged into a conventional insurer, citing both economic conditions and the expense of litigation with California regulators (Cutts, 2009c). With the development of the law contingent on the ability and willingness of RRGs to fund costly litigation, even relatively easy cases often do not produce the precedents necessary to clarify the law.

Second, entrepreneurial regulators are an essential ingredient. Only a few states have built successful RRG or PG businesses and only a small number of firms have built large-scale surplus lines businesses. The successful states, typically with strength in captive regulation generally, have invested heavily in their institutional capacity. For example, Vermont's insurance commissioner wrote in 1992 that "[t]he long-term credibility of Vermont is absolutely dependent upon a more systematic approach to the tasks of licensing new captives and regulating old friends" (Cutts, 1992a, 1).

Third, successful regulators compete not on being lax but on providing value added. For example, a captive that operated from Bermuda created an RRG and converted the Bermuda entity to a reinsurer for the new RRG. It did so because its direct operations as a captive required it to find exemptions from state regulatory provisions requiring insurers to be licensed. After the conversion, it "no longer need concern itself with whether direct and personal contacts with Member Firms might technically violate laws in various states on transacting the business of insurance without a license." After initially domiciling in Illinois, it moved to Vermont when Illinois changed its insurance law to prevent a company from being both an industrially insured captive and a RRG (Breakstone 1997). Providing a facilitative environment for new solutions – which Vermont did and Illinois did not – is essential. Illustrating another dimension, D.C. rewrote its captive law four years after its initial passage to add flexibility and innovative structures, such as the first cell company RRG, based on input from regulators and industry volunteers (Perschetz 2005). Similarly, Delaware rewrote its 1984 captive law in 2005 to enhance its appeal as a domicile, focusing on its corporate law as an advantage (Cutts, 2005b, 4; Kinion, 2012).

Fourth, active participation by jurisdictions competing for business in the "top level" regulatory structure process is essential. One example of the NAIC's hostility to RRGs was its initial failure to bring the jurisdictions seeking RRG business onto its task force on RRGs to participate in its development of regulatory policies. As an illustration, in 2005, only Vermont among active RRG domiciles was as voting member of the task force established to evaluate RRG regulation. After complaints from the active domiciles, the NAIC appointed five states that served as RRG domiciles to the task force (Cutts, 2005c). The active domiciles' efforts to make sure their voice was heard in shaping the NAIC policy was thus critical to moderating that organizations' anti-RRG efforts.

3.3. Are the Insurance Non-Territorial SEZs a Success?

Measured by the number of transactions and premiums paid, the available evidence suggests all three have filled important market needs. The U.S. surplus lines market continues to grow, with particularly dramatic double-digit growth over the past few years. Total U.S. surplus lines premium was over $24 billion in the first half of 2020, an almost 22% increase over the prior year. RRG numbers remain in the low 200s and below the 2008 peak number of 262, but RRG premiums have grown substantially over time and reached over $3,383,800,000 in 2020. Three dozen RRGs have been operating for over twenty-five years, suggesting a maturing of the business. More than 800 PGs are operating, although other statistics on that sector are unavailable. Insolvencies and dissolutions of these entities remain at or below market levels. In addition, the leading domiciles continue to innovate and prosper.

More important than the raw numbers is that these SEZs provide access to expanded opportunities for risk transfer. The alternative risk management sector continues to expand, finding new ways to transfer insurance risks to capital markets. Preserving avenues that allow commercial insurance customers to have access to these new products – something no conventional insurer would be able to offer in a mass market product – is likely to become ever more important for the types of insurance customers taking advantage of these SEZs.

4. COMPETING IN THE LAW MARKET THROUGH NON-TERRITORIAL SEZS

Territorial SEZs offer an important tool for expanding the scope of the law market as they add new competitors to the market for law. Non-territorial SEZs expand the scope of activities that can benefit from this expansion as services such as insurance for activities within another jurisdiction are difficult to offer through a territorial SEZ if the other jurisdiction is determined to resist competition, as is the case in insurance. The experience with these three non-territorial SEZs in insurance suggest broader lessons for the expansion of the law market. First, competition in the law market is not for the faint of heart. The jurisdictions that succeeded in building market share in the market for insurance regulation invested in developing their competitive position. Thus one guide to choosing an RRG domicile advised to jurisdictions "which have proven they value RRG business and have a track record for responding to issues as they arise," insisting that only those which "exist in an atmosphere of constant refinement" are worth considering. These jurisdictions will demonstrate this by constant work on their statutory provisions, showing a commitment to "dedication and responsiveness" (Stokes, 2011). Similarly, a former Vermont regulator reflected how "[e]ach year, through administrations of various political stripes, legislators worked with regulators and other captive insurance players to learn how to improve state statutes while building on the state's preeminence in this area" (Crouse 2011, 9).

Second, there will be considerable resistance by vested interests to the creation of non-territorial SEZs. Passage of the LRRA took "intense lobbying" by insurance buyers, armed with arguments that persuaded (the need to expand the market) (McIntyre, 2011: 7). This resistance does not end when a market is opened. As Harkavy summarized in 2016, "the NAIC remains fully resistant to the LRRA's lead state regulation underpinnings. Under the NAIC's view of the world, every state should be a feudal lord with respect to how it regulates insurance, with NAIC as the overlord. There's no way to co-opt their support" (Diemel, 2016b: 6).

Third, opportunities to create non-territorial SEZs need to be seized when they appear. In the examples above, the impetus for the PLRRA and the LRRA was the combination of two trends. The vast expansion of tort liability by state courts in the 1960s and 1970s dramatically increased the need for liability insurance by professionals, manufacturers, and service providers, many of whom were organized enough to press for federal action. This opened the door first for the PLRRA and then for its expansion by the LRRA. As the insurance market further hardened in the early 1980s, it became increasingly difficult for a variety of professionals, firms, local governments, and nonprofits to purchase liability insurance, with some unable to purchase the liability insurance needed at any price. With the goal of quickly expanding the availability of liability insurance, Congress used its power of preemption to restrict non-domiciliary states' protectionist laws. Many state insurance regulators (including the state regulators' trade group, the NAIC) and the insurance industry lobbied against the statutes, but there were also politically attractive promoters of the idea, particularly groups having difficulty obtaining insurance such as nurse midwives. The political compromise that made the PLRRA and LRRA possible was avoiding both federal regulation of insurance (which Republicans and state regulators opposed) and tort reform (which Democrats opposed) while delivering rapid action to meet the needs of powerful constituents of members from both parties. As one of the insurance lobbyists who worked on the LRRA later commented, the lead state regulator model "took the wind out of the NAIC's sails" (Diemel, 2016b: 6).

Moreover, once the process of building the tools for a non-territorial SEZ is underway, participants will use them in unexpected ways. As noted earlier, entrepreneurial PGs were not anticipated by the PLRRA/LRRA drafters but quickly came to be a major part of the market. Similarly, when some states objected to the use of a Cayman captive to insure religiously-affiliated nursing homes without a fronting carrier, an innovative insurer created two RRGs to work with its Cayman captive to provide the necessary coverage (Cutts 2008c), incorporating a foreign jurisdiction into the structure.

Additional areas of insurance could easily be added to the law market described here, by expanding the areas in which PGs and RRGs can write insurance through amendments to the LRRA, by adopting a general lead-state model such as that proposed over ten years ago by Butler and Ribstein (2008-09), or by further expanding federal preemption of state restrictions on surplus lines coverage.

Does the non-territorial SEZ model extend beyond insurance? Yes. The challenge is to find additional areas where it can be deployed. The insurance experience suggests that non-territorial SEZs are more likely to be successful in expanding the scope of regulatory competition where:

- there is a regulated product or service easily offered across jurisdictional lines;
- there is no existing "higher level" regulator to compete for jurisdiction;
- a crisis creates demand for expanding the pool of suppliers; and
- existing regulators are invested heavily in maintaining their regulatory primacy.

A non-territorial SEZ is possible even if these conditions do not all exist; these conditions are merely facilitative rather than necessary.

