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Taxing Risky Development: A New Tool for Increasing Coastal Resilience

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TAXING RISKY DEVELOPMENT: A NEW TOOL FOR INCREASING COASTAL RESILIENCE

James Daher[†]

Coastal overdevelopment in the United States is a persistent issue. Climate change continues to increase the risk of flooding and other damage from natural disasters facing many coastal communities. Yet, development in some of the most at-risk areas has not slowed. Policies at the federal government level have encouraged such development by shifting costs of flood-related property damage from the property owner to taxpayers. At the same time, government actors at all levels are actively trying to protect their coastlines through coastal resilience projects. However, there are not enough funds to protect coastal property, especially at the state and local levels. Thus, coastal development continues to put more and more private investment at risk with no hope of governmental protection.

This note proposes a risk-based tax on coastal development to counter incentives to overdevelop coastline while raising revenue for resilience projects. By utilizing a risk-based tax, the government that levies the tax can charge the property owner for the risk that has been shifted to the federal government through programs such as the National Flood Insurance Program. Further, a tax is preferable because it would be easier to administrate than other methods of slowing coastal development, like direct regulation. Finally, this note concludes that such a tax would encounter the fewest administrative and legal roadblocks if implemented at the state level.

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I. INTRODUCTION

Coastal cities and towns in the United States face increasing levels of risk from climate change and the associated sea level rise.¹ If CO2 emissions are not curtailed and sufficient investment is not made in resilient infrastructure, the damage from rising sea levels could cost the global economy \$14.2 trillion dollars, the equivalent of the entire annual GDP of the Eurozone.² The United States, especially the northeastern region, will be hit particularly hard.³ The cost of mitigating these risk levels is astronomical. One study estimates that the cost of building sea walls to protect cities in the United States from storm surge flooding will require \$400 billion by 2040.⁴ Overall, the Office of Budget and Management estimates that climate change could cost the federal government an additional \$25 to \$128 billion each year for programs that cover coastal disaster relief, flood insurance, and crop insurance.⁵

Building coastal defenses and reducing CO2 emissions are not the only ways to reduce the amount of damage from rising sea levels and extreme weather events, however. Another approach is to counteract the perverse incentives to develop property in hazard-prone areas.⁶ Slowing development in risky coastal areas could have two significant benefits. First, with less property value tied up in at-risk areas, there is less need to erect seawalls and other structures to hold back rising tides. Second, when natural disasters strike, as is increasingly common with climate

1. See UCCRN, THE FUTURE WE DON'T WANT 4 (2018), https://www.c40.org/wp-content/uploads/2021/08/1789_Future_We_Dont_Want_Report_1.4_hi-res_120618.original.pdf (“cities and the people who live in them will be increasingly vulnerable to climate extremes including more frequent, longer and more intense heat waves, exacerbated inland flooding from heavy downpours, and extended coastal flooding due to sea level rise.”)

2. Helen Regan, *Flooding from Sea Level Rise Could Cost Our Planet \$14.2 trillion, Study Says*, CNN (July 30, 2020, 4:40 PM), <https://www.cnn.com/2020/07/30/weather/coastal-flooding-sea-level-rise-study-intl-hnk/index.html>; *GDP (Current US\$)—Euro Area*, THE WORLD BANK DATA, <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=XC> (last accessed Nov. 15, 2022).

3. Regan, *supra* note 2.

4. SVERRE LEROY & RICHARD WILES, CTR. FOR CLIMATE INTEGRITY AND RESILIENT ANALYTICS, HIGH TIDE TAX: THE PRICE TO PROTECT COASTAL COMMUNITIES FROM RISING SEAS 1 (2019).

5. Emma Newburger, *Climate change Could Cost U.S. \$2 Trillion Each Year by the End of the Century, White House Says*, CNBC (Apr. 4, 2022), <https://www.cnbc.com/2022/04/04/climate-change-could-cost-us-2-trillion-each-year-by-2100-omb.html>.

6. US COMM'N ON OCEAN POLICY, AN OCEAN BLUEPRINT FOR THE 21ST CENTURY 163 (2004).

change,⁷ the cost of restoring and rehabilitating property along the coast will be more manageable.

A recent example of the shortsightedness of coastal development is Boston's development of the Seaport district. The Seaport was built on land that sits just above the highest recorded high tide in Boston.⁸ Future high tides, however, are projected to regularly surpass this record and make this figure obsolete over the coming century.⁹ With the newest addition to Boston harbor, a single nor'easter could cause over a billion dollars in damage.¹⁰

Risky coastal development can be curtailed using a tax on development that is proportional to the risk of flooding and other climate related damage. This is a viable and attractive option as it is unrealistic to expect policymakers to have the information and political capital necessary to effectively slow coastal development through direct regulation. A tax would nudge development away from the most at-risk areas and could be accompanied by offsetting credits for risk mitigation measures. The revenue from the tax could subsequently be used on coastal resilience projects to protect the coastline from impending collapse and erosion. It is evident that climate risk along the coast can be mitigated by reducing the amount of development along the coast or by protecting existing development. This tax would accomplish the former while providing funds for the latter.

In this paper, the term "risky development" refers to development in coastal areas that are at high risk of damage from sea level rise, storm surge, and other climate-related hazards that pose an increasing threat to coastal property. Climate change increases the risk of many other hazards that affect more than just the coastline. Droughts and wildfires have become more common in the western United States as temperatures have risen.¹¹ A tax reducing development in these other hazard-prone areas may make sense at some point in the future. Coastal development is a better starting point for a risk-based tax, for a few reasons. First, coastal development is particularly over-incentivized by government policies, as discussed below.¹² Second, the government already has a comprehensive set of tools for assessing a property's flood risk through the National Flood Insurance Program.¹³ Assessing risk is essential for levying a risk-based tax. Finally, sea level rise and its

7. See *Weather-Related Disasters Increase Over Past 50 Years, Causing More Damage But Fewer Deaths*, WORLD METEOROLOGICAL ORGANIZATION (Aug. 31, 2021), <https://public.wmo.int/en/media/press-release/weather-related-disasters-increase-over-past-50-years-causing-more-damage-fewer>.

8. Jesse Remedios, *The Seaport Cost Billions To Build. What Will It Take To Save It?*, WBUR (June 16, 2021), <https://www.wbur.org/news/2021/06/16/boston-seaport-fort-point-climate-change-sea-level>.

9. *Id.*

10. *Id.*

11. *Droughts and Climate Change*, UNITED STATES GEOLOGICAL SURVEY, <https://www.usgs.gov/science/science-explorer/climate/droughts-and-climate-change> (last visited June 5, 2017).

12. See *infra* Part II.

13. *Risk Rating 2.0: Equity in Action*, FEMA (Apr. 18, 2022), <https://www.fema.gov/flood-insurance/risk-rating>.

risks to particular coastal regions can be predicted decades out.¹⁴ This predictability is far from perfect, but it is enough to create a tax on new development that roughly fits a property's risk level. A tax on development in other hazard-prone areas may become viable as climate-modeling improves, but coastal properties are the most promising candidates for a risk-based tax today.

II. MORAL HAZARD IN COASTAL DEVELOPMENT

Larger and more expensive development in coastal areas raises the cost incurred when disaster strikes.¹⁵ The fact that sea levels are rising¹⁶ and natural disasters are becoming more frequent¹⁷ would seem to discourage investment in areas most at risk, without the need for a nudge from the government.¹⁸ However, this deterrent effect runs against the advantages that have long driven people to settle along coastlines. Coastal cities provide access to natural resources and opportunities for international trade, which have historically driven development in these areas.¹⁹ The coast has also been a destination for leisure and recreation for the masses since at least the nineteenth century.²⁰

It is clear that the coast's economic advantages and natural appeal are forces that drive development in these areas, but they are not the only ones. Government policies, largely at the federal level, significantly reduce the risk to individuals who choose to develop in hazard-prone areas, thereby incentivizing such development. Prior to 1950, the federal government did not have a single permanent program dedicated to natural disaster relief.²¹ Instead, Congress authorized spending on a "disaster-by-disaster" basis.²² Absent an ad-hoc appropriation of funds from Congress, recovery efforts were entirely left to local community members.²³ This

14. See INTERNATIONAL PANEL ON CLIMATE CHANGE, THE OCEAN AND THE CRYOSPHERE IN A CHANGING CLIMATE 20 (2022) (predicting sea level rise into 2080 and onwards).

