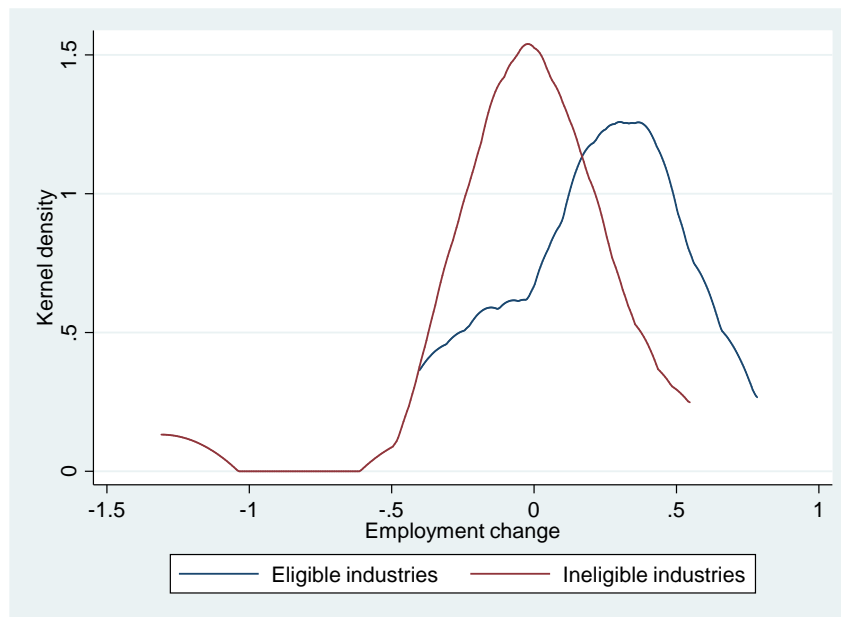## Supplementary Materials for "Can Wage Subsidies Boost Employment in the Wake of an Economic Crisis? Evidence from Mexico"

Appendix A: Additional Figures and Tables

Figure A1:
Distribution of employment changes in matched eligible and ineligible industries


Note: The figure displays the distribution of employment changes in eligible and ineligible industries using IMSS data. Employment change is calculated as the log of employees in November 2013, the last month in the IMSS data, minus the log of the average number of employees in the pre-2009 period.

Figure A2:
Formal vs. informal employment in eligible industries
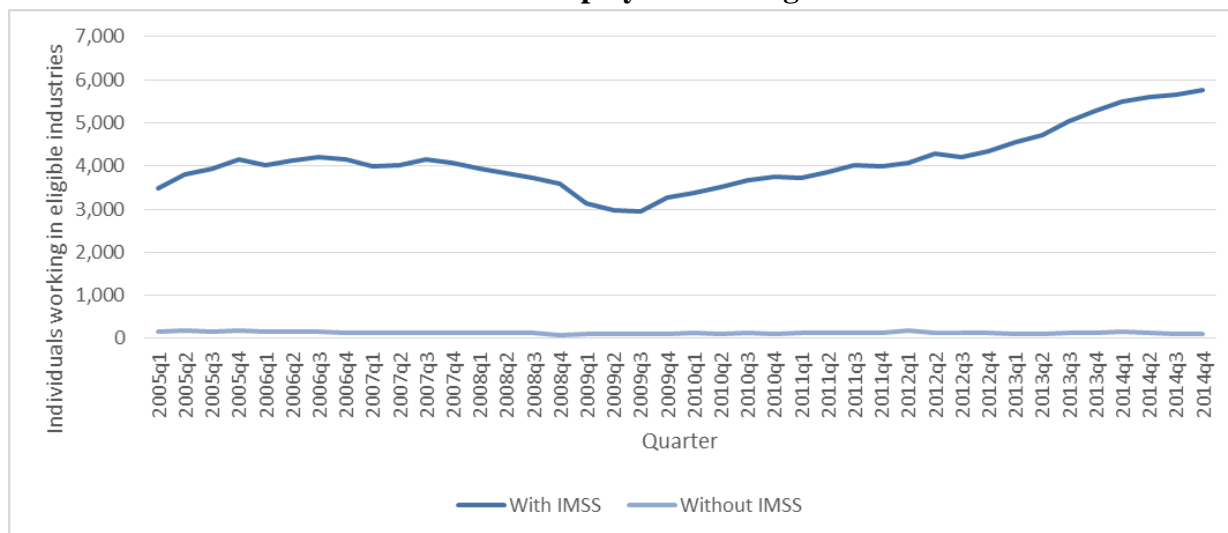
Note: The figure displays data from the Mexican Labour Market Survey (ENOE). It plots the number of individuals working in industries eligible for the wage subsidy programme who report having access to medical services through IMSS and the number of individuals working in eligible industries who report not having access to such services. The figure omits the less than one per cent of individuals who say they have access to medical care through government institutions other than IMSS or that they don't know whether they have access to such care.