One example where states have taken steps on their own to create non-territorial SEZs is in banking. For example, New York, New Jersey, and Pennsylvania agreed to allow banks chartered by any of them to operate in the other two states under their home state's regulatory system (New Jersey 2008). Another example is non-bank fintech companies, which need money transmitter licenses in each state (except Montana) where they operate (CRS, 2020: 2), a situation remarkably similar to the insurance markets discussed here.[4] Just as in the insurance case, the Conference of State Banking Supervisors is playing defense on behalf of state licensing requirements much as the NAIC does in insurance regulation. Thus far, the fintech companies have focused on obtaining an alternative national license, something the CSBS has successfully resisted via its own harmonization efforts (CSBS 2020; CRS 2020). The RRG model of allowing companies licensed in any state to operate nationally could offer an alternative path, one which would be likely to foster innovation than the current requirement of a license in each state. Similarly, the structure of RRG regulation resembles the EU's "passporting" scheme for financial institutions (including insurers), in which entities licensed in one EU member can do business in the others, subject to general regulations (such as the EU's "Solvency II" Directive in insurance) and to each member's generally applicable laws for that industry. Indeed, the founding editor of the Risk Retention Reporter, Karen Cutts (1989d, 3), an expert on the industry, argued that the LRRA was "America's 1992," the year of the passage of the Single European Act.

Another U.S. example where the facilitative conditions are met is occupational licensing. In the wake of several natural disasters and the pandemic, some states have accepted occupational licensing by other states for critical personnel. The Uniform Emergency Volunteer Health Practitioner Act (adopted so far by 18 states and the District of Columbia) allows any state to recognize out-of-state licenses for health care practitioners during a state of emergency. Several multistate compacts also permit mutual

[4] I am indebted to Julie Hill for this example.

recognition of specific occupational licenses. Arizona pioneered universal recognition of other states' licenses for some occupations in 2019; at least seven additional states have followed suit (Michael & King,, 2021). In addition, Sen. Mike Lee has proposed legislation to encourage less restrictive means of occupational licensing among states and to reduce licensing barriers for the District of Columbia and federal property. (Id.)

These examples suggest ways in which non-territorial SEZs could be expanded. Where a group of jurisdictions has agreed to a set of comprehensive regulatory standards, such as Solvency II which has been adopted by some non-EU member jurisdictions, or standards developed by an international organization such as the International Association of Insurance Supervisors, those jurisdictions could also agree to allow businesses licensed in any jurisdiction adopting those standards to operate freely across jurisdictional lines. As in the occupational licensing example, recognition of cooperating jurisdictions' licenses could be implemented relatively simply in many cases. Either the surplus lines model (requiring a local regulated entity as an intermediary) or the PG/RRG model (requiring a notice filing for the non-domiciliary jurisdiction) could be used. The former allows local regulators some control over the behavior of those involved; the latter would permit the lowest cost expansion of markets. Jurisdictions operating within an existing economic arrangement, such as CARICOM in the Caribbean or ECOWAS in Africa, could do the same. Non-territorial SEZs offer the opportunity to expand the scope of the law market, introducing regulatory competition into additional substantive areas. While not appropriate for every area of regulation, they could enable greater competition among regulators to move away from one-size-fits-all approaches and enable a closer match between regulations and regulatory goals.

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US SEZs for The New Atomic Age: Energy Innovation Zones

Maxwell Tabarrok
College of Arts and Sciences, University of Virginia
maxwell.tabarrok@gmail.com
ORCID 0000-0001-7609-1525

Abstract:
Energy is a fundamental instrument in nearly all things that humans find valuable. Over the past 200 years, there has been consistent growth in energy access per capita at an exponential rate of about 2% a year, mostly due to greater understanding and control over fossil fuels. However, since 1970, our growth in energy access has stagnated. This paper suggests a way to address this stagnation through a low-hanging fruit policy change: The “Energy Innovation Zone” (EIZ). This is a special jurisdiction that focuses on accelerating energy growth. This paper considers EIZs in the United States. We quantify the potential of advanced nuclear and geothermal power based on the extrapolation of historical data and the theoretical limits of each power source and then show that these sources are sufficient for accelerating energy growth. Then we summarize the current state of regulation of underutilized forms of energy production and show that this regulation explains most of the observed stagnation in energy growth. Next, we propose the idea and structure for the Energy Innovation Zone and point out specific statutes that would have the largest impact when relaxed or repealed in the special jurisdiction. Finally, we will conclude with an analysis of the political feasibility of such a proposal. We find that EIZs have the potential for large and long-term impact and are more feasible than other energy policy reform strategies.

Keywords: Nuscale, Beach Bottom, Nuclear plant, Special Economic Zones, nuclear energy, Energy Innovation Zone, NEPA, Nuclear regulatory comission, Idaho National Laboratory.

Resumen:
La energía es un instrumento fundamental en casi todas las cosas que los humanos encuentran valiosas. Durante los últimos 200 años, ha habido un crecimiento constante en el acceso a la energía per cápita a una tasa exponencial de alrededor del 2% anual, principalmente debido a una mayor comprensión y control sobre los combustibles fósiles. Sin embargo, desde 1970, nuestro crecimiento en el acceso a la energía se ha estancado. Este documento sugiere una forma de abordar este estancamiento a través de un cambio de política de frutas maduras: la “Zona de Innovación Energética” (EIZ). Esta es una jurisdicción especial que se enfoca en acelerar el crecimiento energético. Este documento considera las EIZ en los Estados Unidos. Cuantificamos el potencial de la energía nuclear y geotérmica avanzada con base en la extrapolación de datos históricos y los límites teóricos de cada fuente de energía y luego demostramos que estas fuentes son suficientes para acelerar el crecimiento de la energía. Luego resumimos el estado actual de la regulación de las formas infrautilizadas de producción de energía y mostramos que esta regulación explica la mayor parte del estancamiento observado en el crecimiento de la energía. A continuación, proponemos la idea y la estructura para la Zona de Innovación Energética y señalamos los estatutos específicos que tendrían el mayor impacto cuando se relajaran o derogaran en la jurisdicción especial. Finalmente, concluiremos con un análisis de la factibilidad política de tal propuesta. Encontramos que las EIZ tienen el potencial de un impacto grande y a largo plazo y son más factibles que otras estrategias de reforma de la política energética.

Palabras Clave: Nuscale, peach bottom, planta nuclear, energía nuclear, Zona Económica Especial, Zona de Innovación Energética, NEPA, Comision de regulación nuclear, Laboratorio Nacional de Idaho.

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1. INTRODUCTION:

Whether our goal is to extend the human lifespan, mitigate climate change, or simply advance the material wealth of our society, greater access to energy is needed (Roser, 2021). The unprecedented rapid rise in per capita living standards that we have experienced over the past 200 years have coincided with an equally exponential rise in per capita energy use (Hall, 2021). Recent stagnation in economic growth in the United States is similarly correlated with stagnation in energy growth (Hall, 2021). Much of this stagnation is caused not by technological constraints, but rather by institutional failure. Stringent and expensive permitting procedures have, since their conception in the 1970s, ballooned in cost and domain. Expansion of committee consensus bureaucracy, distribution of veto power, and incentive structures that promote risk aversion have weakened our ability to construct world-changing (Collison, 2020) infrastructure. Although the organization of these institutions are path dependent and difficult to reform due to self-reinforcing ("Parkinson's law," 2022) incentive structures (Crawford, 2021), small scale experimentation with special jurisdictions has a proven track record (Baissac, 2011) of leading to positive effects and even national scale reform.

In Section I, we will quantify the potential of advanced nuclear and geothermal power. These are the only terrestrial energy sources which are plentiful, clean, and controllable enough to grow our energy production by several orders of magnitude without imperiling the health of our planet. Then in Section II we will give an overview of the current state of regulation of underutilized forms of energy production. We will focus on nuclear and geothermal energy as these sources are carbon neutral with high energy potential and demand-variable output. These characteristics are necessary to fully replace and expand beyond our fossil fuel energy sources. These sources are also highly regulated relative to alternatives which makes marginal deregulation much more effective since they are so strictly regulated in the status quo that even small legal changes can have big effects on energy output. Section III will lay out the idea and structure for the Energy Innovation Zone and point out specific statutes that would have the largest impact when relaxed or repealed in the special jurisdiction. Finally, Section IV will conclude with an analysis of the political feasibility of such a proposal and a discussion of how we might align the interests of existing stakeholders and acquire their support.

1. THE POWER OF NUCLEAR AND GEOTHERMAL POWER

1.1. We Need More Power

Energy growth and economic growth have moved in tandem exponential growth for the past few hundred years. This is because most economic growth consists of moving atoms around into more useful

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patterns than they began in. This takes energy, so if we want to get more growth we need to move more atoms around which takes more energy. Since the 1970s, US energy growth has fallen off the exponential growth trend and stagnated as shown in the graph below.

