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Small, remote and poor?

ANTHONY J. VENABLES
London School of Economics and CEPR

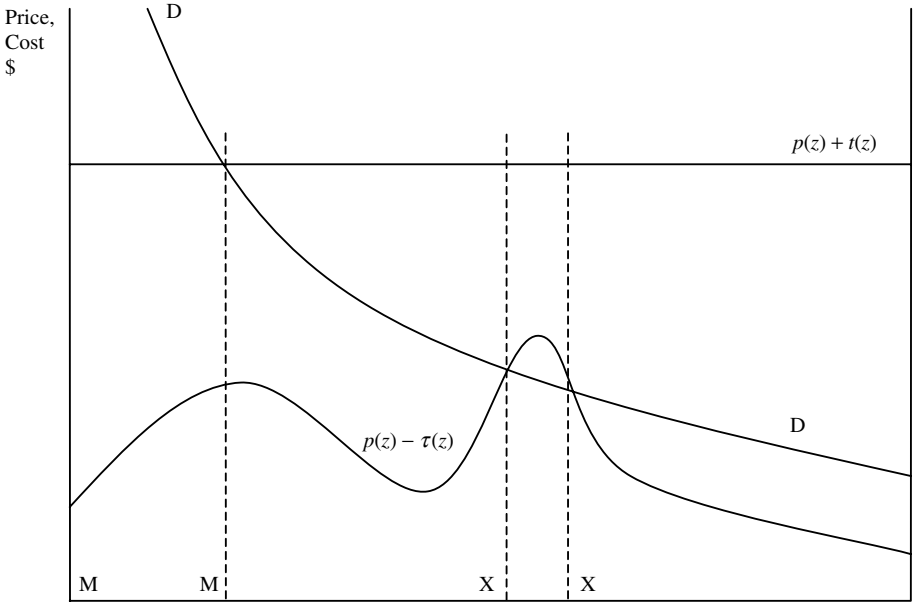
The two papers in this special issue both look at the problems that small economies face in participating in the world trading system. For Winters and Martins (W&M) small means small in population; they motivate their analysis with reference to the 82 countries with the smallest population, accounting collectively for less than 0.5% of world population. Many of these countries are also remote, making trade costly. For Mattoo and Subramanian (M&S) the focus is on countries that are small and poor; their list covers the 73 countries which each account for less than 0.05% of world imports and which also have low income. They investigate the engagement of these countries in the WTO. My comments will address both papers, although focus on W&M.

The paper by W&M poses the question; how disadvantaged are economies that are small and remote? They answer the question in three stages, first outlining theory, then econometrically estimating the dependence of various costs on country size, and finally using these estimates to evaluate the cost disadvantage that would be faced by setting up selected activities in a small country, as compared with a country of median size. This is an interesting and well-structured exercise, and I have a number of comments concerning each stage.

Looking first at the theory, there are two quite separate potential sources of cost disadvantage; one is remoteness, and the other smallness, and it is worth drawing out these two dimensions in somewhat more detail than is done in the paper. The natural analytical framework, as pointed out by the authors, is the Dornbusch, Fischer, Samuelson (1977) model of trade with a continuum of products, as illustrated in Figure 1. The horizontal axis is the continuum of products, indexed z, and the horizontal line $p(z)+t(z)$ is the price of imports of each product in the country under study; $p(z)$ is the world price, and $t(z)$ are the shipping costs incurred by our 'remote' country. Units of measurement for each good can be chosen such that $p(z)+t(z)$ is the same for all goods, giving the straight line illustrated (its height is normalised at unity). The downward sloping line, DD, is the cost of producing each good in the country. It is downward sloping because goods are ranked by comparative advantage – those goods on the left are prohibitively expensive to produce. Notice also that these domestic production costs are inclusive of costs of imported inputs. The third line, $p(z)-\tau(z)$, gives the receipts, net of transport costs, from exporting each good. This line is not necessarily monotonic or even continuous; the sum of import and export trade costs $t(z)+\tau(z)$ bears no necessary

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Figure 1. Trade with a continuum of products



relationship with domestic comparative advantage, used to order products on the horizontal axis.

The key point to using this diagram is that the height of the line DD is endogenous, depending on wages in the economy. As illustrated, the economy imports goods in range MM, exports goods in range XX, and is self sufficient in all other goods; the wage rate has adjusted to an equilibrium value, shifting the DD curve until there is payments balance. If the economy were to receive foreign assistance then it would need to export less and could afford to import more, so wages and the DD curve would shift upwards enlarging the set of goods imported and reducing the set of exports. A more remote economy will have a lower $p(z)-\tau(z)$, so that its wages must be lower if it is to achieve payments balance. Notice however that this economy will in general export *something*. How does this square with the discussion of Figure 1 of W&M, who claim that the range of non-traded goods could be so large as to preclude trade entirely? To their discussion we have added wage flexibility, so that domestic costs (the DD curve) can shift relative to world prices (and the $ denominated axes of the figure). Are there any circumstances in which the economy exports nothing? One is that foreign assistance or other sources of foreign exchange are sufficiently high that the wage rises to the point at which the DD curve lies above $p(z)-\tau(z)$ everywhere. The other is the case when, even if wages (or more generally, the prices of all domestic resources) are

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zero, the DD curve lies above $p(z)-\tau(z)$ everywhere, so there is no activity on which exporting yields positive value added. This is certainly a possibility, but the point we seek to make is that wage flexibility means that it is unlikely that the economy exports nothing. Once wage are endogenous, remoteness will generally means low wages, rather than no exports.

