Comments on "Latin America: High Logistics Costs and poor Infrastructure for Merchandise Transportation

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This note is meant to provide critical comments on Gonzalez, Guasch and Serebrisky's (2007) paper on "Infrastructure" challenge for the Copenhagen Consensus. I will argue that the paper does a very good job of describing the challenge and providing suggestions to improve on the present situation. Since the author´s cannot evaluate the social return of their proposals, they present simulation exercises using the best available data to gauge the size of the returns on their policy recommendations, which I believe is appropriate in this case. Except for some points of emphasis, I do not see any important omissions in the paper's assessments, but believe there are conceptual problems in terms of the organization of the paper. I would like to add some additional details, change the emphasis of some recommendations and provide some comments,.

1. General Assesment

Gonzalez, Guasch and Serebrisky's (2007) define their challenge as that of reducing logistic costs in Latin America. They acknowledge that there are three aspects to these high logistic costs: 1) access to basic infrastructure services; 2) logistic costs and inventories; and 3) trade facilitation. It is clear that access to basic infrastructure services is a key challenge in the fight against poverty in Latin America and because of its contribution to sustainable growth. The authors point out that this access provides direct benefits to the population and, indirectly, by reducing logistic costs, they are key ingredients in development and competitiveness.

The authors provide data that show the principal determinants of the relatively high logistic costs in Latin America, and their effects on the competitiveness and growth in the continent. There is no question, given the data provided by the authors, that logistic costs are higher in Latin America than in Southeastern Asia, for instance. Moreover, they show how the lack of decent infrastructure services affects development not only directly, but also indirectly, by increasing the fraction of goods not reaching the market, and by increasing the inventory requirements as compared to the average of OECD countries. Moreover, they quote studies showing that lack of infrastructure reduces the growth rate substantially (Calderon and Serven, 2006). Even though I am convinced the effect exists, I have some doubts about their size, since it seems that the impacts are excessive. According to the calculations cited by the authors, simultaneously raising the density of main telephone lines, power generating capacity and the road and railways system from the bottom quintile to the top quintile of the world distribution should increase growth by 5.7%

annually, independently of any other changes to as country's economy. But does it make sense and would it be productive to increase the road infrastructure levels of Argentina, a sparsely populated country, to those of a densely populated country such as Korea (in the example cited by the authors)?

The authors go on to describe the impact of inventory costs and of poor business logistics. I have some doubts about whether logistic costs and inventories are independent factors, or they are caused by the other two (plus, perhaps excessive and inefficient regulation, which the authors mention). In that sense, inventories and firm logistic costs are a derived feature of lack of infrastructure, poor regulations (and perhaps deficiencies in contract compliance, a problem of the judicial system), lack of competition, impediments to trade and excessive regulations.

Nevertheless they show costs that may be classified as logistic are substantial. In particular, these problems lead to higher inventory levels, and since inventories tend to be costlier in developing countries (higher capital costs, storage quality problems), these costs can reach almost 20% of product value. It is difficult to believe that under competitive conditions, firm could survive in the long run if they are inefficient in terms of logistic costsrelative to the conditions of the environment. In this sense, the section dedicated to this costs is really an exploratory analysis of the mechanisms by which infrastructure deficits, inefficient regulations, trade impediments and lack of competition raise costs.

Finally, the authors study the effects of trade impediments. To do this they recognize that these can be classified into 4 categories: i) port efficiency, ii) customs efficiency, iii) regulatory inefficiency (which I believe should appear in its own category, instead of logistic costs), and, iv) service sector infrastructure (again, this is already included). They proceed to estimate the importance of these costs by regression. Next, they simulate the effects of having countries with trade impediments improve up to the average level of trade facilitation of the 75 countries in their study, showing that improvements they would lead to increases of 9.7% in average in their trade. For LA countries, the effects of trade facilitation policies would be much larger, reaching a 20% increase in exports and 16.1% in the case of imports.