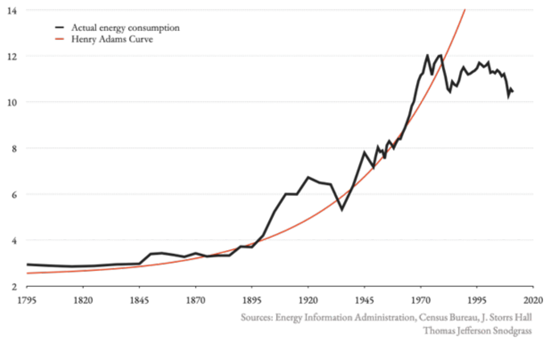


Figure 1: The “Henry Adams Curve” plots a 2% growth rate in energy use per capita which we followed closely until 1970

By some measures, our economic growth remained on its exponential growth path despite this energy stagnation. This reflects some positive trends. We are becoming more efficient in our production methods (Perry, 2011) and we are dematerializing (Mcafee, 2019) as we move more of our economic growth from atoms to digital bits. However, our economy shows many signs of stagnation, and arguably more important measures of economic growth like median income, graphed below, have flattened along with energy growth.

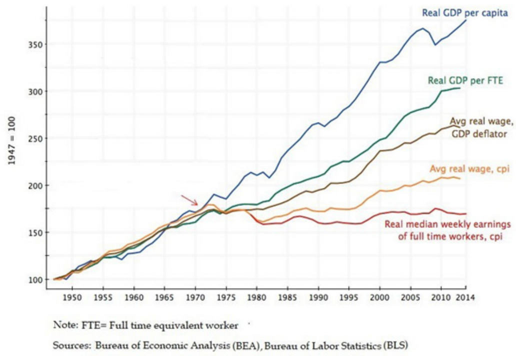


Figure 2: Real GDP, Real Wages and Trade Policies in the U.S (1947-2014)

If we want to continue economic growth and guarantee that everyone sees significant material improvements to their lives, we need more energy.

1.2. Tradeoff Between Power and Planet

The two most pressing problems facing humanity today are global warming and global poverty. It seems, at first, that solutions to these problems are at odds with each other. To alleviate global poverty, we need more economic and energy growth, which has traditionally meant emitting more carbon into the atmosphere. Many people similarly believe that in order to avoid climate disaster we need to scale back economic growth and stagnate ("Degrowth", 2022). If we treat our current level of technology as fixed, growth skeptics are right that the tradeoff between economic growth and environmental protection is unavoidable. However, new energy production technologies allow us to move past the frontier of this tradeoff to get more energy and less carbon; more growth and less environmental damage. Nuclear and geothermal energy are the two most promising paths towards transcending the tradeoff between power and planet.

1.3. Nuclear Energy

The potential of nuclear energy has been known for decades. Since the 1950s, scientists have predicted utopian futures with abundant energy supplied by the peaceful atom. Although these futures have not yet come to pass, the source of this optimism is grounded in the physical properties of nuclear energy. Nuclear power's high energy density, carbon free by-products, and versatility make it a powerful energy source for an optimistic future.

Nuclear energy has extremely high energy density. Energy density can be measured gravimetrically (unit of power per unit of weight) or volumetrically (unit of power per unit of space), by either metric nuclear power is very dense. One gram of uranium could produce the same amount of energy as a metric ton of oil (Ausubel, 2015). Mass has a lot of energy, and nuclear fission is orders of magnitude more efficient at extracting that energy from mass than any chemical reaction. Nuclear power plants also have a small volumetric footprint, graphed below, and they are getting smaller (Cheng & Hammond, 2017).

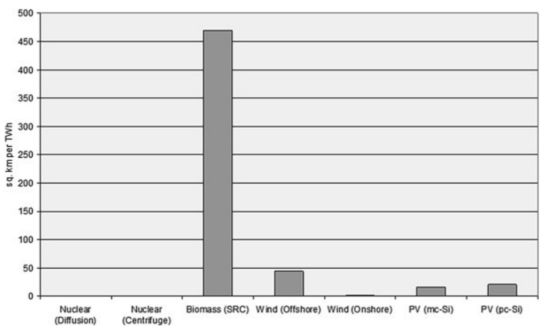


Figure 3. Kilowatt hours per square kilometer of various fuel sources

Greater energy density than fossil fuels is an essential characteristic for any technology that aims to supplant their top spot in our global energy production function. This is because energy demand is becoming denser as urbanization rapidly increases and energy consumption per square meter goes up. Without high energy density and economies of scale, keeping up with increasing and densifying energy demand will quickly spiral out of control. Solar and wind energy, for example, have basically constant returns to scale. To double power output, you need to double the land area that you farm. This is not a sustainable way to keep up with exponentially increasing energy demand. Electricity production from nuclear reactions has steep increasing returns to scale, and the parts of the energy supply chain with lower returns to scale such as fuel mining are a small fraction of the cost per kilowatt since they fuel is so energy dense.

Nuclear energy is a carbon free energy source. The only by-products are heat and a small amount of spent fuel which can be safely stored or used again. Compared to other renewable energy sources, nuclear is more environmentally friendly. It uses much less land, leaving more space for carbon-sucking plants and animals, and it requires much less cement, steel, and lithium per kilowatt (Cheng & Hammond, 2017).

Nuclear energy is also a very versatile energy production technology with lots of room for new innovation and cost decreases. Nuclear power generators can occupy a wide range of scales, from huge 1000+ MW power plants, to small modular reactors, or even individual vehicle scale ("Nuclear Submarine", 2022) nuclear engines. The range of effective scale means that nuclear power has the potential to change our relationship with energy, not just for grid level production, but also for individual use. Reactors small enough for cars or trucks are possible, and they could give rise to cars that have million-mile ranges on a single pellet of fuel. Alternatively, the heat from nuclear reactors can be used to manufacture hydrogen which goes into electricity producing fuel cells in cars, planes, airships, and whatever else you can imagine. Further developments in nuclear tech, like fusion reactors, would be a huge next step on our journey up the Kardashev scale. All of these technologies are expensive and hard to build now, but learning by doing and economies of scale are powerful forces. They pushed prices of solar panels down over 90% in the past 10 years (Roser, 2020b) and are responsible for the astounding cheapness of all of our consumer goods. If we let people mass produce and experiment with nuclear reactors, their costs can come down and their influence can spread.
Nuclear energy has the potential to change our economy and our environment for the better.

1.4. Geothermal

Geothermal energy is the process of transferring heat from the core of the earth into electricity. This is usually done by injecting a fluid as deep into the earth's crust as we can go, bringing it back up, and using that heat to spin turbines. Geothermal today is an insignificant source of energy, producing only

.4% of the US's total energy consumption. It has more potential, however, than all forms of chemical and radioactive energy combined. The massive size of geothermal energy reserves, abundance of possible extraction points, and spillover between the natural gas and mining industries make geothermal a promising path forward toward expanding and decarbonizing our energy production.

The size of geothermal energy reserves is difficult to comprehend. If you add up liberal estimates of the energy content of all of the possible coal, oil, gas, and methane in the Earth's crust, you find about 630 zettajoules (one zettajoule is about 7 trillion gallons of gas) of energy (Dourado, 2021) .The total amount of geothermal energy in Earth's crust is 23 thousand times that. Even after adding potential radioactive energy, crustal thermal energy reserves dwarf everything else.

