A Search-Theoretic Critique of Georgism

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Abstract

We develop a critique of the single-tax proposal of Henry George. We present a simple search-theoretic model for the discovery of natural resources and show that a tax on the unimproved value of land is distortionary. We then consider the time inconsistency and regime uncertainty problem created by even incremental Georgist policy. We discuss historical cases of land reform and the subsequent challenge to re-establish a credible commitment to property rights in land and natural resources.

Keywords: Henry George, search theory, property rights, natural resources, regime uncertainty

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1 Introduction

"It is too narrow an understanding of production which confines it merely to the making of things. Production includes not merely the making of things, but the bringing of them to the consumer."
Henry George, *Progress and Poverty*, Book I, Ch. 2

Nearly all of the literature in public finance involves analysis of existing policy or marginal changes, ignoring fundamental or radical reform.[1] However, as the governments of developed nations struggle with budget deficits[2] and their counterparts in the developing world[3] look for ways to get ahead, reform advocates are making their case to policymakers interested in alternative solutions. The reform proposal which we critique here is the single-tax on the unimproved value of land, first developed by 19th Century American economist Henry George (1879). George claims that not only is a single-tax on land socially just, but that it does not distort economic activity because it taps the rent of land[4] and not productive activity. Georges central economic argument is that the supply of land and natural resources are perfectly inelastic, therefore there is no efficiency loss from land value taxation. In this paper, we critique this economic argument as George made it, as well as in modifications suggested by modern economists influenced by George, called Georgists.

While no national government has adopted George's policy prescription wholesale, George's policy influence is still felt in the tax code of Australia, Hong Kong, Singapore, South Africa, South Korea, Taiwan, and several urban

[1]Foldvary (2005), subtitled A Plea to Public Economists, discusses this issue at length.
[2]In 2010, the government of the Republic of Ireland announced a four-year plan to conduct site valuations and implement a land-value tax by 2013.
[3]The Movement for Democratic Change Zimbabwe, the largest party in the House Assembly of Zimbabwe, lists land value taxation as their preferred public finance instrument.
[4]In this case, rent of land refers to the definition from classical economics: any income derived from ownership of the ground rather than capital or labor.

communities in the United States which all levy some type of land value tax (Gaffney 1994). Far from a dead philosophy thoroughly debunked by modern theorists, George's proposals seem quite sensible in the existing environment of neoclassical public finance (Foldvary 2005). For many economists who have discussed the George plan, the main complaint is not that the theory is unsound but that the policy would be prohibitively unpopular in a modern democracy.

This paper demonstrates that while the Georgist program may be superficially attractive, it is essentially naive. This critique distinguishes itself from previous critiques by employing the language of modern economics. Section 2 provides background on land value taxation, George's work, and a summary of previous criticism. In section 3, we develop a simple search model for natural resources to show how land value taxes distort economic activity. Section 4 expands the basic critique to include changes in expectations that would be caused by a Georgist tax system and the systemic problems that even incremental reforms in that direction would create. Section 5 responds to anticipated Georgist replies and considers a number of modifications to the George system that have been proposed. Section 6 concludes.

2 Background

"As no man made the land, so no man can claim a right of ownership in the land." – Henry George

The public finance theory of Henry George has gotten intermittent attention over the years, with many eminent names in economics making at least a passing comment,[5] but it has seen comparably little action in the policy debate.

[5] See Friedman 1978, Hayek 1994, Solow 1998, and Stiglitz 1987. Friedman and Hayek voice some support with significant reservations, whereas Stiglitz supports the idea whole-heartedly in his widely used public finance text. In a 2002 interview with the Schalkenbach Foundation,

As Georgist economist Fred Foldvary writes, “Debates on tax reform, for example, focus on tapping streams of income or output, ignoring the possibility and advantage of using rents unrelated to human effort, thus eliminating disincentives, tax wedges, and excess burdens” (1996, p. 169). This paper investigates whether such rents “unrelated to human effort” can truly exist. To be clear, when referring to “ground rent” in this paper we mean the net present value of the land devoid of physical improvements such as buildings.

Henry George’s writing comes on the heels of the American Civil War and the end of slavery, an era of exploration and spreading population and infrastructure. The construction of railroads was followed quickly by the annexation and purchase of new land, and the country was rapidly industrializing. The single tax George proposed was presented as a panacea for all of societys ills: he writes in *Progress and Poverty*, “What I therefore propose, as the simple yet sovereign remedy, which will raise wages, increase the earnings of capital, extirpate pauperism, abolish poverty, give remunerative employment to whoever wishes it, afford free scope to human powers, lessen crime, elevate morals, and taste, and intelligence, purify government and carry civilization to yet nobler heights, is to appropriate rent by taxation.” (p. 108). His plan was never carried to fruition; while the idea of a single tax had considerable influence in many small urban areas along the U. S. east coast, no locality fully dedicated itself to Georgism, making it impossible to evaluate his plan empirically.

