Copyright and Creativity: Evidence from Italian Operas

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Does copyright encourage creativity?

- "The purpose of copyright is to create incentives for creative effort." (US Supreme Court, Sony v. Universal City Studios 1984)
- Limited effects of piracy on popular music
  - Limited effect of file sharing on record sales (Oberholzer-Gee and Strumpf 2007) and on supply of recorded music (Waldfogel 2011)
- Increase in price of content and payments to authors in response to copyright extension
  - UK Copyrights Act of 1814 extends T from 14 to 28 years for dead authors, from 28 years to life of author for living authors
  - Increase in *p* of books (Li, MacGarvie and Moser 2014)
  - Increase in payments to authors (MacGarvie and Moser 2014)
  - Differential increase in entry by male authors from lower social classes (MacGarvie, Moser, and Nguyen 2014)

Two main challenges for empirical analysis

- Modern reforms increase copyrights starting from high levels
  - 1998 Copyright Term Extension Act: from 50 to 70 years after author's death, and from 75 to 95 for corporate owners
  - May not affect any but the most long-lived and valuable assets
- Extensive lobbying by owners of long-lived intellectual assets
  - 1998 Sonny Bono Copyright Term Extension Act, aka "Mickey Mouse Protection Act"
  - 2011 UK Cliff Richard's Law: Third-top-selling singles artist in UK, 250m songs sold world-wide

Mickey Mouse from http://en.wikipedia.org/wiki/Mickey_Mouse

This paper:
Copyrights as a result of Napoleon's military campaigns

Battle of Castigliole (1796) from http://it.wikipedia.org/wiki/Campagna_d'Italia_(1796-1797)

Due to timing of Napoleon's victories – relative to timing of French legislation – only L&V got copyrights

- 1793 France adopts copyrights for life of author + 10 years
- April 11, 1796: Napoleon invades Sardinia at Ceva
- April 19, 1796: Treaty of Paris. Sardinia grants Savoy to France
- May 12-14, 1797: Napoleon defeats Austria and conquers Verona and Venice
- June 29, 1797: Creation of the Cisalpine Republic, acknowledged by Austria in October 18, Treaty of Campoformio
- March 12, 1799: Formation of the second coalition against France, including Piedmont, Austria, England, Russia, Turkey, Sweden
- June 20, 1800: Napoleon conquers Venetia in 1800
- May 9, 1801: French copyright become law in Lombardy and Venetia
- March 21, 1804: Adoption of the (Napoleonic) *code civil* in France
- 1804: Napoleon controls Sardinia, adoption of code civil w/o copyrights
- 1805: Parma, adoption of code civil w/o copyrights
- 1809: Tuscany, adoption of code civil w/o copyrights
- 1812: Naples and Papal States, adoption of code civil w/o copyrights

In 1801, France extends its 1793 copyright law to French-controlled Lombardy and Venetia (L&V)

- Exclusive rights for authors and composers life + 10
  - Duration of composers their lives + 10 years for heirs
- Other states come under French influence after 1804
  - Adopt *code civil*
  - Without copyrights
- Lombardy and Venetia remain only states with copyrights until 1826

FIGURE 1 – MAP OF ITALIAN STATES THAT ADOPTED COPYRIGHT LAW IN 1801

Compare changes in creative output in L&V with changes in other Italian states after 1801

- 2,598 new operas premiered in Italy, 1770-1900
  - 705 composers, 3.7 premieres on average
  - Including 478 new operas between 1780-1821
- Compare changes in new operas per state and year in L&V with other states
  - Same language, similar culture, exposure to Italian nationalism, Romanticism, (Napoleonic) *code civil*, and ideas of French revolution
  - Only L&V get copyrights in 1801

8 states within Italy between 1770 and 1900

- Italy of 1900
  - Exclude parts of Austria that became Italy under 1920 Treaty of Rapallo (Trentino, Alto Adige, Eastern Friuli, Venezia Giulia, Istria, Zara)
- 8 states as defined by Congress of Vienna in 1815
  - Sardinia, Lombardy, Venetia, Parma & Piacenza, Modena & Reggio, Tuscany, Papal State, Two Sicilies
  - Unchanged until unification in 1861
- Copyright laws
  - From original text of copyright laws and Franchi (1902)

Source: Italian states, 1815-1870, http://www.historyhome.co.uk/europe/italymap.htm

No copyrights until 1800

1770-1800: No copyrights

- Until 17th century operas for invited groups, nobles
  - "*bonne bouche* for cultivated *cognoscenti*" (Apthorp 1901)
- In 1637 first performance for paying audience
  - Teatro San Cassiano in Venice performed Manelli's *Andromeda*
- Composers get single payment at completion
  - Theater agents hire composers
  - No payments for repeated performances

Opera as popular entertainment

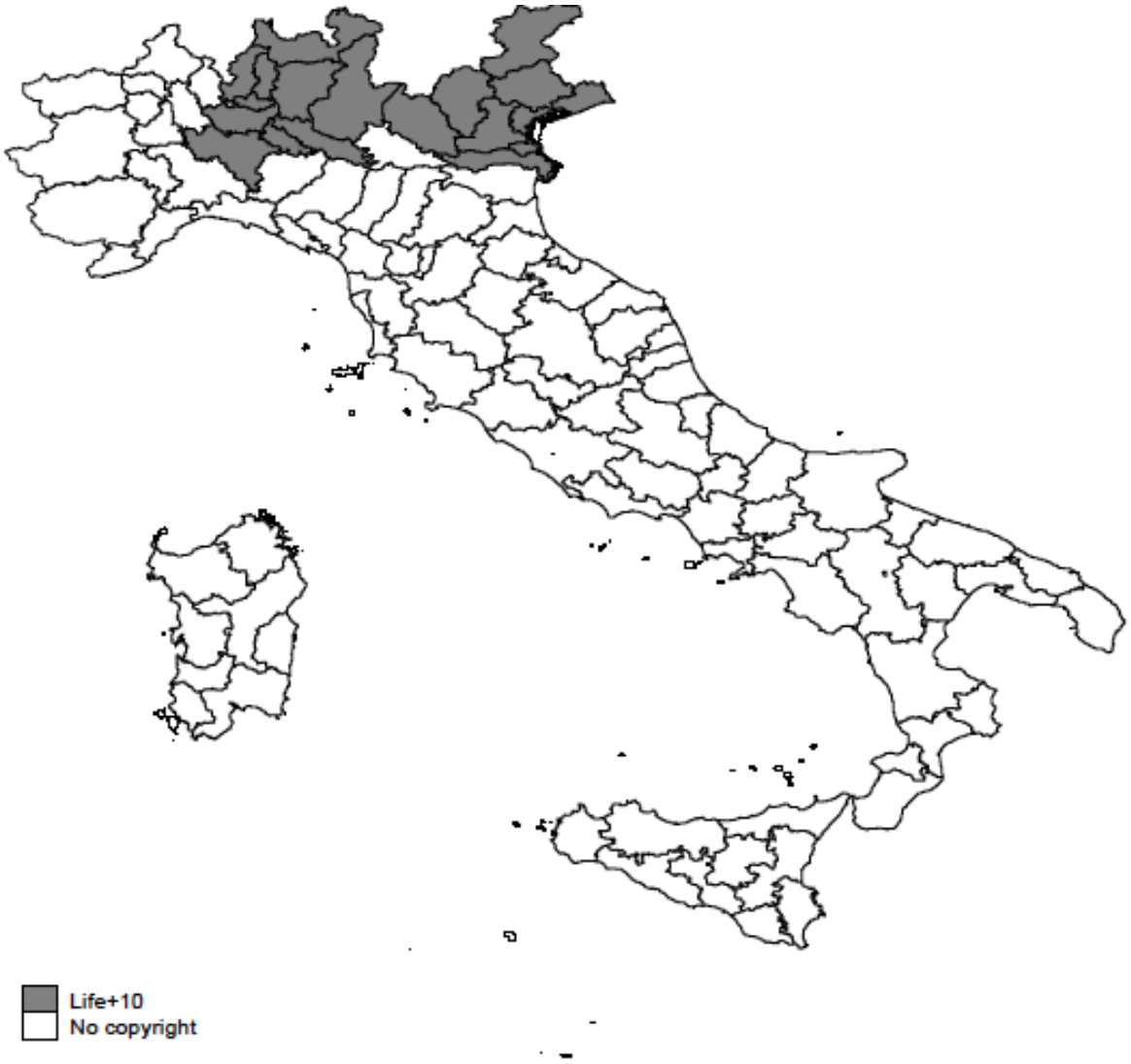
E.g., Beyle (1824) describes the audience for Rossini's *La Scala di Seta* at Teatro San Mosè (Venice)

- "…an immense concourse of people, assembled from every quarter of Venice, and even from the Terra Firma…..who, during the greater part of the afternoon, had besieged the doors; who had been forced to wait whole hours in the passages, and at last to endure the 'tug of war' at the opening of the doors."

W/o copyrights, piracy was rampant

- Impresarios and publishers would
  - "…either steal an authentic score (as a rule by bribing a copyist) or pirate it by getting a minor composer to work up a new orchestral setting from the printed vocal score.…An impresario who wanted to give a recent opera would commonly try to knock down the cost of hiring the authentic score by pointing out that he could get one elsewhere at half the asking price" (Rosselli 1996, p. 74).
- Mozart, in a 1782 letter to his father:
  - I feel indebted to the Baron von Riedesel for buying the score for *Die Entführung aus dem Serail* directly from him when he could have obtained a cheaper version from a copyist (Scherer 2004, p. 167).
- Composers would hope to "recycle some of the music in another opera and another town" (Rosselli 1996, p. 74)

L&V adopt French copyright laws in 1801



- 1801 L&V adopts French copyright law of 1793
  - *Life + 10*
  - Enforceable in Lombardy and Venetia
- France adopts (Napoleonic) code civil in 1804
- States conquered after 1804 get code *w/o copyrights*
  - Sardinia (1804, the Kingdom of Piedmont, excluding the island of Sardinia)
  - Parma (1805)
  - Tuscany (1809, (including the Kingdom of Naples)
  - Papal State (1812, Latium)

Outline

- Brief history of copyrights in Italy
- Data
  - New operas in Italy, 1770-1900
  - Quality: popular and durable operas
  - Demographic data on composers
- Changes in creative output after 1801
  - Difference-in-differences, 1770-1820
  - Time-varying effects and controls for pre-trends
  - Quality controls
- Mechanism
  - Migration
  - Infrastructure
- Changes in creative output for all of Italy, 1770-1900
  - Copyright introductions
  - Copyright extensions
- Conclusions

New operas that premiered in Italy, 1770-1900

- 2,598 new operas by 705 composers in 8 states, 1770-1900
  - Including 478 new operas by 64 composers, 1780-1821
- 1,718 new operas by 705 composers
  - *Annals of Opera* (Loewenberg, 1978) 294 premieres
  - *Opere e Operisti* (Dassori, 1903) 1,353 premieres
  - *Operisti Minori dell'Ottocento Italian* (Ambiveri, 1998) 71 premieres
- More inclusive than standard sources, such as *New Grove*
  - *New Grove Dictionary of Music and Musicians*
  - Cross-check 89 composers whose last name begins with letter B, 46 composers whose last name begins with D
  - Our data include 80 (55 with B, 25 with D) additional composers, without missing any composer
- 880 additional works by these 705 composers
  - *New Grove Dictionary of Music and Musicians* (2001) 554 premieres
  - *Treccani* Encyclopedia (2001) 326 premieres