So much for remoteness; what about smallness? The framework outlined above and in the paper by W&M has constant returns to scale, so country size appears to have no direct effect. To have size enter the story something further must be added, and there are several possibilities. One is that there are increasing returns to scale in transport activities so that small economies are, essentially, more remote, facing high trade costs; this is confirmed in the empirical findings of the paper. A second is that a country has some fixed foreign exchange requirements – e.g. to support its foreign representation – in which case smaller economies will have lower wages, in line with the analysis of the preceding paragraph. A third is that small size is associated with lower technical efficiency – a higher DD curve at each level of wages. Technical inefficiency of this type is probably part of the story, and could usefully be discussed more fully in the paper. For example, there are sectors in large remote economies (Argentina or Australia) which are efficient enough to supply the domestic market but not to export; such sectors in small remote economies (Tuvalu or Anguilla) are quite possibly less efficient. What are the sources of such size-related differences in efficiency? They may be internal returns to scale within firms, or possibly external economies related to the size of the economy as a whole. Such effects may be hard to quantify (but not impossible, see Rosenthal and Strange 2004 for estimates) and seem to be an important additional mechanism.

The second part of the paper is empirical. W&M use a sample of 92 countries (ranging from the largest to the very small) to investigate the effects of country size and other controls on a number of elements of trade costs and production costs. They make the point that size and remoteness are highly collinear in the sample, so that separating out the two effects is not possible. It is also noteworthy that, of the 82 small countries listed in Table 1 of their paper, the sample of 28 on which they have data appear to be biased towards low-income countries; Luxembourg, Iceland, Brunei, Bermuda, etc., are not represented in the econometric work. Econometric findings are presented in Table 3. Small countries generally face higher freight charges (given distance) than do large ones, confirming the effect of smallness on remoteness. They have more expensive fuel, while prices of utilities vary – electricity is more expensive in small countries, while water cheaper. At this stage the authors could also have usefully reported the findings of Eaton and Kortum (2001) and Redding and Venables (2004) on the high prices of machinery in low-income and remote countries. The wage equations presented in Table 3 are taken to imply that small countries have relatively high wages, given their per capita incomes. However, interpretation of these equations is difficult, and the estimated equations need to be linked to theory. Are they marginal productivity

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equations? Does capital abundance vary systematically across countries in the sample? Or do wages vary because of Stolper–Samuelson effects?

The final stage of the W&M paper is to take their estimates of the impact of country size on the elements of costs and, using input–output coefficients, compute the cost disadvantages of small countries (relative to a median size country) in selected activities (electronic assembly, clothing, hotels and tourism). The cost disadvantages are large – more than 30% for the smallest countries. This is large enough to swallow up virtually the whole of value added so, for these activities, production is barely profitable even if primary factors are freely available.

These are informative results and the orders of magnitude seem – to me at least – to be quite plausible. However, two further comments need to be made, suggesting that pessimism about the prospects of small remote countries can be exaggerated. The first is that, for a small country, comparative advantage in just one activity is sufficient. Suppose that there is a spike in the $p(z)-\tau(z)$ curve of Figure 1; that is to say, for just one activity the costs of remoteness are very low. Then specialization in this activity renders comparative disadvantage in other activities irrelevant. More generally, remote economies (with high transport costs) will have a comparative advantage in transport unintensive activities (see Venables and Limao 2002 for analysis of trade and transport intensity). The second comment is that small remote economies do in fact survive – they retain population – and, according to the econometric estimates of W&M's paper (Table 3), have wages that are *higher* than might be expected. Is this all due to aid and trade preferences, or is it that there are some goods or service activities in which such countries have a comparative advantage? It is perhaps instructive to look at the recent economic history of Mauritius, regarded as a hopeless prospect by the Meade report in the early 1960s, then establishing successful export activities under preferential agreements for sugar, textiles, and clothing, and now looking to transport unintensive activities with its 'cyber-city' development project.

The paper by M&S turns from technological obstacles to policy obstacles, and is a discussion of issues to do with the involvement of small and poor countries in the WTO. It is based on two premises. One is that such countries have little to offer in reciprocal bargaining at the WTO. The other is that they have little interest in the liberalisation agenda of the WTO, partly because of existing preferential access, and partly because of costs the might be imposed by a widening of the WTO agenda.

The paper is interesting and informative. However, I would have found it much better if it had moved from general discussion to a more in-depth analysis of some of the issues. For example, a central line of the paper is that 'small countries … are inherently disadvantaged in the reciprocity process because they are not attractive enough to trading partners'. Yes, but: how are they then recipients of preferential access without own market opening? Smallness cuts both ways; small markets for exports and small suppliers of imports. Is coalition building then the

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solution – how effective can the G90 be? Another line is that there may be losers from further multilateral liberalisation, partly as preferences are eroded, and partly as terms of trade effects redistribute income. What do we know about the magnitudes of such effects and how they compare with benefits of own liberalisation? How can compensation schemes be designed? How can they be made credible? Exactly what are the political economy problems with an aid-for-liberalization deal? Of course, a short paper cannot cover all issues in depth, but there is a wide range of conceptual and empirical questions that could usefully be the subject of detailed analysis.

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