

Online Appendix to the Paper  
*Tax Revenues, Development and the Fiscal Cost of Trade  
Liberalization, 1792-2006*

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## A Data

Several issues arise when defining tax revenues which explain why different sources sometimes provide different information for the same years. The first is that in many countries several levels of government levy tax revenues but information on local and regional tax revenues is scarce. We follow Mitchell (2007) in keeping only central government tax revenues wherever possible. The GFS data differentiates between central and total government revenue but Baunsgaard and Keen (2010) do not specify whether total tax revenues include local and regional revenues.<sup>1</sup> A second issue arises when governments (or other public institutions) levy social security contributions separately from tax revenues. GFS is the only source which explicitly differentiates between the two, we choose not to include social security contributions to avoid capturing changes in total tax revenues that are due to the inclusion of social security contributions. Unfortunately Mitchell (2007) and Baunsgaard and Keen (2010) do not specify how they handle social security contributions, our educated guess from looking at the data is that Baunsgaard and Keen (2010) typically do but Mitchell (2007) does not. Trade taxes are only levied by federal governments and never in the form of contributions to social security funds so these choices only affect our construction of the total tax revenue variable. Our measure of episodes of decreases in trade tax revenues is unaffected by these methodological choices.

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<sup>1</sup>Our educated guess is that they do for large federal countries but do not when local and regional governments levy a small share of total taxes.

Table A.1: Data Sources

Country	Country Group	Total Coverage	GFS Coverage	MIT Coverage	TPD Coverage
Afghanistan	LIC	2003-2006	2003-2006		
Albania	MIC	1995-2004	1995-2004		
Algeria	MIC	1980-2006			1980-2006
Argentina	HIC	1935-2001		1935-1992	1993-2001
Armenia	HIC	2003-2006	2003-2006		
Australia	HIC	1965-2002		1965-2002	
Austria	HIC	1924-2005		1924-1993	1994-2005
Bangladesh	LIC	1978-2005			1978-2005
Belarus	HIC	1996-2006	1996-2006		
Belgium	HIC	1934-2005		1934-1993	1994-2005
Benin	LIC	1976-2005			1976-2005
Bolivia	MIC	1985-2002			1985-2002
Botswana	MIC	1981-2006			1981-2006
Brazil	MIC	1900-1998	1993-1998	1900-1992	
Bulgaria	MIC	1924-2006	1992-2006	1924-1941	
Burkina Faso	LIC	1975-2004			1975-2004
Burundi	LIC	1975-2005			1975-2005
Cameroon	LIC	1975-2006			1975-2006
Canada	HIC	1926-2005		1926-1995	1996-2005
CAR	LIC	1979-2005			1979-2005
Chad	LIC	1983-2005			1983-2005
Chile	HIC	1908-2004		1908-1973	1975-2004
China	MIC	1979-2001			1979-2001
Colombia	MIC	1945-2006		1945-1973	1975-2006
Comoros	LIC	1980-2001			1980-2001
Congo, Dem. Rep.	LIC	1998-2002	1998-2002		
Congo, Rep.	MIC	1980-2003			1980-2003
Costa Rica	MIC	1978-2006	2001-2006		1978-2000
Cote d'Ivoire	LIC	1979-2006			1979-2006
Croatia	HIC	1992-2006	1992-2006		
Czech Republic	HIC	1993-2006	1993-2006		
Denmark	HIC	1891-2005		1891-2005	1945-1993
Djibouti	LIC	1979-2004			1979-2004
Dominican Republic	MIC	1975-2006			1975-2006
Ecuador	MIC	1973-2006	1973-1978		1979-2006
Egypt	MIC	1975-2006			1975-2006
El Salvador	MIC	1972-2000	1972-1977		1978-2000
Equatorial Guinea	HIC	1983-2004			1983-2004
Estonia	HIC	1993-2001	1993-2001		
Ethiopia	LIC	1978-2005			1978-2005
Finland	HIC	1883-2005		1883-1993	1994-2005
France	HIC	1847-2005		1847-1974	1975-2005
Gabon	MIC	1975-2004			1975-2004
Gambia	LIC	1972-2000	1972-1976		1977-2000
Georgia	MIC	2001-2006	2001-2006		
Germany	HIC	1950-2005		1950-1993	1994-2005
Ghana	LIC	1978-2005			1978-2005
Greece	HIC	1928-2004		1928-1986	1987-2004
Guatemala	MIC	1972-2004	1972-1977		1978-2004

