

The effect of music downloading and P2P filesharing on the strength of the copyright

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Introduction

- The economic status of music in a new digital technological paradigm
- Related challenges to the appropriation / copyright regime
- Focus on the effects of P2P file-sharing and music downloading on purchased music
- Representative sample of the Canadian population aged 15 and above
- Analytical contribution:
 - Use of Micro data as opposed to Macro data
 - Direct measurement of peoples' behaviours

Theoretical context

P2P-filesharing and downloading: substitutes or complements to music purchases?

- **Substitution effect**
- **Sampling effect** as an alternative to market substitution
 - Market creation
 - Market segmentation

Hypotheses: Some examples...



- H1. There is a positive relationship between the price of CDs and (i) purchases of electronically-delivered music, as well as (ii) music downloading activities and P2P file-sharing.
- H2. People who engage in music downloading and P2P file-sharing do so partly because they wish to hear a soundtrack or an artist before buying.
- H3. People who engage in P2P file-sharing or music downloading are less likely to purchase music in traditional markets, because they prefer the digital intangible single file, or because they look for music which is not available elsewhere.
- H4. If a good is complementary to, or compatible with, paid electronically-delivered music (e.g. MP3 player) but not complementary to CDs, then the ownership of this good leads to a preference for purchasing music in electronic format over (physical) CDs and vice versa.

If a good can be regarded as a substitute for music (e.g. a film/movie), then purchases of this good are negatively associated with music purchases.

Data and method

- Survey designed and conducted in 2006 by Dr Andersen, with support of Industry Canada and Decima Research
- Comprehensive in terms of variables and observations
 - Wide range of ways to acquire music, motivations for downloading, demographics
- Canadian population aged 15 and above
- Reference year 2005
- Stratified random sampling (age, gender, region and downloading status)
- $n=2,100$ scaled up to represent $N=12,6$ million Canadians
- Weighted estimations: negative binomial, probit and OLS

Data and method

Dependent variables

- CD album purchases
- MP3 purchases

Independent variables

- Price of CD albums
- Free music acquiring: P2P file-sharing, ripping music from CDs, promotional websites, private websites, copying MP3
- MP3 purchases
- Alternative entertainment goods: DVDs, videogames, cinema tickets, concert tickets

Additional independent variables (sub-sample P2P file-sharers)

- Album too expensive, hear before buying, not available elsewhere, not whole album

Control variables

- Music interest, perceived change in music quality
- Demographics: income, age, gender, region

Results: full sample



<i>Dependent variables</i>		Number of CD albums		Purchased MP3s (yes/no)	
Estimation model	Hyp	Negative binomial		Probit	
<i>Independent variables</i>		<i>M.E.</i>	<i>sig</i>	<i>M.E.</i>	<i>sig</i>
Price of CDs	H1	-		0.00	
P2P (yes/no)	H1	-0.95		0.06 ***	
Rip CD (yes/no)	H1	2.44 ***		0.14 ***	
Promotional (yes/no)	H1	-0.62		-0.01	
Private Web (yes/no)	H1	3.69 ***		0.02	
Copy MP3 (yes/no)	H1	-1.65 ***		0.02	
Purchased MP3s (yes/no)	H3	0.40		-	
Number of DVDs	H4	0.69 ***		0.01	
Number of videogames	H4	1.02 ***		0.01	
Number of cinema tickets	H4	0.44 *		0.02 *	
Number of concert tickets	H4	1.52 ***		0.01	
<i>Control variables</i>		INCLUDED		INCLUDED	
Number of observations		1,459		1,458	
Population size		15,962,300		15,984,496	
F-value		9.03 ***		4.94 ***	

Results: sub-sample

<i>Dependent variables</i>		Number of CD albums	
Estimation Model	Hyp	Negative binomial	
<i>Independent variables</i>		<i>M.E.</i>	<i>sig</i>
Price CD albums	H1	-	
Album too expensive	H1	-0.03 ***	
Number P2P	H1	1.21 ***	
Number CDs ripped	H1	2.35 ***	
Number promotional sites	H1	-0.21	
Number private websites	H1	0.74	
Number MP3s copied	H1	-0.33	
Hear before buying	H2	0.01 *	
Number of MP3s purchased	H3	0.47	
Not elsewhere available	H3	0.04 ***	
Not whole album	H3	-0.02	
Number DVDs	H4	0.12	
Number videogames	H4	1.01 **	
Number cinema tickets	H4	0.92 *	
Number concert tickets	H4	0.91 *	
MP3 player ownership	H4	-1.85 *	
<i>Control variables</i>		INCLUDED	
Number of observations n		458	
Population N		3,113,998	
F-statistic		15.09 ***	

Findings



OVERALL

- People engaged in P2P file-sharing do not purchase more or less CD albums than those not engaged in such activities (but, they are more likely to purchase MP3s).

SUB-SECTION : P2P FILE-SHARERS

Market creation and segmentation effect:

- There is a positive relationship between purchases of CD albums and high values of the 'incentive variables' to download:
 - hear before buying,
 - music not available elsewhere.

Market substitution effect:

- There is a negative association between CDs purchases and a high proportion of P2P downloading due to 'album too expensive'.

➤ **Market creation effect is greater than the market substitution effect.**

Other findings of P2P file-sharing as a complementary good:

- There is a positive relationship between P2P file-sharing and ownership of MP3 players
- There is a positive relationship between P2P file-sharing and purchase of other entertainment products (showing entertainment culture)

Conclusion



Copyright in music markets are not necessarily undermined by downloading and P2P file-sharing (especially due to the strong market creation effect, such as hear before buying).

- Technological innovation (spurring the way in which music is now electronically delivered and consumed) pushes a need for the music industry to change their organization of such appropriation, in order to match the emerging new structures.

A possible opportunity for new music and new artists to enter music pay markets where copyright appropriation occurs and thereby adopt to the evolving music preferences or taste and the way music users prefer the music to be delivered and consumed.

- Our results indicate that P2P is motivated by looking for music that is not available elsewhere or that they prefer the single digital electronic file.