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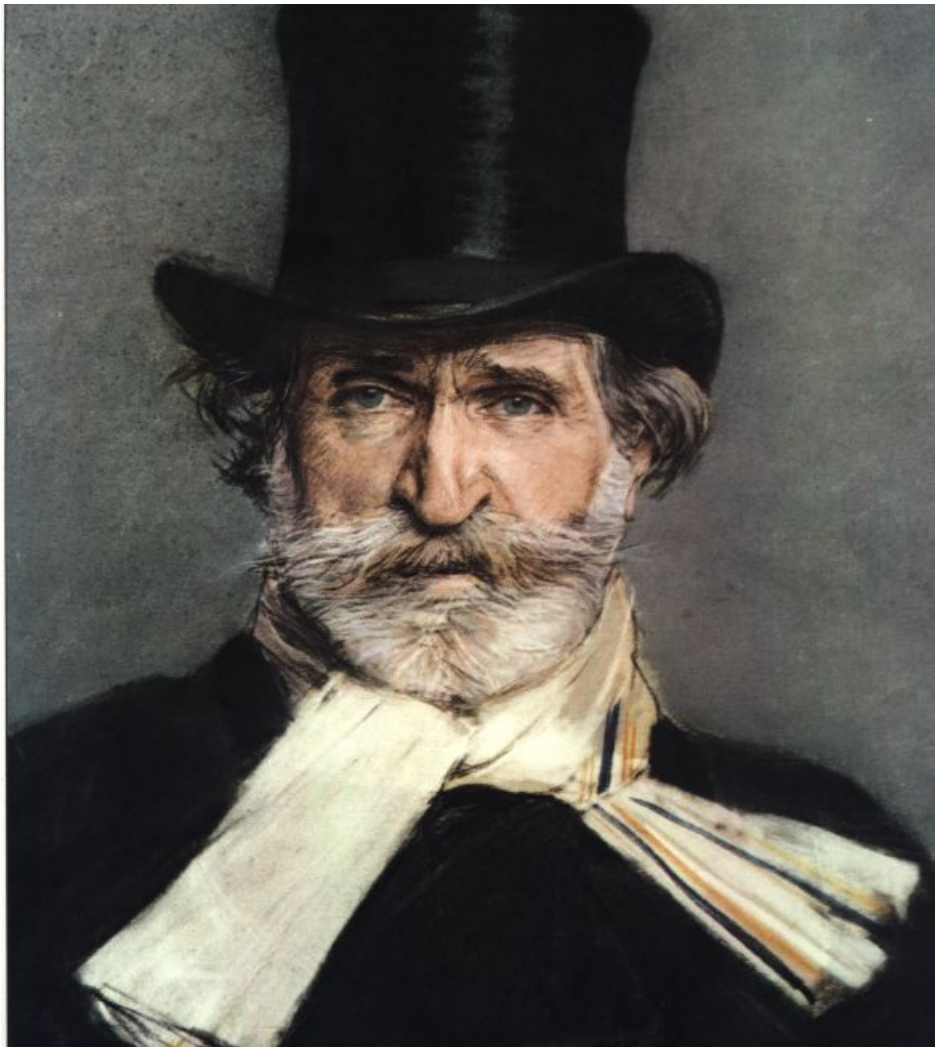
Quality – Historically popular operas

- Notable performances in Alfred Loewenberg 's (1943, 1978) *Annals of Operas (1597-1949)*
  - "This volume has long been regarded as the definitive work on the subject…. it is a magnificent piece of work, and belongs on the bookshelf of every researcher in the operatic field (*Opera Today* January 24, 2005)
- 254 new operas 1770-1900, 62 new operas 1780-1821
- Mean opera in Loewenberg performed 2.7 times 1770- 1949, median 8, standard deviation 4.74

Quality: Exceptionally durable operas

- Available for sale as complete recordings on Amazon in 2014
- For example,
  - Giuseppe Verdi's *La Traviata*: Complete 2008 recording by Arthaus Musik and 2012 Virgin Classics
  - Domenico Cimarosa's *Penelope*: no results
- 155 new operas 1770-1900
- 42 new operas 1780-1821



Guiseppe Verdi (1813-1901) in 1886 by Giovanni Boldini

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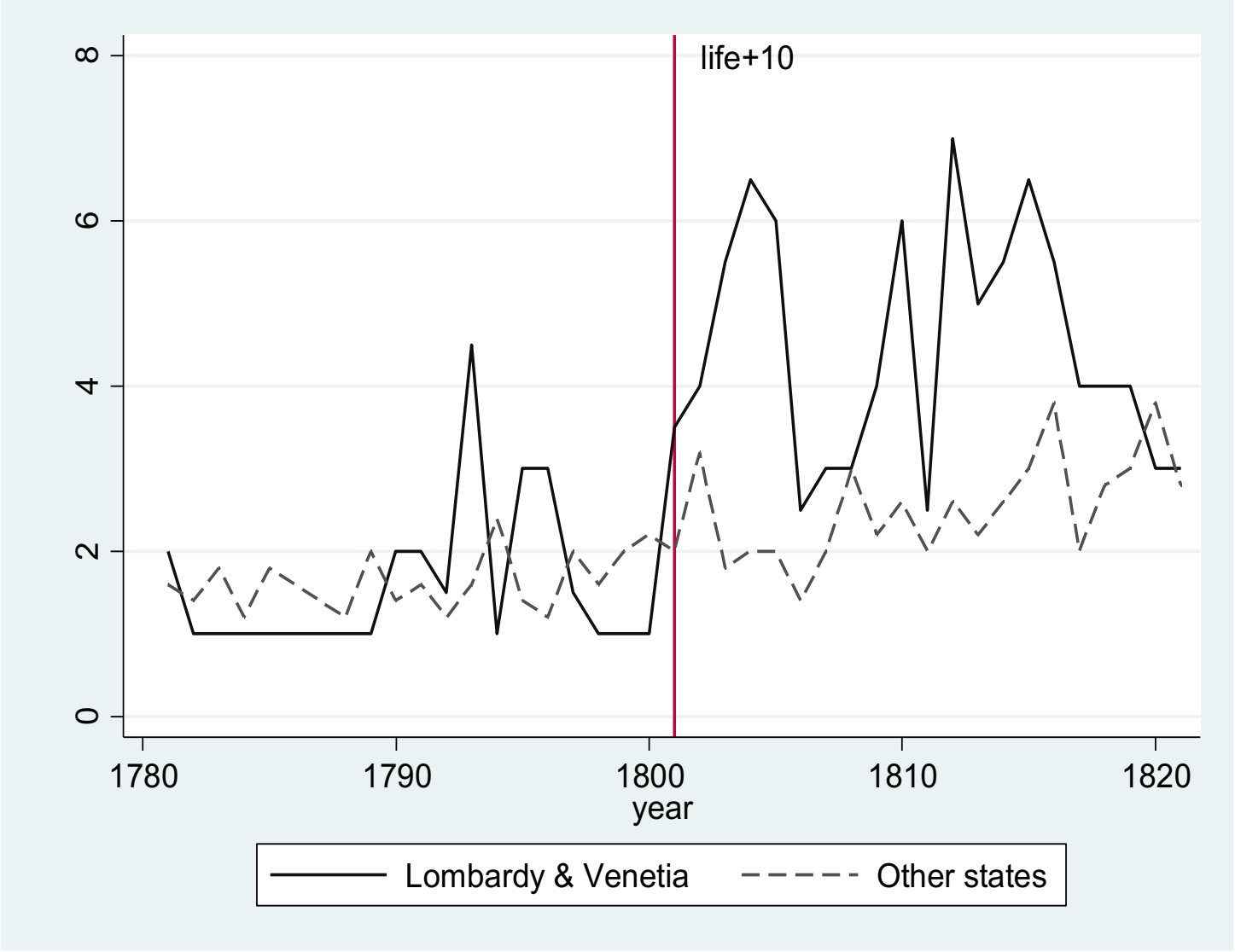
  - Difference-in-differences, 1770-1821
  - Time-varying effects and controls for pre-trends
  - Quality controls
- Mechanism
  - Changes in composer migration
  - Domestic composers create more
  - Agglomeration externalities
- Changes in creative output for all of Italy, 1770-1900
  - Copyright introductions
  - Copyright extensions
- Conclusions

After 1801, creation of new operas in L&V increases to 7 in 1806, 6 in 1809, and 7 in 1812
Other states continue to create 2 operas per year

FIGURE 2 – MEAN NEW OPERAS PREMIERED PER STATE AND YEAR IN ITALY, 1780-1821



Compare change in new operas per state and year after 1801 for L&V with other states within Italy

- Identify effects of copyrights controlling for unobservable factors that may have encouraged creation of operas across Italy
- Napoleonic code, exposure to revolutionary ideas, rise of Italian nationalism

$$operas_{it} = \beta\,(Lombardy\ \&\ Venetia_i \times post1801_t) + \varphi_i + \delta_t + \varepsilon_{it}$$

$operas_{it}$	Opera premieres per state *i* and year t
Lombardy & Venetia	1 for Lombardy and Venetia
post 1801	1 starting in 1801
φ_i	State fixed effects
δ_t	Year fixed effects

L&V create 2.1 additional operas per state and year after 1801 (150% more compared with mean of 1.4 until 1800)

TABLE 2 – OLS AND QML POISSON REGRESSIONS,
DEPENDENT VARIABLE IS NEW OPERAS PER YEAR AND STATE, 1780-1821

	(1)	(2)	(3)	(4)	(5)
		OLS (1-4)			QML Poisson (5)
Lombardy &Venetia *post1801	2.124***	2.069***	2.091***	2.165***	1.045***
	(0.392)	(0.401)	(0.388)	(0.399)	(0.146)
Lombardy & Venetia		0.311			
		(0.241)			
Year FE	Yes	Yes	Yes	Yes	Yes
State FE	Yes	No	Yes	Yes	Yes
Linear pre-trend for L&V	No	No	Yes	No	No
State-specific linear pre-trend	No	No	No	Yes	No
Pre-1801 mean operas per year	1.413	1.413	1.413	1.413	1.413
N (year-state pair)	336	336	336	336	336
R-squared	0.796	0.718	0.798	0.798	

Wild cluster bootstrap-t standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Time-varying estimates