Guinea	LIC	1978-2006			1978-2006
Guinea-Bissau	LIC	1983-1988	1983-1988		
Haiti	LIC	1979-2006			1979-2006
Honduras	MIC	1975-2004			1975-2004
Hungary	MIC	1927-1999	1990-1999	1927-1940	
India	MIC	1948-2006		1948-1975	1976-2006
Indonesia	MIC	1951-2004		1951-1974	1975-2004
Iran	MIC	1959-2004		1959-1974	1975-2004
Ireland	HIC	1926-2005		1926-1985	1986-2005
Italy	HIC	1862-2004		1862-1974	1975-2004
Jamaica	MIC	1978-2000			1978-2000
Japan	HIC	1885-2004		1885-1993	1994-2004
Jordan	MIC	1978-2004			1978-2004
Kazakhstan	MIC	1997-1999	1997-1999		
Kenya	LIC	1977-2006			1977-2006
Korea, Rep.	HIC	1958-1998		1958-1974	1975-1998
Kuwait	HIC	1977-2001			1977-2001
Kyrgyz Republic	MIC	1994-2001	1994-2001		
Latvia	HIC	1996-2006	1996-2006		
Lebanon	MIC	1997-1999	1997-1999		
Lesotho	LIC	1975-2005			1975-2005
Lithuania	MIC	1993-2000	1993-2000		
Madagascar	LIC	1978-2000			1978-2000
Malawi	LIC	1977-2005			1977-2005
Malaysia	HIC	1975-2001			1975-2001
Mali	LIC	1975-2000			1975-2000
Mauritania	LIC	1975-2004			1975-2004
Mexico	MIC	1925-1993		1925-1993	
Moldova	MIC	1996-2006	1996-2006		
Mongolia	LIC	1992-2003	1992-2003		
Morocco	MIC	1975-2006			1975-2006
Mozambique	LIC	1980-2006			1980-2006
Myanmar	LIC	1975-2000			1975-2000
Namibia	MIC	1985-2004			1985-2004
Nepal	LIC	1975-2006			1975-2006
Netherlands	HIC	1900-2005		1900-1988	1989-2005
New Zealand	HIC	1931-2005		1931-2005	
Nicaragua	LIC	1991-2006	1991-2006		
Niger	LIC	1976-2003			1976-2003
Nigeria	LIC	1979-2004			1979-2004
Norway	HIC	1880-2005		1880-1993	1994-2005
Oman	MIC	1972-2001	1972-2001		
Pakistan	MIC	1950-2005		1950-2005	
Panama	MIC	1975-2004			1975-2004
Paraguay	MIC	1975-2000			1975-2000
Peru	MIC	1942-2005		1942-1993	1994-2005
Philippines	MIC	1946-2005		1946-2005	
Poland	MIC	1994-2000	1994-2000		
Portugal	HIC	1950-2003		1950-1987	1988-2003
Qatar	HIC	2004-2006	2004-2006		
Romania	MIC	1990-2001	1990-2001		
Rwanda	LIC	1979-2006			1979-2006
Sao Tome	LIC	1981-2004			1981-2004

Senegal	LIC	1979-2003			1979-2003
Sierra Leone	LIC	1978-2005			1978-2005
Singapore	HIC	1975-2002			1975-2002
Slovak Republic	HIC	1996-2002	1996-2002		
Slovenia	HIC	1992-2006	1992-2006		
South Africa	MIC	1911-2006		1911-1974	1975-2006
Spain	HIC	1901-2005		1901-1985	1986-2005
Sri Lanka	MIC	1975-2005			1975-2005
Swaziland	MIC	1972-2006	1972-1978		1979-2006
Sweden	HIC	1881-2005		1881-1993	1994-2005
Switzerland	HIC	1930-2005		1930-1993	1994-2005
Syria	MIC	1975-2006			1975-2006
Tajikistan	LIC	1998-2004	1998-2004		
Tanzania	LIC	1980-2005			1980-2005
Thailand	MIC	1946-2003		1946-2003	
Togo	LIC	1978-2006			1978-2006
Trinidad	HIC	1976-2004			1976-2004
Tunisia	MIC	1990-2006	1990-2006		
Turkey	MIC	1949-2001		1949-2001	
Uganda	LIC	1978-2006			1978-2006
Ukraine	MIC	1999-2006	1999-2006		
United Kingdom	HIC	1830-2005		1830-1930	1975-2005
United States	HIC	1792-2005		1792-1997	1998-2005
Uruguay	HIC	1955-2006		1955-1992	1993-2006
Venezuela	HIC	1950-2005		1950-1992	1993-2005
Yemen	MIC	1990-1999	1990-1999		
Zambia	LIC	1975-2006			1975-2006
Zimbabwe	LIC	1976-2004			1976-2004

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Table A.2: List of Episodes and Possible Causes