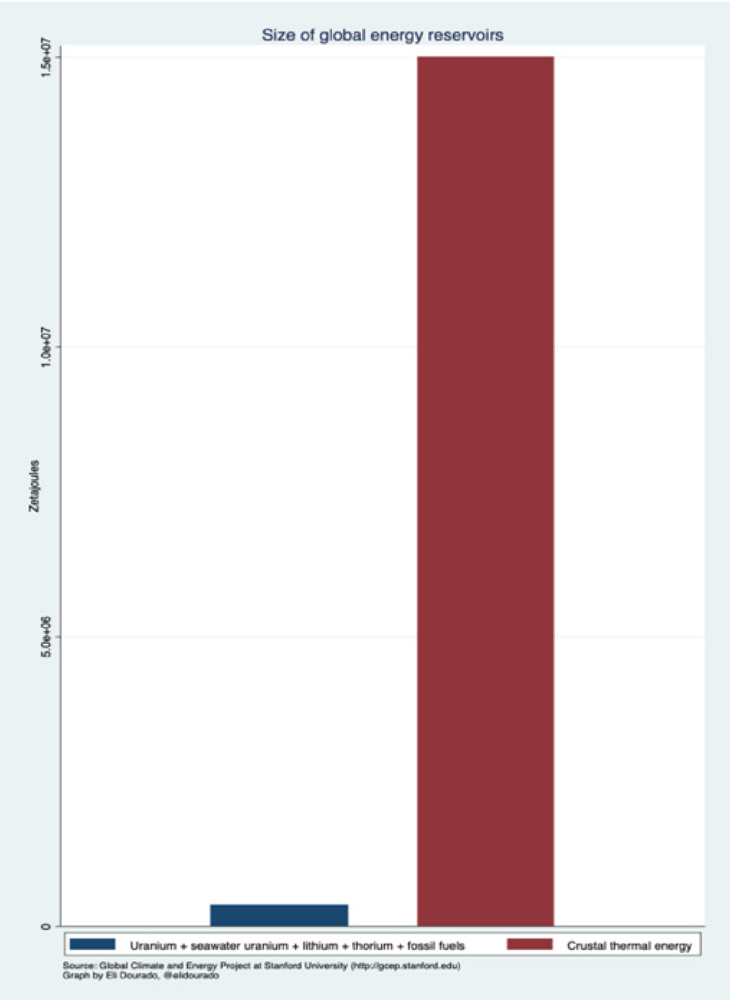


Figure 4: Size of global energy reservoirs. Source: Global Climate and Energy Project at Stanford University

Geothermal energy is also accessible almost anywhere on earth, as long as you can drill deep enough. Our current shallow wells rely on geothermal springs which are rare, but the deeper you go, the hotter it gets everywhere. If we can get better at drilling, just about anywhere in the western US will be a potential source of dirt-cheap electricity.

This brings us to geothermal's third exciting characteristic: it can take advantage of advances in drilling technology made during the natural gas/fracking boom. Fracking works by drilling a deep hole, and then pumping high pressure water into it. This creates a root-like network of fractures in the rock that spread out and release lots of natural gas from the shale. This fracture network also happens to be a very efficient way to transfer heat from rock into a fluid. This fluid could then be pumped back up and used to spin turbines and generate power. The more we learn about the properties of drilling and fracturing rock, the closer we get to Enhanced Geothermal Power which could unlock the massive energy reserves right below our feet. In addition to the natural gas industry, geothermal also has spillovers with the mining industry. Specifically, lithium mining. As a side effect of gathering heat from rock, hot fluid also dissolves many minerals from the rock around them. One of the most easily dissolved minerals is lithium. In recent tests of a geothermal plant in England, more than 250 milligrams of lithium per liter of the fluid was found. Since lithium is an essential material for batteries, this property not only subsidizes the cost of geothermal production but complements nicely with other forms of renewable energy and electricity in general.

Although geothermal is small today, it has the largest potential of any terrestrial energy source. Learning how to harness it would give us access to cheap energy and lithium almost anywhere in the world.

2. REGULATION OF ENERGY INFRASTRUCTURE

2.1. Regulatory Framework

The modern process of building any infrastructure, including energy production, is defined by a set of standards and procedural regulations put in place during the environmental movement of the 1970s. Chief among these is the National Environmental Policy Act (NEPA). Passed unanimously through the senate in 1969, this law requires all federal agencies to issue reports on the possible environmental impacts of any action they might take. This includes issuing of federal permits or approvals to private projects, and therefore NEPA effectively applies to these private projects as well. NEPA reviews started out as manageable and perhaps even beneficial considerations of environmental impact, but through a process of public comment, bureaucratic growth, and litigation pressure, NEPA compliance has ballooned into years long hundred-page projects that handicap our ability to build fast and innovate in infrastructure.

There are three possible ways to comply with NEPA. First is a categorical exclusion. These are activities that are pre-approved as having no environmental impact and can therefore avoid the subsequent paperwork. For example, the Federal Highway Association has designated actions ("National Environmental Policy Act," 2022) such as construction of bicycle and pedestrian lanes, noise barriers, and landscaping normally as not individually or cumulatively having a significant environmental effect and therefore may be categorically exempt. There are, however, exceptions if the construction has a chance to involve any endangered species or historic places. If an activity is pre-approved for a categorical exclusion, then NEPA compliance is relatively simple. Getting a categorical exclusion for a new activity, however, can be complex and expensive. An application for such an exemption requires fastidious study of "the entire proposed action and not be used for a segment or an interdependent part of a larger proposed action." Even if the proposed action has been environmentally assessed and found to have no significant impact by other agencies, a new report must be drafted and made available for public comment. Categorical exclusions are mostly used by federal agencies to justify day-to-day bookkeeping operations, minor amendments to permits or licenses, and small scale research. They can be used for more ambitious projects though. The oil and gas industry has numerous exceptions ("Energy Policy Act of 2005," 2022) to environmental procedures and standards and BP's Deepwater Horizon project was approved with a categorical exclusion. Although the categorical exclusion can be the most convenient way to comply with NEPA, it is still a product of bureaucratic procedure, case law, and is still expensive.

The federal actions most relevant to this paper: permitting new energy infrastructure, are not generally afforded categorical exclusions. Instead, they must go through the longer and more arduous process of environmental assessments (EA) and environmental impact statements (EIS). Environmental impact statements are extremely costly in time and labor and they are getting more expensive quickly. The average length of an EIS is more than 600 pages (Executive Office Of The President Council On Environmental Quality, 2019) plus appendices, which themselves average over 1,000 pages.

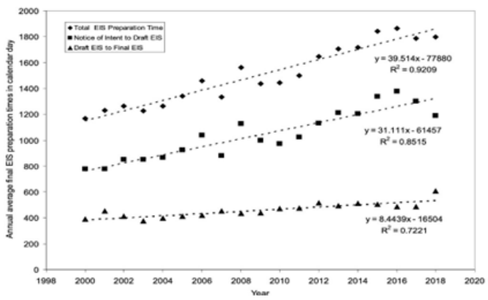


Figure 6: Average annual preparation times for final supplemental EISs Source: https://medium.com/cgo-benchmark/why-are-we-so-slow-today-c34dad4d2bff

These huge documents take an average of four and a half years to complete, and several have stretched beyond a decade (Executive Office Of The President Council On Environmental Quality, 2018). These averages do not count projects that are currently stuck in decades long environmental review. Not only are EIS statements long, but they are also getting longer every year.

This regression from the National Association for Environmental Professionals (National Association of Environmental Professionals, 2018) shows that EIS preparation time is increasing an average of 39 days every year. Due to the snail's pace of review and the lengthy process required to even begin an environmental impact statement, only around 200 are approved each year. Environmental Assessments (EAs) are the reports you file to find out if you need to file the EIS report. Environmental assessments (EAs) are much more common with about 12,000 completed every year. Most actions that submit an EA are found to have no significant impact and are approved. These are usually shorter than EIS, but they have also been growing in size. For example, the environmental assessment for a proposed runway approach procedure at Boston Logan Airport (Environmental Science Associates & Daniels, 2022) currently stands at 2,100 pages.

Although NEPA environmental reviews and assessments require meticulous depth and accuracy, they do not necessarily protect the environment. Federal bureaucracies have the authority to approve an action even if an environmental review finds that significant environmental damage would result. NEPA review also frequently delays or prevents projects that would have huge environmental benefits. In July of 2021, plans for Nevada's largest solar power plant were terminated by the Bureau of Land Management because of protest from a small group of 'environmentalists.' NEPA requires that this sort of public comment be sourced and obeyed multiple times throughout the timeline of any infrastructure project.
Democratic consent for large infrastructure is desirable, and a majority of voters approved a state-wide transition to majority renewable energy, but distributing this sort of veto power to so many small groups of people creates hold-up problems and paralyzes us. Another project, a 550 Mw solar farm in the Mojave Desert built by BrightSource was delayed by decades and compelled to produce tens of thousands of pages of environmental review. The main subject of the 36 boxes of project files kept by the Bureau of Land management was the Desert Tortoise. Although the project takes up only a fraction of a percent of the Tortoise's total habitat and the animal is classified in the least threatened group of endangered animals, huge concessions were made on the Tortoise's behalf.