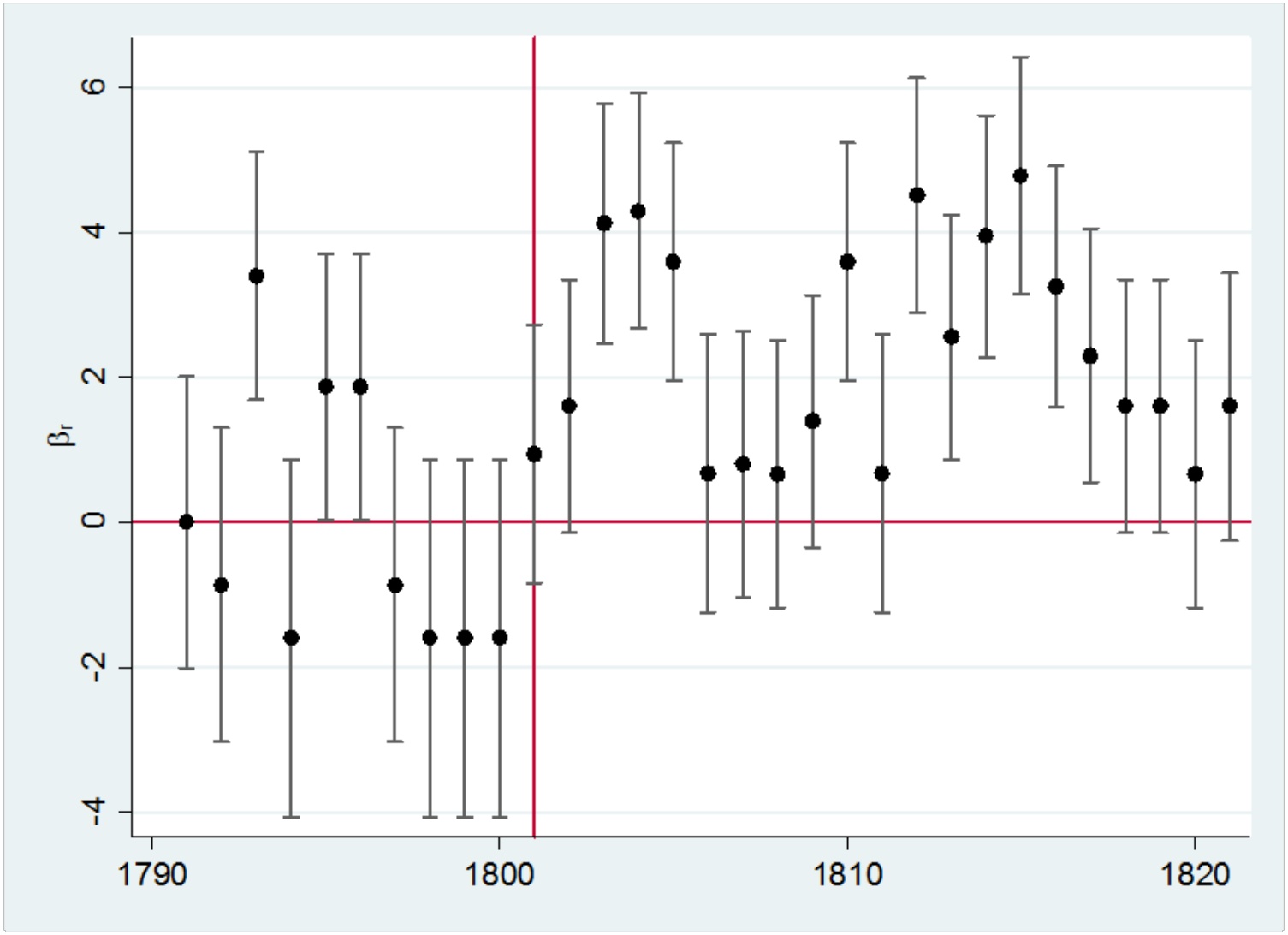
- Investigate timing of increase in creation of new operas
- Estimate β_r separately for each year

$$operas_{it} = \beta_0 + \beta_t \, (Lombardy \,\&\, Venetia_i \times year_t) + \varphi_i + \delta_t + \varepsilon_{it}$$

- where $year_t$ is an indicator variable for years 1791-1821
- years 1780-1780 are excluded category

No evidence for pre-trends in creative output

FIGURE 3 – OLS ANNUAL ESTIMATES FOR EFFECTS OF COPYRIGHT LAWS ON CREATION OF NEW OPERAS PER STATE AND YEAR



Effects on the Quality of Compositions

- Rights to charge theaters for repeat performances
  - So-called performance rights established by the 1801 Law
  - Increased expected revenue for composers from more popular or durable operas
- Intrinsic preference for high quality works
  - Additional revenue from copyrights relaxed budget constraint enough to allow to substitute quality for quantity
  - Verdi earned substantial income from score sales and performance fees under Sardinia's 1850 copyright law, no longer needed to be a "galley slave" (Scherer 2001)

Composers relied on opera payments for income

- Giaocchino Rossini (1792-1868)
- "His mother, who passed for one of the prettiest women of Romagna, was a *seconda donna* of very passable talents. They went from town to town, and from company to company ; the husband playing in the orchestra, and his wife singing on the stage. Poverty was of course the companion of their wanderings ; and their son Rossini, covered with glory, and with a name that resounded from one end of Europe to the other, faithful to his paternal poverty, had not, before his arrival two years ago at Vienna, for his whole capital, a sum equal to the annual pay of an actress on the stage of Paris or Lisbon" (Beyle 1824)

Rossini as a young man, unknown artist, public domain.

Composers care about quality independently of profits

- "And, as for those good gentlemen, the *impressarj,* who pretend to pay me handsomely, by giving me for sixteen or eighteen pieces, for the first characters, the same as they gave my predecessors for four, or six pieces at the most, I know a way of being even with them. In every fresh opera, I will serve up three or four of these pieces, which shall have nothing new in them but the variations.."
- "The theatres are filled with performers, who have learned music from some poor provincial professor. This mode of singing violin concertos, and variations without end, tends to destroy, not only the talent of the singer, but also to vitiate the taste of the public." (Rossini quoted in Beyle 1824)

L&V create 0.4 additional operas per state and year after 1801 (455% more compared with mean of 0.09 until 1800)

TABLE 3 – OLS: HISTORICALLY POPULAR AND LONG-LIVED NEW OPERAS PREMIERED PER YEAR AND STATE, 1780-1821

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Historically popular operas (1-4) *Annals of Operas* (1770-1940)				Long-lived operas (5-8) Available on *Amazon* in 2014			
Lombardy & Venetia * post1801	0.418***	0.411***	0.568**	0.371**	0.307**	0.302**	0.308**	0.302**
	(0.147)	(0.155)	(0.248)	(0.158)	(0.126)	(0.127)	(0.129)	(0.132)
Lombardy & Venetia		0.041				0.000		
		(0.067)				(0.028)		
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Linear pre-trend L&V	No	No	Yes	No	No	No	Yes	No
State-specific linear pre-trend	No	No	No	Yes	No	No	No	Yes
Pre-1801 mean operas per year and state	0.094	0.094	0.094	0.094	0.025	0.025	0.025	0.025
N (year-state pair)	336	336	336	336	336	336	336	336
R-squared	0.341	0.299	0.351	0.343	0.358	0.302	0.367	0.358

Wild cluster bootstrap-t standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

L&V created 0.3 additional new long-lived operas per year (10-fold increase)

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		(0.067)				(0.028)		
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	No	Yes	Yes	Yes	No	Yes	Yes
Linear pre-trend L&V	No	No	Yes	No	No	No	Yes	No
State-specific linear pre-trend	No	No	No	Yes	No	No	No	Yes
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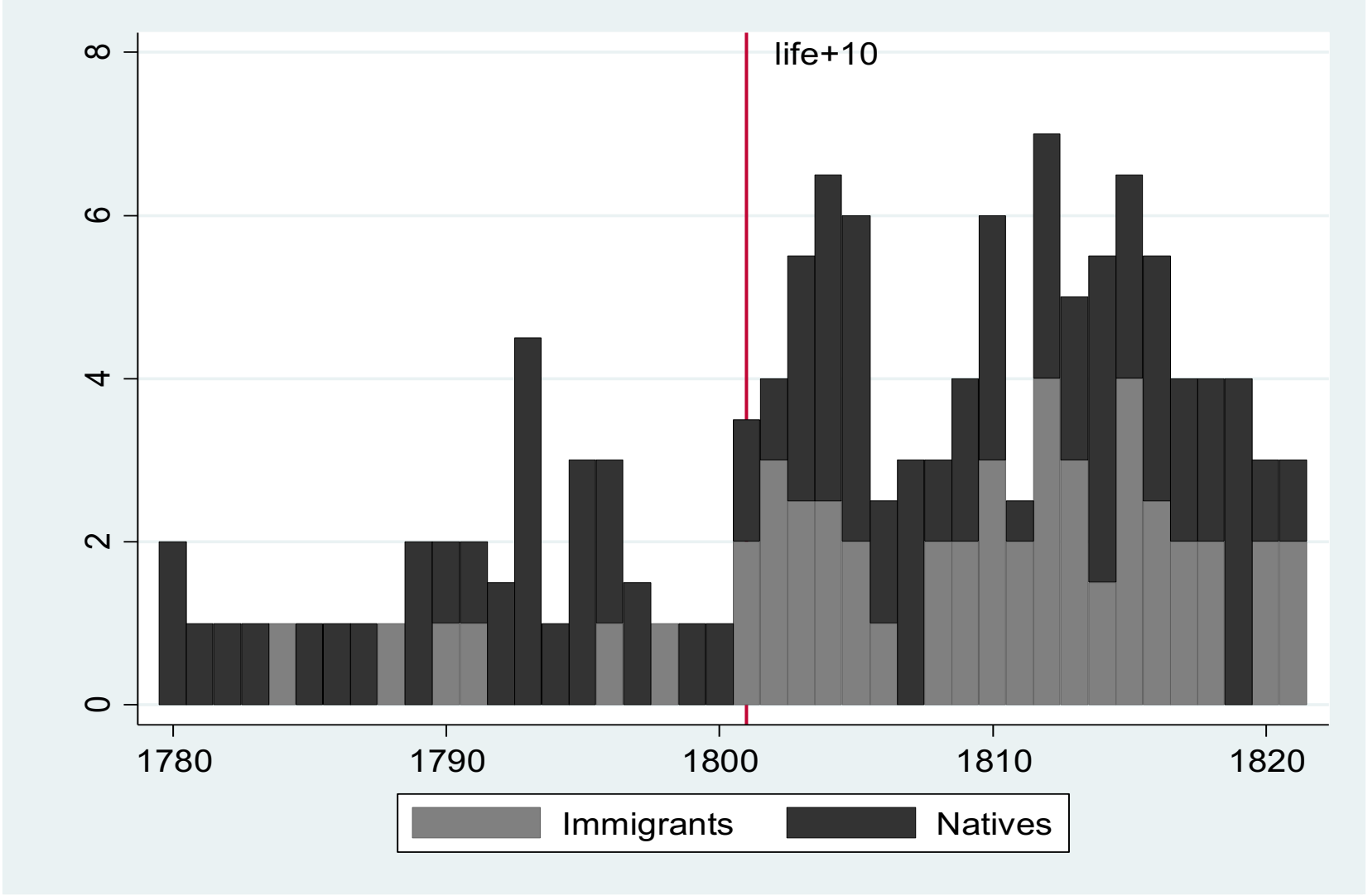
  - Time-varying effects and controls for pre-trends
  - Quality controls
- Composer-level regressions
  - Increased output by domestic composers
  - Increased migration to Lombardy & Venetia
  - Composer-level regressions for native and immigrant composers
- City-level regressions with controls for infrastructure
- Changes in creative output for all of Italy, 1770-1900
  - Copyright introductions
  - Copyright extensions
- Conclusions