Country	Date of Episode 1	Source of Episode 1	Date of Episode 2	Source of Episode 2
Albania	1997	Economic crisis		
Algeria	1995	Trade agreement		
Argentina	1935	Fall tariffs	1984	Trade agreement
Austria	1963	-		
Bangladesh	1978	Fall tariffs		
Belgium	1934	Trade agreement	1962	Fall tariffs
Benin	1979	Fall trade		
Botswana	1981	Fall trade	1992	Trade agreement
Brazil	1906	Exchange rates	1933	Fall tariffs
Bulgaria	1924	-	1994	Trade agreement
Burkina Faso	1977	Fall tariffs		
Burundi	1978	Fall trade	1987	Fall tariffs
Cameroon	1976	Trade policy		Trade policy
Canada	1926	-		
CAR	1979	Exchange rates		
Chad	1999	Trade agreement		
Chile	1927	Political unrest	1939	Fall tariffs
China	1985	Trade policy		
Colombia	1987	Fall tariffs		
Comoros	1983	Fall trade		
Congo, Rep.	1992	Trade agreement		
Costa Rica	1983	Fall trade		
Cote d'Ivoire	1979	Fall tariffs		
Croatia	1996	Fall tariffs		
Czech Republic	1993	Trade agreement		
Denmark	1897	Fall tariffs		
Djibouti	1984	-		
Dominican Republic	1975	Fall tariffs	1999	Fall tariffs
Ecuador	1973	Fall tariffs		
Egypt	1979	Exchange rates	1993	Trade agreement
El Salvador	1977	Fall trade	1985	Earthquake
Equatorial Guinea	1985	Trade agreement		
Ethiopia	1978	War		
Finland	1908	-	1957	Fall tariffs
France	1960	-		
Gabon	1985	Fall trade		
Gambia	1985	Fall tariffs		
Ghana	1978	Fall tariffs		
Greece	1968	Fall tariffs		
Guatemala	1978	Fall tariffs		
Guinea	1978	Trade policy		
Guinea-Bissau	1983	-		
Haiti	1980	-		
Honduras	1991	Trade agreement		
Hungary	1927	-	1994	Trade agreement
India	1987	Fall tariffs		
Indonesia	1951	Trade agreement	1970	Exchange rates
Iran	1975	-		
Ireland	1934	Trade agreement	1956	Trade policy

Italy	1933	Fall tariffs		
Jordan	1978	Fall tariffs	1993	Trade agreement
Kenya	1980	Trade policy	1995	Trade agreement
Korea, Rep.	1979	Trade policy		
Lebanon	1997	Trade agreement		
Lesotho	1983	Trade agreement	1994	Trade agreement
Madagascar	1978	Fall trade	1987	Fall tariffs
Malawi	1995	Trade agreement		
Malaysia	1979	Fall tariffs		
Mali	1975	Fall trade		
Mauritania	1984	Fall trade		
Mexico	1981	Trade agreement		
Mongolia	1992	Fall tariffs		
Morocco	1993	Trade agreement		
Mozambique	1980	Political unrest	1989	Trade agreement
Myanmar	1981	Fall trade		
Namibia	1985	Political unrest	1991	Trade agreement
Netherlands	1936	Exchange rates	1966	-
New Zealand	1945	Trade agreement	1968	Fall tariffs
Nicaragua	1991	Trade agreement		
Niger	1980	Fall trade		
Norway	1909	Fall tariffs	1957	Trade agreement
Pakistan	1950	Trade agreement	1974	Trade agreement
Panama	1975	Fall trade		
Paraguay	1978	Fall tariffs		
Peru	1952	Trade agreement	1979	Trade agreement
Philippines	1974	Trade agreement	1993	Trade agreement
Poland	1994	Trade agreement		
Portugal	1961	Trade agreement	1988	Trade agreement
Rwanda	1979	Fall tariffs	1986	Fall trade
Sao Tome	1981	-		
Senegal	1979	Fall tariffs	1991	Trade agreement
Sierra Leone	1978	Political unrest	1986	Exchange rates
Singapore	1977	Fall tariffs		
Slovak Republic	1996	Trade agreement		
Slovenia	1992	Trade agreement		
Sri Lanka	1979	Fall tariffs		
Swaziland	1980	Exchange rates		
Sweden	1899	Fall tariffs		
Switzerland	1934	Trade agreement	1963	Trade agreement
Syria	1975	Trade agreement		
Tanzania	1980	Fall tariffs	1994	Trade agreement
Thailand	1964	Fall tariffs	1990	Trade agreement
Togo	1978	Trade policy		
Trinidad	1980	Fall trade		
Tunisia	1990	Trade agreement		
Turkey	1976	Trade agreement		
Uganda	1984	Exchange rates		
United Kingdom	1842	Trade policy	1851	Trade policy
United States	1828	Trade policy		
Venezuela	1958	Change political regime		
Yemen	1993	Trade agreement		
Zambia	1991	Trade agreement		





Table A.3: List of Episodes and Possible Causes (2)

Country	Date of Episode 3	Source of Episode 3	Date of Episode 4	Source of Episode 4
Chile	1975	Trade agreement	1985	Fall trade
Ireland	1967	Trade agreement		

Table B.1: Evolution of Tax Ratios, Tax Structures and GDP over time, for 8 HICs (Mitchell Data Only)

	(1)	(2)	(3)
	Total tax	Trade tax	GDP
1890-1899	8.8	1.9	2110.3
1910-1919	11.2	1.4	2979.7
1930-1939	15.9	1.5	3979.5
1950-1959	19.2	1.1	6269.6
1970-1979	24.1	0.5	12936.4
1990-1999	26.0	0.5	19498.6

*Notes:* Each value is a mean over a decade. The table presents descriptive statistics on total and trade tax revenues as a share of GDP and GDP per capita. The sample consists of the 8 countries that are high-income countries in 2006 for which data is available from the 1880s to the 1990s in Mitchell (2007). Each country is given equal weight in the mean. See the text for a description of the data and the country income groups.