The aspect of George’s plan that has received the most attention from economists is the claim that the tax is completely non-distortionary. This boils down to an assertion that land is fixed in supply, that it has qualities unrelated to human effort that simply accrue to whoever can obtain the rights. A further claim in George’s philosophy[6] is that local public goods serve to increase

Stiglitz goes as far as to call himself a Georgist.

[6]Notably formalized by Atkinson and Stiglitz in their widely used public finance text, where it is presented in mathematical form and called “The Henry George Theorem.”

the ground rent in an amount equal to the value they provide, so a tax on the ground rent must be sufficient to fund a government that provides local public goods.[7]

The distinction between land rent and returns on other factors of production was the subject of several critiques by Frank Knight (1921, 1924, 1933, 1953). Knight criticized the idea of pure land value, claiming there was no meaningful distinction between rent and interest (suggested before by Irving Fisher in 1907). Knight claimed that a tax on land is subject to all the same inefficiencies as a tax on capital because land, like capital, needs to be produced. Knight broke from the classical interpretation of land as a non-produced factor by appealing to the differences between stocks and flows: production, Knight said, is the transformation of inputs into outputs (flow) rather than physical creation.

Knight was keen to point out that discovery of new land and the competition to secure exclusive access were part of the production of land. In rejecting the idea of rent entirely, he said that the entire value of land was the value of its improvements, and this value is always paid for, including by the original homesteaders of the unused land. In his 1953 Freeman article, Knight comments, "[the purchaser of land] will, of course, have to pay a price which includes any expected future increase in the capitalized yield."

This critique builds directly on Knight's concept of land as production. Knight's Georgist detractors focused on the fixed nature of land as proof that land was inherently unique: its fixed mobility, its inability to be discovered. Even if they accepted Knight's definition of land as something to be produced, it still exists in fixed supply and provides rental income for the owner, and this income could be tapped without distorting economic behavior. We argue against these claims about land, and propose a mechanism by which land production

[7]This paper focuses primarily on the claim that a land-value tax is non-distortionary. For further analysis of the second claim, see Rothbard 1970.

consists of search with the economic profit as incentive to produce more of the resource. For context, the current amount spent by the world's five largest oil firms represents about 8% of their total operating costs, with spending on exploration increasing steadily since 2005. The largest oil company, ExxonMobil, spent $5.6 billion on exploration and capital projects. Exploration among the next 20 largest private held oil and natural gas providers has been steadily increasing since 1998 (Jaffe 2007). Aside from oil, mineral exploration costs have been rising rapidly over the past decade and were nearly $18 billion in 2011.[8]

3 The Model

We consider the problem of a risk-neutral prospective purchaser of land who compares his opportunity cost to the value of some parcel:

$$E(V) = E(I) - P \tag{1}$$

Where V is the lands value, $E(I)$ is the expected income of the land, and P is the land's price.

Landowners will engage in costly search to discover more information about the land (Stigler 1960): for instance, if the land contains natural resources, or if the land can support a new type of building. Rather than think of natural resources as an inherent quality of the land, from an economic perspective it is more accurate to think of them as being produced through the process of discovery and efficient extraction. He searches for higher value uses for the land until the search costs exceed the expected benefits,

[8] Data from Metal Economics Group 2011 http://www.metalseconomics.com/sites/default/files/uploads/PDFs/corporate_exploration_strategies_2011.pdf.

$$V = E[I(S)] - E[C(S)] - P \tag{2}$$

Where $E(I(S))$ is the expected income for a given level of searching $S > 0$ and $C(S)$ is the search cost.

The assumptions of our model are as follows:

$\frac{\delta E(V)}{\delta E[C(S)]} > 0$; $\frac{\delta E(V)}{\delta E[I(S)]} > 0$; $\frac{\delta I}{\delta S} > 0$; $\frac{\delta C}{\delta S} > 0$

In equilibrium, buyers purchase the land when their expected income equals the purchase price, and they search until the marginal increase in expected income equals the marginal cost,

$$\frac{\delta E(V)}{\delta E[C(S)]} = \frac{\delta E(V)}{\delta E[I(S)]} \tag{3}$$

In the long run, there is no such thing as a rent, only returns on initial endowment, effort, and luck. Any "rent" that would accrue to the landowner after he discovers and brings to market any properties of the land are really a quasi-rent (Marshall 1920): while superficially similar to a rent, the reward of charging $P > MC$ for, say, natural resources discovered on the land are a necessary incentive to search for these resources. In equilibrium, the prospective land developer earns a normal rate of return.