Figure A3:
**Individuals transitioning into eligible industries by previous employment category**
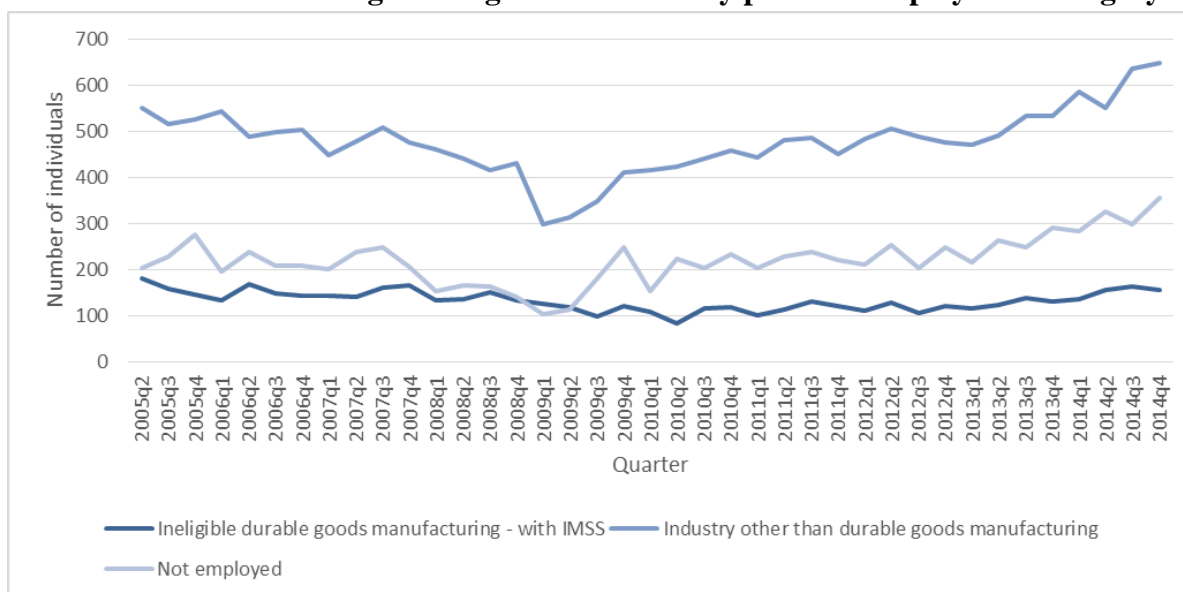
Note: The figure displays data from the Mexican Labour Market Survey (ENOE). It plots the number of individuals who work in industries eligible for the wage subsidy programme in the current quarter and have access to IMSS but did not work in an eligible industry in the previous quarter, broken up by their employment category in the previous quarter.