## B Additional Tables

Table B.2: Evolution of Tax Ratios, Tax Structures and GDP since 1970, by Level of Development in 2006, Fixed Sample of Countries, Baunsgaard and Keen (2010) data only

	HICs			MICs			LICs		
	(1) Total tax	(2) Trade tax	(3) GDP	(4) Total tax	(5) Trade tax	(6) GDP	(7) Total tax	(8) Trade tax	(9) GDP
1970-1979	22.5	1.6	11016.0	16.1	4.5	3219.3	15.6	5.9	970.3
1980-1989	25.0	1.1	12741.4	15.4	3.7	3344.6	15.1	5.3	946.5
1990-1999	28.4	0.6	15430.2	14.8	2.8	3713.9	13.7	3.9	877.0
2000-2006	31.0	0.4	18272.8	15.2	2.3	4100.4	14.9	3.4	928.3

*Notes:* Each value is a mean over a decade. The table presents descriptive statistics on total and trade tax revenues as a share of GDP and GDP per capita. The sample consists of the 84 countries for which data from Baunsgaard and Keen (2010) is available in each decade from 1970 to 2006: 29 HICs, 26 MICs and 29 LICs. Each country is given equal weight in the mean. See the text for a description of the data and the country income groups.

Table B.3: Episodes of Decreases in Trade Tax Revenues, Non Pre-Empted Episodes Only

	1792-1969				1970-2006			
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) MICs	(8) LICs
Size of the episode (GDP points)	3.2 (2.3)	2.5 (1.4)	2.2 (0.9)	2.5 (1.5)	2.4 (1.2)	3.6 (2.5)	3.2 (2.3)	3.9 (2.7)
Length of the episode (years)	13 (6)	15 (7)	19 (8)	16 (7)	13 (6)	11 (5)	10 (4)	13 (6)
Total tax revenues (% GDP)	16.8 (7.6)	14.3 (6.8)	17.7 (8.7)	15.0 (6.9)	10.2 (3.9)	18.1 (7.7)	18.6 (7.4)	17.7 (8.1)
Trade tax revenues (% GDP)	5.6 (4.5)	3.9 (1.7)	3.3 (0.9)	3.8 (1.8)	4.5 (1.7)	6.4 (5.2)	5.5 (3.9)	7.2 (6.1)
Number of episodes	86	29	3	20	6	57	27	30
Number of countries	73	24	2	17	5	49	24	25

*Notes:* Mean (standard error). The table presents descriptive statistics on our sample of 86 episodes of decrease in trade tax revenues which the data suggests have not been pre-empted. Total and trade tax revenues are measured at the start of the episode. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country's income group at the start of the episode. Episodes are obtained on data smoothed using a HP filter with a smoothing parameter of 6.25. See the text for a description of the dataset and the methods used to construct episodes and to determine whether they were pre-empted.

Table B.4: Episodes of Decreases in Trade Tax Revenues, 2 GDP points definition

	1792-1969				1970-2006				
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs
Size of the episode (GDP points)	4.3 (2.3)	3.3 (1.4)	3.2 (.)	3.4 (1.6)	3.0 (0.9)	4.5 (2.5)	3.6 (.)	4.1 (2.3)	4.8 (2.6)
Length of the episode (years)	13 (6)	15 (7)	13 (.)	16 (8)	13 (6)	12 (6)	14 (.)	10 (4)	14 (6)
Total tax revenues (% GDP)	17.7 (7.3)	14.7 (6.6)	22.0 (.)	15.4 (7.3)	11.8 (4.5)	18.5 (7.3)	13.8 (.)	18.9 (6.9)	18.3 (7.6)
Trade tax revenues (% GDP)	6.7 (4.5)	4.4 (1.4)	4.3 (.)	4.3 (1.4)	4.5 (1.6)	7.3 (4.8)	3.6 (.)	6.3 (3.7)	8.1 (5.4)
Number of episodes	84	17	1	11	5	67	1	27	39
Number of countries	72	15	1	10	4	57	1	25	31
Number of observations	5206	1862	178	1152	532	3344	927	1224	1193

*Notes:* Mean (standard error). The table presents descriptive statistics on our sample of episodes of decrease in trade tax revenues defined by a 2 GDP points fall in trade tax revenues. Total and trade tax revenues are measured at the start of the episode. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country's income group at the start of the episode. Episodes are obtained on data smoothed using a HP filter with a smoothing parameter of 8.25. See the text for a description of the dataset and the method used to construct episodes.