15. ANNE SIDERS, MANAGED COASTAL RETREAT: A LEGAL HANDBOOK ON SHIFTING DEVELOPMENT AWAY FROM VULNERABLE AREAS 2 (2013).

16. *Is Sea Level Rising?*, NATIONAL OCEAN SERVICE (Nov. 3, 2021, 9:34 AM), <https://oceanservice.noaa.gov/facts/sealevel.html>.

17. See Adam B. Smith, *2020 U.S. Billion-Dollar Weather and Climate Disasters in Historical Context*, NOAA CLIMATE.GOV (Jan. 8, 2021) <https://www.climate.gov/disasters2020>.

18. Jessica Schultz & James R. Elliot, *Natural Disasters and Local Demographic Change in the United States*, 34 POPULATION AND ENV'T 293, 295 (2012) ("Without [government] assistance, we might logically expect natural disasters to reduce local populations because they often damage property, displace residents, and increase local risk perceptions").

19. Stephen Mosley, *Coastal Cities and Environmental Change*, 20 ENV'T AND HIST. 517, 521–22 (2014).

20. *Id.* at 528.

21. RUTHERFORD H. PLATT, DISASTERS AND DEMOCRACY: THE POLITICS OF EXTREME NATURAL EVENTS 2 (1999).

22. Scott G. Knowles & Howard C. Kunreuther, *Troubled Waters: The National Flood Insurance Program in Historical Perspective*, J. OF POL'Y AND HIST. 327, 330 (2014).

23. PLATT, *supra* note 21, at 2.

started to change in the post-World War Two era. Prior to this time, Americans had become accustomed to a larger, more paternalistic federal government.²⁴ Simultaneously, a boom in unrestricted development put more and more property at risk of damage from natural disasters.²⁵ For example, states that faced the greatest risk of being hit by hurricanes were growing at breakneck speeds.²⁶ As losses from natural disasters increased, Congress was pushed to act.²⁷

The first federal program to address this damage was the Disaster Relief Act of 1950, which authorized just \$5 million of spending on local government recovery costs.²⁸ But the real era of federal involvement in disaster relief efforts began in 1968 with the National Flood Insurance Act, which created the National Flood Insurance Program (NFIP). The NFIP offered subsidized insurance premiums to homeowners in flood-prone areas in exchange for compliance with building codes and land use regulations designed to mitigate damage from flooding.²⁹ “Subsidized” in this context is an understatement. The federal government was offering to insure against a risk that was uninsurable by the private sector.³⁰ The justification for issuing these costly policies was that they would reduce the future expenses of providing disaster relief to the uninsured.³¹ Additionally, the building codes and land-use regulation requirements for NFIP eligibility would theoretically encourage more resilient development. However, it is dubious to say that the average homeowner who bears the full risk of flooding will not implement a greater level of precaution than one who is forced to purchase flood insurance under the NFIP.³² Once the minimum requirements for NFIP eligibility are met, there is little economic incentive for the homeowner to implement additional safeguards.

The NFIP’s cost to taxpayers is massive and growing. In 2017, Congress cancelled \$16 billion in NFIP debt, which still left the program with \$20.5 billion of debt.³³ One of the major problems contributing to these costs is the issue of severe repetitive loss (SRL) properties, which are “a proportionally small number of properties that are repeatedly repaired and rebuilt in areas vulnerable to flooding.”³⁴

24. *See Id.* at 11.

25. *Id.*

26. Knowles & Kunreuther, *supra* note 22.

27. PLATT, *supra* note 21, at 11.

28. *Id.* at 12.

29. Knowles & Kunreuther, *supra* note 22, at 336.

30. *Id.* at 332.

31. DENA ADLER & JOEL SCATA, SABIN CENTER FOR CLIMATE CHANGE LAW, BREAKING THE CYCLE OF “FLOOD-REBUILD-REPEAT” 1 (2019), <http://columbiaclimatelaw.com/files/2019/01/Adler-Scata-2019-01-Breaking-the-Cycle-Final.pdf>.

32. RAWLE O. KING, CONG. RSCH. SERV., R40650, NATIONAL FLOOD INSURANCE PROGRAM: BACKGROUND, CHALLENGES, AND FINANCIAL STATUS 19 (2011) (explaining that homebuyers need to purchase flood insurance as a condition for obtaining mortgage financing from federally regulated lenders on loans that are or will be secured by property located in a SFHA).

33. ADLER & SCATA, *supra* note 31, at 2.

34. *Id.*

These properties make up less than 1% of the properties covered by the NFIP, but as of 2015 they had received 9.6% of the damages paid out of the program.³⁵ A 2020 audit by the Department of Homeland Security confirmed that the issue of SRL properties persists, and that “FEMA is not effectively administering a program to reduce or eliminate damage to severe repetitive loss properties.”³⁶ The persistence of SRL properties is strong evidence of the federal government’s role in encouraging risky development, as it is hard to imagine owners of the most at-risk properties repeatedly building structures that are susceptible to flooding without the availability of flood insurance.

The NFIP’s financial problems will only get worse as the effects of climate change intensify and the floodplain expands.³⁷ NFIP participation is already largely comprised of coastal properties.³⁸ This high participation level makes sense given the generosity of the program and the considerably higher risk of flooding that coastal homeowners face compared to the average inland resident. FEMA is well aware of the perverse incentives that the NFIP offers, as well as the cost to taxpayers.³⁹ In an effort to mitigate both issues, the agency released a new system of assessing flood risk for covered properties, Risk Rating 2.0. The new system is designed to “deliver rates that are actuarially sound, equitable, easier to understand and better reflect a property’s flood risk.”⁴⁰ Among the changes with this new risk assessment system is the incorporation of climate change related risk.⁴¹ While this change is a step in the right direction, it is extremely troubling that the nation’s comprehensive flood insurance program has not considered the colossal risks associated with climate change until recently. Even with more accurate risk assessments, the NFIP is still a massive subsidy, as flood insurance remains a market that the private sector is unwilling to take on alone.

In addition to insurance, the federal government spends a tremendous, and growing, amount of money on post-disaster recovery. Before the passage of the Stafford Act in 1988, there was only one year in which the federal government appropriated more than \$1 billion towards disaster relief.⁴² The Stafford Act, which

35. *Id.*

36. OFF. OF INSPECTOR GEN., DEP’T OF HOMELAND SEC., OIG-20-68, FEMA IS NOT EFFECTIVELY ADMINISTERING A PROGRAM TO REDUCE OR ELIMINATE DAMAGE TO SEVERE REPETITIVE LOSS PROPERTIES 6 (2020) (*OIG Report*).

37. ADLER & SCATA, *supra* note 31, at 3.

38. PLATT, *supra* note 21, at 31.

39. See FEMA, DEP’T OF HOMELAND SEC., NATIONAL FLOOD INSURANCE PROGRAM LEGISLATIVE REFORM PACKAGE, 64 (2022), https://www.fema.gov/sites/default/files/documents/fema_flood-insurance-reform-proposal_5242022.pdf

40. *Risk Rating 2.0: Equity in Action*, FEMA (Nov. 15, 2021, 3:23 PM), <https://www.fema.gov/flood-insurance/risk-rating>.

41. Darryl Fears & Lori Rozsa, *The Price of Living Near the Shore Is Already High. It’s About to Go Through the Roof*, WASHINGTON POST (Oct. 1, 2021, 6:00 AM), <https://www.washingtonpost.com/climate-environment/2021/10/01/price-living-near-shore-is-already-high-its-about-go-through-roof/>.