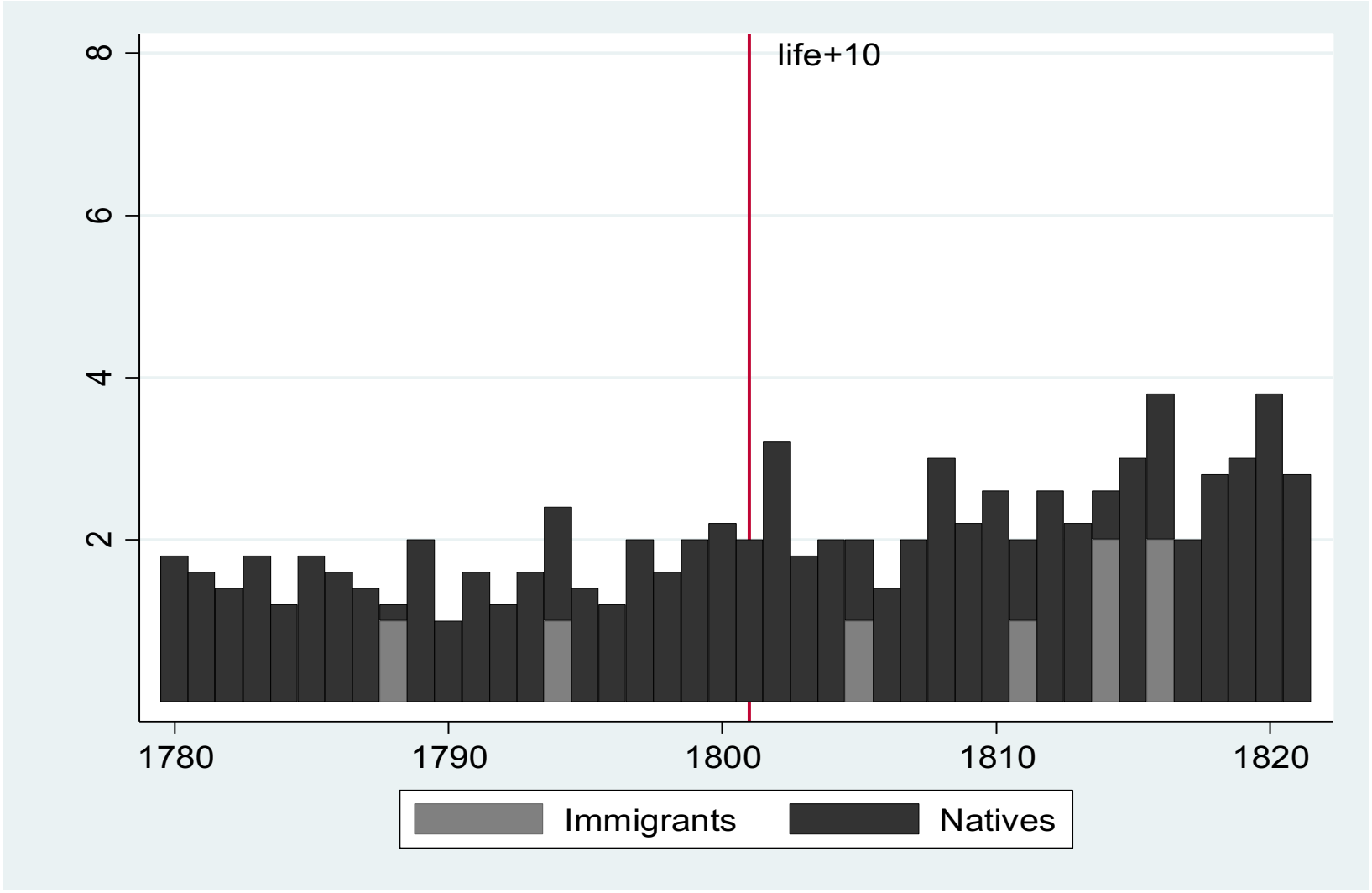
In Lombardy & Venetia opera by natives increased 2.8 fold to 4.5 new operas per state and year

FIGURE 6 – NEW OPERAS PER STATE PER YEAR, IMMIGRANTS VS NATIVES, 1780-1821
PANEL A: LOMBARDY AND VENETIA



In other states
opera output by natives increased 1.6-fold into 2.5

FIGURE 6 – NEW OPERAS PER STATE PER YEAR, IMMIGRANTS VS NATIVES, 1780-1821
PANEL B: OTHER STATES



Did copyright help to attract new composers?

- Historical records suggest that Lombardy and Venetia was not a recipient of significant migration between 1750 and 1850 (e.g., Romani 1955, p. 27)
- But biographical evidence for individual composers suggests that immigrants made significant contributions to opera in Lombardy and Venetia after 1801
- For example, Saverio Mercadante and Vincenzo Bellini

Saverio Mercadante: born in Altamura (Sicily) in 1795

- Moved to Naples in 1819
  - First opera *L'apoteosi di Ercole* (1819)
- Moved to L&V where he composed:
  - *Elisa e Claudio* (Milan, 1820)
  - *Il Posto Abbandonato* (Milan, 1821)
  - *Andronico* (Venice, 1821)

Vincenzo Bellini:
b in Catania (Sicily in 1801)

- Moved to Naples where he composed his first opera *Adelson e Salvini* (1824)
- Moved to Milan in 1825:
  - *Il Pirata* (1827, L A)
  - *La Straniera* (1829 L A)
  - *I Capuleti e I Montecchi* (1830 L A) premiered in Venice
  - *La Sonnambula* (1831 L)
  - *La Norma* (1831 L)

In L&V output by immigrants increased 7.4-fold to 2.1 new operas per state and year

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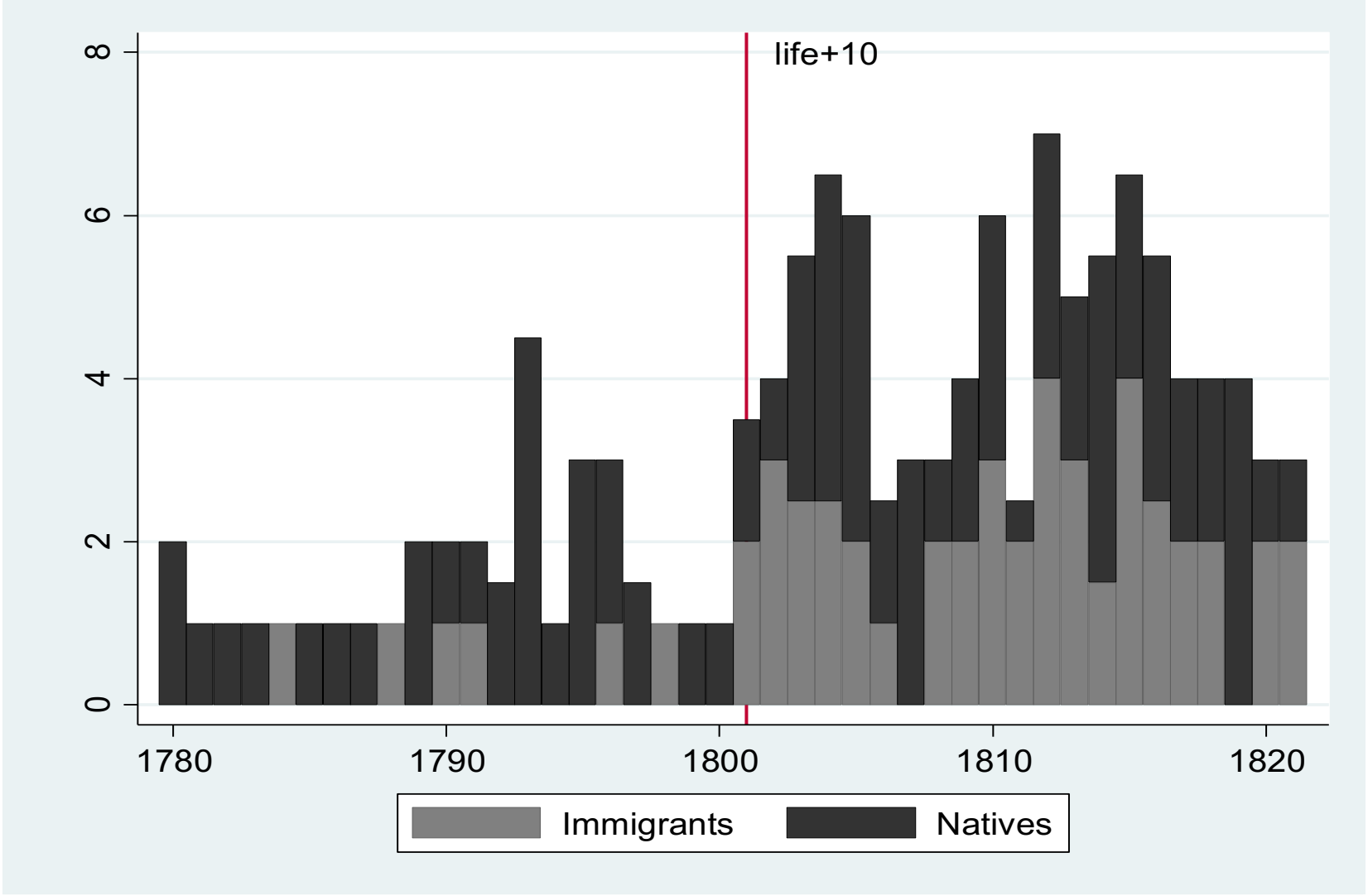
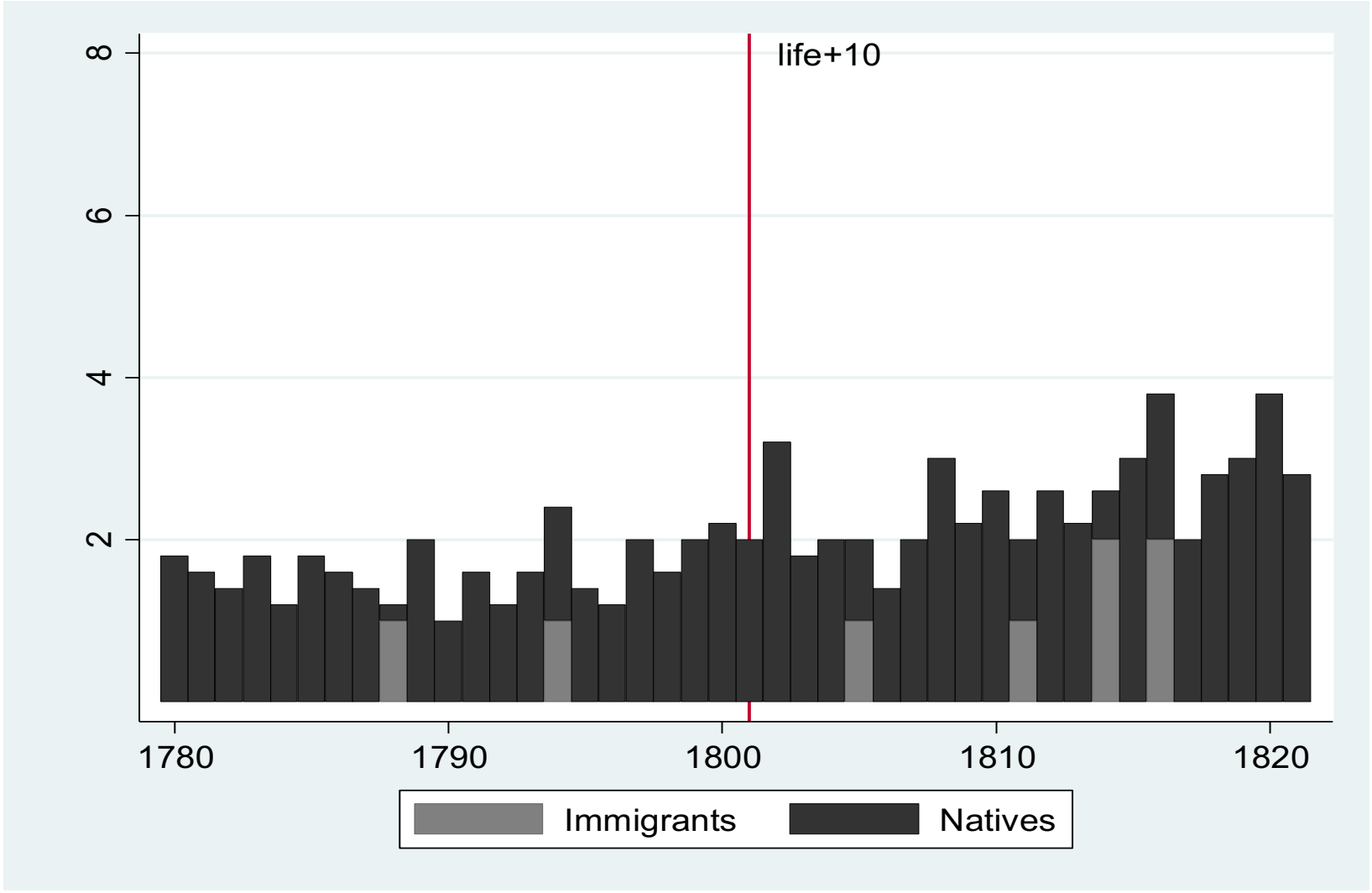


In other states output by immigrants increased 1.7-fold (to 0.3 new operas per state and year)

FIGURE 6 – NEW OPERAS PER STATE PER YEAR, IMMIGRANTS VS NATIVES, 1780-1821
PANEL B: OTHER STATES



Composer-level regressions: Stayers (natives) created 1.20 additional new operas in L&V per year after 1801 (1.4-fold increase)

