Political Geography 63 (2018) 43–53

Contents lists available at ScienceDirect

Political Geography

journal homepage: www.elsevier.com/locate/polgeo

Endogenous borders and access to the sea☆

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ARTICLE INFO

Article history:
Received 12 May 2017
Received in revised form
20 November 2017
Accepted 4 January 2018

Keywords:
Landlocked
Borders
Colonization
Causation

ABSTRACT

A longstanding literature suggests that being landlocked inhibits countries' development. Yet a corollary implication of the underlying theories supporting this conclusion is that having multiple neighbors should lessen the drawbacks of being landlocked — and this implication does not appear to be borne out in practice. This suggests that traditional claims about the causal effect of being landlocked may be overstated. Landlocked countries instead may tend towards worse developmental outcomes because of the very same political factors — such as rough terrain, hostile neighbors, or colonial heritage — that originally led them to be cut off from the ocean. Empirical tests confirm this idea: accounting for the political factors that associate with becoming landlocked greatly reduces the estimated statistical effect of being landlocked on development. Caution is warranted when blaming lack of ocean access for social, political, and economic outcomes of interest.

Countries lacking access to a coast seem to experience worse outcomes on several dimensions. Compared to coastal countries, they are on average poorer (Gallup, Sachs, & Mellinger, 1999, p. 180), more unequal (Sylwester, 2004), more volatile (van der Ploeg and Poelhekke, 2009), and relatively more likely to have territorial grievances that erupt into armed conflict (Tir, 2003, p. 1250). While some circumstances may make it beneficial to be landlocked (Behrens, Gaigné, Ottaviano, & Thisse, 2006; Gaibulloev & Sandler, 2013), being so generally appears to stand as a geographical disadvantage, challenging social and economic development. States certainly have long perceived access to the sea as a geopolitical imperative, with many historical examples of countries bearing severe costs to prevent themselves from being landlocked (Pounds, 1959; Spykman & Rollins, 1939). The same impulse to achieve coastal access continues to animate states' behavior in the contemporary world (Griffiths, 1989; Muluneh, 1997).

The precise reasons why being landlocked should be (felt to be) so costly, however, are somewhat unclear. Traditional theories have difficulties explaining the effects of being landlocked (MacKellar, Wörgötter, & Wörz, 2000); much territory in countries with coastal access is, after all, as far from a coast as is territory in entirely landlocked countries. The political placement of a border between a region and the coast, however, seems to determine the interior region's fate. In part this simply reflects international boundaries' strong dampening effect on economic flows (McCallum, 1995; Aker, Klein, O'Connell, & Yang, 2014), but, if such border-crossing costs were crucial, one would expect landlocked and coastal states to do their uttermost to ease those costs and to unify the two markets, a process from which the coastal state also stands to gain. Yet this mutually beneficial outcome rarely seems to happen, and trade flows do not seem to explain landlocked states' plight (Carmignani, 2015). To explain this, scholars have turned to arguments framing coastal states as monopolists or oligopolists that extract rents by restricting the supply of transit access. As Collier (2007, p. 55) puts it, landlocked countries are "hostages to their neighbors."

These arguments, if true, have testable, observable implications. If coastal states act as gatekeepers that control access to the rest of the world, having several potential bargaining partners increases the odds that a nonzero number of coastal countries will successfully be able to coordinate with the landlocked country. Accordingly, having a larger number of players should mitigate the putative drawbacks of being landlocked. Results presented below, however, reveal that this is not the case. Having more neighbors does not appear to significantly improve the performance of landlocked countries.

If hostage-holding by coastal neighbors is not the source of landlocked states' distinctive outcomes, what might be? Strikingly,

☆ We thank Halvard Buhaug, Kathleen Gallagher Cunningham, David Cunningham, Nell Gabiam, and the anonymous reviewers for helpful feedback. Author names are alphabetical.

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https://doi.org/10.1016/j.polgeo.2018.01.002
0962-6298/

the sorts of factors that would tend to politically divide a coastal area from its natural interior hinterland – ethnic or linguistic disunity, geographic barriers such as mountains or other rough terrain – themselves frequently associate with negative political and economic outcomes (Buhaug, Cederman, & Rød, 2008; Montalvo & Reynal-Querol, 2005). The seeming connection between coastal access and performance may then be spurious, induced by the features that caused the placement of borders, not the borders themselves. Moreover, if (border-placing) colonizers tended to bestow institutions that were more focused on immediate resource extraction rather than long-term development to landlocked areas, and cultivated the growth of more beneficial institutions in the countries to which they gave coastal access, those institutions may matter more for landlocked countries' worse socioeconomic outcomes than does lack of coastal access as such.

These sorts of arguments are hard to prove empirically: most available statistics follow existing jurisdictional boundaries, and border placement represents an aggregation similar to geography's modifiable areal unit problem. That is, the division of territory into separate, sovereign countries is, as Openshaw (1983, p. 3) puts it, "modifiable, and subject to the whims and fancies of whoever is doing, or did, the aggregating." Still, it is suggestive that, as shown below, the estimated effect of being landlocked on countries' economic outcomes substantially drops in magnitude and statistical significance when ethnic heterogeneity, rough terrain, and colonial inheritance are controlled for.

