



# The effect of Canadian imports on prescription drug prices in the U.S. ☆☆☆

Jonathan H. Hamilton

Department of Economics, Warrington College of Business Administration, University of Florida, Gainesville FL 32611, United States

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## ABSTRACT

Reimportation of prescription drugs by American consumers from Canada has been a high-visibility policy issue. The large price discrepancies for some patented drugs arise from market pricing in the U.S. and a system of administered pricing in Canada. The model assumes that there are two classes of U.S. consumers: one group who cannot reimport drugs at any cost, and a second group with a distribution of reimportation costs. Under the assumption that the group who can reimport drugs has lower willingness to pay, reimportation serves as a mechanism for price discrimination in the U.S. market.

The results include the following: 1) a decline in the Canadian price may raise the U.S. price; 2) a shift down in the distribution of reimportation costs may similarly raise the U.S. price; 3) a shift down in the distribution of reimportation costs may raise drug manufacturer profits.

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## 1. Introduction

American consumers, health insurers, and health policymakers have become more vocal about their dissatisfaction with high pharmaceutical prices paid by Americans. Many studies have established that there are large discrepancies in wholesale and retail prices between American pharmacies and those in other wealthy countries. Table 1 illustrates differences in mail-order prices between U.S. chains and Canadian firms marketing to U.S. consumers. These price differences are much larger for patented drugs than for generic ones.<sup>1</sup>

Because pharmaceuticals have high sunk costs for development, prices must exceed marginal costs of production by substantial amounts if drug firms are to continue to develop new drugs. One would certainly expect that drug firms price discriminate across markets whenever they can, and indeed many policymakers have striven to enable drug

manufacturers to sell at low prices in poor countries without facing risks of reimportation back to markets in wealthier countries.

The price discrepancies between the U.S. and other wealthy countries such as Canada, France, Germany, Japan, and the U.K. are quite large and cannot simply be the result of drug firms pricing in response to cross-country differences in willingness to pay. Outside the U.S., national health authorities bear a large fraction of pharmaceutical expenditures on behalf of their citizens, and they have implemented a variety of administered pricing systems. While they work in different ways, these pricing systems severely limit the ability of drug firms to earn large monopoly rents on new products in these countries. In contrast in the U.S., managed care systems and pharmacy benefit managers (PBMs) may negotiate prices for their patients, but only some of these organizations have much market power on the buying side. (Ellison and Snyder (2010), explain that prescription volume matters less than the ability of organizations to direct physicians to prescribe particular drugs in a therapeutic class.) During debate on the 2003 Medicare prescription drug plan, proposals to have Medicare negotiate drug prices on behalf of elderly consumers were defeated.

One argument in support of market pricing of drugs has been that drug firms must cover their considerable development costs to bring new drugs to market. Mark McClellan, when he was head of the Food and Drug Administration, observed that high drug prices in the U.S. result in American consumers bearing most of the development costs, even though new products benefit consumers around the world (McClellan (2003)). Many researchers have worried about drug firms concentrating their development efforts on drugs that have high profit potential. Indeed, this is one motivation for proposals to encourage development of drugs needed in the developing world.

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E-mail address: [hamilton@ufl.edu](mailto:hamilton@ufl.edu).

<sup>1</sup> Generic drugs may be less expensive in the U.S. than in other developed countries. It should not come as a surprise that generic drugs have a larger share of the market in the U.S. than in countries with administered pricing systems. See McClellan (2003) for evidence on generic pricing and market penetration.

