

## 7. TABLES

**TABLE 1: Summary Information on the Sample Therapeutic Classes**

<i>Therapeutic Class</i>	<i>Major Indication</i>	<i>Inception date</i>	<i># of drugs in Jun-01</i>	<i># of prescriptions and refills in Jun-01</i>	<i># of prescriptions in Jun-01</i>
COX2	Osteoarthritis	Jan-99	2	4,461,000	2,143,000
Statin	Hyperlipidemia, cholesterol	Sep-87	6	9,055,000	2,789,000
SSRI	Anxiety, depression	Feb-88	7	8,727,000	3,731,000

Note: SSRI stands for Selective Serotonin Reuptake Inhibitors.

**TABLE 2: Summary Information on the Drugs within the Sample Therapeutic Classes**

<u>Drugs by order of entry:</u>	<u>1<sup>st</sup> drug</u>	<u>2<sup>nd</sup> drug</u>	<u>3<sup>rd</sup> drug</u>	<u>4<sup>th</sup> drug</u>	<u>5<sup>th</sup> drug</u>	<u>6<sup>th</sup> drug</u>	<u>7<sup>th</sup> drug</u>
<b>COX2 Class</b>	Celebrex	Vioxx					
Date of release in market	<i>Jan-99</i>	<i>May-99</i>					
Share of prescriptions in Jun-01	0.492	0.508					
Share of prescriptions and refills in Jun-01	0.510	0.490					
Monthly detailing expenses (\$): mean *	7,575,576	6,115,578					
standard deviation	(710,950)	(859,810)					
<b>Statin Class</b>	Mevacor	Pravachol	Zocor	Lescol	Lipitor	Baycol	
Date of release in market	<i>Sep-87</i>	<i>Nov-91</i>	<i>Jan-92</i>	<i>Apr-94</i>	<i>Jan-97</i>	<i>Dec-97</i>	
Share of prescriptions in Jun-01	0.015	0.128	0.231	0.034	0.510	0.082	
Share of prescriptions and refills in Jun-01	0.017	0.128	0.225	0.038	0.518	0.074	
Monthly detailing expenses (\$): mean *	400,827	3,023,589	3,186,008	1,836,597	5,382,180	2,778,273	
standard deviation	(470,624)	(899,510)	(774,419)	(821,410)	(910,108)	(752,201)	
<b>SSRI Class</b>	Prozac	Zoloft	Paxil	Effexor	Luvox	Effexor XR	Celexa
Date of release in market	<i>Jan-88</i>	<i>Feb-92</i>	<i>Jan-93</i>	<i>Mar-94</i>	<i>Dec-94</i>	<i>Oct-97</i>	<i>Jul-98</i>
Share of prescriptions in Jun-01	0.210	0.254	0.238	0.018	0.005	0.113	0.162
Share of prescriptions and refills in Jun-01	0.222	0.259	0.241	0.017	0.005	0.104	0.152
Monthly detailing expenses (\$): mean *	2,600,500	2,433,677	2,548,577	845,365	646,000	1,345,783	2,988,744
standard deviation	(521,713)	(400,338)	(506,713)	(377,893)	(295,450)	(266,704)	(621,903)

Note: \* Detailing figures are detailing expenses from July 1995 (or release date if ex-post July 1995) to June 2001, and they are adjusted for inflation using the Consumer Price Index (1982-84=100).