None of this is to deny that the costs imposed by distance from the sea can have significant, pernicious consequences for development; costs of interacting with the world clearly affect the possibilities for a region. These arguments nevertheless suggest that being in a landlocked polity may not of itself have particularly deleterious effects: it is merely an imprecise proxy for regions with other sorts of high costs – costs that would inhere in those regions even were they united politically with a coastal country, or that result from locals' identity-based sparring with the coastal peoples. The economic, political, and social difficulties observed in landlocked countries may stem from causal mechanisms, not from being landlocked itself.

The advantages of access to the sea

Analysts have long seen being landlocked as a deep geographical disadvantage (e.g., Spykman, 1938, p. 215; Glassner, 1971). This partly reflects the costs of remoteness, which both can affect outcomes as a fact of physical geography and a perception of distinctiveness (Hay, 2006). Yet being landlocked is qualitatively different from the remoteness that might characterize other landforms such as islands (Baldacchino, 2006): being landlocked by definition implies more limited access to the ocean, which in turn precludes access to everything from major shipping lanes to fisheries and seabed mineral resources that international treaties make available to states that can claim maritime Exclusive Economic Zones (Wani, 1981).

Being landlocked could impede social development for many reasons (Diener, 2017). For example, coasts tend to make for relatively defensible borders (Cohen, 1973; Spykman & Rollins, 1939), so that a country that instead has land borders on all sides may be likelier to need to divert resources towards military or diplomatic ends. In the literature building from Jeffrey Sachs and co-authors' seminal efforts to re-popularize the idea that fixed geographical factors were structural determinants of important social outcomes (e.g., Gallup et al., 1999; Sachs & Warner, 1997), however, the case for why being landlocked impedes development has two main components. One of these relates to the intrinsically inferior interconnection of interior locations, with their high transportation costs and hence limited market access; the other speaks to the political obstacles likely to be thrown up by coastal states that stand between the landlocked country and the coast.

Most directly, these literatures on the effects of being landlocked reflect the cost of travel. The added cost that land transport over long distances to the coast requires often prices goods out of world markets (Bloom & Sachs, 1998; Milner & Zgovu, 2006). This not only reduces returns to any particular export, it also limits economic growth strategies, foreclosing re-export-based models of development that would require those costs both to get intermediate goods into the country and to ship the final outputs back to world markets. The simple cost of getting goods to market can be prohibitive, thereby slowing or stalling economic development – and, by limiting foreign or market influences, may limit international pressures on the political regime to conform to global norms (Mourao, 2011).

Analysts have also proposed several more directly political stories for why being landlocked impedes' countries development. One of these focuses on the difficulties of coordination between the landlocked country and its coastal neighbor or neighbors (United Nations, 1974, p. 6; Hausmann, 2001, p. 47). An archetypal example of such coordination failure occurs when adjoining countries use different track gauges for their railroads, forcing all cross-border traffic to be transshipped between trains, typically at considerable expense (Arnold, Peeters, & Thomas, 2004). Similarly costly bottlenecks can arise from analogous regulatory differences regarding what sorts of vehicles or drivers can use roads, decisions whether or not to build interconnecting highway networks, or in what paperwork is necessary to bring goods into a country. In this case, the transportation costs of landlocked countries are indeed higher, not because of the "natural" trade costs imposed by physical remoteness but instead because of suboptimal government policy and the unwillingness or inability of neighboring governments to work together.

Another mechanism suggests that the problem is not accidental failure of cooperation but instead coastal neighbors' intentional exploitation of their monopolistic control over the landlocked state's trade (Srinavasan, 1986, p. 213; Armstrong & Read, 2000, p. 288; United Nations, 2006). Transit states have the incentive and ability to charge the landlocked state for the privilege of sending goods across their territory, creating a pressure to drive up trade prices above the general price for infrastructure use. Even if the transit state government forbears to impose such costs on the landlocked state, this may not be enough if the transit state has only weak control over its territory: the state's border guards, customs agents, and police can corruptly exploit the same monopoly power without state command. Besides imposing transportation charges, the transit state can threaten to cut off market access if the landlocked state pursues policies at odds with the transit state's interest. The landlocked country may want to forge an alliance, trade agreement, or industry that competes against the transit state, for instance, but feel constrained to avoid such policies. Landlocked countries' coastal neighbors can then both directly impose negative outcomes and limit policy options in possibly adverse ways (Idan & Shaffer, 2011).

Technological context can change how significant these burdens of being landlocked are to states. The advent of air transport, for example, provides an alternative to shipborne means of shipping people and cargo, which might in principle allow direct links between landlocked states and those far afield, whereby going via gatekeeper states would actually add costs to a journey. In practice, however, such innovations have had only marginal influence on the economic and geopolitical costs of being landlocked. Aviation-fuel costs render habitual air transport impractical for all cargoes but those with high value-to-weight ratios (Hummels, 2007).