**Table 1**  
Mail-order prices for selected prescription drugs (2006).

Product Dose	# of pills	Min CDN price	Max CDN price	Min USA price	Min USA/max CDN (in percent)	Min USA/min CDN (in percent)
<i>Lipitor</i>						
10 mg	90	134.16	157.90	219.97	139.3	164.0
20 mg	90	163.34	208.90	306.00	146.5	187.3
40 mg	90	184.26	225.90	307.49	136.1	166.9
80 mg	90	235.02	252.90	310.97	123.0	132.3
<i>Lexapro</i>						
10 mg	90	139.18	168.27	207.99	123.6	149.4
20 mg	90	169.74	192.78	213.69	110.8	125.9
<i>Nexium</i>						
20 mg	90	203.57	269.26	403.37	149.8	198.1
40 mg	90	226.17	269.26	394.97	146.7	174.6
<i>Singular</i>						
4 mg	90	153	217.93	274.68	126.0	179.5
5 mg	90	164.98	217.93	270.00	123.9	163.7
10 mg	90	202.41	239.90	274.97	114.6	135.8
Plavix 75 mg		237.86	299.89	363.49	121.2	152.8
<i>Advair Diskus</i>						
100/50 mcg	60	82	115.90	146.47	126.4	178.6
250/50 mcg	60	97	134.90	166.99	123.8	172.2
500/50 mcg		136.85	189.90	229.87	121.0	168.0
<i>Effexor XR</i>						
37.5 mg	90	91.12	104.31	257.97	247.3	283.1
75 mg		169.2	190.71	279.88	146.8	165.4
150 mg	90	176.59	206.91	310.20	149.9	175.7
<i>Protonix</i>						
20 mg	90	149.7	182.62	319.09	174.7	213.2
40 mg	90	159.7	206.91	309.87	149.8	194.0
<i>Lotrel</i>						
5 mg/20 mg	90	207.07	207.07	207.97	100.4	100.4
10 mg/20 mg	90	142.15	142.15	252.97	178.0	178.0
Allegra 60 mg	180	91.58	152.70	254.09	166.4	277.5
<i>Diovan</i>						
40 mg	90	116.04	118.80	138.73	116.8	119.6
80 mg	90	115.71	128.46	164.96	128.4	142.6
160 mg	90	125.36	149.89	162.97	108.7	130.0
320 mg	90	209.98	222.56	209.98	94.3	100.0
<i>Wellbutrin XL</i>						
150 mg	90	65.98	155.98	289.97	185.9	439.5
300 mg	90	121.32	222.35	437.71	196.9	360.8
<i>Celebrex</i>						
100 mg	60	47.4	57.54	113.31	196.9	239.1
200 mg	60	90.88	97.74	189.99	194.4	209.1
Zetia 10 mg	90	174.6	206.91	249.69	120.7	143.0
<i>Avandia</i>						
2 mg	60	94.68	119.90	133.31	111.2	140.8
4 mg	60	105	179.34	196.06	109.3	186.7
8 mg	60	153.6	259.90	343.32	132.1	223.5
<i>Viagra</i>						
25 mg	10	96.25	168.68	99.99	59.3	103.9
50 mg	10	117.5	168.68	99.99	59.3	85.1
100 mg	10	122.5	169.10	99.99	59.1	81.6

However, the differences in disease incidence between the U.S. and much of the rich world (especially Canada and Western Europe) are not great enough that research could be directed specifically at the U.S. market alone.<sup>2</sup> To some extent, the countries with administered price systems free ride on drug research funded by American consumers.

One reaction to the price discrepancies has been an increase in attempts to import drugs from Canada into the U.S. Since most such drugs are manufactured in the U.S., this is, in fact, reimportation. Imports outside of standard manufacturer channels, in particular to frustrate international price discrimination, are often referred to as

parallel imports.<sup>3</sup> American pharmaceutical manufacturers have fought attempts to import from Canada and have been supported by the U.S. FDA, which is concerned about the feasibility of monitoring safety of parallel imports. Despite this, several state and local governments have announced plans to import drugs from Canada for their employee health plans. Currently, wholesale importation is effectively banned. In contrast, individuals can import products purchased at

<sup>2</sup> What is more distinctive about the U.S. is the market environment for prescription drugs.

<sup>3</sup> Malueg and Schwartz (1994) analyze a model with arbitrage costs and international price discrimination, but no parallel imports occur in equilibrium. Chen and Maskus (2002) and Maskus and Chen (2004) study parallel importing when foreign retailers ship the good to the domestic market. In my model, consumers bear the reimportation costs directly, which allows them to differ across consumers.

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