**TABLE 3: Estimation and Prediction Results**

<u>Estimation results</u>	<i>Variables</i>	<i>Parameters</i>	<i>SSRI</i>	<i>STATIN</i>	<i>COX2</i>
<i>Equation (2.1)</i>			72 months	72 months	25 months
Dummy variables: <sup>1</sup>	1 <sup>st</sup> drug: <sup>1</sup> <i>Prozac, Mevacor, Celebrex</i>	$\alpha_1$	---	<b>-1.9860</b>	<b>-0.1653</b>
				(0.0168)*	(0.0414)*
	2 <sup>nd</sup> drug: <sup>1</sup> <i>Zoloft, Pravachol, Vioxx</i>	$\alpha_2$	<b>0</b>	<b>0</b>	<b>0</b>
	3 <sup>rd</sup> drug: <sup>1</sup> <i>Paxil, Zocor</i>	$\alpha_3$	<b>0.7292</b>	<b>0.4993</b>	---
			(0.0049)*	(0.0015)*	
	4 <sup>th</sup> drug: <sup>1</sup> <i>Effexor, Lescol</i>	$\alpha_4$	<b>-0.0849</b>	<b>-0.8717</b>	---
			(0.0071)*	(0.0031)*	
	5 <sup>th</sup> drug: <sup>1</sup> <i>Luvox, Lipitor</i>	$\alpha_5$	<b>-0.3960</b>	<b>0.9664</b>	---
			(0.0092)*	(0.0029)*	
	6 <sup>th</sup> drug: <sup>1</sup> <i>Effexor XR, Baycol</i>	$\alpha_6$	<b>1.2418</b>	<b>-2.2076</b>	---
			(0.0067)*	(0.0095)*	
	7 <sup>th</sup> drug: <sup>1</sup> <i>Celexa</i>	$\alpha_7$	<b>1.2095</b>	---	---
			(0.0069)*		
	Months since release (for <i>Baycol</i> ) <sup>4</sup>	$\gamma$	---	<b>0.3148</b>	---
				(0.0027)*	
Detailing: <sup>2</sup>	Coefficient on detailing	$\beta$	<b>1.0016</b>	<b>0.7079</b>	<b>0.1291</b>
			(0.0214)*	(0.0255)*	(0.0806)**
	Monthly carry-over rate	$\delta$	<b>0.7242</b>	<b>0.6867</b>	<b>0.6454</b>
			(0.0055)*	(0.0109)*	(0.2529)*
<i>Equation (2.2)</i>	Constant term	$\psi$	<b>-1.9273</b>	<b>-0.8303</b>	<b>-0.0793</b>
			(0.3412)*	(0.1449)*	(0.1059)
	Autocorrelation	$\rho$	<b>0.2854</b>	<b>0.2805</b>	<b>0.2428</b>
			(0.1224)*	(0.1026)*	(0.2451)
	White noise variance	$\sigma^2$	<b>0.7454</b>	<b>0.7921</b>	<b>0.5917</b>
			(0.2505)*	(0.1111)*	(0.1926)*
<u>Prediction results:</u> <sup>3</sup>	Correlation: observed & predicted		0.9669	0.9780	0.9625
	Percentage deviations	Mean	-1.49%	-1.14%	-0.62%
	Proportion of automatic renewals	Mean	0.9347	0.7567	0.5264

Notes: Root mean square errors for estimates are listed in parentheses below the estimates.

<sup>1</sup> Drugs are listed by order of entry in each Class; e.g. Prozac, Mevacor, Celebrex are the first drugs in, respectively, the SSRI, Statin, and COX2.

Figures for the second drugs are equal to 0 by hypothesis ( $\alpha_2=0$  for identification purposes). For comments on Prozac, see Section 4 in the text.

<sup>2</sup> Units for detailing are \$10,000,000.

<sup>3</sup> Correlations between observed and mean predicted monthly shares. Percentage deviations = (observed-predicted numbers of prescriptions)/(observed number of prescriptions). All figures are averages across 100 random draws.