> "BrightSource negotiated with state and federal agencies to hash out meticulously detailed protocols for collecting and relocating tortoises, also agreeing to monitor them for five years after they were moved. The company made its first concession to the tortoise during planning, giving up about 10% of its expected power output in a redesign that reduced the project footprint by 12% and the number of 460-foot-tall "power towers" from seven to three. BrightSource also agreed to install 50 miles of intricate fencing, at a cost of up to $50,000 per

mile, designed to prevent relocated tortoises from climbing or burrowing back into harm's way." (LA times, 2012)

After an initial survey of the area found 16 tortoises, the U.S. Fish and Wildlife Service issued BrightSource a permit to move a maximum of 38 adults and allowed a total of three accidental deaths per year during three years of construction. Any more in either category and the entire project would be shut down. BrightSource has paid for hundreds of biologists to survey the area and care for relocated turtles, donated millions to a Desert Tortoise Wildlife Management Area (Donnelly-Shores, 2014), and relocated thousands of tortoises. Still, the national environmental group Defenders of Wildlife filed a notice of intent to sue the government, citing violations of the Endangered Species Act, which the desert tortoise is protected under.

There is far too much money, brainpower, and time devoted to this minor environmental cost of renewable energy infrastructure. Any reasonable cost benefit would find that although a large solar farm does take up several square miles of land, the value of thousands of megawatts of carbon-free energy far outweighs aesthetic complaints from sparse nearby residents or danger to the Desert Tortoise. At most, a form of Pigouvian compensation could be paid to the sparse residents in the area for the disutility of looking at a solar farm, or money donated to the conservation of local wildlife. Instead, projects that are essential to avoiding carbon catastrophe are terminated by bureaucratic procedure.

NEPA is at the center of US environmental policy, and it acts as a primary model for federal environmental agencies to make policy (Marchman, 2022). For example, through the Endangered Species act of 1973, the US Fish and Wildlife Service enforce compliance by requiring federal agencies to produce lengthy environmental and economic reviews of any actions which could interfere with one of the thousands of endangered plants and animals or hundreds of 'critical habitats' within the US. These procedural rules form the backbone of environmental regulation in the United States. They are ornamented with thousands of specific statutes and standards covering everything from water pollution to the breeding habits of the American Alligator. Some of these standards are intelligent policies that pass cost-benefit tests, most of them are not. Several percentage points of our national GDP: hundreds of billions of dollars (Pizer & Kopp, 2003), is spent on compliance with these standards, and countless more is lost in the forgone surplus from beneficial projects that were shut down.

2.1. Nuclear Energy

Within the already suffocating overarching regulatory framework, nuclear energy is subject to a slew of specific regulations that further drain its potential. These extra rules come primarily from guidelines set by the Nuclear Regulatory Commission (NRC). Poor regulatory incentives have led to radiation standards that defy science, catch-22 testing policies, and extremely long and expensive design certifications.

To understand the costs of regulation, let's go through the process of building and operating a nuclear reactor from start to finish, stopping at all the regulatory barriers along the way. The process begins with certifying the design of your nuclear reactor. This will take at least 5-7 years and cost tens of millions of dollars. It will take longer if you propose a new design, like a molten-salt or small modular reactor, even though these designs can exceed the NRCs safety requirements by thousands of times (Batkins et al., 2017). Next you have to approve the construction site for the power plant. This leaves the NRCs direct authority and ventures under the NEPA umbrella. These construction approvals are also years long and expensive projects as your power company must draft up thousands of pages of studious environmental review (are there any Desert Tortoises in the area?). At any point in this process, a small group of motivated 'environmentalists' can force you to circumscribe the scale of your project, increase your spending on regulatory compliance by tens of millions, and even sue to stop your project all together. This is likely to happen because fear and opposition to nuclear power is pervasive in western society, despite the technologies stellar safety record ("Anti-nuclear movement," 2022). If, after a decade or so of paper work and court cases you have managed to avoid bankruptcy and public unrest, you can build and begin operating your plant. The costs of regulatory compliance are just beginning, however. The American Action Forum (Batkins et al., 2017) found annual ongoing regulatory costs range from $7.4 million to $15.5 million per year per plant, mostly related to paperwork compliance. They also collected data on capital expenditures (capex) for nuclear power plants. This includes uprates, extended operations, equipment replacement, and regulatory spending. Based on this data, regulatory capex has more than tripled from 2006 to 2015, from $629 million annually to $2 billion. This is by far the fastest-growing category of capex in the surveys. Because the number of nuclear plants has declined since 2006, the cost per plant has also increased by more than 340 percent. In 2015, the most recent year data are available, the percentage of regulatory spending has climbed to 32 percent of total nuclear capex. Combine this with an average 20 million dollars in fees paid to the NRC each year. In all, there are at least $15.7 billion in regulatory liabilities for the industry, or $219 million per plant. Regulatory compliance in the United States' nuclear industry adds decades to project timelines and hundreds of millions of dollars to their costs.

Although it is undeniable that some costs of regulatory compliance are necessary, the rapidly rising regulatory costs don't show up in other countries and don't track with the rapidly increasing safety of nuclear technology.

Costs of nuclear construction were decreasing rapidly in the 50s and 60s as scientific knowledge advanced alongside engineering experience and learning by doing. Then, in the mid-1970s as multiple layers of environmental and safety regulation were piled on, costs exploded, and new construction stopped. Like the extra regulation, however, this trend was unique in the US. France managed to keep costs constant through this period and South Koreas costs declined by 13 percent for reactors constructed between 1989 and 2008. Additionally, even though safety and environmental review costs are getting higher, nuclear reactors have been getting much safer. NuScale's small modular reactor design is 10,000 times less likely to meltdown than existing light-water reactors (NuScale Power, 2013). The massive increase in environmental and safety regulation of nuclear energy is not because it is getting more dangerous or harmful, and it doesn't make our world safer or cleaner.

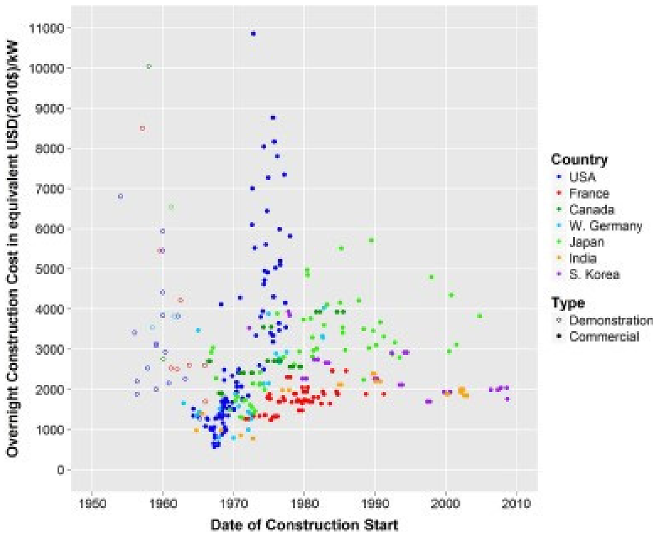


Figure 7: Overnight Construction in equivalent USD (2010$) kW Source: https://www.sciencedirect.com/science/article/pii/S0301421516300106#f0060

The NRC is staffed by dozens of scientists and lawyers, many of whom have spent their lives researching nuclear power. The individuals that make up the NRC are excited by and interested in advancing nuclear power; their intentions are good. The nuclear energy industry is similarly filled with scientists and businesspeople who want to see nuclear energy succeed. Despite this, the regulatory burden imposed on nuclear energy is a hundred-billion-dollar weight that is too much for the technology to carry. How did the good intentions of NRC staff turn into a death knell for nuclear power?

The answer lies in the institutional structure of federal bureaucracies and the incentives faced by regulators. The NRC directly benefits from drawn out approval procedures and faces consequences only for errors of commission, making their regulatory oversight expensive and risk averse. Nuclear power companies must pay the NRC upwards of three hundred dollars an hour for every hour that it takes to review their application for design, construction, and operating licenses and these applications take several years to resolve. The result of this incentive structure is obvious. The longer it takes to approve projects, the more money goes into their pockets, so approval times get longer and longer and longer. In addition to the direct financial incentive for delaying approval times, there is an acute asymmetry in the risk reward structure that the NRC acts under. They are the first ones to receive blame if anything goes wrong with an approved reactor, but they get no benefits from approving more safe reactors. They could streamline their licensing procedures and approve 20 more reactors each year, but no one would give them more money or status for it. If just one of these reactors has even a small malfunction, they would face widespread public protest. Two of the most famous reactor meltdowns in modern history, Three Mile Island and Fukushima, caused zero deaths and no statistically significant increase ("Fukushima Daiichi nuclear disaster casualties," 2022) in cancer risk to immediate neighbors ("Three Mile Island accident," 2022), but they still loom large in the public consciousness. The incentive structure of the NRC makes it unrewarding and dangerous to support the development of nuclear power and it provides direct financial rewards for doing the opposite. The result is unsurprising: strict regulation of nuclear power that has essentially shut down the industry within the US.