Table B.5: Episodes of Decreases in Trade Tax Revenues, 8.25 HP Filter Definition

	1792-1969					1970-2006			
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs
Size of the episode (GDP points)	3.2 (2.2)	2.3 (1.3)	1.9 (0.9)	2.3 (1.4)	2.3 (1.1)	3.5 (2.4)	2.2 (1.3)	3.2 (2.2)	3.8 (2.6)
Length of the episode (years)	13 (6)	15 (7)	17 (8)	15 (7)	12 (5)	12 (5)	13 (3)	11 (5)	12 (6)
Total tax revenues (% GDP)	16.8 (7.0)	14.5 (6.7)	19.6 (8.1)	14.9 (6.7)	11.1 (4.5)	17.6 (7.0)	24.8 (9.9)	17.9 (6.5)	17.0 (7.1)
Trade tax revenues (% GDP)	5.4 (4.0)	3.7 (1.5)	3.0 (0.9)	3.6 (1.6)	4.2 (1.4)	6.1 (4.5)	2.6 (1.2)	5.3 (3.5)	6.9 (5.1)
Number of episodes	137	38	4	25	9	99	3	43	53
Number of countries	108	25	2	18	5	83	3	37	43
Number of observations	5206	1862	178	1152	532	3344	927	1224	1193

*Notes:* Mean (standard error). The table presents descriptive statistics on our sample of episodes of decrease in trade tax revenues defined on data smoothed using a HP filter with a smoothing parameter of 8.25. Total and trade tax revenues are measured at the start of the episode. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country's income group at the start of the episode. See the text for a description of the dataset and the method used to construct episodes.

Table B.6: Episodes of Decreases in Trade Tax Revenues, 10 HP Filter Definition

	1792-1969				1970-2006				
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs
Size of the episode (GDP points)	3.2 (2.2)	2.3 (1.3)	1.9 (0.9)	2.3 (1.4)	2.4 (1.0)	3.6 (2.4)	2.2 (1.3)	3.2 (2.2)	3.9 (2.6)
Length of the episode (years)	13 (6)	15 (7)	17 (8)	15 (7)	13 (5)	12 (6)	13 (3)	12 (5)	13 (6)
Total tax revenues (% GDP)	16.8 (7.0)	14.5 (6.7)	19.6 (8.1)	14.8 (6.6)	11.0 (4.8)	17.7 (7.0)	24.8 (9.8)	18.0 (6.4)	17.1 (7.1)
Trade tax revenues (% GDP)	5.4 (4.0)	3.6 (1.5)	3.0 (0.9)	3.5 (1.6)	4.1 (1.5)	6.1 (4.5)	2.6 (1.2)	5.3 (3.6)	7.1 (5.0)
Number of episodes	133	37	4	25	8	96	3	42	51
Number of countries	106	28	3	18	7	78	3	35	40
Number of observations	5206	1862	178	1152	532	3344	927	1224	1193

*Notes:* Mean (standard error). The table presents descriptive statistics on our sample of episodes of decrease in trade tax revenues defined on data smoothed using a HP filter with a smoothing parameter of 10. Total and trade tax revenues are measured at the start of the episode. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country's income group at the start of the episode. See the text for a description of the dataset and the method used to construct episodes.

Table B.7: Episodes of Decreases in Trade Tax Revenues, Christiano-Fitzgerald Filter Definition

	1972-1969					1970-2006			
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs
Size of the episode (GDP points)	2.9 (2.2)	1.9 (1.1)	2.0 (0.8)	1.9 (1.2)	2.1 (1.0)	3.3 (2.4)	2.6 (1.1)	3.2 (2.3)	3.4 (2.5)
Length of the episode (years)	9 (5)	10 (5)	16 (9)	10 (5)	10 (4)	9 (5)	11 (3)	9 (4)	9 (5)
Total tax revenues (% GDP)	16.3 (7.0)	14.1 (6.8)	20.7 (7.5)	14.5 (6.7)	10.4 (4.7)	17.3 (6.9)	25.2 (13.2)	17.9 (6.6)	16.6 (6.8)
Trade tax revenues (% GDP)	5.2 (3.9)	3.6 (1.8)	3.3 (0.8)	3.6 (1.9)	3.8 (1.5)	5.9 (4.4)	3.2 (0.4)	5.2 (3.5)	6.5 (4.9)
Number of episodes	169	52	5	35	12	117	2	48	67
Number of countries	111	32	2	22	8	79	2	34	43
Number of observations	5206	1862	178	1152	532	3344	927	1224	1193

*Notes:* Mean (standard error). The table presents descriptive statistics on our sample of episodes of decrease in trade tax revenues defined on data smoothed using the Christiano-Fitzgerald filter. Total and trade tax revenues are measured at the start of the episode. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country's income group at the start of the episode. See the text for a description of the dataset and the method used to construct episodes.



Table B.8: Episodes of Decreases in Trade Tax Revenues, Tax Revenues Per Capita Definition

	1972-1969					1970-2006			
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs
Size of the episode (per capita)	95.2 (108.3)	67.4 (74.8)	140.1 (142.0)	71.4 (69.6)	24.9 (12.7)	105.3 (117.0)	117.9 (152.8)	157.5 (128.9)	50.3 (39.2)
Length of the episode (years)	12 (5)	12 (4)	17 (4)	11 (4)	11 (5)	12 (5)	11 (4)	10 (4)	14 (5)
Total tax revenues (per capita)	1,044.1 (1,647.8)	619.2 (660.7)	2,002.1 (327.8)	587.4 (507.6)	117.1 (66.2)	1,199.6 (1,863.6)	4,017.2 (2,700.4)	860.9 (451.2)	192.5 (116.5)
Trade tax revenues (per capita)	130.4 (130.4)	100.5 (106.5)	205.1 (186.5)	106.2 (101.8)	39.2 (19.6)	141.4 (137.1)	155.1 (188.3)	210.2 (136.6)	70.2 (50.6)
Number of episodes	112	30	3	20	7	82	16	32	34
Number of countries	97	21	2	16	3	76	16	27	33
Number of observations	5206	1862	178	1152	532	3344	927	1224	1193

*Notes:* Mean (standard error). The table presents descriptive statistics on our sample of episodes of decrease in trade tax revenues defined by a more than 50% fall in trade tax revenues per capita. Total and trade tax revenues are measured at the start of the episode. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1972-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country's income group at the start of the episode. Episodes are obtained on data smoothed using a HP filter with a smoothing parameter of 6.25. See the text for a description of the dataset and the method used to construct episodes.