42. WILLIAM L. PAINTER, CONG. RSCH. SERV., R45484, THE DISASTER RELIEF FUND: OVERVIEW AND ISSUES 40 (2020).

expanded the federal executive role in disaster relief efforts, coincides with a major increase in federal spending on disaster relief.⁴³ Since its passage, annual disaster relief appropriations have only fallen short of \$1 billion in one year.⁴⁴ Looking even closer at the data, there is a trend of increased spending on disaster relief over the past two decades, with the notable outlier being 2005 due to the astronomical costs of Hurricane Katrina.⁴⁵

Federal spending on disaster recovery is often necessary to help individuals and communities recover from devastating disasters, but it can also increase the costs of future disasters.⁴⁶ Post-disaster relief reduces the need to consider the risks of developing in hazard-prone areas, and essentially subsidizes such development.⁴⁷ Federal disaster relief is also notably inequitable and regressive, as it has historically favored white people and homeowners.⁴⁸ For all its flaws, reducing federal aid in the wake of disasters is not only morally questionable, it may be politically impossible.⁴⁹ As a result, most of the discussion around reducing these costs focuses on shifting the burden to state and local governments and increasing the resiliency of at risk properties.⁵⁰

Beyond subsidized insurance and disaster relief spending, the federal government further incentivizes hazardous development through the tax code. The casualty loss deduction allows a taxpayer to deduct personal property losses that exceed ten percent of their adjusted gross income.⁵¹ The casualty loss deduction for property connected to a trade or business does not have the ten percent threshold.⁵² The 2017 Tax Cuts and Jobs Act (TCJA) limited an individual's ability to claim a casualty loss deduction to losses from a federally declared disaster.⁵³ This limitation

43. *Id.* at 17.

44. *Id.* at 40.

45. *Id.* at 41; See also Colin Foard & Madalyn Bryant, *How Government Can Address Growing Disaster Costs*, PEW (Aug. 27, 2021), <https://www.pewtrusts.org/en/research-and-analysis/articles/2021/08/27/how-government-can-address-growing-disaster-costs> (“Federal spending on disaster assistance has been increasing for years—often unpredictably”).

46. CONG. BUDGET OFF., POTENTIAL INCREASES IN HURRICANE DAMAGE IN THE UNITED STATES: IMPLICATIONS FOR THE FEDERAL BUDGET 4 (2016) (arguing that federal subsidization of recovery in coastal areas enables subsequent growth, which results in more to subsidize and repair for the federal government the next time a disaster occurs).

47. *Id.*

48. Christopher Flavelle, *Why Does Disaster Aid Often Favor White People?*, N.Y. TIMES (Oct. 27, 2021), <https://www.nytimes.com/2021/06/07/climate/FEMA-race-climate.html>; PLATT, *supra* note 21, at 41.

49. SADIE FRANK ET AL., BROOKINGS INST., INVITING DANGER: HOW FEDERAL DISASTER, INSURANCE AND INFRASTRUCTURE POLICIES ARE MAGNIFYING THE HARM OF CLIMATE CHANGE 5 (2021).

50. See Christopher Flavelle, *U.S. Disaster Costs Doubled in 2020, Reflecting Costs of Climate Change*, N.Y. TIMES (Jan. 7, 2021), <https://www.nytimes.com/2021/01/07/climate/2020-disaster-costs.html>.

51. 26 U.S.C. § 165(h).

52. *Id.*

53. *Id.*

will expire in 2026.⁵⁴ Reducing eligibility for the casualty loss deduction reduces the government's share of the risk from hazardous coastal development, but does not completely eliminate it. Many future coastal disasters will be federally declared disasters, in which case losses from damaged properties will be eligible for the deduction.

There are other features of the federal income tax code that indirectly incentivize coastal development. Interest and property tax deductions can substantially reduce the cost of owning a second home.⁵⁵ The coast's appeal as a destination for leisure⁵⁶ makes it a popular choice for people looking to build or buy a second home.⁵⁷ Rental properties, which are also extremely common along the coast, may have additional tax benefits in the form of depreciation.⁵⁸ The TCJA also placed limits on some of these tax benefits. It capped the state and local tax deduction at \$10,000, which includes property tax deductions.⁵⁹ It also lowered the maximum mortgage interest deduction down from interest on a principal value of \$1 million to \$750,000.⁶⁰ Whether or not it was a goal of the 2017 tax reforms, these changes reduce the tax incentives for developing property. It is not yet clear if the reduced incentives are enough to significantly change behavior. Even if they are, all of the TCJA changes mentioned above will expire in 2026 unless they are extended.

The federal government offers powerful incentives to develop in hazard-prone areas through subsidized insurance, disaster relief, and tax breaks. While there are ongoing efforts to reform each of these areas to reduce moral hazard, the mere existence of these incentives transfers some combination of risk and cost from the property owner to the federal government. The natural and economic appeal of developing along the coast has long attracted people to these areas. Absent changes to coastal resilience planning at any level of government, federal assistance will keep people coming to the coast in the face of increasing disasters and sea level rise.

54. *Id.*

55. See generally Kenneth J. Bagstad et al., *Taxes, Subsidies, and Insurance as Drivers of United States Coastal Development*, 63 *ECOL. ECON.* 285 (2007).

56. See *supra* text accompanying note 20.

57. Bagstad et al., *supra* note 55.

58. *Id.* at 291.

59. 26 U.S.C. § 164(b)(6); It should be noted that there are efforts in congress to lift the \$10,000 cap of state and local tax deductions. Rather than having the goal of discouraging hazardous coastal development, critics say the cap was designed to hurt Democrat run states, which typically have higher state and local taxes. See Alan Rappeport & Patrick McGeehan, *Tax Deduction That Benefits the Rich Divides Democrats Before Vote*, *N.Y. TIMES* (Nov. 18, 2021), <https://www.nytimes.com/2021/11/18/us/politics/salt-tax-deduction-democrats.html>.

60. 26 U.S.C. § 163(h)(3)(F)(i)(II).

III. LACK OF FUNDING FOR COASTAL RESILIENCE

While the federal government has historically left planning for coastal resilience to local communities,⁶¹ much of the funding for coastal resilience projects comes from the federal level.⁶² This is not surprising, given the threat to the national economy and national security from sea level rise, but it also subordinates individual states to the instability of the federal government's frequently changing policy goals.⁶³ Developing an independent source of funding over which states can maintain full control could be used to ensure that critical coastal resilience projects go forward. Further, it would enable governments whose ambitions for resilience projects outstrip the federal government's to take more action.

Coastal states have developed comprehensive, ambitious resilience plans to prepare for catastrophic sea level rise.⁶⁴ Louisiana's Coastal Master Plan (CMP) provides a particularly important case study for its cost and significance to the future of the state's geography and economy. The current version of the CMP calls for \$50 billion in spending on 124 projects over the next 50 years.⁶⁵ The CMP estimates that it will save \$150 billion in damage over the same period.⁶⁶ Even with this massive investment, Louisiana is still projected to lose over a thousand square miles of land over the next 50 years.⁶⁷

Land loss is not a new challenge for Louisiana. From 1932 to 2010, Louisiana incurred 80% of the entire nation's coastal erosion.⁶⁸ Factors other than sea level rise, such as sediment-trapping levees along the Mississippi River and the construction of canals for oil transportation, have played a heavy role in Louisiana's

61. Marina Cucuzza et al., *Comprehensive Plans as Tools for Enhancing Coastal Community Resilience*, 63 J. OF ENV'T PLANNING AND MGMT. 2022, 2023 (2020).

62. See, e.g., *Building Resilient Infrastructure and Communities*, FEMA (Nov. 21, 2022), <https://www.fema.gov/grants/mitigation/building-resilient-infrastructure-communities>; *National Coastal Resilience Fund*, OFF. FOR COASTAL RESILIENCE (Jan. 23, 2023), <https://coast.noaa.gov/resilience-grant/>.