TABLE 6 – COMPOSER-LEVEL OLS REGRESSIONS,
DEPENDENT VARIABLE IS NEW OPERAS PER COMPOSER, STATE, AND YEAR, 1780-1821

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Stayers (1-4)				Movers (5-8)		
L&V * post1800	1.199***	1.034***	1.143**	1.211***	1.225***	1.206***	1.211***	1.229***
	(0.274)	(0.201)	(0.371)	(0.281)	(0.277)	(0.231)	(0.268)	(0.284)
L&V		0.721				0.775		
		(0.652)				(0.647)		
Composer FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	No	No	No	Yes	No	No	No
Linear pre-trend for L&V	No	No	Yes	No	No	No	Yes	No
State-specific linear pre-trend	No	No	No	Yes	No	No	No	Yes
Pre-1801 mean	0.871	0.871	0.871	0.871	0.943	0.943	0.943	0.943
N (year-state-composer)	840	840	840	840	2,058	2,058	2,058	2,058
R-squared	0.962	0.960	0.964	0.962	0.962	0.960	0.964	0.962

Wild cluster bootstrap-t standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Composer-level regressions: Immigrants created 1.23 additional new operas per year in L&V after 1801 (1.3-fold increase)

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L&V		0.721				0.775		
		(0.652)				(0.647)		
Composer FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	No	No	No	Yes	No	No	No
Linear pre-trend for L&V	No	No	Yes	No	No	No	Yes	No
State-specific linear pre-trend	No	No	No	Yes	No	No	No	Yes
Pre-1801 mean	0.871	0.871	0.871	0.871	0.943	0.943	0.943	0.943
N (year-state-composer)	840	840	840	840	2,058	2,058	2,058	2,058
R-squared	0.962	0.960	0.964	0.962	0.962	0.960	0.964	0.962

Wild cluster bootstrap-t standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Outline

- Brief history of copyrights in Italy
- Data
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  - Demographic data on composers
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  - Difference-in-differences, 1770-1820
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- Composer-level regressions
  - Increased output by domestic composers
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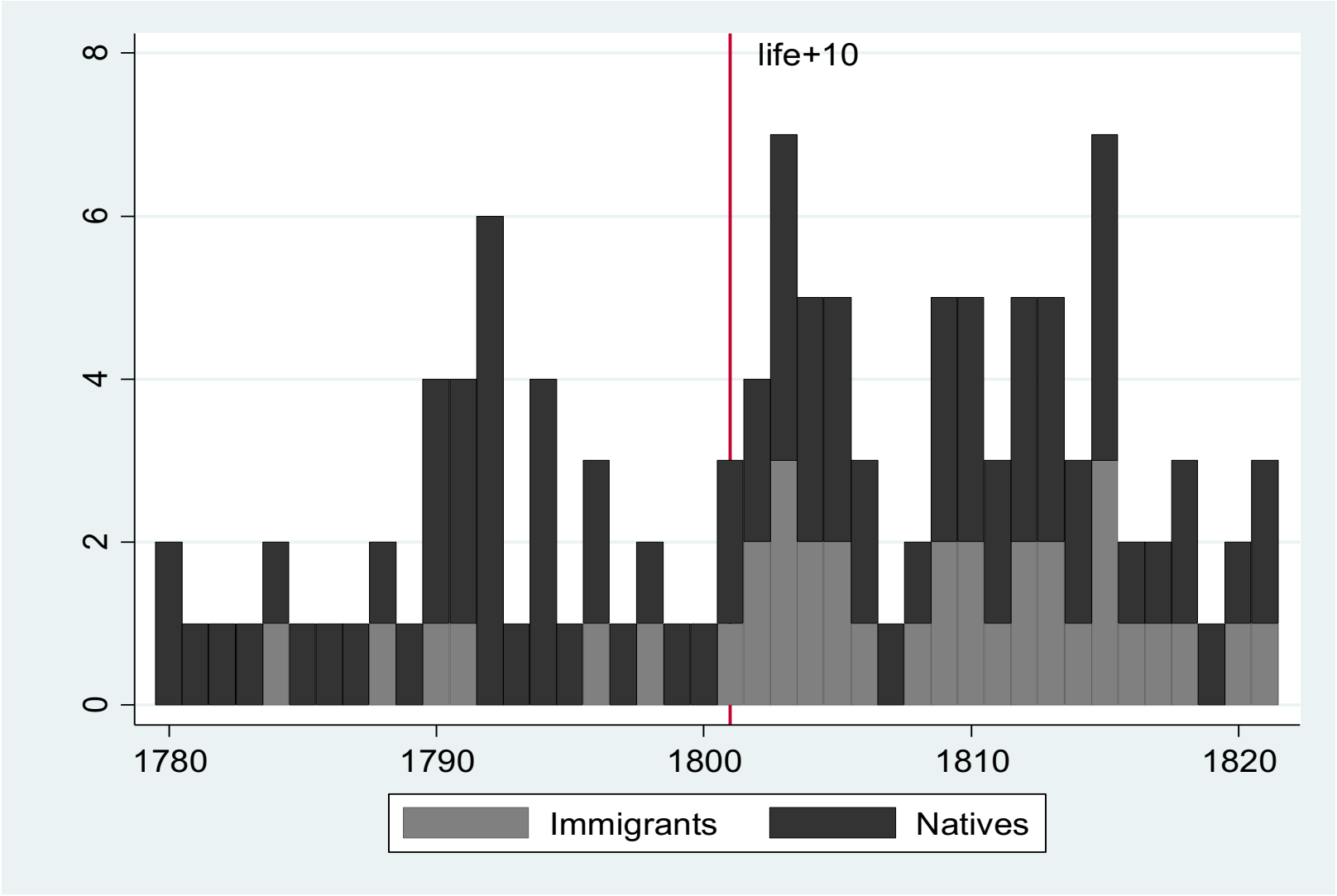
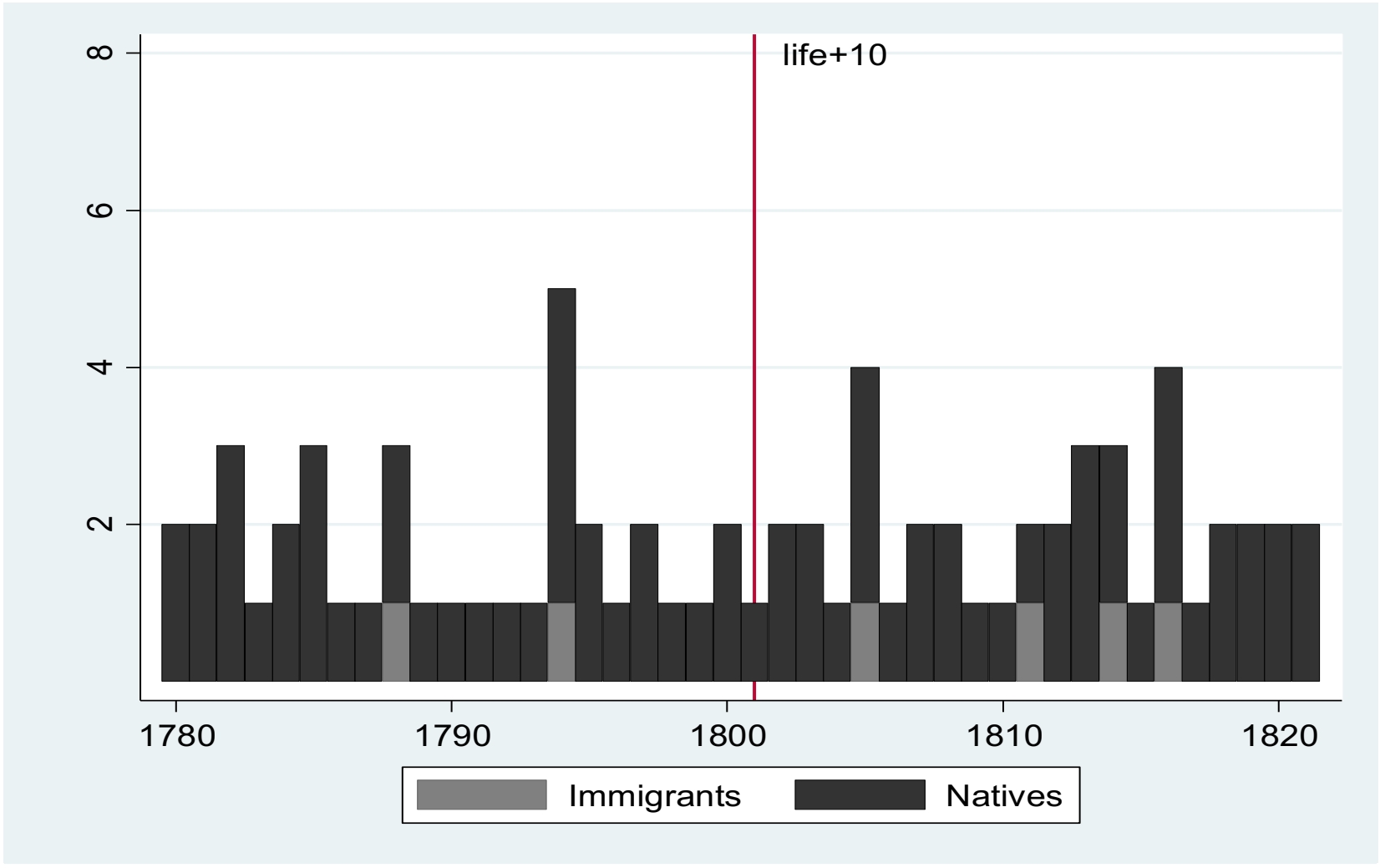
In L&V # natives increased 1.4-fold to 46, while # immigrants increased 5.0-fold to 30

APPENDIX FIGURE A4 – COMPOSERS PER STATE PER YEAR, IMMIGRANTS VS NATIVES, 1780-1821
PANEL A: LOMBARDY AND VENETIA



In other states # composers stayed flat, with 37 native (1.1-fold) and 4 immigrants (2.0-fold)

APPENDIX FIGURE 4A – NEW OPERAS PER STATE PER YEAR, IMMIGRANTS VS NATIVES, 1780-1821
PANEL B: OTHER STATES



Until 1800, 6 composers born in other states premiered their first opera in Lombardy and 2 in Venetia

TABLE 5 - COUNTS OF COMPOSERS BY STATE OF BIRTH AND FIRST PERFORMANCE
PANEL A: 1781-1800

Composed in: / Born in:	Sardinia	Modena	Parma	Tuscany	Lombardy	Venetia	Rome	Sicily
Sardinia	0	0	0	0	0	0	0	0
Modena	1	0	0	0	0	0	2	0
Parma	0	0	0	1	0	0	0	0
Tuscany	0	0	0	0	0	0	0	0
Lombardy	0	0	0	0	0	0	0	0
Venetia	0	0	0	0	0	0	0	0
Rome	0	0	0	0	0	2	0	3
Sicily	0	0	0	0	6	0	0	0

After 1800, 43 composers born in other states premiered their first opera in Lombardy and 13 in Venetia

TABLE 5 - COUNTS OF COMPOSERS BY STATE OF BIRTH AND FIRST PERFORMANCE
PANEL B: 1801-1821

Composed in: / Born in:	Sardinia	Modena	Parma	Tuscany	Lombardy	Venetia	Rome	Sicily
Sardinia	0	0	0	0	11	2	1	0
Modena	0	0	1	0	0	0	0	0
Parma	0	0	0	0	3	0	1	0
Tuscany	0	0	0	0	3	0	2	0
Lombardy	0	0	0	0	8	0	0	0
Venetia	0	0	0	0	1	0	0	0
Rome	0	0	0	0	15	8	0	0
Sicily	0	0	0	0	10	3	0	0