Table B.9: The Fiscal Cost of Trade Liberalization, Non Pre-Empted Episodes Only

	1792-1969				1970-2006			
	(1) Entire Sample	(2) All countries	(3) HIC	(4) MIC	(5) LIC	(6) All countries	(7) MIC	(8) LIC
% Episodes with no fall in total tax revenues	52.3 (50.2)	69.0 (47.1)	33.3 (57.7)	80.0 (41.0)	50.0 (54.8)	43.9 (50.1)	48.1 (50.9)	40.0 (49.8)
% Episodes with no fiscal recovery	25.58 (43.89)	6.90 (25.79)	0.00 (0.00)	5.00 (22.36)	16.67 (40.82)	35.09 (48.15)	33.33 (48.04)	36.67 (49.01)
Actual recovery time (years)	5 (8)	6 (10)	8 (6)	3 (5)	15 (19)	5 (7)	5 (8)	4 (5)
Potential recovery time (years)	21.3 (15.9)	58.0 (39.6)	.	30.0 (.)	86.0 (.)	17.6 (6.5)	14.1 (5.7)	20.5 (5.8)
% Episodes with recovery under 5 years	54.7 (50.1)	69.0 (47.1)	33.3 (57.7)	80.0 (41.0)	50.0 (54.8)	47.4 (50.4)	48.1 (50.9)	46.7 (50.7)
% Episodes with recovery under 10 years	58.0 (49.7)	72.4 (45.5)	66.7 (57.7)	80.0 (41.0)	50.0 (54.8)	50.0 (50.5)	52.2 (51.1)	48.3 (50.9)
% Episodes with recovery under 20 years	71.7 (45.5)	84.6 (36.8)	100.0 (0.0)	94.4 (23.6)	40.0 (54.8)	55.0 (51.0)	57.1 (53.5)	53.8 (51.9)
Number of episodes	86	29	3	20	6	57	27	30
Number of countries	73	24	2	17	5	49	24	25

Notes: Mean (standard error). The table presents descriptive statistics on fiscal recovery for all episodes of decrease in trade tax revenues which the data suggests have not been pre-empted. Total and trade tax revenues are measured at the start of the episode. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country income group at the start of the episode. Episodes are obtained on data smoothed using a HP filter with a smoothing parameter of 6.25. See the text for a description of the dataset and the methods used to construct episodes and to determine whether they were pre-empted.

Table B.10: The Fiscal Cost of Trade Liberalization, 2 GDP Points Definition

	1972-1969					1970-2006				
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs	
% Episodes with no fall in total tax revenues	45.2 (50.1)	52.9 (51.4)	0.0 (.)	72.7 (46.7)	20.0 (44.7)	43.3 (49.9)	100.0 (.)	44.4 (50.6)	41.0 (49.8)	
% Episodes with no fiscal recovery	33.3 (47.4)	11.8 (33.2)	0.0 (.)	9.1 (30.2)	20.0 (44.7)	38.8 (49.1)	0.0 (.)	40.7 (50.1)	38.5 (49.3)	
Actual recovery time (years)	5 (8)	8 (11)	13 (.)	3 (4)	20 (16)	4 (6)	1 (.)	5 (8)	4 (5)	
Potential recovery time (years)	23.5 (14.3)	58.0 (39.6)	. (.)	30.0 (.)	86.0 (.)	20.9 (7.6)	. (.)	17.0 (9.2)	23.7 (4.7)	
% Episodes with recovery under 5 years	47.6 (50.2)	52.9 (51.4)	0.0 (.)	72.7 (46.7)	20.0 (44.7)	46.3 (50.2)	100.0 (.)	44.4 (50.6)	46.2 (50.5)	
% Episodes with recovery under 10 years	52.5 (50.3)	58.8 (50.7)	0.0 (.)	81.8 (40.5)	20.0 (44.7)	50.8 (50.4)	100.0 (.)	43.5 (50.7)	53.8 (50.5)	
% Episodes with recovery under 20 years	57.1 (50.0)	73.3 (45.8)	100.0 (.)	90.0 (31.6)	25.0 (50.0)	50.0 (50.8)	. (.)	50.0 (52.7)	50.0 (51.1)	
Number of episodes	84	17	1	11	5	67	1	27	39	
Number of countries	72	15	1	10	4	57	1	25	31	

*Notes:* Mean (standard error). The table presents descriptive statistics on fiscal recovery for all episodes of decrease in trade tax revenues defined by a more than 2 GDP points fall in trade tax revenues. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1972-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country income group at the start of the episode. Episodes are obtained on data smoothed using a HP filter with a smoothing parameter of 6.25. See the text for a description of the dataset and the method used to construct episodes.