63. Compare Doyle Rice, *Trump's Proposed NOAA Budget Cuts Rattle Scientists*, USA TODAY (Mar. 6, 2017, 6:35 PM), <https://www.usatoday.com/story/weather/2017/03/06/noaa-budget-cuts-climate-science-satellites/98809886/> with Jason Samenow, *Biden Administration Proposes Record Budget for NOAA*, WASH. POST (Apr. 9, 2021, 2:16 PM), <https://www.washingtonpost.com/weather/2021/04/09/biden-budget-increase-noaa/>.

64. See, e.g., COASTAL PROT. AND RESTORATION AUTH. OF LOUISIANA, LOUISIANA'S COMPREHENSIVE MASTER PLAN FOR A SUSTAINABLE COAST (2017); *Florida Resilient Coastline Program*, FLORIDA DEP'T OF ENV'T PROT., <https://floridadep.gov/rcp/florida-resilient-coastlines-program> (last visited Jan. 22, 2023).

65. COASTAL PROT. AND RESTORATION AUTH. OF LOUISIANA, *supra* note 64, at ES-14.

66. *Id.*

67. *Louisiana Fights The Sea, And Loses*, THE ECONOMIST (Aug. 26, 2017), <https://www.economist.com/united-states/2017/08/26/louisiana-fights-the-sea-and-loses> ("Even assuming the CPRA gets the \$50bn it is angling for, it predicts another 1,450 square miles of Louisiana will be lost over the next 50 years").

68. *Id.*

land loss.⁶⁹ Thus, while the CMP may be “the world’s most expensive, and most ambitious, climate-change-adaptation plan,”⁷⁰ the threats facing Louisiana’s coast are enormous, and \$50 billion will simply not be sufficient.

A closer look at the sources of the \$50 billion in funding for implementing the CMP causes more concern over the sustainability and self-sufficiency of the plan. The CMP lays out the substantial sources of funding for the plan, including its share of the consent decree that was the product of the 2010 Deepwater Horizon Oil Spill litigation, outer continental shelf (OCS) exploration fees, and potential grants from businesses and philanthropic organizations.⁷¹ The funds from the Deepwater Horizon settlement will eventually run out, and OCS royalties have recently fallen short of projections.⁷² In fact, only about \$21 billion of the \$50 billion needed to implement the CMP has been secured.⁷³ As much as the state wants to rely on external sources to fund its essential coastal resilience efforts, Louisiana will eventually have to raise revenue internally to fund its resilience projects.

Other states have dedicated more sustainable and self-sufficient sources of funding for their coastal resilience efforts. Virginia and New Jersey commit their revenues from the Regional Greenhouse Gas Initiative, a cap-and-invest program in the Northeast, to climate resilience projects.⁷⁴ This approach, like a tax on hazardous development, directs the proceeds of a tax on an externality towards ameliorating the effects of the same externality. While the annual revenue from this program to the states of Virginia and New Jersey, \$100 million and \$80 million respectively,⁷⁵ is likely well short of what is needed, the approach places the burden on the culpable parties while delivering the benefit to the public.

IV. CURRENT APPROACHES TO LIMITING RISKY DEVELOPMENT

Many state and local governments have taken proactive approaches to mitigating flood risk, despite the fact that the federal government takes on much of

69. Bob Marshall, *Losing Ground: Southeast Louisiana Is Disappearing, Quickly*, SCI. AMERICAN (Aug. 28, 2014), <https://www.scientificamerican.com/article/losing-ground-southeast-louisiana-is-disappearing-quickly/>.

70. Nathaniel Rich, *Destroying a Way of Life to Save Louisiana*, N.Y. TIMES (July 21, 2020), <https://www.nytimes.com/interactive/2020/07/21/magazine/louisiana-coast-engineering.html>.

71. COASTAL PROT. AND RESTORATION AUTH. OF LOUISIANA, *supra* note 64, at 128–32.

72. Sara Sneath, *The Oil and Gas Industry is Pushing Misinformation About Its Impact on Climate, Coastal Restoration*, WWNO (Nov. 13, 2021, 4:45 PM), <https://www.wwno.org/2021-11-05/the-oil-and-gas-industry-is-pushing-misinformation-about-its-impact-on-climate-coastal-restoration-louisiana-politicians-are-repeating-it>.

73. *Id.*

74. Mark Rupp, *How States Can Finance Coastal Resilience Before the Next Disaster*, ENV’T. DEFENSE FUND (Sept. 9, 2020), <http://blogs.edf.org/growingreturns/2020/09/09/states-finance-coastal-resilience-hurricane/>.

75. *Id.*

the financial risk.⁷⁶ This is because catastrophic flooding is still costly to local communities, even if they receive insurance payouts and disaster recovery funding. Zoning ordinances and financial incentives are common approaches that state and local governments take to build coastal resilience and limit risky development.

Local governments must implement certain ordinances regarding their floodplains to be eligible for NFIP insurance.⁷⁷ But many local authorities choose to go above and beyond the minimum requirements for NFIP eligibility.⁷⁸ Prohibitions on new construction, green infrastructure requirements, and tougher standards for development in flood prone areas are a few of the measures that local governments have taken.⁷⁹ Certainly, regulating floodplain development directly is an essential tool for building coastal resilience and climate resilience more broadly. More regulations increase the cost of (or prohibit) risky development and cut against the incentives to develop in flood-prone areas.⁸⁰

Some governments have tried market solutions to shift development away from at-risk areas. Transfer of development rights (TDR) programs are an example of this. A TDR program designates “sending” zones where development would have a social costs, and “receiving” zones where above normal development would be preferable.⁸¹ Owners of land in sending zones can “sever and sell” their development rights to developers in receiving sites as credits.⁸² The purchasers of credits can then use the credits to develop beyond what the locality’s zoning ordinances would ordinarily allow.⁸³ TDR programs are a creative way to manage where development occurs, and can direct development away from risky areas. These programs aim to reduce the deadweight loss and regulatory takings suits that would result from simply restricting development in the sending areas. However, TDR programs have shortcomings. They are administratively complex and may require more data than government bodies have access to.⁸⁴ They also have high transaction costs, or costs

76. *Mitigation Matters: Policy Solutions to Reduce Local Flood Risk*, PEW (Nov. 19, 2019), <https://www.pewtrusts.org/en/research-and-analysis/articles/2019/11/19/mitigation-matters-policy-solutions-to-reduce-local-flood-risk> (“Governors from South Carolina, Tennessee, and Texas, among others, have recently tasked officials in their administrations with improving natural disaster planning with local governments and recommending actions to minimize future flood impacts. Elected officials in other states are exploring effective ways to fund flood mitigation measures”).

77. KING, *supra* note 32, at 21.

78. *Mitigation Matters*, *supra* note 76.

79. *Id.*

80. *See supra* Part II.

81. *Transfer of Development Rights*, GEORGETOWN CLIMATE CENTER, <https://www.georgetownclimate.org/adaptation/toolkits/managed-retreat-toolkit/transfer-of-development-rights.html> (last visited Nov. 13, 2021, 4:45 PM) (“Transfer of Development Rights (TDR) programs create market incentives to shift development away from areas where development is preferred (called ‘receiving areas’)”).