Quasi-rents are as important to land development as they are to other applications where their effects have been long-appreciated, such as in providing incentives for technological innovation or product variety. This is fundamentally different from the case of a rent-seeking (Tullock 1967) monopolist. The pricing policies of the patent holder or landowner, for instance, will be similar to that of a monopolist: the key difference being that in order to obtain the quasi-rent the landowner engages in productive activity.

Suppose a tax is introduced on the ground rent of land, such that land lacking physical improvements provides zero return, as advocated by George.[9]

$$E(V) = -P - E[C(S)] \tag{4}$$

Since any resources found would be taxed at 100%, there is no benefit to searching, and in equilibrium no search occurs and the price of land becomes zero. More generally,

$$E(V) = E[I(S)] * (T - 100) - E[C(S)] - P \tag{5}$$

Where T is the percentage tax rate on land.

[9]Some modern authors have suggested that something less than a 100% tax on land would be a practical necessity to stimulate investment (Tideman 1994). George believed the implementation of his plan should be a gentle, gradual process: he claimed that the aim should be a "single tax unlimited" but acknowledged that in practice it might be necessary to settle for a "single tax limited," and that "we should aim to take the whole of economic rent as near as might be." (quoted in Wenzer 1997, p. 167). Our model considers a true Georgist tax, but the distortionary effect remains so long as *any* of the quasi-rent is appropriated.

Note we have not complicated the models by differentiating between improvements and the land's "unimproved" value. Information about the land can be considered an improvement in its own right. Some of the lands qualities have very low search costs to discover: is it arable, will it support any type of building, is it in the middle of a city or rural area, etc. Discovery of other potential uses may require significant search and/or investment in other technologies. An entrepreneur brings these qualities to market - they do not bring themselves. Until he does so, the value of the land is undefined.

The likely effect of the distortions of a George tax would be to shift development to physical improvements that would be exempt from the tax. Since natural resources would be considered part of the land's "unimproved" value, the incentive to search for new resources would completely vanish. Land speculation would diminish or vanish, which many of Georges proponents consider a benefit.

Julian Simon (1998), noting that the very longest trends throughout humankinds history exhibit decreasing rather than increasing scarcity for nearly all raw materials, predicted the trend would continue indefinitely. The theoretical underpinning of this prediction is one of endogenous invention, and this invention must be sustained through the availability of quasi-rent and the preservation of property rights. It is through entrepreneurial discovery activity that the supply of resources has increased, driven by the incentive of quasi-rents from their sale. Without this activity, it is conceivable that the doom-and-gloom forecasts of Simon's day would have come true. The developing world is using an increasing proportion of the worlds natural resources, and natural resource allocation between countries is often a source of extreme tension in international relations. The continued growth in population and prosperity enjoyed by much of the world for centuries relies on continuing trends in decreasing scarcity for

natural resources.

A very high tax on the unimproved value of land could drastically interfere with the dynamic nature of entrepreneurial activity: developers must earn some minimum amount from the land to cover the enormous tax, therefore they will employ the land in its obvious use. Consider as an analogy a person born with obvious athletic talent to play professional basketball. Taxing this person on their ability to play basketball is potentially inefficient since it discourages that person from ever exploring other skills that might be his comparative advantage. Worse yet would be to commit to increase his tax to the new, higher rate if he determines he has a higher-valued skill. Similarly, the landowner is discouraged from exploring new uses for the land, particularly if those new uses might mean new taxes.

George wrote in *The Science of Political Economy* (1981): "Nevertheless, we properly speak of the value of certain things as being determined by the cost of production." The fundamental error in George's thought is suggesting land has some value outside of search costs. This is a problem even within the framework of the labor theory of value.

4 Expectations, Time Inconsistency, and Regime Uncertainty

Commitment to a Georgist program of public finance could have long-run welfare implications exceeding those described by the previous section. We consider a shift in expectations that discourages investment in land even after the George tax is repealed. Now, when calculating the net present value of land, the buyer considers not only the tax rate for the current period but his expectation for the tax rate in future periods as well. We present a simple model of adaptive

expectations where the tax rate T in (4) is determined from previous periods:

$$T^e = T^e_{-1} + \lambda(T_{-1} - T^e_{-1}) \tag{6}$$

Where $\lambda \in \{0, 1\}$

In this model, the effects of a Georgist tax remain even after repeal, but this distortion declines in time. The slower expectations are to adjust to sudden changes in the tax code, the longer the effect of the distortion. This would not be the worst case, though, as a drastic change in the tax code of this magnitude may fundamentally effect expectations about the social contract. Therefore we should direct our attention to the political economy effects of a Georgist tax.