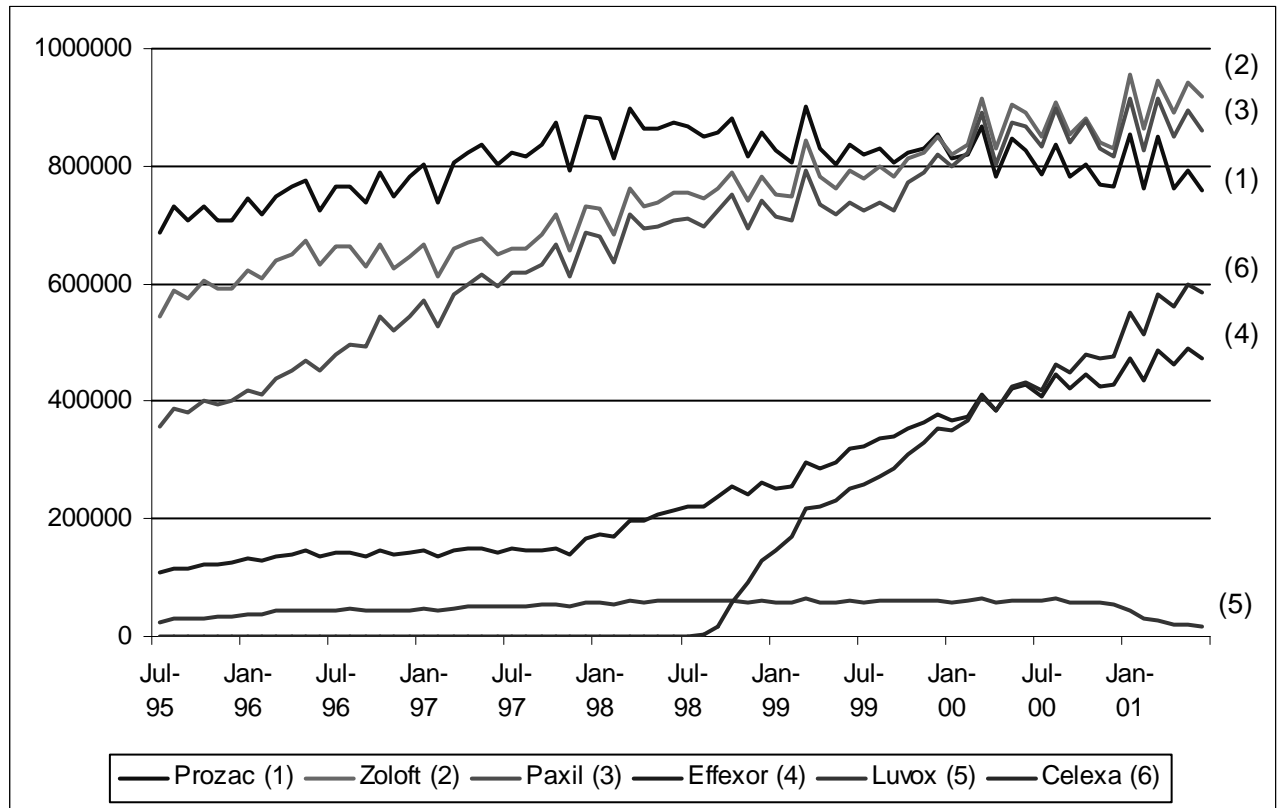
<sup>4</sup> See Section 4 and endnote 16.

\* The estimate is significantly different from 0 at a 5% level.

\*\* If  $\psi$  is not significantly different from 0 at a 5% level, the proportion of automatic renewals differs from 0 (see equation (2.2) in the text).