82. *Id.*

83. *Id.*

84. *Id.*

above the sale price of the TDR credits.⁸⁵ Studies have found that transaction costs range from 13–21%, and this is mostly borne by the private sector.⁸⁶

One of the most successful examples of a TDR program is Montgomery County, Maryland's TDR program for the preservation of agricultural land.⁸⁷ Following rapid losses in farmland in the 1960s and 70s, Montgomery County instituted a TDR program to shift development rights from agricultural land to urban centers.⁸⁸ As of 2016, the program had preserved over 50,000 acres of farmland.⁸⁹ The program is not without flaws, however. Transaction costs for the program averaged 20% of the value of the TDR credits.⁹⁰ Further, while the program successfully preserved a substantial amount of land, undesirable development patterns emerged.⁹¹ Agricultural land became fragmented and reduced the economies of scale that are required to make farming economically viable.⁹² Finally, Montgomery County exemplifies a paradox that TDR programs face. The credits derive their value from market pressure to develop, but this pressure makes retaining undeveloped land in the region harder to justify financially.⁹³ It remains to be seen if the Montgomery County program, and TDR programs in general, can serve as a long-term solution to overdevelopment.

State and local governments have also become increasingly willing to dip into their budgets to curb risky development. Studies have shown that pre-disaster spending can provide considerable cost savings on post-disaster recovery.⁹⁴ While most of this spending goes toward new development through investment in resilient infrastructure, some state governments have funded programs that pay residents to relocate out of high flood risk areas.⁹⁵ This "buyout" approach is cooperative and unlikely to result in legal challenges, at least from those who take up the government's offer. However, it is prohibitively costly to implement buyout programs on a large scale, as each property owner must be paid roughly the value of their property. Additionally, research has found that the median transaction cost of

85. Sina Shahab, J. Peter Clinch & Eoin O'Neill, *Estimates of Transaction Costs in Transfer of Development Rights Programs*, 84 J. OF THE AM. PLANNING ASS'N 61, 61 (2018).

86. *Id.* at 73

87. Li Fang, *Land Preservation Under the Transfer of Development Rights Program*, 87 J. OF AM. PLANNING ASS'N 228, 229 (2021).

88. *Id.*

89. *Id.* at 232.

90. *Id.* at 231

91. *Id.* at 233–34.

92. *Id.*

93. *Id.* at 236.

94. NAT'L INST. OF BLDG. SCIENCES, NATURAL HAZARD MITIGATION SAVES: 2017 INTERIM REPORT 1 (2017) ("This Interim Study examined two sets of mitigation strategies and found that society saves \$6 for every \$1 spent through mitigation grants funded through select federal agencies and a corresponding benefit-cost ratio (BCR) of 4:1 for investments to exceed select provisions of the 2015 model building codes").

95. *See Mitigation Matters*, *supra* note 76.

buyouts is nearly \$23,000 per property, which does not even include the purchase price of the property.⁹⁶ Due to the high cost, FEMA, which has a buyout program, set a maximum buyout prices of \$276,000 for a property.⁹⁷ Excluding high value properties from buyout programs saves the government money in the short run, but it leaves a significant amount of property value in harm's way.

Tax credits for responsible land use are another market-based approach to decreasing risk. Tax expenditures, which are revenue losses from special exclusions, deductions, or credits, are a “stealthy” way of achieving a policy goal that may be less politically feasible through direct government spending.⁹⁸ Tax expenditures are used across the country to encourage sustainable development practices,⁹⁹ but they can also play a role in discouraging development in risky areas generally. If the government subsidizes development in safer areas through tax expenditures, investment may be pulled away from riskier areas. It is not clear, however, that a subsidy on safer development will shift development or simply increase the amount of development. Additionally, tax expenditures are limited to however much the local government can afford to forgo in revenue.

V. PROPOSAL: TAX ON RISKY DEVELOPMENT

The current approaches to mitigating future damage from climate change can be used effectively, but they have shortcomings. Most efforts are directed at protecting communities from damage, rather than discouraging new development in the risky areas. Regulations that do aim to reduce risky development, particularly through zoning ordinances, lack coordination across municipalities¹⁰⁰ and subject the government to regulatory takings litigation. Furthermore, approaches that avoid this problem by having the government pay individuals to relocate or subsidize development in safer areas are too costly to implement widely. A tax on risky development would not face these shortcomings, as it could be set at a rate that would not constitute a regulatory taking and would generate revenue for the government. It would also counteract the federal government's subsidization of risky development through the NFIP.

96. William Curran-Groome et al., *Complexities and Costs of Floodplain Buyout Implementation*, 118 LAND USE POL'Y 1, 2–6 (2022).

97. *Property Buyouts Can Be an Effective Solution for Flood-Prone Communities*, PEW (Apr. 1, 2022), <https://www.pewtrusts.org/en/research-and-analysis/reports/2022/04/property-buyouts-can-be-an-effective-solution-for-flood-prone-communities>.

98. Leonard E. Burman & Marvin Phaup, *Tax Expenditures, the Size and Efficiency of Government, and Implications for Budget Reform*, 26 TAX POL'Y AND THE ECON. 93, 94 (2012).

99. *Mitigation Matters*, *supra* note 76.

100. See Adie Tomer et al., *We Can't Beat the Climate Crisis Without Rethinking Land Use*, BROOKINGS (May 12, 2021), <https://www.brookings.edu/research/we-cant-beat-the-climate-crisis-without-rethinking-land-use/> (“The country needs a new approach to land development – coordinated from the federal to local level, tapping each level's unique jurisdictional authorities”).

A. How a Tax Will Discourage Risky Development

Taxing property solely based on the land's value and taxing property based on the value of both the land and the improvements thereon have distinct behavioral effects that economists have recognized since Adam Smith's *Wealth of Nations*.¹⁰¹ Smith advocated for taxing only land value, or "ground rents," precisely because it would have little behavioral effect on the use of the land.¹⁰² Taxing the value of the property with its improvements, he argued, would lead to inefficient behavior.

Ground-rents seem, in this respect, a more proper subject of peculiar taxation, than even the ordinary rent of land. The ordinary rent of land is, in many cases, owing partly, at least, to the attention and good management of the landlord. A very heavy tax might discourage, too much, this attention and good management.¹⁰³

The conclusion from this argument is that a land value tax, which excludes the value of improvements, is more efficient than a tax on the whole value of the property. Assuming the validity of this analysis, it would seem unwise to tax development from an economic efficiency perspective. However, Smith's analysis presupposes that development (or, in his words, "attention and good management") creates economic value and is therefore an indicator of efficiency. In a world with rising seas and increasingly frequent disasters, though, development in the most hazard prone areas will ultimately lead to the destruction of value.¹⁰⁴ It is precisely because taxing improvements to land has an effect on behavior that a tax on risky development would achieve its goal of limiting such development. Perhaps landowners would adequately consider these risks before developing if they were fully responsible for them, but that is not the case.¹⁰⁵

Modern economic research continues to support the theory that taxing improvements on land discourages development. Economists argue that taxation on land value is relatively inelastic compared to taxation on capital improvements.¹⁰⁶ As a result, the portion of a traditional property tax that falls on land tends to have a minimal distortion on development incentives, whereas the portion of the tax that falls on improvements "discourages capital... and is borne by the consumer."¹⁰⁷ Taxation has not been widely used as an intentional tool to discourage development, but traditional property taxes have achieved this effect inadvertently.

101. ADAM SMITH, *THE WEALTH OF NATIONS* (Jonathan B. Wight ed., Harriman House 2007) (1776).

102. *Id.* at 548.

103. *Id.* at 548–49.

104. Arianna Skibell, *Coastal Development: A Cautionary Tale*, POLITICO (Sept. 29, 2022, 6:00 PM), <https://www.politico.com/newsletters/power-switch/2022/09/29/coastal-development-a-cautionary-tale-00059468> ("The more coastal development, the more people are in harm's way.").

105. See Smith, *supra* Part II.

106. Richard Arnott, *Effects of Property Taxation on Development Timing and Density: Policy Perspective*, BROOKINGS-WHARTON PAPERS ON PUBLIC AFFAIRS 189, 189–90 (2006).

