
Executive Summary

Local content requirements (LCRs) are a protective device with two simple but powerful appeals: They create jobs at home rather than abroad, and they channel business to domestic rather than foreign firms. Historically, LCRs have been associated primarily with government procurement and mandates imposed on publicly funded projects.

Political leaders who champion LCRs often seek to achieve multiple objectives. First, they seek to create jobs and channel business to domestic firms—the primary goal since the onset of the Great Recession. Second, they may harbor aspirations of building a world-class industry, following the logic of infant industry analysis. Third, they may believe that LCRs offer a promising path to economic development. Fourth, they want taxpayer money spent subsidizing ethanol, solar panels, or other renewables to feed back into the domestic economy.

In practice, however, LCRs have many drawbacks. Most LCR measures use quantity rather than price signals to influence market outcomes, and the economic cost of quantity signals is notoriously difficult to establish. Accordingly, public officials usually have little knowledge of how much their LCR policies cost. Moreover, they may not know what they are getting, as the LCRs may mandate what the market would have achieved on its own. In addition, LCRs are usually opaque, thereby lending themselves to corrupt application. Finally, once in place, LCRs seldom “sunset.” As a result, market distortions may last a very long time.

In principle, many LCRs are inconsistent with the rules of the World Trade Organization (WTO) and regional free trade agreements. In practice, the rulebooks have many gaps. Moreover, national respect for international trade and investment rules is more a matter of self-discipline than litigation.

For both reasons, a “legalistic” answer to the spreading use of LCRs is not wholly satisfactory.

Alternatives to LCRs

This Policy Analysis explores six alternatives to LCRs that could deliver more job creation, impose fewer costs on the economy, and generate more economic growth.

- *Promoting a business-friendly environment.* A proven way to create jobs and stimulate investment over the long term is to upgrade conditions for doing business. Low corporate tax rates and honest officials are key ingredients.
- *Encouraging corporate social responsibility.* Governments can encourage multinational corporations to search out local firms for their supply base without crossing the line into “forced localization.” Many multinational corporations have adopted corporate social responsibility guidelines with this feature.
- *Providing training.* Quality training programs are critical: For every 1 percent increase in the number of workers participating in training for new positions, the employment rate and labor force participation rate in countries in the Organization for Economic Cooperation and Development rose by more than 1 percent (OECD 2004).
- *Improving logistics.* World trade today is characterized by global value chains: Trade transaction costs are incurred not just once in the trip from producer to consumer but many times, making good logistics critical. By reducing their own trade transaction costs burden, countries can become more competitive in world markets and create jobs at home.
- *Investing in infrastructure.* Infrastructure is critical for economic performance, and creating infrastructure jobs is a particularly good response to unemployment. Infrastructure projects in the United States create 18,000 jobs for every \$1 billion in new outlays. In the average developing country, every \$1 billion in infrastructure investment creates about 70,000 jobs (Heintz, Pollin, and Garrett-Peltier 2009).
- *Using tariffs or subsidies.* If a government has a political choice between a new LCR and a higher tariff or greater subsidy, the tariff or subsidy is the less bad economic choice. These instruments’ cost is more visible, and properly done, their administration can be simple and transparent, unlike LCRs, which are more likely to “play favorites.”

Survey Snapshot

We identified 117 LCR measures proposed or implemented since 2008. The list is undoubtedly incomplete, but it provides a rough approximation of the scope of LCR activity in the past few years.

Although some countries were more active and some industries more targeted, new LCR measures were found in all types of economies as well as in a broad range of industries. Many measures have effects beyond trade flows, directly and indirectly affecting investment, services, and employment. However, “affecting” does not translate into a one-for-one reduction in trade or investment.

We reviewed each LCR based on online information. Of the 117 cases, about 47 were systemically quantifiable: These cases explicitly target a subset of products that are traded internationally. Taken together, the quantifiable LCRs affected more than \$373 billion in goods and services trade flows, about 2 percent of total global trade in 2010 (the year in which most measures were implemented).

We identified 70 cases that are not quantifiable because of their opaque nature, vague wording, or nontransparent application. Many of these cases directly targeted trade flows. Making various assumptions, our analysis suggests that the nonquantifiable cases adversely affected another \$555 billion of trade, about 3 percent of global trade in goods and services.

In total, LCRs affected about \$928 billion in trade in 2010, 5 percent of total global trade. The reduction in trade caused by LCRs—in contrast with the impact on trade—is a matter of greater speculation. We do not have estimates on the tariff-equivalent effect. As a conservative and speculative guess, we estimate that the tariff equivalent is 10 percent ad valorem. Assuming that the elasticity of import demand for foreign goods is about -1.0 , we speculate that the reduction of trade as a result of LCRs in 2010 may have been about \$93 billion. Nothing has happened since 2010 to reduce this guess.