Figure A4:
Percentage of individuals who lost their job in an ineligible industry and who later work in an eligible industry
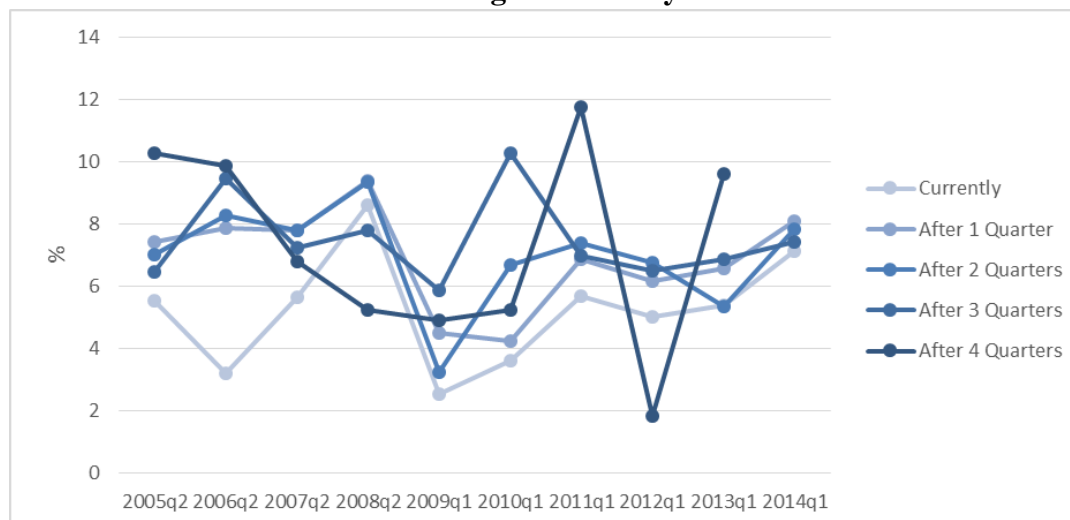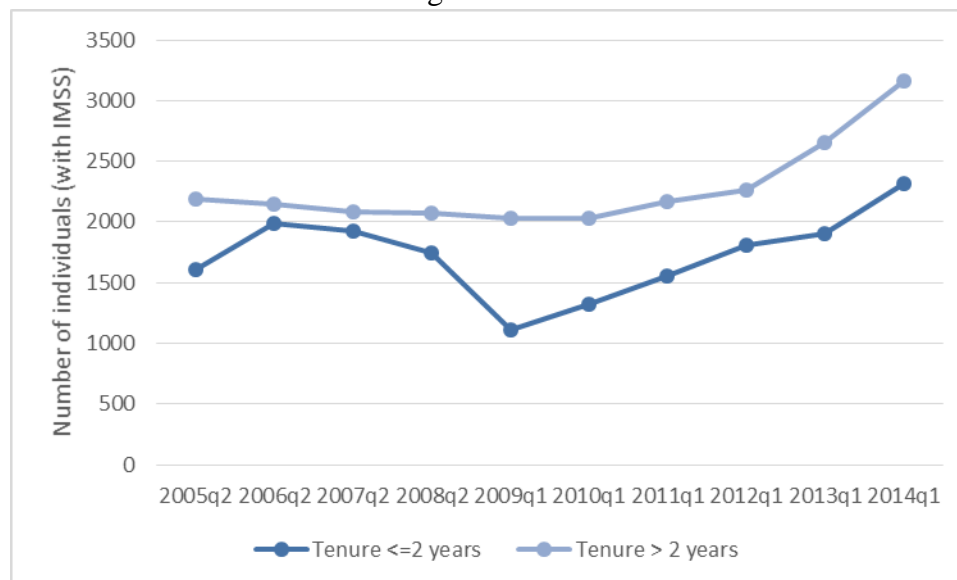

Note: The figure displays data from the Mexican Labour Market Survey (ENOE), from an amplified questionnaire that was applied in select quarters and that asks individuals if they lost their job in the past year. For individuals who report having lost a job with access to IMSS in an ineligible industry during the past year, the figure plots the per centage of individuals working in a job with access to IMSS in an eligible industry for the quarter where the amplified questionnaire was applied, as well as for the four quarters following this quarter.

Discussion of Figure A4: The purpose of figure A4 is to examine whether eligible industries are increasingly hiring individuals who were laid off in ineligible industries. In select quarters, the ENOE included an amplified questionnaire that asks respondents if they lost their job in the past year, extending the panel information beyond five quarters. For individuals who report having lost a job with access to IMSS in an ineligible industry during the past year, figure A4 plots the percentage of individuals working in an eligible industry where they have access to IMSS, for the quarter where the amplified questionnaire was applied and for up to four quarters following this quarter. The initial quarter includes only 21 individuals who report having lost their job with access to IMSS in an ineligible industry during the past year, on average, and the number of individuals drops each consecutive quarter due to the rotating panel nature of the ENOE, containing only four individuals on average four quarters later. Although based on very few individuals, figure A4 suggests that less than 10 per cent of individuals who lose their job with access to IMSS in an ineligible industry get hired in an eligible industry in subsequent quarters and that this small percentage does not increase in quarters after the wage subsidy programme. On average, four quarters following the quarter when they report having lost their job with access to IMSS in an ineligible industry, most individuals work in an industry outside durable goods manufacturing (47%), remain unemployed (29%), or work in an ineligible industry again (16%). Only eight per cent work in an eligible industry.