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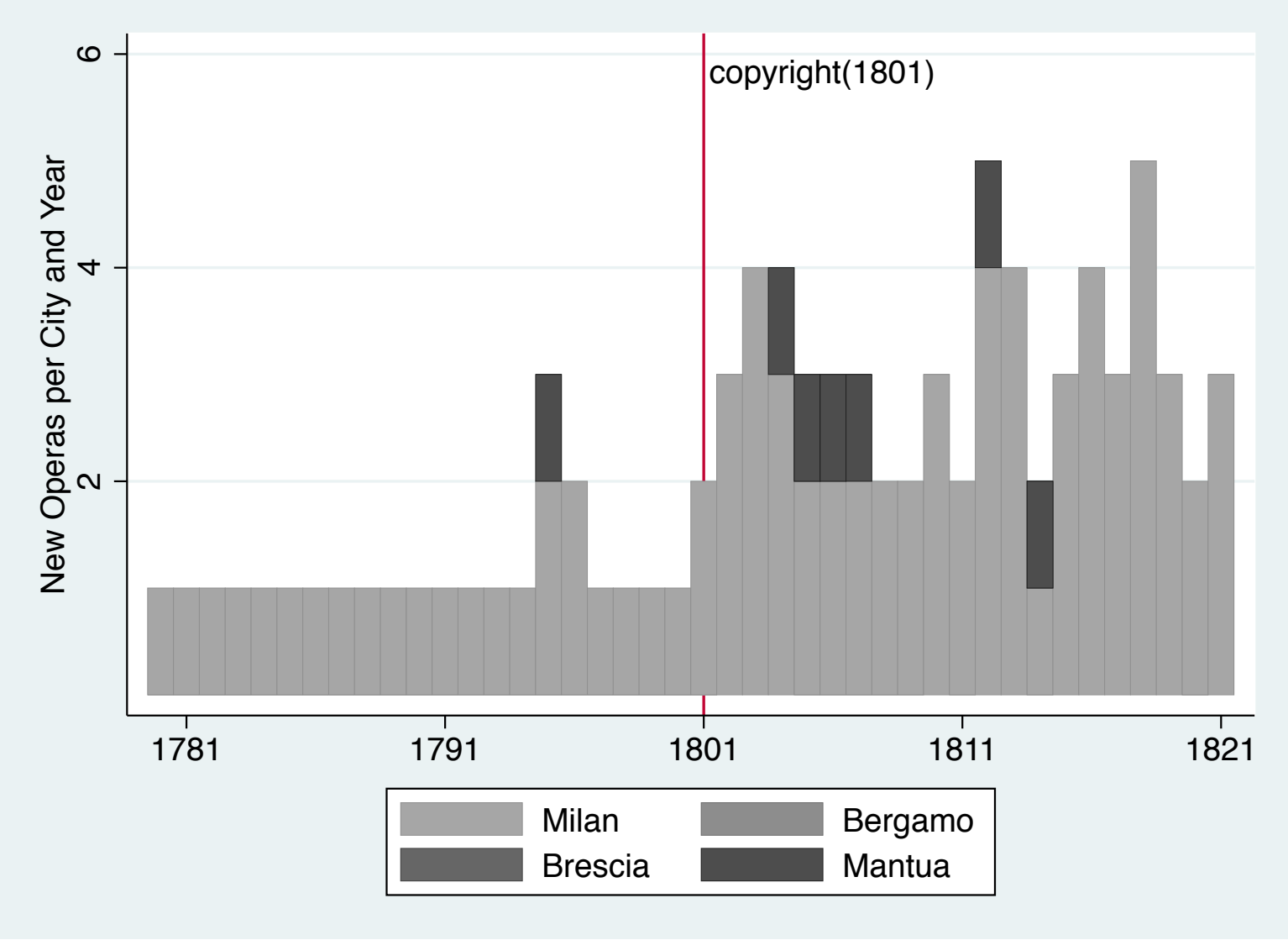
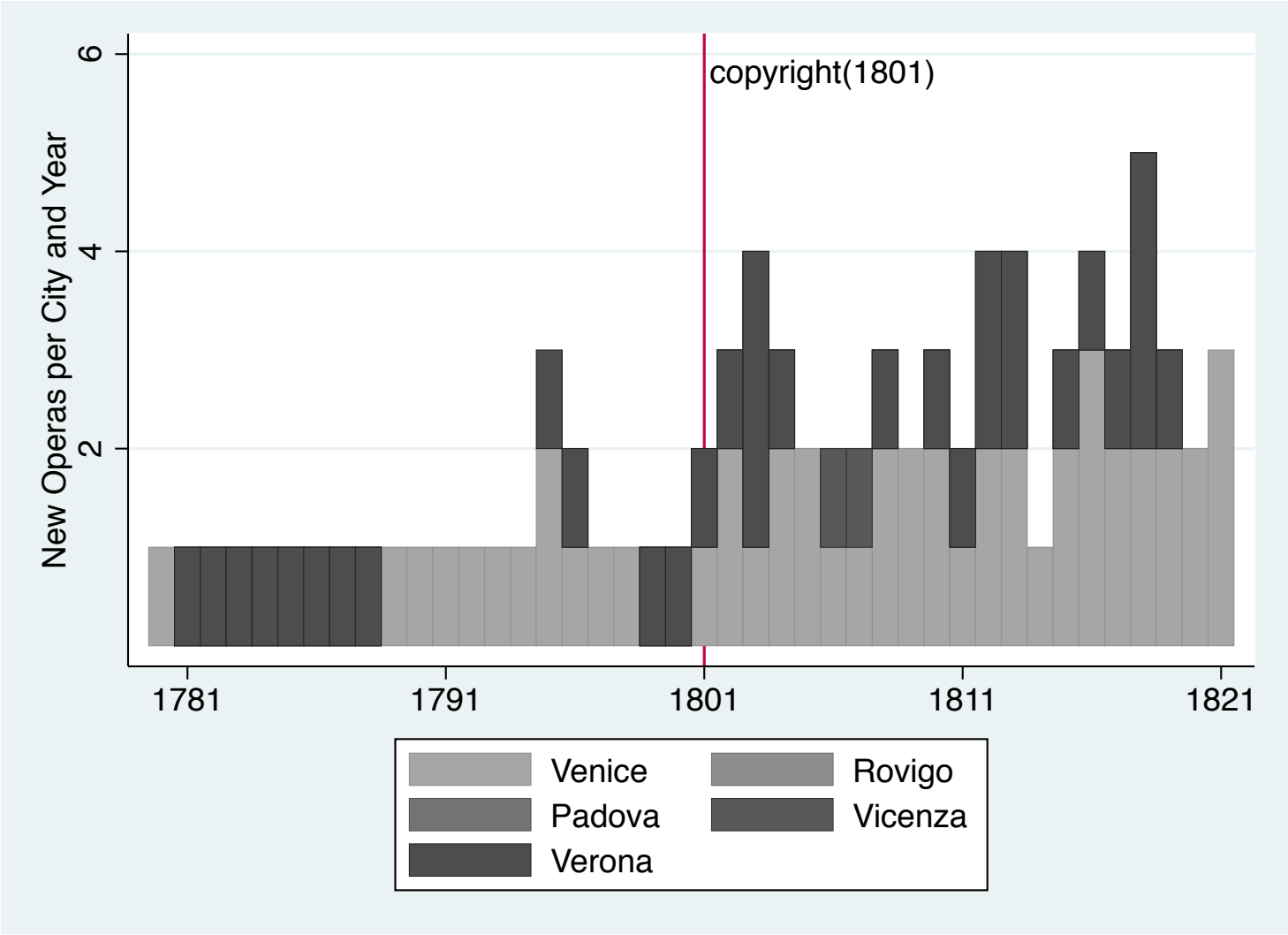
Lombardy: Significant increase in output after 1801 – concentrated almost exclusively in Milan