2.3. Geothermal Energy

Unlike nuclear energy, geothermal energy does not command nearly as much attention from federal regulators; there is no Geothermal Regulatory Commission. This is a blessing and a curse. It frees geothermal from another layer of approval processes on top of NEPA, but it means that the technology is often treated as irrelevant. This neglect has resulted in overregulation of the technology compared to strictly worse natural gas and oil drilling.

Geothermal only generates 0.4% of the US's total energy. This smalls size means it's a small industry without the resources for extensive government lobbying. As a result, geothermal is simply appended to the list of industries and practices covered by federal environmental regulations and tax credits. Compared to nuclear, this is good thing. Geothermal is only subject to regulations that apply to nuclear and solar and wind; an intersection rather than a union. This picture looks less rosy, however, when one remembers that the regulations applied to nuclear and solar, and wind are massively costly in time and money. A geothermal project would hit the same desert tortoise shaped stumbling block as BrightSource's solar farm did and it would similarly take decades and tens of millions of dollars to get over it.

Geothermal's middle of road regulatory status is even more confusing when compared with natural gas and oil drilling industries. The techniques for drilling and fracturing are similar in both technologies, but the environmental effects of natural gas and oil are undeniably worse. Despite this, natural gas and oil have huge concessions and exceptions from the federal regulatory framework while geothermal does not. The Energy Policy Act of 2005, for example, exempted fluids used in the natural gas extraction process of hydraulic fracturing from protections under the Clean Air Act, Clean Water Act, Safe Drinking Water Act, and CERCLA. Section 390 of the Act created a categorical exclusion for oil and gas exploration and development on public lands so that these actions would avoid holdup in environmental review under NEPA.

Geothermal has none of these privileges. Tim Latimer is a former gas industry executive who has moved into the growing geothermal industry, but the costs of regulatory compliance compared to oil and gas surprised him.

> "I've been astounded as I've entered this industry coming from the oil and gas space, where we have very responsive regulators that work with us to tell us what to do and where to do it, and we were able to get projects permitted very quickly…A common experience for me in geothermal is we submit all of the necessary paperwork, regulations, environmental impact assessments to the regulatory bodies and it sits there for months and months and months and we actually can't even get a response. When you ping them about it, they say, "We don't have the resources." So, the same office that has many resources dedicated to oil and gas to do these reviews doesn't have it for geothermal." (Dourado, 2020)

There is no cost benefit analysis that would conclude that it should be easier to approve and develop carbon-producing externality factories like oil wells than clean and safe geothermal energy. Instead, this is a result of lobbying efforts and bureaucratic inconsistency.

Geothermal energy is, thankfully, significantly less regulated than nuclear energy. Still, procedural environmental regulation is a large barrier to entry for the developing technology. Regulatory standards should be brought at least in line with polluting oil and gas, and they should probably be much less costly than that.

3. FRAMEWORK FOR THE ENERGY INNOVATION ZONE

3.1 Vision for the Zone

In the early 20th century, 800 square miles of rural Idaho was set aside as a laboratory for nuclear energy experiments. Long before NEPA was passed, experiments were ambitious and moved quickly. This single test site, the Idaho National Laboratory, has been the center of development of nuclear knowledge for decades. John Grossenbacher, former INL director, said, "The history of nuclear energy for peaceful application has principally been written in Idaho." Lately, experimentation has slowed down and they still use a test reactor that was built in 1967 to do experiments. What could be learned if turnaround were quicker, and more experiments were allowed?'

The Energy Innovation Zone (EIZ) will be a more permissionless space for experimentation and innovation in energy infrastructure modeled on the success of the Idaho National Laboratory. The goal for the zone is to foster rapid experimentation and tinkering for advanced energy technologies. The testing done in the EIZ will not only advance our scientific knowledge, but should also serve as a basis for rapid approval for consumer development of these new technologies on the national level. This can be achieved in two ways which are not mutually exclusive. One is to secure a geographical categorical exclusion for a wide range of projects within the zone, with precedent from BPs categorical exclusion for oil drilling in the Gulf of Mexico (Brinkmann, n.d.). The second is to create a new federal organization which oversees the EIZs directly, without any intermediary oversight from the Council on Environmental Quality, Department of Energy, or the Nuclear Regulatory Commission. This would quicken turnarounds on experiments, reduce purely procedural regulatory costs, and remove several sources of veto power.

3.2 Specific Statutes that Would do the Most Good if Repealed/Implemented

To see the biggest obstacles facing energy infrastructure development, it helps to look at a case study. The failure of the Next Generation Nuclear Plant ("Next Generation Nuclear Plant," 2022) is a characteristic example. Among many other goals, the omnibus Energy Policy Act of 2005 wanted to promote a 'nuclear renaissance.' Part of that was requiring the DOE to pursue a project to create a new type of reactor: the High Temperature Gas Reactor (HTGR). HTGRs can use heat to efficiently generate electricity and produce hydrogen. The envisioned reactor design is helium-cooled, using graphite-moderated thermal neutrons. This type of reactor is not only more efficient and powerful than traditional Light Water Reactors (LWR), but it is also much safer, with inherent design features that prevent core meltdowns (Pal & Shankar,1989). Although this was a modern design, this sort of reactor had been tested and demonstrated in the 1960s and 70s (Department of Energy, 2008). Still, it took 3 years of work from a group of senior DOE and NRC officials just to work up a strategy for navigating the nuclear regulatory bureaucracy of their own creation (Department of Energy, 2008). The main issue was the NRCs gargantuan list of processes and standards were all made in relation to traditional 1960s Light Water Reactors (LWR), so they had to go through all of them and find ways that they could be adapted to VHTRs.

> "The NRC estimates that it will take 5 years to develop necessary analytical tools, data, and other regulatory infrastructure (e.g., regulatory guides, standard review plan, etc.) for confirmatory safety analysis and license review. The NRC also estimates that it will take 4-5 years to conduct the licensing review. In order to meet the statutory requirement to complete construction and operation of the NGNP by FY 2021, the NRC staff and the NGNP applicant will have to engage in a 3-year preapplication review starting in FY 2010, followed by a very aggressive 4-year license application review period starting in FY 2013. The NRC estimates that the total resources required to conduct the activities in item (6) above could be in the range of $128 - $149 million for the period FY 2009–2018.
> This licensing strategy uses very aggressive durations for such critical path items as design,

> licensing, and construction. DOE and the NRC recognize the industry's desire to outperform the currently estimated schedule and thus complete the project before 2021, but they also recognize that 2021 is already an ambitious goal for the design, development, licensing, and construction of a first-of-a-kind prototype NGNP."

They are treating a 16-year timeline for a test reactor of a type that has been known since the 1960s as almost unattainably ambitious! The first high temperature gas reactor to produce electricity, 1967's Peach Bottom Nuclear Generating Station ("Peach Bottom Nuclear Generating Station," 2022), was applied for, approved, and constructed in half the time it would take to just license NGNP. Despite over $500 million dollars spent and 6 years of work, the DOE discontinued the Next Generation Nuclear Plant project in 2011, not even beginning the actual licensing and review process. The failure to even begin a review of the license application for a reactor design far superior to currently running reactors in power, efficiency, and safety despite huge support from executive and legislative branches is an ultimate indictment of our current regulatory system and provides the urgent motivation for the Energy Innovation Zone. The nuclear energy sector has so much regulation that the marginal returns to deregulation will be very high.

The first step that the Energy Innovation Zone will take to accelerate quality advances and cost declines of new energy technologies is creating a categorical exclusion for test reactors or geothermal sites built in the zone. Tinkering, prototyping, and experimentation are essential processes for learning at the frontier of human knowledge. Thomas Edison tested 1,600 different materials as filament for the lightbulb before finding the right one. Since so many tests are required to make advancements, even small barriers sum to huge costs. If Edison had to get someone's approval before each test, even if it only took a day, it would have added more than 4 years to the time it took him to find the right filament. The energy sector has not only to wait years between each prototype, but work for years; filling out mountains of paperwork, lobbying unresponsive bureaucracies, and paying millions in fees. It is no wonder that progress in the energy sector has stagnated. Since the power plants built in the EIZ are located in a relatively remote, purpose-built area, and are strictly for testing purposes, they should be categorically excluded from the NEPA and NRC licensing process. Rather than focusing on meticulous safety studies and environmental review before anything is built, let energy companies build test plants and have inspectors closely monitor its operation. Much more will be learned about the safety of reactors and geothermal plants this way than trying to forecast the characteristics of a technology that has never been built before. Fast and frequent experimentation is the only way to advance the frontier of knowledge, the EIZ will accelerate this process for the energy infrastructure sector.