In order for private landowners to engage in productive search, they must trust that the taxing authority is not purely taxing by discretion, which landowners would recognize as a case of time inconsistency (Kydland and Prescott 1977). If land truly is perfectly inelastic, then the revenue-maximizing, discretion-only tax authority can tax it at 100 percent rate. But why should they stop there? Once improvements are built, they too become inelastic qualities of the land a 100 percent tax on improvements would not destroy existing improvements. The rule suggested by George is to stop at "unimproved" land, but from an efficiency perspective there is no difference.

Previous attempts at land reform have more often failed than not, sometimes with terrible consequences. Consider the case of Uganda, where in 1971 dictator Idi Amin expelled approximately 60,000 Indian immigrants and expropriated their land (Jorgensen 1981). The idea was simple: expel the immigrants and redistribute their holdings among the native population to curry favor without

effecting future output. In years to come, lack of foreign investment crippled the country, and even non-Indians mistrusted the government. In 1998, when the expelled citizens and their heirs were offered the opportunity to return and take back their businesses, (understandably) very few accepted the offer. Once a government shows a willingness to drastically alter their respect for certain types of property rights for certain types of citizens, everyone updates their expectations to account for this change. Very drastic or frequent changes lead to regime uncertainty (Higgs 1997), where potential investors are paralyzed by their lack of confidence that the government is playing by the rules, therefore they drastically reduce or stop investment.

The Georgist single-tax proposal a perfect example of the Nirvana fallacy (Demsetz 1969). In the George world, the government taxes exactly what it needs from an inelastic good and spends all of the proceeds funding genuine public goods. While a true comparative institutions approach is impossible because no country has attempted to follow Georges recommendations wholly, some countries have experimented with very high land taxes to tremendous detriment.

5 Anticipating Responses

In this section we anticipate responses from proponents of the single tax or high land-value tax.

5.1 The Problem with Self-Evaluation

Some Georgist authors (Foldvary 2007) have suggested that self-evaluation is a solution to the problem of who would assess the land and determine its "unimproved" value. Under this scheme, landowners pay tax on their self-assessed land value but are required to sell at that value (or at a slight markup of that

value) if there is a buyer. The idea is that the inefficiency is reduced because as long as the landowner reports a higher value than anyone else, he at least will keep the profit on the difference between his value and the next highest bidder. But he is still disincentivized from search, since any new value discovered will mean more taxes if he declares that value. Far from eliminating the problem, this would only be a marginal improvement, which comes entirely from the amount of profit the landowner can keep by only declaring land value above the next highest bidder's value, which runs against George's principles.

5.2 Current Law Is No Better

Georgists (e.g. Gaffney 1977) often point out that current law does not always award the benefits of natural resource discoveries to the discoverer, but rather forces them to negotiate with the land title holder. Should the discoverer and the title holder not be the same person, though, no efficiency problem exists if we assume minimal transactions costs. The quasi-rent remains so long as someone has the exclusive right to extract and profit from the natural resource. The problem with the George proposal is that *no one* can profit from the discovery: therefore no one will make an investment in exploration. If transactions costs are too high for benefits to accrue to the discoverer, laws could be changed without resorting to the George tax system.

5.3 Improvements: Not Just Buildings

A common objection to many critiques of Georgism is that Georgists actually believe in a very wide definition of improvements and therefore the criticism is unfounded. For instance, irrigating or terraforming land, since it changes the land's physical features, should be considered an improvement. Discovery of natural resources could simply count as an improvement and therefore be

exempt from the tax. Discovering any new type of use for the land could change its market price, so those might count as improvements and be exempt as well. Putting aside that this is not what George himself suggested, this argument is self-defeating and ultimately grants the central theme of this critique: there is no such thing as land rent, and every bit of information about the potential uses for land could be considered an improvement.

6 Conclusion

In *The Power to Tax*, Buchanan and Brennan summarize the problem of optimal taxation thusly: "Governments maximize revenues from whatever sources of taxation are made available to them." (Ch. 3.2).

Optimal taxation using some form of the Ramsey rule is the least distortionary tax for raising some given amount of revenue. But a leviathan government pursuing revenue maximization can be very inefficient indeed, and inelastic products present a high risk for abuse. Most of the worlds governments have shown restraint, but the George program presents an opportunity to extract maximum revenue with an efficiency justification. But as we have shown in this paper, no such efficiency justification for land value taxation exists. In fact, when incentives to search are eliminated through land value taxes, increased demand for natural resources could result in disaster.

We do not mean to suggest that there is no merit in the idea of taxing relatively inelastic products as opposed to relatively elastic ones. However, we propose that there is nothing inherently special about land in this regard, and suggest that taxing of negative externalities (Pigou 1920, Baumol 1972) is plainly superior from an efficiency perspective.

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