Table B.11: The Fiscal Cost of Trade Liberalization, 8.25 HP Filter Definition

	1792-1969					1970-2006				
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs	
% Episodes with no fall in total tax revenues	48.9 (50.2)	57.9 (50.0)	50.0 (57.7)	68.0 (47.6)	33.3 (50.0)	45.5 (50.0)	100.0 (0.0)	46.5 (50.5)	41.5 (49.7)	
% Episodes with no fiscal recovery	27.0 (44.6)	5.3 (22.6)	0.0 (0.0)	4.0 (20.0)	11.1 (33.3)	35.4 (48.0)	0.0 (0.0)	34.9 (48.2)	37.7 (48.9)	
Actual recovery time (years)	5 (7)	6 (9)	6 (6)	4 (5)	15 (14)	4 (6)	1 (0)	5 (7)	4 (6)	
Potential recovery time (years)	22.1 (13.3)	58.0 (39.6)	.	30.0 (.)	86.0 (.)	20.0 (7.7)	.	16.3 (9.2)	22.8 (5.1)	
% Episodes with recovery under 5 years	50.7 (50.2)	60.5 (49.5)	50.0 (57.7)	72.0 (45.8)	33.3 (50.0)	46.9 (50.2)	100.0 (0.0)	47.6 (50.5)	43.4 (50.0)	
% Episodes with recovery under 10 years	57.8 (49.6)	71.1 (46.0)	75.0 (50.0)	84.0 (37.4)	33.3 (50.0)	52.2 (50.2)	100.0 (0.0)	51.4 (50.7)	50.0 (50.5)	
% Episodes with recovery under 20 years	66.2 (47.6)	84.4 (36.9)	100.0 (0.0)	95.2 (21.8)	42.9 (53.5)	54.2 (50.4)	100.0 (.)	60.0 (50.7)	50.0 (50.8)	
Number of episodes	137	38	4	25	9	99	3	43	53	
Number of countries	108	25	2	18	5	83	3	37	43	

*Notes:* Mean (standard error). The table presents descriptive statistics on fiscal recovery for all episodes of decrease in trade tax revenues defined on data smoothed using a HP filter with a smoothing parameter of 8.25. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country income group at the start of the episode. Episodes are obtained on data smoothed using a HP filter with a smoothing parameter of 8.25. See the text for a description of the dataset and the method used to construct episodes.

Table B.12: The Fiscal Cost of Trade Liberalization, 10 HP Filter Definition

	1792-1969					1970-2006				
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs	
% Episodes with no fall in total tax revenues	50.4 (50.2)	62.2 (49.2)	50.0 (57.7)	68.0 (47.6)	50.0 (53.5)	45.8 (50.1)	100.0 (0.0)	50.0 (50.6)	39.2 (49.3)	
% Episodes with no fiscal recovery	26.3 (44.2)	5.4 (22.9)	0.0 (0.0)	4.0 (20.0)	12.5 (35.4)	34.4 (47.7)	0.0 (0.0)	31.0 (46.8)	39.2 (49.3)	
Actual recovery time (years)	5 (6)	5 (6)	6 (6)	4 (5)	8 (10)	4 (6)	1 (0)	5 (7)	5 (6)	
Potential recovery time (years)	22.3 (13.6)	58.0 (39.6)	.	30.0 (.)	86.0 (.)	20.2 (7.9)	.	16.2 (9.9)	22.7 (5.2)	
% Episodes with recovery under 5 years	52.3 (50.1)	64.9 (48.4)	50.0 (57.7)	72.0 (45.8)	50.0 (53.5)	47.4 (50.2)	100.0 (0.0)	51.2 (50.6)	41.2 (49.7)	
% Episodes with recovery under 10 years	60.0 (49.2)	75.7 (43.5)	75.0 (50.0)	84.0 (37.4)	50.0 (53.5)	53.4 (50.2)	100.0 (0.0)	55.9 (50.4)	49.0 (50.5)	
% Episodes with recovery under 20 years	68.8 (46.6)	90.3 (30.1)	100.0 (0.0)	95.2 (21.8)	66.7 (51.6)	55.1 (50.3)	100.0 (.)	62.5 (50.0)	50.0 (50.8)	
Number of episodes	133	37	4	25	8	96	3	42	51	
Number of countries	106	28	3	18	7	78	3	35	40	

*Notes:* Mean (standard error). The table presents descriptive statistics on fiscal recovery for all episodes of decrease in trade tax revenues defined on data smoothed using a HP filter with a smoothing parameter of 10. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country income group at the start of the episode. Episodes are obtained on data smoothed using a HP filter with a smoothing parameter of 10. See the text for a description of the dataset and the method used to construct episodes.

