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Can the US complain about "free-riding" regulation in pharmaceuticals by other countries?

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Regulating prices in the pharmaceutical markets can be rather ineffective from a welfare-enhancing viewpoint and the US, despite its complaints, does not seem to have significantly higher prices than other countries with similar income levels.

A large generation of baby boomers reaching retirement age, and a steadily decreasing dependency ratio (number of working people per retiree) in most developing countries (and not too far in the future in China and elsewhere) make the economics of healthcare an increasingly important topic in the public arena. One key issue in this area is the price of pharmaceutical products. With cost containment foremost in the minds of public or private health officials, a product which often combines a low marginal cost and a very high price seems like an ideal tool (or shortcut, depending on the point of view) in the battle for "affordable" universal health care.

The first thing to note, for newcomers into this discussion, is that pharmaceuticals really are different from most other consumer products. Consumption decisions are not taken by the same individuals who enjoy the benefits (physicians prescribe for patients) and payment is often also not done (or not totally) by the consumer. On the supply side, there exist huge R&D and marketing (sunk) costs, which create enormous barriers to entry in the market. In addition, patents and property rights for products with imperfect or inexistent substitutes give rise to large monopoly power. Given all these particularities, trying to describe, even summarily, all the problems associated with these products would be a monumental task for a short article. We thus concentrate on a special topic, namely, price differences between countries and their connection with "free-riding" regulation.

The monopoly prices which a patent enables can be theoretically justified as a "necessary evil" in order to encourage the investment in R&D for new products which is a large portion of expenses in the industry (on the order of 15% of sales for the typical large company). At the same time, the low marginal costs are an inducement for countries, especially those with a single provider of health services, to drive a hard

bargain with the companies in order to achieve a politically expedient low price. Yes, innovation may go down if all countries do something like that, but the effect of a single country, especially a small one, on total innovation would be negligible. What is that compared to treating millions of people infected with HIV? Light and Lexchin (2005) have in fact argued that: "The United States government is engaged in a campaign to characterise other industrialised countries as free-riding on high US pharmaceutical prices and innovation in new drugs. This campaign is based on the argument that lower prices imposed by price controls in other affluent countries do not pay for research and development costs, so that Americans have to pay the research costs through higher prices in order to keep supplying the world with new drugs."

But is it true that pharmaceutical prices are really higher in the US than in other industrialised countries? At some level the answer appears to be definitely affirmative. Careful computations by Danzon and Chao (2000), and Danzon and Furukawa (2003) show that, by most measures, average US prices are indeed higher than those in most other industrialised countries (there are always some exceptions).

But a caveat needs to be imposed before we jump to the conclusion that price variation is a symptom of a problem that could hurt beneficial innovation. The US is typically the richest country in the samples used for cross-country comparisons. Given that imports from other countries ("parallel imports" in the industry jargon) are banned, and therefore arbitrage between countries is hard, a profit-maximising firm (as well as any social welfare maximiser) would sell at different prices in different countries. Thus, average prices which varied with the income elasticity of demand could be consistent with a benign form of regulation which would not necessarily hurt innovation.

A politico-economic logic also suggests that a "free-riding" regulator would treat local companies "better" than foreign ones, as the welfare of local shareholders enters more strongly in the objective function of the regulators. Thus, the treatment of foreign vs. local firms could be a more telling "smoking gun" than pure-average variation in prices across countries.