Figure A5:

Number of individuals working in durable goods manufacturing industries by job tenure

a. Eligible industries

b. Ineligible Industries
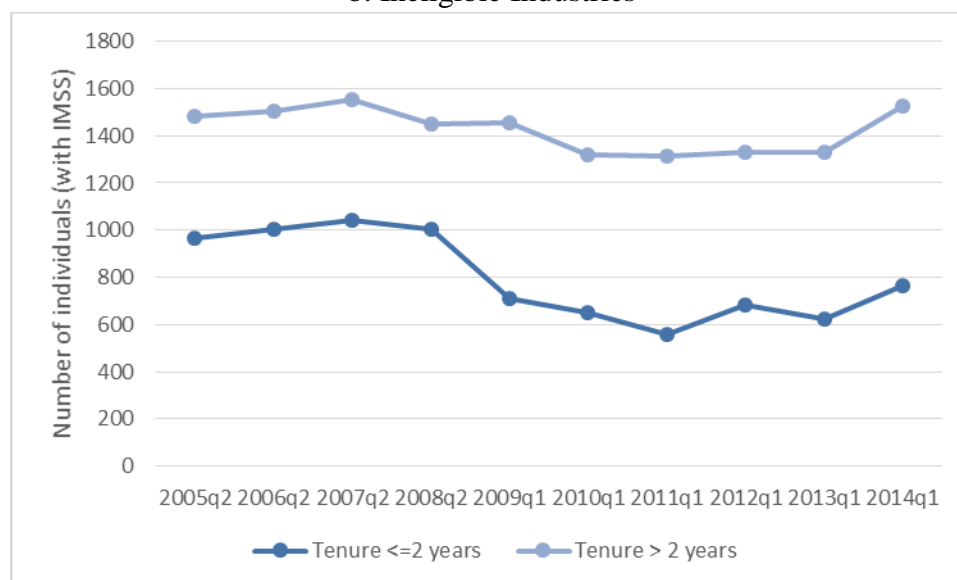
Note: The figure displays data from the Mexican Labour Market Survey (ENOE), from an amplified questionnaire that was applied in select quarters. It shows the number or individuals working in eligible and ineligible industries who report having access to IMSS, broken down by whether they have been at their job for two years or less or for more than two years.

Table A1: Preprogramme Averages of Observable Characteristics (2004 - 2008)

	Eligible industries Mean (Std Dev)	Ineligible industries Mean (Std Dev)	Difference (1) - (2) (Std Error)
	(1)	(2)	(3)
All durable goods manufacturing industries			
Log number of firms	5.135	5.779	-0.645*
	(1.249)	(1.612)	(0.340)
Log daily wage bill	15.090	14.373	0.717**
	(1.318)	(1.312)	(0.317)
Ratio of open-ended contract to all employees	0.929	0.916	0.013
	(0.052)	(0.074)	(0.015)
Matched sample (no caliper)			
Log number of firms	5.135	5.847	-0.713*
	(1.249)	(1.731)	(0.396)
Log daily wage bill	15.090	14.764	0.326
	(1.318)	(1.111)	(0.320)
Ratio of open-ended contract to all employees	0.929	0.920	0.009
	(0.052)	(0.052)	(0.014)
Matched sample (0.5 caliper)			
Log number of firms	5.044	5.560	-0.516
	(1.287)	(1.431)	(0.393)
Log daily wage bill	14.830	14.739	0.091
	(1.070)	(1.009)	(0.300)
Ratio of open-ended contract to all employees	0.920	0.925	-0.005
	(0.052)	(0.044)	(0.014)
Matched sample (0.3 caliper)			
Log number of firms	5.124	5.438	-0.314
	(1.242)	(1.302)	(0.393)
Log daily wage bill	14.724	14.693	0.031
	(1.025)	(1.029)	(0.317)
Ratio of open-ended contract to all employees	0.918	0.927	-0.009
	(0.056)	(0.047)	(0.016)