Table B.13: The Fiscal Cost of Trade Liberalization, Christiano-Fitzgerald Filter Definition

	1972-1969					1970-2006			
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs
% Episodes with no fall in total tax revenues	49.1 (50.1)	51.9 (50.5)	40.0 (54.8)	60.0 (49.7)	33.3 (49.2)	47.9 (50.2)	100.0 (0.0)	47.9 (50.5)	46.3 (50.2)
% Episodes with no fiscal recovery	23.1 (42.3)	7.7 (26.9)	0.0 (0.0)	8.6 (28.4)	8.3 (28.9)	29.9 (46.0)	0.0 (0.0)	27.1 (44.9)	32.8 (47.3)
Actual recovery time (years)	5 (8)	7 (11)	6 (5)	6 (10)	13 (12)	4 (5)	1 (0)	4 (6)	3 (5)
Potential recovery time (years)	19.8 (13.9)	32.0 (38.3)	.	13.7 (13.4)	87.0 (.)	18.4 (8.2)	.	15.2 (9.6)	20.3 (6.8)
% Episodes with recovery under 5 years	52.7 (50.1)	54.9 (50.3)	40.0 (54.8)	64.7 (48.5)	33.3 (49.2)	51.7 (50.2)	100.0 (0.0)	48.9 (50.5)	52.2 (50.3)
% Episodes with recovery under 10 years	65.4 (47.7)	72.0 (45.4)	80.0 (44.7)	78.8 (41.5)	50.0 (52.2)	62.1 (48.7)	100.0 (0.0)	66.7 (47.8)	58.1 (49.7)
% Episodes with recovery under 20 years	71.6 (45.3)	84.1 (37.0)	100.0 (0.0)	89.7 (31.0)	60.0 (51.6)	60.8 (49.3)	100.0 (.)	66.7 (48.5)	56.2 (50.4)
Number of episodes	169	52	5	35	12	117	2	48	67
Number of countries	111	32	2	22	8	79	2	34	43

*Notes:* Mean (standard error). The table presents descriptive statistics on fiscal recovery for all episodes of decrease in trade tax revenues defined on data smoothed using the Christiano-Fitzgerald filter. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1972-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country income group at the start of the episode. Episodes are obtained on data smoothed using a Christiano-Fitzgerald filter. See the text for a description of the dataset and the method used to construct episodes.

Table B.14: The Fiscal Cost of Trade Liberalization, Tax Revenues Per Capita Definition

	1972-1969					1970-2006				
	(1) Entire Sample	(2) All countries	(3) HICs	(4) MICs	(5) LICs	(6) All countries	(7) HICs	(8) MICs	(9) LICs	
% Episodes with no fall in total tax revenues	57.1 (49.7)	66.7 (47.9)	66.7 (57.7)	70.0 (47.0)	57.1 (53.5)	53.7 (50.2)	93.8 (25.0)	50.0 (50.8)	38.2 (49.3)	
% Episodes with no fiscal recovery	17.0 (37.7)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	23.2 (42.5)	6.2 (25.0)	18.8 (39.7)	35.3 (48.5)	
Recovery time (years)	4 (6)	5 (6)	5 (6)	4 (4)	8 (11)	4 (6)	1 (0)	5 (7)	6 (7)	
Potential recovery time	19.5 (6.9)	. (.)	. (.)	. (.)	. (.)	19.5 (6.9)	24.0 (.)	15.3 (8.9)	21.2 (5.3)	
% Episodes with recovery under 5 years	59.8 (49.2)	70.0 (46.6)	66.7 (57.7)	75.0 (44.4)	57.1 (53.5)	56.1 (49.9)	93.8 (25.0)	53.1 (50.7)	41.2 (50.0)	
% Episodes with recovery under 10 years	67.6 (47.0)	76.7 (43.0)	66.7 (57.7)	80.0 (41.0)	71.4 (48.8)	63.9 (48.4)	93.3 (25.8)	66.7 (48.2)	48.5 (50.8)	
% Episodes with recovery under 20 years	73.8 (44.3)	92.9 (26.2)	100.0 (0.0)	100.0 (0.0)	66.7 (51.6)	59.5 (49.8)	80.0 (44.7)	54.5 (52.2)	57.1 (50.7)	
Number of episodes	112	30	3	20	7	82	16	32	34	
Number of countries	97	21	2	16	3	76	16	27	33	

*Notes:* Mean (standard error). The table presents descriptive statistics on fiscal recovery for all episodes of decrease in trade tax revenues defined by a more than 50% fall in trade tax revenues per capita. Column 1 presents results for the entire sample of episodes. In columns 2 to 5 (respectively 6 to 9), we present results considering only the period 1792-1969 (respectively 1970-2006). HICs (columns 3 and 7), MICs (columns 4 and 8) and LICs (columns 5 and 9) are defined using the country income group at the start of the episode. Episodes are obtained on tax data per capita smoothed using a HP filter with a smoothing parameter of 6.25. See the text for a description of the dataset and the method used to construct episodes.

## References

- BAUNSGAARD, T., AND M. KEEN (2010): “Tax Revenue and (or?) Trade Liberalization,” *Journal of Public Economics*, 94(9-10), 563 – 577.
- MITCHELL, B. (2007): *International Historical Statistics (Europe, The Americas, Africa Asia and Oceania)*. Palgrave Macmilland.