FIGURE 7 – NEW OPERAS PER CITY AND YEAR, 1780-1821
PANEL A: LOMBARDY

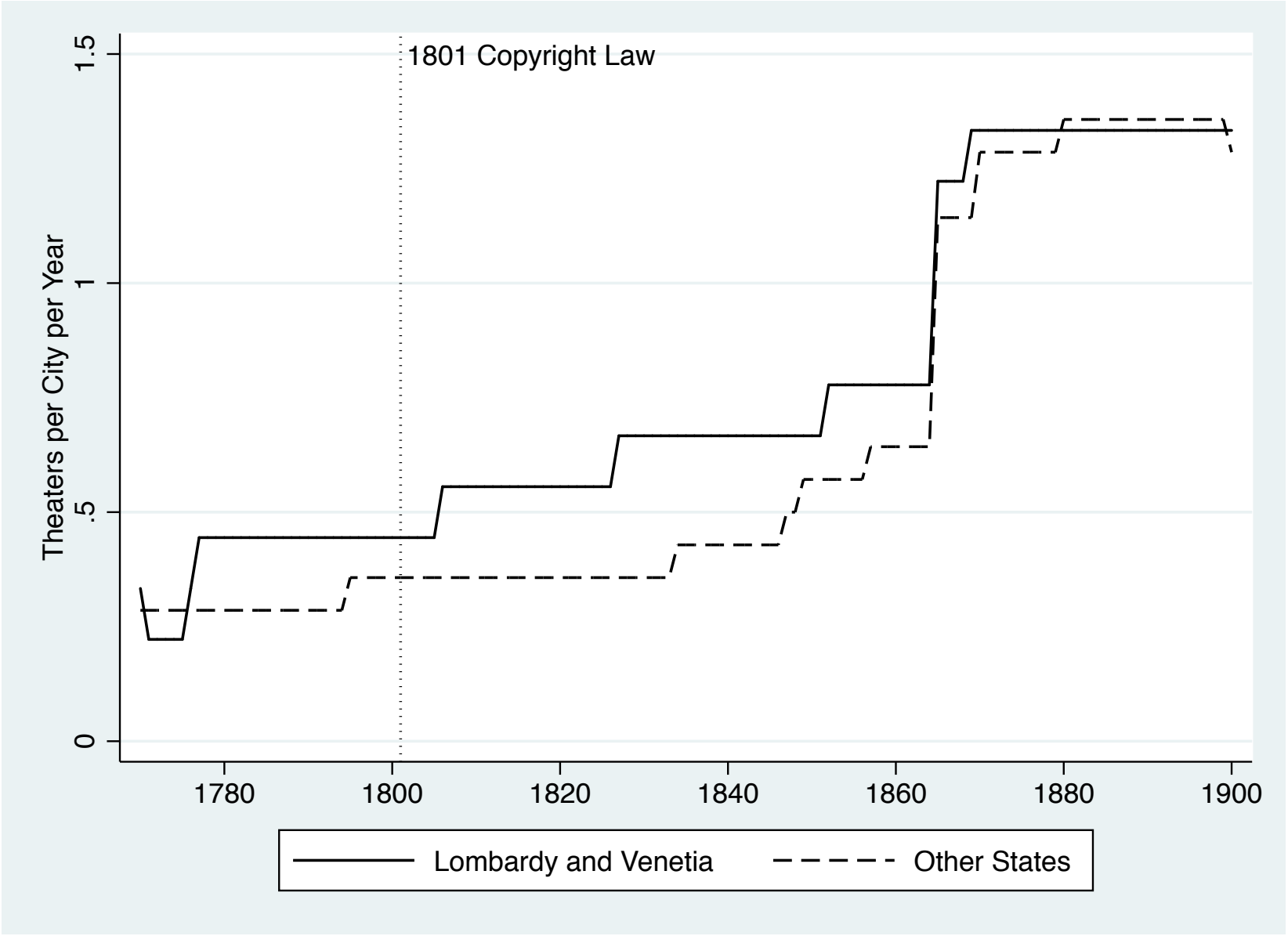


Venetia: Significant increase in output after 1801 - concentrated in Venice

FIGURE 7 – NEW OPERAS PER CITY AND YEAR, 1780-1821
PANEL A: VENETIA



Theaters as a proxy for demand: Significant changes after unification in 1861



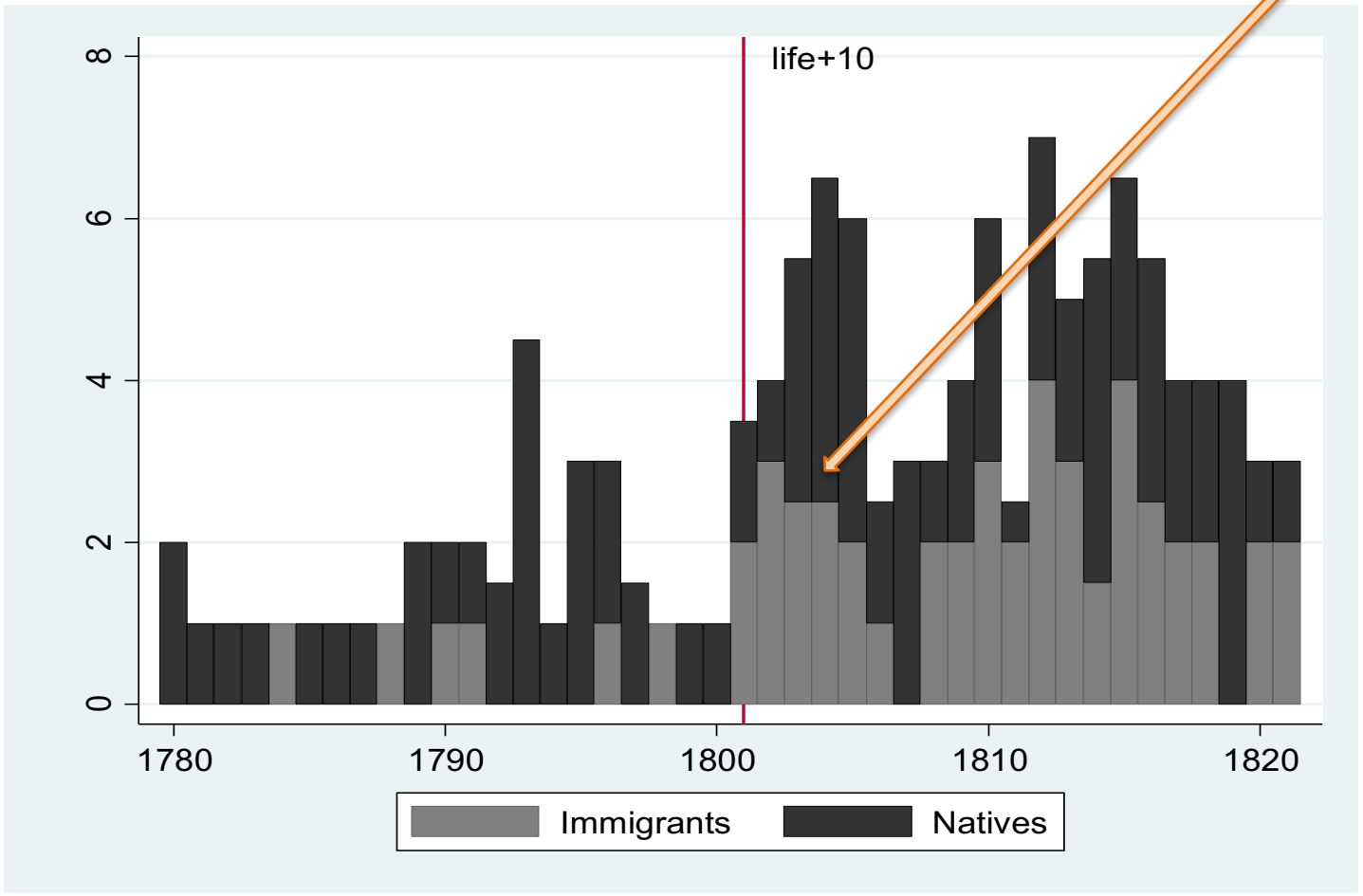
Cities with more than two theaters produce on average 2.3 operas per year more than city with one or no theaters (an 8.2-fold increase)

TABLE 9 – CITY-LEVEL REGRESSIONS WITH INTERACTIONS FOR THEATER INFRASTRUCTURE IN 1800
DEPENDENT VARIABLE IS NEW OPERAS PER YEAR AND CITY, 1780-1821

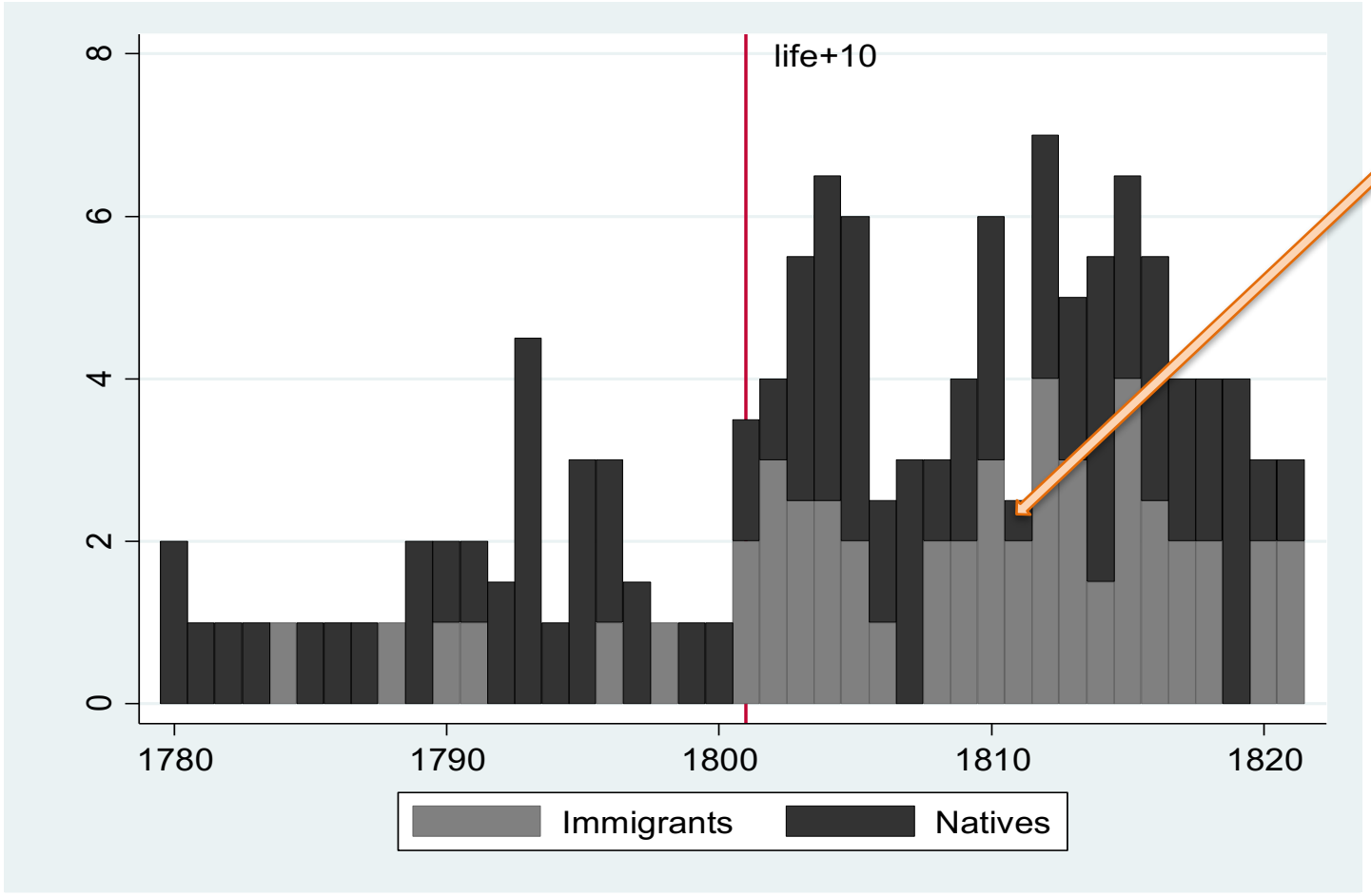
	(1)	(2)	(3)	(4)	(5)	(6)
	All Operas (1-2)		Historically popular *Annals of Operas* (1770-1945) (3-4)		Long-lived operas *Amazon* 2014 (5-6)	
L&V *post1801* 2 theaters	2.316***	2.429***	0.776***	0.803***	0.481**	0.497**
	(0.321)	(0.321)	(0.247)	(0.251)	(0.242)	(0.245)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Linear pre-trend for L&V	No	Yes	No	Yes	No	Yes
Pre-1801 mean	0.253	0.253	0.022	0.022	0.004	0.004
N (year-city pair)	1,050	1,050	844	844	838	838
R-squared	0.594	0.597	0.310	0.313	0.258	0.261

City-level clustered standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Pietro Generali
(b Masserano, K. Sardinia 1773, d. in 1832)
42 total operas, moved to Venice in 1804



Gioacchino Rossini (b. Pesaro, Papal State, 1792, d. 1869)
32 total operas, moved to Milan in 1811



"Paisiello saw, perhaps, some twenty or thirty principal pieces of his hundred and fifty operas meet with general favour. Rossini could easily reckon upon a hundred in his thirty operas, really different from each other." (Beyle 1824, p. 249)

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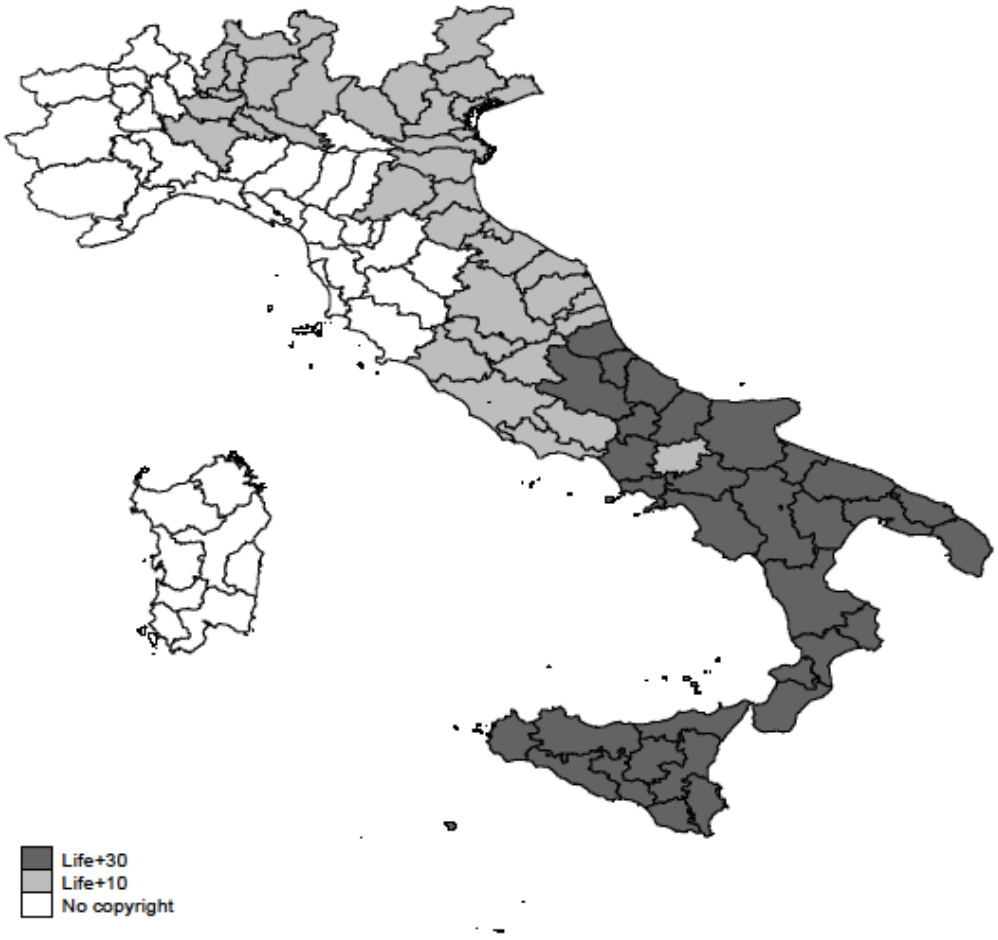
Papal State and Two Sicilies adopt copyrights in 1826 and 1828



- September 28, 1826, edict of Pope Leo XII (Editto n. 433, Stato Pontificio
  - life + 12
- 1828 Decree of King Francesco Two Sicilies
  - life + 30
- Potential response to lobbying
  - 1825 Memorandum to German Bundesratsversammlung by J.N. Hummel, signed by C.M v. Weber L. v Beethoven,
  - Publishers were "getting fat by robbing without penalty their neighbors property,"
  - Demanded right to collect fees for "operas and opera-like works" (Scherer 2002).