Notes: Data covers all months from January 2004 to December 2008. Column 3 reports coefficients from regressing industry characteristics (log number of firms, log daily wage bill, or the ratio of open-ended contract to all employees) on an indicator variable that is equal to one for all eligible industries and equal to zero for ineligible industries. Robust standard errors in parentheses, clustered at the industry level. *, **, and *** indicate significance at the 10, 5 and 1 per cent levels respectively.

Table A2: List of Caliper Matched Industries Used to Estimate the Effect of the Wage Subsidy Programme

IMSS code	Eligible	Name
264	0	Manufacture of cork, palm, cane, reed and wicker products
332	0	Manufacturing of toilets, china, porcelain and refractory items
335	0	Manufacture of clay products for construction
336	0	Manufacture of lime and plaster
337	0	Manufacture of asbestos-based products
338	0	Manufacture of abrasive products
339	0	Manufacture of artificial granite, marble and other stone products
341	0	Manufacture of primary products made of iron, steel and nonferrous metals not using automated processes
342	0	Manufacture of primary products made of iron, steel and nonferrous metals using automated processes
351	0	Manufacture of hardware and tools for agriculture and locksmithing
353	0	Manufacture, assembly and/or repair of metal furniture and related parts
358	0	Manufacture of needles, pins, zippers, buttons, and razors
390	0	Manufacture, assembly and/or repair of scientific and professional equipment and measuring and control instruments
391	0	Manufacture, assembly and/or repair of equipment, instruments and accessories for optics and photography
3310	0	Manufacture of concrete products and pre-built parts
3312	0	Manufacture of tiles, with automated continuous processes
3313	0	Manufacture of glass and products made of glass with automated processes
3316	0	Manufacture of cement
3317	0	Manufacture of ready-mix concrete
3511	0	Heat treatment and plating with automated continuous processes
3910	0	Manufacture, assembly and/or repair of other manufactured goods with machinery or motorized equipment not previously classified
361	1	Manufacture and/or assembly of machinery, equipment and supplies for agriculture
362	1	Manufacture and/or assembly of machinery, equipment and supplies for the production of food, beverages, tobacco, textiles, footwear, wood, leather, printing, rubber, plastic products, nonmetallic minerals (except cement) and metalworking
363	1	Manufacture and assembly of machinery, equipment or tools used in construction, extraction, paper, cement, chemical and primary petrochemical industries; primary iron, steel and nonferrous metals
364	1	Manufacture and assembly of office machinery, computers, sewing machines and related parts
366	1	Manufacture of parts and spare parts for machinery and equipment in general
367	1	Repair and/or maintenance of general machinery and equipment
371	1	Manufacture and/or assembly of machinery and equipment for the generation and transformation of electrical energy
373	1	Manufacture of music records, sound tapes, images and data

374	1	Manufacture and/or assembly of electronics, consumer appliances and related parts
375	1	Manufacturing, reconstruction and/or assembly of electrical accumulators
376	1	Manufacture and/or assembly of batteries (dry), electronic components and various electronics
377	1	Manufacture and/or assembly of lamps (bulbs) and vacuum tubes for electric lighting
378	1	Manufacture of electrical conductors
382	1	Manufacture and/or assembly of bodywork for vehicles
385	1	Manufacture and/or assembly of bicycles and other pedal vehicles
386	1	Manufacturing, assembly and/or repair of railcars, railway equipment and related parts
387	1	Manufacture, assembly and/or repair of vessels
389	1	Manufacture and/or assembly of engines for cars, buses and trucks
3710	1	Manufacture of lamps and neon signs
3711	1	Manufacture of electric accumulators in mass production or with continuous processes
3810	1	Manufacture of mechanical assemblies and parts for cars, buses, trucks and motorcycles