On the basis of the evidence they present, the authors provide a set of solutions:

1) Spending more and better on infrastructure,
2) Bundling infrastructure investments with policies aimed at improving efficiency of service logistic providers,
3) Adopt policies to improve trade facilitation,

All of which are reasonable, and which I analyze in more detail below. The paper does not provide an overall estimate of the benefits of these policies, but this makes sense, given the scope of the policies, and the diffuseness of their effects.

2 Additional Aspects

In this section I review in more detail the various recommendations, extending the analysis and using additional evidence from the literature.

2.1 Regarding the infrastructure recommendations

> *A magnificent high-road cannot be made through a desert country, where there is little or no commerce, or merely because it happens to lead to the country villa of the intendant of the province, or to that of some great lord, to whom the intendant finds it convenient to make his court. A great bridge cannot be thrown over a river at a place where nobody passes, or merely to embellish the view from the windows of a neighbouring palace; things which sometimes happen in countries, where works of this kind are carried on by any other revenue than that which they themselves are capable of affording.*
>
> *Adam Smith, Wealth of Nations*

For this issue, the detailed recommendations of the authors are:

i) Increase spending in infrastructure,
ii) Users must pay a higher fraction of infrastructure costs, creating safety nets for those unable to pay,
iii) Spending must improve, with a better allocation of resources to maintenance and no building of white elephants,
iv) Develop institutions for project selection,

There is very little to quarrel with in these recommendations, and I only miss a proposal to regarding the role of local and regional interests in infrastructure proposals. But perhaps this can be achieved as a consequence of the proposal of direct payments for a larger fraction of the services of infrastructure (including, presumably tolling of roads, true costs of water supply, etc). Though these payments are usually unpopular, and are often accused of discriminating against the poor, they can be very effective, in delivering good services. In a report of the Asian Development Bank (Cook, Duncan, Jitsuchon, Guobao, 2004) which reviews the literature and country studies of the impact of transport and energy infrastructure on poverty reduction, they conclude, among other things, that whether these investments provide benefits to the poor depends on the quality of the services offered. Similarly, in a paper reviewed by the authors of the present paper (C. Briceño-Garmendia, A. Estache, N. Shafik, World Bank 2004), which reviews the literature, they cite Rioja (1999, 2003) who claims that there is a misallocation of resources in infrastructure investment, with just one third of investment dedicated to maintenance. This has a large cost in terms of long run GDP. More specifically, public infrastructure is only 74% as effective in LA countries as in industrial countries. In the case of Uganda, Reinikka, Svensson (1999) show that the poor public supply of electricity leads to less productive investment.

The evidence is therefore consistent with the fact that the allocation of resources to public infrastructure is not only insufficient, but it is inefficient. One source of inefficiency, identified already by A. Smith, is that centralized funding and direction of projects does not

necessarily lead to useful projects. It is also clear that the private sector can be a very efficient provider of infrastructure services under competition, as shown by the example of the cell phone industry in underdeveloped countries.

In the case of roads, perhaps the best option is, in the case of major roads, to have users pay user fees that at least pay for maintenance of the project. This provides the following benefits: local and central pressures on the operator if she does not provide sufficient maintenance, a test of sorts for the social value of investment, since the private value is usually smaller than the social value (especially since the *"poor are relatively unconcerned about the potential environmental impacts of transport or energy infrastructure"* Cook, Duncan, Jitsuchon, Guobao, 2004). This reduces the possibility of white elephants, at least in maintenance projects. Moreover the central funds that are released from these obligations can be used to improve the quality of those roads that do not generate enough income to even collect user fees, but that can be economically very important, and can alleviate rural isolation.[1]