107. *Id.*

Over the years, several cities and towns have adopted land-value property taxes to encourage more efficient development.¹⁰⁸ Many studies have contrasted these tax systems with property taxes that heavily factor the value of the improvements on the land into assessments.¹⁰⁹ These studies have consistently found that land-value taxes encourage increased and denser development.¹¹⁰ This is unsurprising because, unlike under a traditional property tax system, property owners do not incur a higher tax burden the more they develop under a land-value tax system. Ordinarily, these are favorable results in terms of growth and efficiency. But in areas facing high levels of risk from flooding and storm surge brought on by climate change, more development increases the value at risk. Therefore, a tax that targets improvement value, rather than land value, could curb development. Research into the effects on development from shifting to a land-value tax can inform efforts to achieve the opposite result.

B. *When a Tax is Preferable to Direct Regulation*

Governments often have a range of policy instruments to choose from when trying to affect behavior. Common approaches include issuing bans and mandates, offering financial incentives, and launching informational campaigns.¹¹¹ Within these broad categories are more specific tools, such as command and control regulation, taxation, and subsidies. The effectiveness of each of these methods depends on the policy context in which they are implemented.¹¹² For some goals, such as decarbonization, there is wide consensus that the best approach is taxation.¹¹³ Several of the reasons that make a carbon tax the best solution for decarbonization also apply to the problem of overdevelopment in risky areas, making carbon taxes an informative case study for this analysis.

One major issue in both decarbonization and curbing risky development is incomplete information. In the former case, the government does not have adequate information to determine optimal emissions targets for private actors.¹¹⁴ Further, reducing nationwide greenhouse gas emissions relies heavily on technological innovation. The government is ill-equipped to foresee which private actors will be able to innovate in the face of direct regulation.¹¹⁵ The information problem with

108. See, e.g., Wallace E. Oates & Robert M. Schwab, *The Impact of Urban Land Taxation: The Pittsburgh Experience*, 50 NAT'L TAX J. 1 (1997); See also Seong-Hoon Cho et al., *Impact of a Two-Rate Property Tax on Residential Densities*, 95 AM. J. OF AGRIC. ECON. 685 (2013).

109. *Id.*

110. *Id.*

111. Lars Tummors, *Public Policy and Behavior Change*, 79 PUB. ADMIN. REV. 925 (2019).

112. Reuven S. Avi-Yonah, *Taxation as Regulation: Carbon Tax, Health Care Tax, Bank Tax and Other Regulatory Taxes*, 1 ACCT., ECON., & LAW 1, 4 (2011).

113. *Id.*

114. *Id.*

115. *Id.*

respect to hazardous development has to do with the unpredictability of adverse weather events and individual property developers' varying levels of commitment to building resilient structures.¹¹⁶ Directly regulating all development in risky areas would be too costly and risks would be selectively targeted. The government would have the burden of picking "winners and losers," which is an impossible task in the context of natural disasters. With such imperfect information, a risk-adjusted fee would be superior to direct regulation. Governments can use flood plain risk maps to determine tax rates on properties, which may not predict individual disasters, but they track risk fairly well in the aggregate.

In practice, cap and trade programs are the most popular regulatory approach to decarbonization.¹¹⁷ This does not mean cap and trade is a better approach than a carbon tax. Cap and trade programs can be significantly more complex than taxation.¹¹⁸ They require assignments of entitlements, monitoring trades, and enforcing violations.¹¹⁹ But in the context of decarbonization, these costs may be worth it if a carbon tax is politically unfeasible. At first glance, the TDR¹²⁰ approach to disincentivizing risky development appears to function like a cap and trade program for reducing greenhouse gas emissions. A TDR system could therefore be a more costly, but nonetheless viable alternative to a tax.

There are key differences, however, between decarbonization and discouraging risky development that make a tax even more superior in pursuing the latter goal. First, in a cap and trade program for emissions, the government holds the initial entitlements to pollute¹²¹ and then distributes them. With private property, the landowner holds the entitlement to develop. The government would have to "take" the development rights from landowners in exchange for TDR credits. If limiting development rights is considered a regulatory taking, then the TDR credits would have to serve as just compensation.

The Supreme Court almost answered the question of whether TDR credits are just compensation in the landmark case *Penn Central Transportation Co. v. New York*.¹²² There, New York City's Landmarks Law prohibited the plaintiff from developing the space above Grand Central Terminal.¹²³ The plaintiffs were given

116. See Josie Garthwaite, *Climate of Chaos: Why Warming Makes Weather Less Predictable*, STAN. EARTH MATTERS MAG. (Dec. 14, 2021), <https://earth.stanford.edu/news/climate-chaos-why-warming-makes-weather-less-predictable>.

117. Reuven S. Avi-Yonah & David M. Uhlmann, *Combating Global Climate Change: Why a Carbon Tax is a Better Response to Global Warming than Cap and Trade*, 28 STAN. ENV'T. L. J. 3, 5 (2009).

118. *Id.* At 38.

119. *Id.*

120. See *supra* text accompanying notes 81–83.

121. See *How Cap and Trade Works*, EDF, <https://www.edf.org/climate/how-cap-and-trade-works> (last visited Dec. 3, 2022), <https://www.edf.org/climate/how-cap-and-trade-works>. In a cap and trade system, a company is not allowed to pollute unless it receives an allowance from the government or buys allowances in the market. The government is the creator and initial holder of these allowances to pollute.

122. *Penn. Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 107 (1978).

123. *Id.*

TDR credits as compensation.¹²⁴ The Court ultimately found there was no taking, and therefore the question of just compensation did not require further analysis.¹²⁵ The Court memorialized its ambiguous view of TDR credits, stating “[w]hile these rights may well not have constituted ‘just compensation’ if a ‘taking’ had occurred, the rights nevertheless undoubtedly mitigate whatever financial burdens the law has imposed on appellants.”¹²⁶ The question of whether and under what conditions TDR credits serve as just compensation for regulatory takings remains unanswered. A widespread TDR program to curb risky development would face a barrage of litigation, with uncertain outcomes for the government.

The second reason a TDR program differs in feasibility from a cap and trade program for greenhouse gas emissions has to do with the distribution of harmful activity. A carbon cap and trade program could meet its policy goals by targeting the largest polluters. An effective cap and trade approach to decarbonization could target 2,000 market participants, or perhaps fewer.¹²⁷ In contrast, there are millions of properties at risk from climate change-related hazards. Property frequently changes hands, and under a TDR system the credits and development rights would have to follow these transfers. While it may be more politically palatable than a tax, a large scale TDR system is too complex to address the issue of overdevelopment of at-risk property.

It is not enough to point out the flaws in the current approaches to discouraging risky development in making an argument for a tax on such development. Regulation through taxation must meet its regulatory goal and have less harmful effects than other methods of regulation for it to be the best option. It has already been argued in this paper that both theoretical and empirical research supports the hypothesis that a tax on risky development will reduce such development. It is also important to note that, unlike other approaches to regulating risky development, a tax would raise revenue for the government, rather than impose a cost. But a tax does have some drawbacks compared to other approaches, and it is important to consider these.

The biggest weakness of a tax, rather than direct regulation or a TDR system, is that it does not stop risky development altogether. At the aggregate level, development would be reduced, but in many cases property owners will choose to pay the tax and proceed with their projects. As the disastrous consequences of climate change continue to exacerbate, many of these newly developed properties will likely incur some amount of damage from adverse weather events. Direct regulation or a TDR system could halt development before it starts. But it is unrealistic to expect policymakers to have the knowledge or political capital to directly regulate at a large enough scale to prevent property destruction before it is developed at any scale.

124. *Id.*

125. *Id.* at 138.

126. *Id.* at 137.

127. Avi-Yonah, *supra* note 112, at 4.

Instead, direct regulation or TDR can be used to prevent development of the highest risk properties, and a tax can be imposed on other risky areas.