Case Studies

This Policy Analysis presents six in-depth country-specific case studies to illustrate the impact of LCRs. The cases cover a range of industries, both advanced and developing countries, and measures that range from implicit and opaque to explicit and transparent. The purpose is to illustrate how LCRs are deployed by countries of different levels of development and in various geographic regions. The six countries account for nearly half of the LCR measures identified. They are not statistically representative of the survey findings, and in some cases the episode predates the survey period (roughly 2008–12). The cases do not present hard econometric findings; rather they provide context and present descriptive statistics. The case chapters (4 to 9) proceed alphabetically, starting with Brazil and ending with the United States.

- *Healthcare industry in Brazil.* The Brazil case is messy—illustrative of what happens in many countries—because local content elements are offshoots of policies adopted for safety and infant industry reasons. Brazil is the largest market for healthcare goods and services in Latin America. However, cross-country analysis indicates that its healthcare market is underserved

and that both the “device lag” and the “drug lag” are relatively long. If Brazil disentangled its LCRs from other policies, both its healthcare market and its exports and imports of medical devices and pharmaceuticals would grow.

- *Wind turbines in Canada.* Canada’s LCR policies are clear cut and have been ruled inconsistent with its WTO obligations. Based on the “overnight cost” of onshore wind plants, we estimate that Canadian wind turbines cost about \$386 more to install per kilowatt (kW) of electric capacity than US wind turbines. Since 2009, Ontario has installed about 800,000 kW of wind power, and Quebec has installed 500,000 kW. By our rough but conservative estimate, Ontario paid an extra \$300 million and Quebec paid an extra \$200 million as a result of their LCRs.
- *Automobile industry in China.* Chinese trade and investment barriers are often informal in nature and reflect opaque regulation, inconsistent law enforcement, weak protection for intellectual property rights, and corruption. The large share of state-owned enterprises in China may lead to a home bias for auto parts procurement. LCRs are often expressed as informal “requests” rather than mandates, which probably insulates them from a WTO challenge. However, cross-country analysis shows that, of the major automobile-producing countries, China has a very low level of imported auto parts content per automobile and the smallest share of imported autos as a portion of total sales. Indirect evidence suggests that Chinese auto prices are higher than they might be with reformed policies.
- *Solar cells and modules in India.* Most G-20 countries subsidize renewable energy in support of policies related to climate change, the environment, and energy security. To increase solar capacity, the Jawaharlal Nehru National Solar Mission auctions power purchase agreements to solar developers at a premium over the cost of coal-fired electricity. Developers must use cells and modules manufactured in India, with some exceptions. This LCR seems to have substantially distorted the Indian module market. The United States has challenged Indian policies; consultations are underway in the WTO.
- *Oil and gas in Nigeria.* The Nigerian Oil and Gas Content Development Act of 2010 was broadly worded to cover “all matters pertaining to Nigerian content in respect of all operations or transactions carried out in or connected with the Nigerian oil and gas industry.” Assessing the efficacy and costs of the act’s LCRs is difficult given the reported high levels of corruption and vandalism in the industry and the dearth of statistics. The act toggles between codifying current business practices (i.e., the 95 percent Nigerian employment requirement) and creating impossible standards for foreign companies. Based on rough arithmetic, we calculate that it imposes a heavy penalty on Nigeria in terms of lost tax revenue. Because Nigeria is a developing country and the act affects an industry generally not covered by WTO obligations, a legal challenge seems remote.

- *Buy America in the United States.* In February 2009, President Barack Obama signed the American Recovery and Reinvestment Act (ARRA), usually referred to as the stimulus bill. The act included a \$787 billion mix of tax cuts and expenditures. It also mandated that all iron and steel procured using these funds be made in the United States; failure to meet this provision makes the entire project ineligible for ARRA funds. This requirement raised the costs and delayed the implementation of numerous projects. It also failed to provide a significant jobs dividend, as steel manufacturing is highly capital intensive and the labor force employed in the industry is deceptively small. The terms of ARRA were carefully crafted to fit within the strictures of the WTO and the North American Free Trade Agreement (NAFTA).

Plan of the Study

Chapter 1 describes the nature and motivation of LCRs. Chapter 2 summarizes six alternatives to LCRs that offer better outcomes in the long run, although they may not have comparable political appeal in the short run. Chapter 3 summarizes our survey of worldwide LCR measures enacted or proposed in recent years, roughly since January 2008 (appendix A provides the results of the survey itself). Chapters 4 to 9 present six case studies that illustrate the use and costs of LCR measures and their impact on domestic and international markets. Chapter 10 offers conclusions and recommendations.