The authors fail to mention PPPs as an alternative approach to financing infrastructure, specially for roads and highways, or even for financing their maintenance. This lack is surprising, because JL Guasch has written often about PPPs, their advantages and their problems (Guasch, J.L. 2001, Guasch, J.; Laffont, J. and Straub, S. *2002*, Sirtaine, Pinglo, Guasch, and Foster, 2004, for example). While PPPs have clear problems, see below, they are often an improvement on other types of financing of projects (Engel, Fischer and Galetovic, 2003, 2006), where we show that even though PPPs in highway projects suffer from many problems, they are preferable to public provision because they are implemented faster and usually at lower cost (notwithstanding the example of Mexico during the early 90´s). This does not mean that PPPs should be used to alleviate the government´s budget constraints, since these projects usually do impose intertemporal obligations on the government (Engel, E.; Fischer, R. and Galetovic, A., 2007).

Another important source of logistic costs is port inefficiency. Clark, Dollar and Micco (2004), show that improving port efficiency from the 25th to the 75th percentile reduces shipping costs by 12% and that bad ports are equivalent to being 60% farther away from markets for the average country. Inefficient ports also increase handling costs, which are one of the components of shipping costs. Finally, they show that reductions in country

[1] In order to avoid the following observation of A. Smith:

"In France, however, the great post-roads, the roads which make the communication between the principal towns of the kingdom, are in general kept in good order; and, in some provinces, are even a good deal superior to the greater part of the turnpike roads of England. But what we call the cross roads, that is, the far greater part of the roads in the country, are entirely neglected, and are in many places absolutely impassable for any heavy carriage.[…] The proud minister of an ostentatious court, may frequently take pleasure in executing a work of splendour and magnificence, such as a great highway, which is frequently seen by the principal nobility, whose applauses not only flatter his vanity, but even contribute to support his interest at court. But to execute a great number of little works, in which nothing that can be done can make any great appearance, or excite the smallest degree of admiration in any traveller, and which, in short, have nothing to recommend them but their extreme utility, is a business which appears, in every respect, too mean and paltry to merit the attention of so great a magistrate. Under such an administration therefore, such works are almost always entirely neglected."

inefficiencies, associated to transport costs, from the 25th to 75th percentiles imply an increase in bilateral trade of around 25%.

Ports can improve substantially under private management. In the case of Chile, passing from state operations to having private operators in ports led to large improvements in productivity, and a further progress came when landing docks were concessioned to a single company (Fischer and Serra 2005). The results were substantial reductions in port costs due to increased throughput:

Throughput (boxes/hour/ship) in Chilean ports

Terminal	1999	2003
Mono, Valparaíso	26	75
Mono, San Antonio	25	75
Multi, Valparaíso	18	36
Multi, San Antonio	18	36

Source: Sistema Portuario de Chile 2005**.** One terminal at each port continued to operate in the original "multioperator" scheme, while the other was franchised to a "monoperator".

The following table shows a comparison between port costs in different countries, which shows the benefits of the Chilean program of port franchising.:

Cost of transfering a 20 foot in the port.

Region	Cost
USA	312
Africa	256
Latin America	174
Far East	164
East Europe	144
Australasia	130
Northern Europe	120
Southern Europe	113
Middle East/South Asia	106
Southeast Asia	92
Chile	85

Source: Drewry Shipping Consultants, Oct 2002.

Regarding the problems with the recommendations, there are some hidden when increasing infrastructure spending rapidly that the authors fail to mention. A large increase in infrastructure spending may overwhelm the ability of the public works bureaucracy, leading to projects that are badly designed and need extensive renegotiation of construction contracts. This, in turn may lead to increased corruption.

Another danger, in the case in which public works such as roads are franchised to private operators, as in PPPs, is that the government uses the procedure to expand expenditure without being subject to the usual budgetary constraints, so they can be used to gain electoral advantage with a public which does not perceive the future costs of the policy,

again leading to badly designed projects and white elephants (Engel, Fischer, and Galetovic, 2006).