While a categorical exclusion for the EIZ works within the current system, implementing more impactful reforms will require changes to the incentive structures of our current bureaucracy. The long and expensive approval procedures arise from a combination of requirements from several different organizations including the DOE, the NRC, the EPA, and public hearings. Cutting this down to a single organization with direct authority over the EIZ is essential. This will make it possible to align regulator incentives with energy growth and avoid risks that come from the distribution of veto power.

The advantages of less distributed authority are highlighted in a comparison of the French and American nuclear (Golay et al., 1977) energy sectors. Beyond the earliest stages of site approval, the French do not allow public comment on licensing and construction of nuclear power plants. America allows public input to impede or even shut down projects at several stages of development, even after capital investments have been made, increasing investor risk. The French also have a unitary system of government, which means state and local governments have little authority. There are certainly other advantages to federalism, but in the context of energy infrastructure, it allows every level of government to threaten veto and extract rent from the project's investors. The differing approval processes for nuclear energy have resulted in differing outcomes. While the costs of nuclear plant construction in the U.S have increased by an order of magnitude, they have remained flat in France. Once the group of veto holders has been narrowed down, rules need to be set to align their incentives with energy growth and therefore economic growth.

An example of this is NRC fees. Currently, the NRC charges energy developers upwards of $300 an hour for every hour it takes for them to review and approve their license applications. Clearly, this puts the NRC's incentives at odds with rapid experimentation. Instead, we should align the interests of the NRC with energy development by funding them from a tax on the amount of energy produced by nuclear plants so that they have a stake in increasing the energy capacity of the industry. They would still have strong incentives for guaranteeing safety because meltdowns mean less energy and funding, but they would also see some upside from supporting new technology. Changes to bureaucratic incentives will allow the rapid experimentation necessary for developing new energy technology.

Allowing rapid experimentation in the EIZ is an essential feature, but alone it is not enough to promote widespread development of these technologies. To incentivize actually performing these expensive experiments, successful tests should lead to automatic approval for construction in the rest of the US. Since this is a lucrative reward, the bar for a successful test should be high. To be classified as successful and approved for national consumer use, the test reactor should be able to run continuously for a year without issue, as it would in actual implementation. Running a reactor continuously for a year without selling any power is expensive, but companies will be happy to pay the costs because it will avoid the more expensive and time-consuming traditional licensure process and it will give them valuable operational knowledge and experience that they will need anyways. Instead of investing billions in costly applications, the build-and-test model of the EIZ allows companies to prove that their reactor designs are safe, advance human knowledge, and avoid a bunch of extra costs and time.

Expedited testing approval and a clear path to national approval will be most impactful for nuclear energy because of the huge barriers that NRC approval currently creates. Relaxing NEPA statutes will have a bigger impact on geothermal energy. There should be categorical exclusions for all test projects built in the zone. This means that test projects get a presumption of approval from NEPA rather than having to spend a few years drafting up environmental impact statements. These projects will undeniably have an impact on their environment, but since it is contained in an area already set aside for energy experimentation, it doesn't make sense to make every project go through approval again. Outside of the EIZ, geothermal drilling projects should get at least the same level of exclusion from environmental regulation as far more noxious natural gas and oil drilling.

3.3 Could this Have Wide Ranging Impact?

The EIZ will be relatively small, hosting a few dozen test reactors and geothermal plants. These test plants won't have a large direct impact on energy availability. Will they be able actually help our long-term economy? Even though the direct impact will be small, the ability to pre-license advanced new designs in just a couple years with drastically lowered fees will greatly expand the number and type of reactors that can be profitably built outside the zone. Basic scientific understanding of nuclear and geothermal power will be advanced by an increase in testing which will bring us closer to fusion and advanced geothermal. Quick turnaround testing and tinkering will also promote learning by doing which is a very powerful productivity increasing force and allowing more reactors to be built will imbue more nuclear engineers with more knowledge and experience. The precipitous decline of nuclear construction costs in the 50s and 60s is in large part due to this. The fundamental tech of LWR was developed in the 40s and 50s but the cost decreases came from practice and mass production. The EIZ will do the same for advanced geothermal and new reactor designs.

4. POLITICAL FEASIBILITY

4.1 Scale of the Challenge.

These federal bureaucracies are huge, powerful, and have ratcheting incentive structures which make it near impossible to scale them down. Presidents of all parties have tried and failed to streamline approval processes for nuclear power or through NEPA more generally ("National Environmental Policy Act," 2022). Additive reform won't work, we need metanoia ("Metanoia," 2022): a transformative change of heart or culture. The philosophy and incentives that make up these bureaucracies must either be changed from the ground up or circumvented entirely. Both are theoretically possible but unlikely. Huge change in the incentives of the NRC and circumscribing the purview of NEPA might work. It might be easier, however, to set up an independent regulatory body just for special jurisdictions that can make its own policy about these issues.

The actions of an organization are a function of the culture and incentives of its members. The influence of culture on the actions of an organization is strongest at its founding, when the group of members is small, close knit, and self-selected for like-mindedness. The Founding Fathers were a small group of New World farmers who shared influence from enlightenment political philosophy. This culture influenced their actions strongly. George Washington's altruistic and forward-looking decision to step down from the presidency, despite the incentives of power, is an example of this. Similarly, the early members of startups like Microsoft or Facebook were guided by belief in the utopian potential of software and they dropped out of ivy league colleges despite the pecuniary incentives telling them otherwise. As the organizations drift further from their founding moment, the influence of culture fades and the incentives of the institutions take over. Employees of Microsoft no longer drop out of college and work for years for free in pursuit of a shared vision. Instead, they are graduates of Ivy League colleges who require six figure salaries to motivate them to work at all. Members of the American government are no longer pioneering rebels. Instead, they are ladder climbing bureaucrats who want to enforce the rules and expand the power of their station. Changing the incentives of legacy organizations is difficult because the people who benefit most from the incentives are usually the ones with enough power to change them. Changing the culture of these organizations is similarly unlikely because of their large size and the weak selection effects compared to the organization at its founding.

The alternative to changing the incentives or culture of an existing organization is to create a new one. This is the path that Bill Gates and the Founding Fathers took. Creating a small, independent regulatory body that has exclusive authority over the EIZ would be an easier way to mold the incentive structure and culture of energy regulation in the EIZ than trying to change the already massive NRC and EPA. In order to achieve not only a permissible laboratory for energy experiments but also expedited licensing in the rest of the nation, founding new organizations and amending existing ones will both be required. This makes the challenge of creating and EIZ and implementing reforms that will allow its full potential a very difficult one. Despite the challenge, it is vitally important that we grow the energy capacity and shrink the carbon emissions of the world, but the odds are stacked against us.

4.2 Special Jurisdictions Can Snowball

The EIZ reforms are packaged within a special jurisdiction that make the EIZ easier to start than national scale reform and also easy to expand once it sees success. The success of special jurisdictions in China and their subsequent proliferation around the country and the world serve as models for the EIZ. In the 1970s China was totalitarian, underdeveloped, and recovering from the world's deadliest famine. Many forecasters saw future famines as inevitable ("The Population Bomb," 2022), given growing populations

and stagnant productivity. In the late 1970s, however, China began a process of reform and opening up. As part of this, 4 small coastal cities were granted special allowances for foreign investment and private control of economic activity. Almost immediately the populations and economies of these cities began growing at double digit percen
tages a year. Fifty years later there are now dozens of special jurisdictions within China. Some of which have expanded beyond cities to include entire provinces ("Hainan," 2022). Many millions of people and billions of dollars live within these zones. There are now thousands of similar special jurisdictions (Serlet, 2020) around the world.

The reasons for the success of special economic zones can be replicated by EIZs. First is that the reforms instituted within these zones actually work. Reducing the permitting and licensing required for foreign investment and business creation is a good way to create wealth. The same is true for energy. Once there is proven success with this strategy, that evidence can be used to support expansions of the reform. The next reason is small starting size but easy scalability. China would never have instituted their special jurisdiction reforms on a national level. If Deng Xiaoping had pushed for these allowances on a national level, the entire project would have failed due to opposition from entrenched communist interests. Giving some special rules to a rural backwater, like Shenzhen (CGTN, 2018) or Idaho, is a more feasible strategy.