States with copyright created 2.7 additional new operas per state per year (118 % more than states w/o copyrights)

TABLE 4 – OLS AND QML POISSON,
DEPENDENT VARIABLE IS NEW OPERAS PER YEAR AND STATE, 1770-1900

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	OLS (1-2)		Poisson(3)	Operas in *Annals of Operas* (1770-1945)		Operas on *Amazon* 2014	
Copyright	2.683***	2.533***	0.952***	0.188*	0.193**	0.327***	0.372***
	(0.436)	(0.439)	(0.149)	(0.098)	(0.095)	(0.111)	(0.107)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State-specific linear pre-trend	No	Yes	No	No	Yes	No	Yes
Pre-copyright mean opera per state and year	2.212	2.212	2.212	0.404	0.404	0.409	0.409
Observations	1,048	1,048	1,048	1,048	1,048	1,048	1,048
R-squared	0.706	0.709		0.709	0.259	0.370	0.160

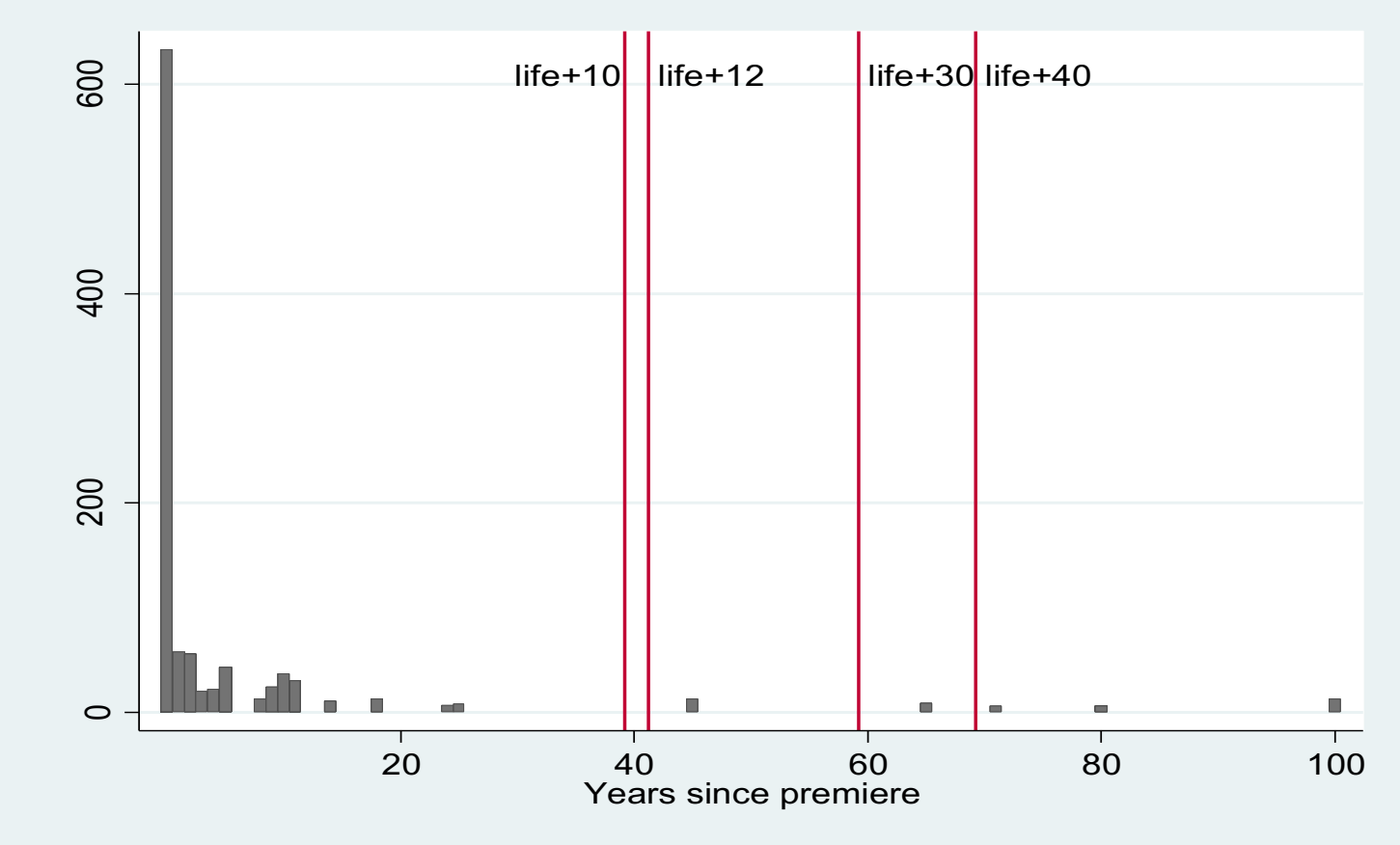
t-wild bootstrapped errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Do copyright extensions encourage creativity?

- (Sonny Bono) Copyright term extension Act of 1998
  - Mickey Mouse Protection Act
- Between 1840 and 1900 all states move from some copyrights to *life + 40*
- E.g., Lombardy & Venetia
  - *Life + 10* in 1801
  - *Life + 30* in 1840
  - *Life + 40* in 1864

Even among high-quality operas, 30% performed once, 49% only within first 5 year

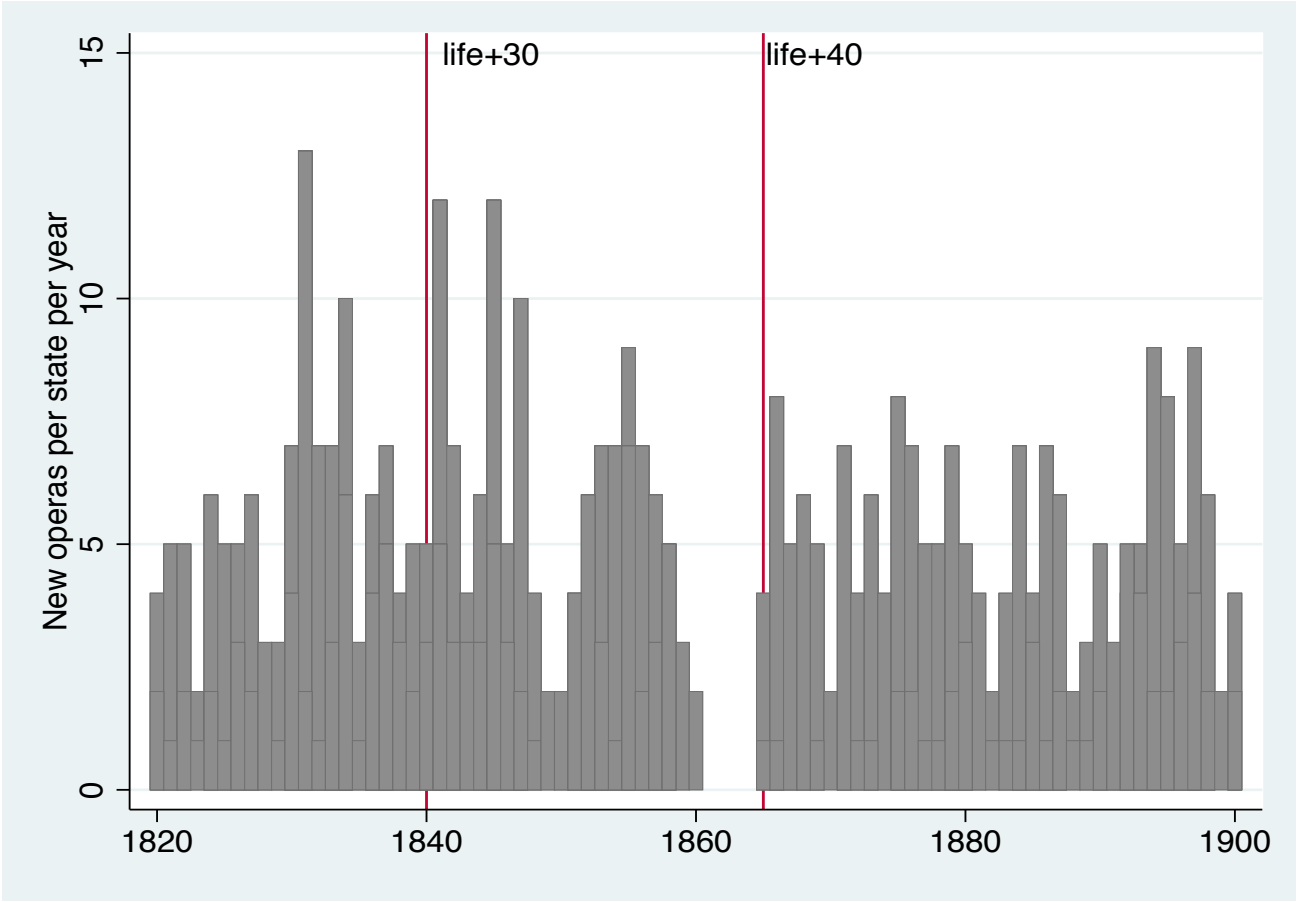
FIGURE 4 – PERFORMANCES IN THE FIRST 100 YEARS AFTER THE PREMIERE OF AN OPERA FOR ALL 8 STATES AND OPERAS THAT PREMIERED 1780-1800



Notes: Performance records from Loewenberg (1978) for 165 operas premiered, 1780-1800. Overall, these 165 operas were performed 1,687 times, or 10.22 times per opera.

No clear increase in response to copyright extension in Lombardy and Venetia

FIGURE 5 – MEAN NEW OPERAS PREMIERED PER STATE AND YEAR IN LOMBARDY AND VENETIA, 1820-1861



Notes: Data include 580 new operas that premiered between 1820 and 1861 in Lombardy and Venetia. We have collected these data from Loewenberg (1978), Dassori (1903), and Ambiveri (1998). The vertical line corresponds to the bilateral Treaty between Kingdom of Sardinia and Austria that extended copyright length from *life+10* to *life+30*, and Italian copyright law of 1865 that extended copyright length from *life+30* to *life+40*.

Conclusions

- Adoption of copyrights can encourage creativity
  - 150% more new operas
  - 4.4- fold increase in historically popular operas: 10-fold increase in durable operas
  - No evidence for differential increase in demand in L&V
- No significant effect of copyright extensions
- Mechanisms by which copyrights raise quantity and quality
  - Increased output by domestic (native) composers
  - Migrant composers move into states with copyrights
  - Property rights in repeat performances encourage quality
  - Composers who prefer quality produce fewer, better operas
  - Cities with better pre-existing infrastructure benefit more
- Copyright as an alternative type of IP
  - Encourage creativity whereas patents do not
  - Key difference: narrow property right