A tax on risky development has considerable advantages to other methods of reducing risky development in terms of administrability, cost, and effectiveness. A scalable solution like this is needed to address the growing threat of climate change, particularly along the nearly 100,000 miles of coastline in the United States.¹²⁸

VI. STRUCTURE OF THE TAX AND POTENTIAL LEGAL CHALLENGES

The tax on risky development can be structured in various ways depending on how the government weighs the two goals of discouraging risky development and raising revenue for resilience projects. However, there are legal boundaries within which the tax must operate. In addition, the political popularity of the tax may vary depending on which level of government proposes it. For several reasons, states are the best equipped level of government to administer a tax on coastal development. They would have better chances of success in legal challenges than the federal government. Local governments in coastal communities might have a more difficult time than a state government in getting the political will for such a tax because it would fall on a greater proportion of their residents. Meanwhile, many coastal states have shown a willingness to take creative approaches to limiting their future damage from increasingly frequent hazardous weather events and sea level rise.¹²⁹

A. Advantages of a State Tax Over a Federal Tax

A tax on development at the federal level would perhaps carry the greatest advantages in achieving its regulatory goals, but the Constitution makes this impractical.¹³⁰ Regarding taxes, it states “[n]o capitation, or other direct, tax shall be laid, unless in proportion to the census or enumeration herein before directed to be taken.”¹³¹ While the term “direct tax” has been pared back by the Sixteenth

128. *How Long is the U.S. Shoreline?*, NOAA (Dec. 3, 2021, 4:55 PM), <https://oceanservice.noaa.gov/facts/shorelength.html>.

129. For examples of creative approaches to coastal resilience funding and implementation, see Marvis Gutierrez, *New Yorkers Back \$4.2 Billion Bond to Fight Climate Change*, BLOOMBERG (Nov. 9, 2022), <https://www.bloomberg.com/news/articles/2022-11-09/new-yorkers-back-4-2-billion-bond-to-fight-climate-change?leadSource=verify%20wall> (New York passed a ballot measure to create an environmental bond for coastal resilience); see also *Goal B: Increase Landscape Connectivity and Establish Climate Refugia*, CALIFORNIA CLIMATE ADAPTATION STRATEGY, <https://www.climate resilience.ca.gov/priorities/natural-systems/establish-refugia.html> (last visited Dec. 3, 2022).

130. The advantages of levying this tax from the federal level are numerous. First, the federal government is responsible for encouraging risky coastal development through the NFIP, and as a result they bear a large portion of the cost. Second, smaller levels of government may be hesitant to enact such a tax for fear that they will lose investment that goes to neighboring communities. Third, the federal government has the most resources to effectively determine the risk levels on properties and apply the appropriate risk-based rate.

131. U.S. CONST. art. I, § 9.

Amendment,¹³² it is still understood to include property taxes.¹³³ The tax on coastal development would be a tax on real property and would likely have to be apportioned according to population. Apportionment would not only be an administrative nightmare, but it would also thwart the purpose of this tax of raising revenue for coastal resilience projects.

B. *Advantages of a State Tax Over a Local Tax*

Property taxes are the main form of taxation for local governments, whereas state property taxes are often limited to taxes on personal, rather than real, property. In fact, states collect less than one percent of their revenue through property taxes.¹³⁴ Why, then, should a risky development tax be levied at the state level rather than the local level? The answer lies in the purpose of the tax and its behavioral effects.

The purpose of a tax on risky development is quite different from the goals of most local property taxes. This new tax would be designed to discourage development, while traditional property taxes are designed to collect revenue with the least possible burden on growth and development. While the effects of climate change are an acute concern for coastal communities, many would struggle to see a tax on development (even one limited to risky areas) as a worthwhile endeavor. Local leaders see growth and development as primary goals, and a tax that disincentivizes these would struggle to achieve popular support.¹³⁵ Local communities would be especially reluctant if neighboring communities do not have the same burden on development. Some municipalities have recognized the need to retreat and have prioritized adaptation measures such as land acquisition in floodplains and open space preservation.¹³⁶ A tax on risky development may have more support in these forward-thinking communities.¹³⁷

Not only would a tax at the local level hinder growth, it may also detract from the local government's biggest source of revenue—property taxes—in the long

132. U.S. CONST. amend. XVI.

133. *Union Elec. Co. v. United States*, 363 F.3d 1292, 1301 (Fed. Cir. 2004) (quoting *Pollock v. Farmers' Loan & Tr. Co.*, 158 U.S. 601, 625 (1895)) (“The following are presumed to be the only direct taxes. Capitation or poll taxes. Taxes on lands and building. General assessments, whether on the whole property of individuals, or on their whole real or personal estate...”).

134. *State and Local Finance Initiative*, URBAN INSTITUTE (Dec. 3, 2021, 4:55 PM), <https://www.urban.org/policy-centers/cross-center-initiatives/state-and-local-finance-initiative/projects/state-and-local-backgrounders/property-taxes>.

135. Journalist Gilbert Gaul, who has written extensively on climate change risk and perverse federal incentives, points out that “if you’re the mayor of a town, you don’t want to be smaller. You want to be larger. And so even though, at the coast, it’s a lot riskier, there are far more risks—they want to build.” See Dave Davies, ‘*Geography of Risk*’ Calculates Who Pays When a Storm Comes to Shore, FRESH AIR (Oct. 17, 2019), <https://www.npr.org/2019/10/17/770812863/geography-of-risk-calculates-who-pays-when-a-storm-comes-to-shore>.

136. Tao Wu & Juliana Barrett, *Coastal Land Use Management Methodologies under Pressure from Climate Change and Population Growth*, 70 ENV’T MGMT. 827, 831–32 (2022).

137. *Id.*

run.¹³⁸ Many coastal communities are already facing the prospect of shrinking tax bases due to climate change.¹³⁹ While this tax will raise revenue, it could also shift development out of town. This shift would ultimately lower the ordinary property tax base compared to a structure that entailed no tax on development. Communities are particularly vulnerable to capital flight from increased regulation at the local level.¹⁴⁰ For this reason, “robust economic regulation must necessarily take place at a higher level of government.”¹⁴¹ At the state level, there is still a potential for regulatory arbitrage and capital may “flee” to states that do not implement such a tax. The administrative and practical burden, however, would be much higher to shift development out of state than it would be to shift to a neighboring town.

Finally, perhaps the strongest argument for implementation at the state rather than local level lies in the purpose of the measure. The goal of the tax is to decrease disaster risk in the aggregate. This goal is more achievable through wider implementation.

C. Regulatory Takings Challenges

Taxes have not historically been the target of successful regulatory taking challenges. The Supreme Court has embraced the distinction between taxes and takings by “defining taxes as general obligations and takings as deprivations of specific assets.”¹⁴² There are conceptual faults in this hair-splitting that are ripe for reevaluation,¹⁴³ and the Court’s trend towards a more expansive view of regulatory takings should make policy-makers think deeply about this issue before setting the tax rate on risky development.¹⁴⁴ It is also discouraging to states that might consider implementing this tax that one of the landmark cases in regulatory takings specifically dealt with development restrictions on coastal property.¹⁴⁵ In *Lucas v. South Carolina Coastal Council*, the Court found that development restrictions deprived the property

138. *How Local Governments Raise Their Tax Dollars*, PEW (July 27, 2021), <https://www.pewtrusts.org/en/research-and-analysis/data-visualizations/2021/how-local-governments-raise-their-tax-dollars>.

139. Linda Shi & Andrew M Varuzzo, *Surging Seas, Rising Fiscal Stress: Exploring Municipal Fiscal Vulnerability To Climate Change*, 100 CITIES 102658 (2020).

140. Richard C. Schragger, *Mobile Capital, Local Economic Regulation, and the Democratic City*, 123 HARV. L. REV. 483, 483–84 (2009).

141. *Id.* at 484.

142. Eric Kades, *Drawing the Line Between Taxes and Takings: The Continuous Burdens Principle, and its Broader Application*, 97 NW. L. REV. 189, 192 (2002).

143. *Id.* at 196.