After getting the ball rolling with these small initial reforms, expanding to larger areas becomes easier for two reasons. First is that the reforms prove themselves with actual results. It is much easier to scoff at an ambitious reform package that has never been tried before, but once it has grown rice paddies into skyscrapers over a decade it is difficult to deny their effects. Additionally, the small initial reform creates a group of stakeholders who stand to benefit from its expansion. Machiavelli said "there is nothing more difficult than to take the lead in the introduction of a new order of things. Because the innovator has for enemies all those who have done well under the old conditions, and lukewarm defenders in those who may do well under the new." Once the Shenzhen SEZ had made dozens of real estate developers and businesspeople into billionaires, there was much more interest in lobbying for the expansion of SEZs into Shanghai.

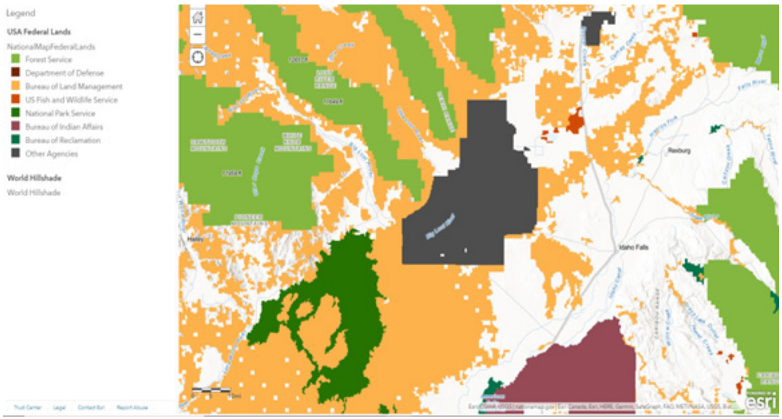
EIZs will follow a similar strategy. Presidents Clinton, Bush, Trump, and Biden have all tried and failed to reform NEPA on a national level. Nuclear energy policy for small rural areas has failed before ("Yucca Mountain nuclear waste repository," 2022), but it at least has a better chance of working its way into some omnibus bill. If significant licensing reforms are passed, then the EIZ will quickly show results as companies like NuScale, Quaise, and Commonwealth Fusion are finally able to show off full-scale test models of their technology. Energy companies who make investments into the zone will have strong incentives to protect and expand the EIZ's reforms. If we can get the activation energy to start a small, semi-autonomous political zone which accelerates energy technology testing and licensing, it could become a self-supporting political interest group for the long-term future. This would allow the reforms of the EIZ to make sustainable improvements to our energy capacity growth rate, causing the massive moral and economic gains that come with such an increase.

4.3 Siting the EIZ

Deciding where to put the Energy Innovation Zone is an important determinant of how difficult it will be to pass it through congress. A large group of experimental nuclear reactors will draw huge public protest, even though they are very safe, so locating near large population centers is a bad idea. This isn't too big of a deal, however, since the EIZ is for testing purposes, not for commercial scale electricity generation so it doesn't need to be nearby cities. As Yucca Mountain and the solar farm projects mentioned above show us, however, remoteness does not guarantee that few people will take notice of the project. So, although any old piece of BLM land would serve our purposes well, we need extra layers of protection from NEPA fueled 'public comment.' Indian Reservations and Idaho National Laboratory provide this.

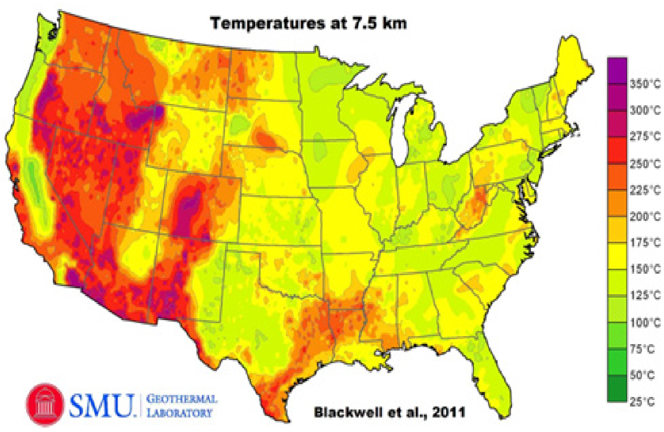
Indian reservations are, at least in writing, highly autonomous political organizations within the United States. According to NRC (NRC, 2012) and DOE tribal protocols (DOE, 2000), federal agencies must treat their relationship with native tribes as a government-to-government relationship. "Tribes are not treated as mere administrative extensions of federal programs, but as separate governments. They are sovereign entities, recognized in the U.S. Constitution with rights and privileges negotiated in treaties and defined in case law." Tribal autonomy is probably overstated by these righteous claims. Specifically, federal organizations have a "fiduciary obligations to the tribes, including duties to protect tribal lands and cultural and natural resources for the benefit of tribes and individual tribal members/landowners." Since the current set of laws and regulations are taken to be the best way to benefit individual tribe members, tribal governments mostly just defer to federal US law. Still, executive agencies and the courts at least say that tribes have a high degree of autonomy. There is some precedent for tribes actually exercising these rights, specifically in the area of energy and environmental policy. Some tribal governments have the same authority as states under the (US EPA, 2015) clean air and water acts. This means that tribes can set their own standards of water and air quality and their own procedures for measurement. Tribes have also been able to circumvent state level gambling laws and host casinos on tribal lands. Despite the strong statements of autonomy that the NRC and DOE make, and the existence of some precedents for tribal autonomy, no tribe has come close to doing something as ambitious as an Energy Innovation Zone. Still, if a tribal leader believed that nuclear energy development was essential for a prosperous future, they could take their case to the supreme court and conceivably be allowed to create their own set of rules around licensing and constructing reactors.

The most promising spot to locate the Energy Innovation Zone is the Idaho National Laboratory. This is over 800 square miles of land in rural Idaho designated specifically for testing nuclear reactors.



The black area is owned directly by the Idaho National Engineering Laboratory, with lots of BLM land around it. Nearby Idaho Falls which has plenty of infrastructure and room for growth. Good place for an Energy City

There is already considerable research activity at this location, and "NuScale Power chief commercial officer Mike McGough (McGough, 2013) clearly stated that the Idaho National Laboratory is NuScale's "preferred startup location" for its design, saying that there is "no better place" to locate this initial effort." Several other modern nuclear energy projects including Oklo (INL, 2020) and Radiant nuclear (Radiant, 2020) are actively testing at INL already. In addition to being the center of nuclear science for decades, the Idaho site lies on top of one of the hottest geothermal areas in the country, making it an ideal starting ground for geothermal research.



Idaho National Laboratory's large size, remote location, geothermal activity, and long history of nuclear testing makes it an ideal location for the Energy Innovation Zone.

5. CONCLUSION:

We need clean energy to avoid climate catastrophe, but we also need more energy to end poverty catastrophe. Fossil fuels provide an unavoidable tradeoff between these two imperatives. Clean sources of energy are required, but traditional renewables face challenges with demand scaling, energy density, and construction costs, both monetarily and in terms of carbon. Nuclear and geothermal have the unique ability to vastly increase our energy capacity while also avoiding carbon emissions. Nuclear and geothermal are extremely safe and environmentally friendly. Nuclear causes 300 times fewer deaths per terawatt hour than oil (Ritchie, 2020), even including liberal estimates for the deaths caused by the Chernobyl and Fukushima meltdowns. The operation of nuclear and geothermal plants is net-zero carbon and their construction is more environmentally friendly than traditional renewables. Both forms of energy are highly regulated though, and their development is severely hampered by this unnecessary regulation. Costs of constructing nuclear plants have exploded since 1970 even though reactors have been getting smaller, safer, and more reliable. Geothermal has never been able to get started because of strict permitting requirements and unresponsive bureaucrats. A new governmental unit where energy regulations could be rebuilt from the ground up is the most practical way out of the bureaucratic labyrinth we are in. Sweeping reforms of existing organizations are too difficult due to entrenched interests. Instead, we should try and circumvent their authority in an initially small jurisdiction and use the proof of concept and economic value generated within the zone to scale up the reforms. The most important aspect of this special jurisdiction is quick and easy licensing for test plants that can lead to national approval if tests are successful. We could put this in the already active nuclear testing site in the Idaho National Laboratory and relight the torch of energy progress in the US. Entrenched interests and bad incentives make this reform unlikely overall, but a visionary president and a cooperative congress could make it happen. Let's build our way into a better world!

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