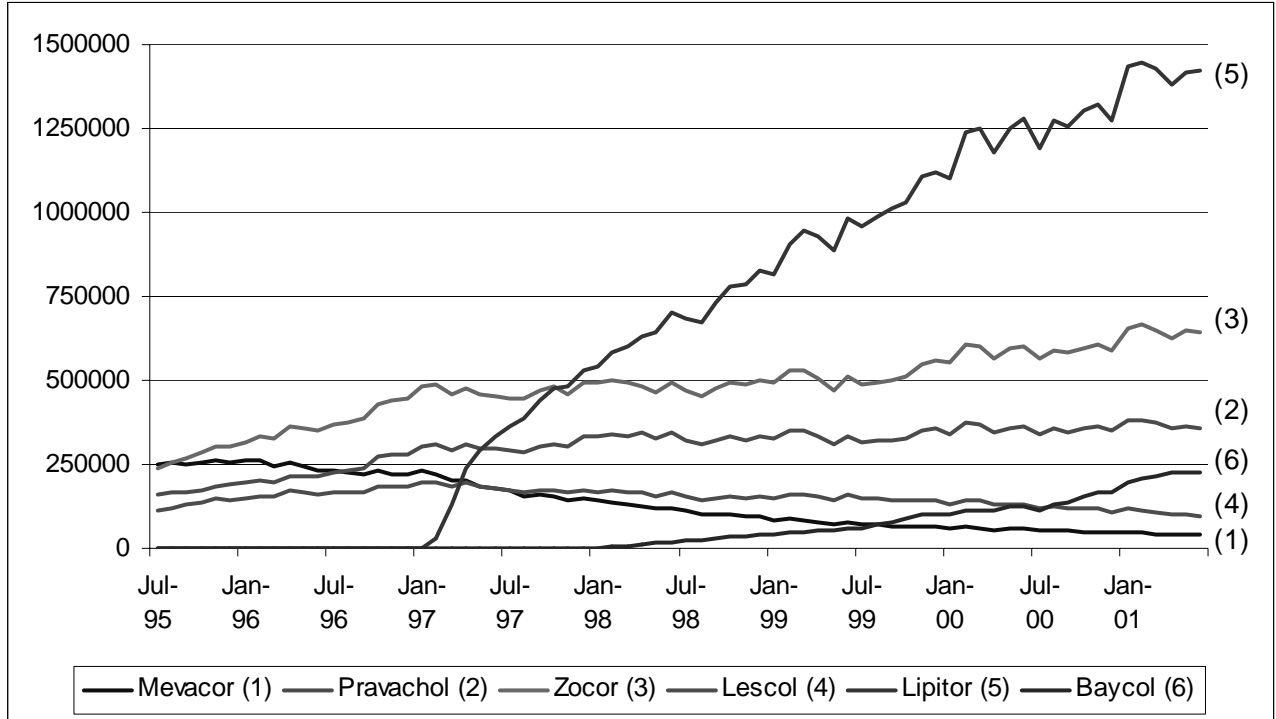
## 8. GRAPHS

**Graph 1: Prescription Data for the SSRI Therapeutic Class**



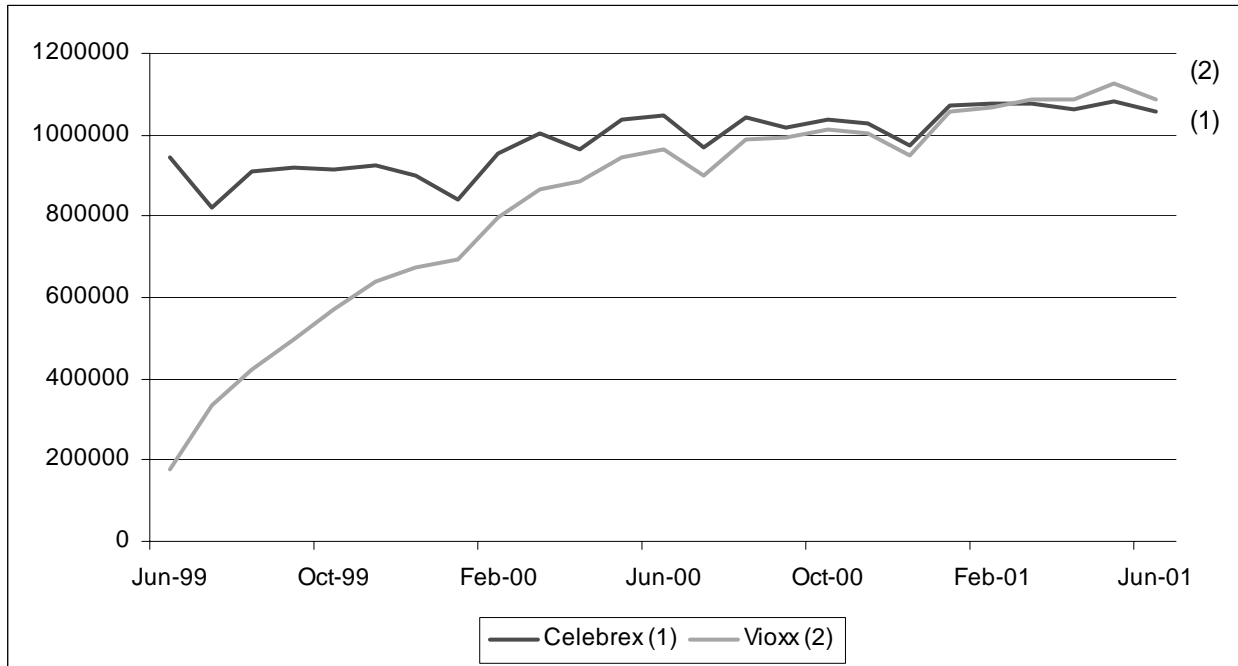
Notes: Numbers after the names of the drugs in the legend correspond to numbers on the right of the graph, and they identify the series for each drug. The series for Effexor is combined with the series for Effexor XR, once Effexor XR is released in Oct-97 (see endnote 13 in the text for details).

**Graph 2: Prescription Data for the Statin Therapeutic Class**



Note: Numbers after the names of the drugs in the legend correspond to numbers on the right of the graph, and they identify the series for each drug.

**Graph 3: Prescription Data for the COX2 Therapeutic Class**



Note: Numbers after the names of the drugs in the legend correspond to numbers on the right of the graph, and they identify the series for each drug.