144. In the recent case *Cedar Point Nursery v. Hassid*, the Court found that a statute requiring companies to allow union organizers onto their property to be a *per se* taking that requires compensation. *Cedar Point Nursery v. Hassid*, 141 S. Ct. 2063, 2069 (2021). . . While *Cedar Point Nursery* was about allowing access to property, not restricting development, it indicates the Court’s limited tolerance for regulating the use of private property.

145. *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992).

of all economically beneficial use, and was therefore a taking.¹⁴⁶ States have several arguments available, however, to differentiate this tax from a regulatory taking.

The novelty of a tax on development means that the Court will likely compare it with other forms of taxation when it is challenged as a taking. A tax on development can be compared to a property tax or a consumption tax, both of which are constitutional. The similarities to a property tax are readily apparent and have already been discussed.¹⁴⁷ However, there is a good argument that a tax on development is actually more akin to a consumption tax. It would be imposed on new development, or when value is created, rather than on the existing value of a property. This bears substantial similarity to a value-added tax, which, while not implemented in the United States, is widely believed to be constitutional.¹⁴⁸

A plaintiff may argue that a development tax is more akin to what Professor Eric Kades calls a “specific tax” than either a property or consumption tax.¹⁴⁹ Specific taxes are distinguished as “those [taxes] levied to provide a specific benefit to identifiable beneficiaries.”¹⁵⁰ While this paper proposes using the revenue collected from the tax on risky development to fund coastal resilience projects, this is not the sole goal of the tax. There is an independent regulatory goal of discouraging risky development. Nonetheless, the Court may take the view that this is a specific tax due to the correlation between who the tax is levied on and who it benefits. In this case, as long as there is a proportionality between who pays the assessment and who receives the benefit, the tax should be seen as constitutional.¹⁵¹ A plaintiff may argue, based on actual location of resilience projects, that they do not receive a proportional benefit compared to what the plaintiff paid. This challenge would likely be unsuccessful because, as Kades notes, “the case law’s proportionality requirement is extremely loose, giving the state very wide leeway in setting the assessments due from individual property owners.”¹⁵²

One of the main reasons for adopting a tax on coastal development rather than regulating directly is avoiding regulatory takings litigation. This litigation may still occur, but challenges would be defeated much more easily than challenges to outright bans on development. Of course, the magnitude of the levy will directly affect the frequency of takings challenges and the strength of challengers’ arguments. Therefore, regulatory takings cannot be written off entirely.

146. *Id.*

147. *See supra* Part V.

148. *See* Erik M. Jensen, *The Apportionment of “Direct Taxes”: Are Consumption Taxes Constitutional?*, 97 COLUM. L. REV. 2334, 2405–07 (1997).

149. *See* Kades, *supra* note 142, at 256.

150. *Id.*

151. *Id.* at 256–58.

152. *Id.* at 257.

D. Equal Protection Challenges

Disgruntled property owners and developers who feel that they are being discriminated against may challenge the tax under the Equal Protection Clause.¹⁵³ The most supportive authority that they could point to is *Allegheny Pittsburgh Coal Co. v. County Commission*.¹⁵⁴ In *Allegheny*, coal companies challenged the unsystematic and unequal treatment of property assessments under the Fourteenth Amendment.¹⁵⁵ The assessor valued newly purchased property based on the purchase price, which created large disparities between assessments of recently sold properties and assessments of similar properties that had not been recently sold.¹⁵⁶ Additionally, the West Virginia Constitution mandated that property be taxed in proportion to its value, in what is called *ad valorem* taxation.¹⁵⁷

The Supreme Court held that the unsystematic and unequal assessment of property values constituted an Equal Protection violation because the West Virginia Constitution mandated *ad valorem* taxation.¹⁵⁸ Thus, it was the assessment and the *ad valorem* rule that made the tax unconstitutional. Most states have a similar *ad valorem* rule.¹⁵⁹ The ruling in *Allegheny* could extend to other taxes the Court finds to be unsystematically and unequally applied. Property owners may seek to use *Allegheny* as precedent for the argument that a tax on risk is applied in a manner that violates the Equal Protection Clause. There are, however, a couple of features of a risky development tax that distinguish it from the property assessments made in *Allegheny*.

First, the Court in *Allegheny Pittsburgh Coal Co.* stated that the Equal Protection Clause “applies only to taxation which in fact bears unequally on persons or property of the same class.”¹⁶⁰ The state can argue convincingly that properties of different climate-related risk levels are not in the same class. This is likely enough to escape Equal Protection liability, as many property tax regimes impose higher rates based on physical features of the property. A second argument can be made that the

153. Equal Protection Clause challenges are common with any change in tax law that has a heavy incidence on a particular group of people. For a recent examples, see Joseph Bishop-Henchman & Jennifer Hill, *New York, New Jersey, and Connecticut v. the United States: A Preview of the SALT Limit Constitutional Challenge*, TAX FOUNDATION (Apr. 3, 2018), <https://taxfoundation.org/new-york-new-jersey-connecticut-salt-limit-case/> (challenging state and local tax deduction limitation).

154. See *Allegheny Pittsburgh Coal Co. v. County Commission*, 488 U.S. 336 (1989).

155. *Id.* at 635.

156. *Id.* at 639.

157. Robert J. Glennon, *Taxation and Equal Protection*, 58 Geo. Wash. L. Rev. 261, 264 (1990).

158. *Allegheny*, 109 S. Ct. at 638–39.

159. See Glennon *supra* note 157, at 264.

160. *Allegheny*, 488 U.S. at 343–46 (quoting *Charleston Fed. Say. & Loan Ass'n v. Alderson*, 324 U.S. 182, 190 (1945)).

tax on development is not a property tax, but an excise tax.¹⁶¹ The tax is levied once at the time of development, rather than annually like a typical property tax. It is not a tax on the property itself, but on an activity that occurs on the property. If the court accepts the argument, then the tax is outside the *ad valorem* requirement, and therefore safe from Equal Protection challenges under the *Allegheny* line of reasoning.

The tax on risky development would most likely be challenged as a taking or under the Equal Protection Clause. The outcome may vary based on the finer details of how the tax is implemented, but it is entirely possible to design this tax in a way that is constitutional. The tax would also be safe from other common constitutional challenges to taxes that are not analyzed here. The most common constitutional challenge to taxes or tax credits is under the Dormant Commerce Clause.¹⁶² This doctrine is inapplicable to a tax on in-state development, provided the tax is applied to in-state and out of state developers indiscriminately. As long as these challenges are anticipated when designing the tax, lawmakers should be able to create a tax that holds up in court.

CONCLUSION

The climate crisis poses an existential threat to coastal communities, yet developers and investors continue to pour money into new projects along the coast. In the absence of any federal government action to reduce its assumption of the risk from climate disasters, this trend will continue. However, states can mitigate this reckless behavior with a wide variety of tools. Many states have already started to implement more restrictive development laws and zoning ordinances. These direct regulations often fall short of their goals for administrative, economic, and political reasons. A tax on risky coastal development would allow the government to disincentivize undesirable behavior that has negative externalities while raising revenue. Further, the government would avoid takings litigation that plagues restrictive zoning laws. While states have become increasingly creative with their approaches to coastal resilience, none have implemented this approach.

This paper focuses on the policy reasons for and legal issues with a tax on coastal development. There are many other aspects of this proposed tax that require further analysis. Additionally, there are open questions as to how the tax should be administered, such as the mechanics of how risk is assessed and how the tax is collected. The distributional effects and the tax incidence should be analyzed empirically. Further research is needed on these issues, but the policy justifications and economic rationale behind the proposal are encouraging. As states look for creative solutions to improving their coastal and climate resilience, they should consider taxing risky development.

161. An excise tax is a tax imposed on goods, services and activities. See *Excise Tax*, IRS (Dec. 19, 2022), <https://www.irs.gov/businesses/small-businesses-self-employed/excise-tax#:~:text=Excise%20taxes%20are%20taxes%20that,available%20for%20optional%20electronic%20filing>.

162. Glennon, *supra* note 157, at 277.