**Table A3a: Effect of the Wage-Subsidy Programme on Employment
Matched Sample (No Caliper)**

	Dependent variable: Log employment			
	(1)	(2)	(3)	(4)
During programme dummy: Eligible*(Jan 2009 - Aug 2009)	0.033	0.048	0.048	0.054
	(0.051)	(0.058)	(0.072)	(0.061)
After programme dummy: Eligible*(Post Aug 2009)	0.188***	0.229***	0.229***	0.184**
	(0.068)	(0.079)	(0.079)	(0.081)
Log US imports			0.006	
			(0.017)	
R-squared (within)	0.194	0.243	0.243	0.156
Number of industries	58	44	44	46
Number of months	119	119	119	119
Observations	6,902	5,063	5,063	5,474
Sample	All	Only with US import data		Without car manufacturing and closest matches

Notes: Data covers all months from January 2004 to November 2013. All specifications include industry and month fixed effects. Robust standard errors in parentheses, clustered at the industry level. *, **, and *** indicate significance at the 10, 5 and 1 per cent levels respectively.

Table A3b: Effect of the Wage-Subsidy Programme on Employment
Matched Sample (0.5 Caliper)

	Dependent variable: Log employment			
	(1)	(2)	(3)	(4)
During programme dummy: Eligible*(Jan 2009 - Aug 2009)	0.078	0.111	0.111	0.088
	(0.058)	(0.070)	(0.071)	(0.068)
After programme dummy: Eligible*(Post Aug 2009)	0.228***	0.281***	0.281***	0.228**
	(0.078)	(0.097)	(0.097)	(0.089)
Log US imports			0.003	
			(0.017)	
R-squared (within)	0.212	0.266	0.266	0.183
Number of industries	48	35	35	40
Number of months	119	119	119	119
Observations	5,712	3,992	3,992	4,760
Sample	All	Only with US import data		Without car manufacturing and closest matches

Notes: Data covers all months from January 2004 to November 2013. All specifications include industry and month fixed effects. Robust standard errors in parentheses, clustered at the industry level. *, **, and *** indicate significance at the 10, 5 and 1 per cent levels respectively.

Table A4:
Post-Programme Recovery in Average Employment Levels
(Matched Sample 0.3 Caliper)

	2007	2008	2009	2010	2011	2012	2013
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Eligible industries							
Avg. log employment	9.400	9.384	9.271	9.357	9.473	9.536	9.572
- Difference to 2007		-0.016	-0.128	-0.043	0.073	0.136	0.172
Ineligible industries							
Avg. log employment	9.401	9.369	9.233	9.262	9.294	9.324	9.335
- Difference to 2007		-0.033	-0.169	-0.139	-0.107	-0.077	-0.067

Table A5: List of Durable Manufacturing Industries in ENOE

ENOE code	Eligible	Name
3330	1	Manufacture of machinery and equipment
3340	1	Manufacture of computers, communication, measurement, and other electronic equipment, components and accessories
3350	1	Electrical equipment, appliance, and component manufacturing
3360	1	Manufacture of transportation equipment and automobile parts
3210	0	Wood product manufacturing
3270	0	Non-metallic mineral product manufacturing
3310	0	Primary metal manufacturing
3320	0	Metal product manufacturing
3370	0	Manufacture of furniture, mattresses and blinds

Notes: The mapping of ENOE to IMSS industry codes, on which eligibility for the programme was based, is not always straightforward. For example, code 3340 in the ENOE includes manufacture of computers, communication and measurement equipment, as well as other electronic equipment. While most of these activities correspond to eligible industries in IMSS industry groups 36 and 37, IMSS classifies measurement equipment in an industry group that was not eligible for the wage subsidy programme (group 39). That is, due to mismatches between the ENOE and IMSS classifications, some workers classified as eligible in the ENOE data may in fact not be eligible.

I tried to classify the ENOE industry codes as eligible (or ineligible) as accurately as possible based on whether most industries listed in the name were eligible or not under the IMSS classification. For the example given above, this method seems to work relatively well. Data on employment in NAICS industries is available from the Monthly Manufacturing Industry Survey (EMIM) conducted by INEGI. This data shows seven subindustries in code 334 (which has the same name as ENOE industry 3340), one of which is manufacture of measurement equipment (industry code 334519). In 2009, manufacture of measurement equipment made up only 4.6 per cent of the total number of employees in code 334.