In any case, the authors showcase simulations that help them estimate the benefits that could result from following their recommendations. The effects can be substantial, with a return of over 25% in their examples. It is not clear that all infrastructure improvements will be that productive, given some of the problems detailed above, but there is certainly a large potential for improvement in infrastructure provision which lowers logistic costs.

I would like to emphasize the important role of the recommendation for the creation of institutions or organisms for project selection (even in the case of PPPs). Public works are a favorite resort of governments for political purposes, and the cost of misallocated resources in poor countries can be important. Thus, a call for increased infrastructure investment requires an institution that insures that public investment satisfies social cost-benefit criteria.[2]

2.2 Regarding the logistic cost recommendations

As already mentioned, I have certain qualms about the existence of an issue with the inefficient logistics at the level of the firm. Under competition, firms cannot afford to be inefficient, and perhaps some forms of observed inefficiency are the appropriate response to some other failure, such as regulatory failure, cartelized or monopolized provision of services (truck services in Colombia, perhaps), or if there is low or no access to infrastructure services.

The proposals in this section consist of improving sector regulation and deregulating where appropriate. There is no question that these proposals are correct and point in the right direction. However, their level of generality makes them difficult to evaluate, especially given the potential for opposition by entrenched groups. This is perhaps the weakest part of the paper, because recommendation of this type has been given to LA governments during the last 20 years (at least), and while there have been some successes, the recommendation continues to be necessary. The example of the gains form a reduction in the logistic costs of Peru (Table 14) shows the extent of the potential benefits, but not how to achieve them and if in fact if they are possible (it could be that orographic conditions make it impossible to have a reduction of logistic costs of that magnitude in Peru).

2.3 Regarding Trade Facilitation recommendations

In this case, the recommendation consists of various small proposals: i) creating an export development agency to promote trade, ii) supporting the modernization of local firms, iii) creating a national logistics council iv) modernization and simplification of customs procedures, v) multimodality law and improved access to ports, vi) more emphasis on the

[2] During the middle 70´s to the late 90´s, Chile had a successful system of this type. Even there, the pressure of short-term politics managed to coopt the system, which now approves projects according to the whims of government.

supply of required logistical services, and vii) creation of regional trade facilitation committees. All of these recommendations are commendable, and none requires large expenditures, so I agree with all of them without qualification.

The example of Chile is interesting in this regard, given that it has overcome its geographical disadvantage and become an extremely open economy (in terms of (X+M)/GDP). It is interesting that Chile has achieved decent progress on points: i), since a trade facilitation agency has existed for almost three decades, v), with port franchises and new private ports, which have improved efficiency and reduced waiting times for shipments, vi), in part provided by the private sector in response to demand (cooling reefers, testing and certification) and via PPPs, in the case of logistic terminals and dry ports. These have been very successful experiences, which may explain why, even though Chile is farther away from demand centers than most LA countries, and has a rugged geography, has the lowest logistic costs in the sample of LA countries of the authors. Chile has not been quite as successful in the modernization of custom procedures, apparently due to leadership deficiencies at the customs office. As regards supporting the modernization of local firms, the most successful effort has been driven by the tax office, which started requiring companies to deliver their tax information to its web site, thus pressing for the adoption of information technologies.

3 Conclusions

The paper provides a fairly complete answer to the challenge of reducing logistic costs in Latin America in order to encourage growth. I have some differences in terms of the organization of the paper, but these are minor complaints. The authors have assembled a large collection of difficult to obtain data and evidence (the costs of inventories are specially convincing) and use them to great effect, showing the importance of logistic costs to growth and development. Their recommendations are reasonable, and one could only fault the degree of generality in the case of the second recommendation. These objectives are not easy to achieve, because in many cases they go against vested interests which would prefer the current situation. The measures are also technocratic and liberal, and they may face opposition in countries that have been disappointed by the failures of the 90´s experiments in liberalism. However, the example of Chile, which has gone the farthest in implementing these measures, shows that they can be effective and that it is possible to design a protection network for the poorest sections of society, while growing quickly.

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