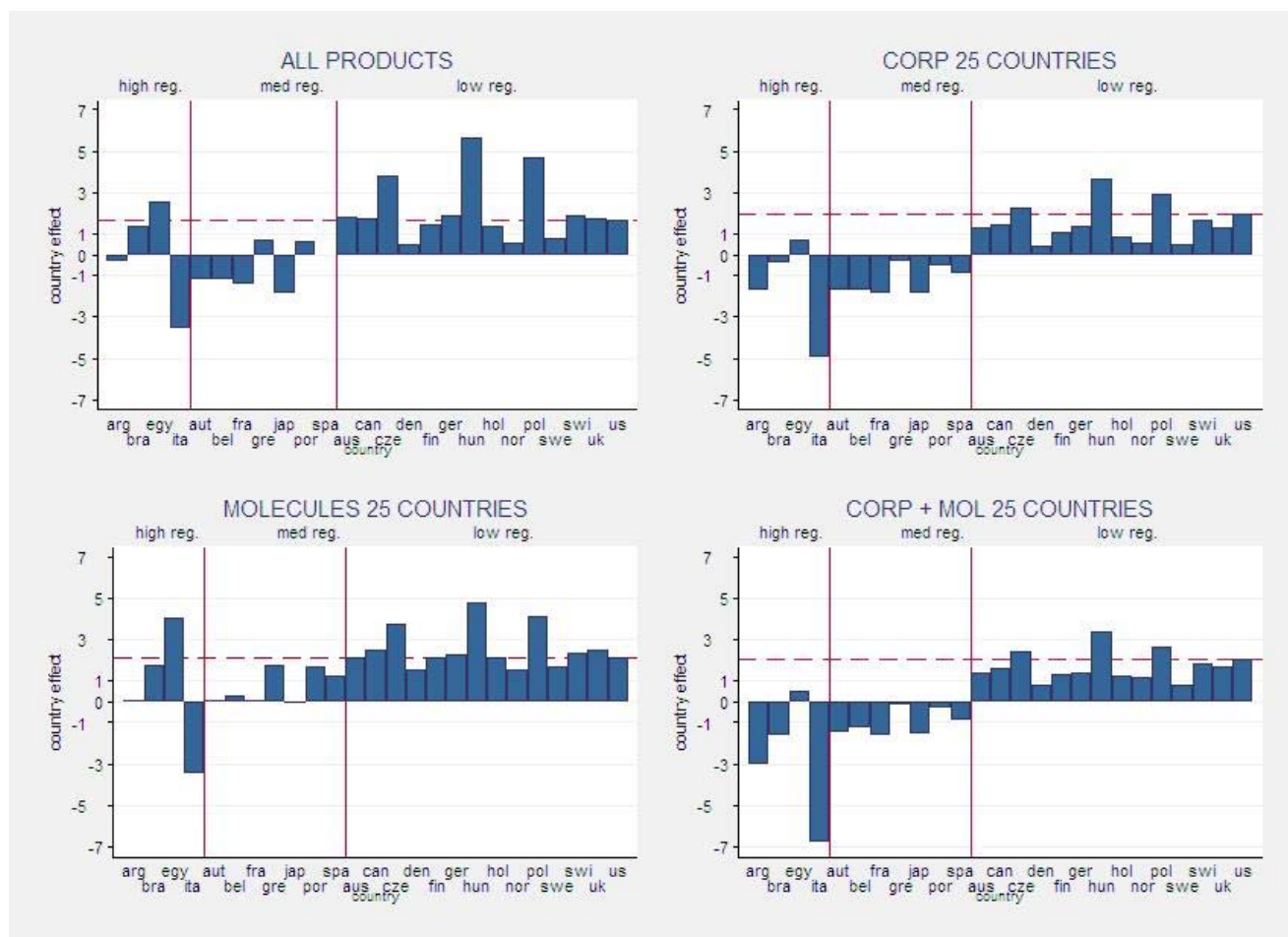
In a recent paper with Sergi Jiménez-Martín,¹ we study pricing in pharmaceuticals using a very rich data set (in terms of numbers of countries and the universe of products) from IMS MIDAS for the period 1998-2003. This richness, as well as the large number of control variables available, allows us to answer the question about national differences more comprehensively than previous studies.

We find, as expected, that the GDP of the country where the product is sold has a positive impact on its price. In other words, richer countries pay on average higher prices than others. We can thus be relatively confident that whatever pure-country effects on price we find are not due to income differentials, which have already been controlled for.

Somewhat surprisingly, we also find that products from local firms do not command a

price premium. As a matter of fact, old or non-innovative products from local firms which do not sell abroad tend to obtain lower prices (a symptom that the products are perceived to be of inferior quality), and prices of products from local multinationals (local firms which export some of the production) are statistically indistinguishable from those of foreign-owned multinationals. There may be several explanations for this, but notice that multinationals have some degree of protection from even predatory governments. One important element in the negotiations, or even explicit formulas, for prices in one country is the prices charged for the same product in others. Therefore, if the authorities of country A tried to impose a very low price for a given product, its manufacturer may prefer to avoid selling in that country altogether rather than ruin the prices obtained in (perhaps much larger) countries B and C. Since the authorities of country A most likely understand this problem, they may abstain from bargaining too harshly.

Enough of preliminaries, are US prices really higher once we control for everything possible within our sample? A picture is perhaps worth a thousand words (a good exchange rate when one is limited to 1500 words):



The bars in the picture represent the average effect (the fixed effect in econometric terminology) of the country in a price, once the effect of all other variables has been controlled for. With the help of some colleagues, we classified the countries by the perceived level of regulatory intensity (the vertical red lines which separate the three

groups of countries). The horizontal dashed red line represents the country effect of the US. The four panels represent analyses where the sample is restricted in different ways to check the robustness of the results. The left upper panel includes the whole data. The right upper panel only includes products produced by companies that sell in the 25 countries of the sample. The lower left panel only includes products involving molecules sold in the 25 countries. The lower right panel restricts to products from companies which sell in all the countries, composed of a molecule which is also sold in all of them.

As it turns out, the fixed effect of the US is significantly higher than that of many other developed countries, such as Canada (but not for all specifications), Germany or the UK. This means that if the statistically untreated average prices in the US are higher, it is not (or not only) because other developed countries engage in free riding regulation. In fact, in many cases, the US pays less, not more, than countries of similar income or lower income (this is especially true of Eastern European countries). Our interpretation, as we mentioned before, is that the US market, by virtue of its size and competitiveness, provides some protection with respect to similarly rich countries.

References

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Footnotes

1 Available at: <http://www.econ.upf.edu/docs/papers/downloads/1032.pdf>

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