Wage effects of employer-mediated transfers

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Fact: People misperceive who actually pays for cash transfers

Q: Who is the responsible of paying Family Allowances?

Answers (N=9k)	
A. Government	35.4%
B. Employer	8.6%
C. Other	4.0%
D. Don't know	52.0%

Source: Phone survey ran by the SSA in 2018 (Cruces, 2019).

Motivation (1)

- Most governments use firms as intermediaries in the tax-benefit system E.g., family transfers (also: payroll/income tax withholding; fringe benefits, etc.)
- General assumption that child benefits benefit individuals
 But benefits could be incident on employers

 (i.e., those on benefits could be paid less)
- ► Little evidence on the **economic incidence/wage effects** of benefits "Identifying wage effects is a tough order" (Nichols & Rothstein, 2015)
- ► Focus on **employer-mediated** vs **govt-mediated** family allowances ⇒ the former is more widespread than publicly known

Motivation (2)

Employer-mediated family allowances around the globe:

Latin American countries

- Argentina (Asignaciones Familiares, 1995-2010 SFC)
- ► Brazil (Salário Família)
- Chile (Asignación Familiar)
- Paraguay (Asignación Familiar)
- Perú (Asignación Familiar)

Developed countries

- ▶ USA (Advanced Earned Income Tax Credit, 1979-2010)
- UK (Working Family Tax Credit, 1999-2003)
- ► Greece (Boήθημa Τοκετού)
- Italy (Bonus Renzi 80 Euro)
- Switzerland (Familienzulagen)

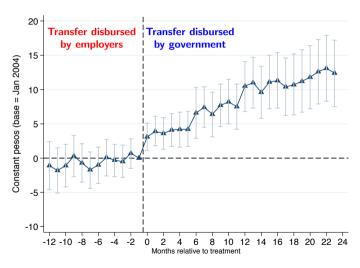
This paper

Does it matter how child benefits are paid? Do employers capture part of the transfer when being the remitter? Yes!

- Setting: A change in the payment system in ARGENTINA
 - Before: disbursed by employers (intermediaries)
 - After: disbursed by social security adm (direct deposit)
- ▶ **Identification**: Gradual transition of firms and workers btw 2003-2010
 - Key: Switching date was set by the SSA rather than by firms
- **Event study**: Compare (pre-tax and transfer) monthly wages of employees with vs without children within firms relative to the switching date
- ▶ Data: Population-wide admin data (2003-2010; monthly frequency)

Main takeaway

Gross monthly wage (pre-tax and transfer)



Related literature

Economic incidence: Standard prediction challenged by recent studies...

Taxes:

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SSC: Saez et al QJE'12; Saez et al. AER'19; Bozio et al '19; Salience: Chetty et al AER'09; Remittance/compliance costs: Slemrod NTJ'08; Kopczuk et al AEJ-EP'16
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► In-work subsidies:

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U.S. EITC: Rothstein AEJ-EP'10; Leigh '10
U.K. WFTC: Azmat QE'18; Brewer-Hoynes FS'19
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Other policies:

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Food stamps' price effects: Hastings-Washington AEJ-EP'10; Jaravel AERpp'18; Health insurance subsidies: Cabral et al AER'18
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Contribution: We focus on child benefits; change in payment system holding other features constant; novel data and research design + mechanisms

First nonparametrically identified evidence of wage effects in the context of tax credits

Outline

- 1. Toy model with misperceptions
- 2. Setting: Child benefits in Argentina + Reform
- 3. Empirical strategy + Data
- 4. Results and robustness checks
- 5. Potential mechanisms (demand vs supply factors)

Digression: A basic model with misperceptions

Simple model to rationalize our findings (based on Gruber 1997):

$$L^{s} = L^{s}(\tilde{w}_{q}) = L^{s}(w(1 + (1 - q)\tau^{e}))$$
 (1)

$$L^d = L^d(w) \tag{2}$$

where \tilde{w}_q : perceived wage as fx of true wage (w); q: perception parameter; τ^e : transfer delivered by employers, with $\tau^e = \bar{\tau} - \tau^g$

- ▶ **q=1**: perfect understanding \rightarrow perceived wage equals the true wage $\tilde{w}_1 = w$
- ▶ **q=0**: full misperception \rightarrow perceived wage includes transfer $\tilde{w}_0 = w(1 + \tau^e)$

Digression: A basic model with misperceptions

Totally differentiating supply and demand, and rearranging terms yields:

$$\left. \frac{d\ln(w)}{d\ln(1+\tau^e)} \right|_{\bar{\tau}=\tau^e+\tau^g, \ \bar{q}=q} = \frac{\eta^s \cdot (1-q) \cdot \left[\frac{(1+\tau^e)}{(1+(1-q)\tau^e)}\right]}{\eta^d - \eta^s} \tag{3}$$

Extreme cases:

- ▶ **q=1**, perfect understanding $\longrightarrow \frac{dln(w)}{dln(1+\tau^e)} = 0$ standard incidence result
- ▶ **q=0**, full misperception $\longrightarrow \frac{dln(w)}{dln(1+\tau^e)} = \frac{\eta^s}{\eta^d \eta^s} < 0$ wage effects!!

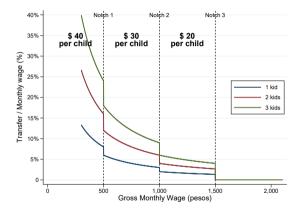
Extension: perception (q) endogenous

 Δ in the remitter $\longrightarrow \Delta$ info content to employees $\longrightarrow \Delta$ scheme's perception (q) Affects final incidence.

$$\left. \frac{d\ln(w)}{d\ln(1+\tau^e)} \right|_{\bar{\tau}=\tau^e+\tau^g} = \frac{\left(1+\eta^{(1-q)}\right) \cdot \eta^s \cdot (1-q) \cdot \left[\frac{(1+\tau^e)}{(1+(1-q)\tau^e)}\right]}{\eta^d - \eta^s} \tag{4}$$

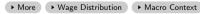
with $\eta^{(1-q)} = \frac{\partial (1-q)}{\partial \tau^e} \cdot \frac{\tau^e}{(1-q)} > 0 \longrightarrow \textit{misperception elasticity}$ i.e., how much (1-q) changes as the money disbursed by employers increases (reinforces the main effect)

Family Allowances (FA) in Argentina



Note: Schedule in place from 1996 to 2004. Then updated.

- Child benefit for wage earners
 - Individually-based; one spouse entitled
 - Monthly payment varies by:
 - ⋆ Number of kids < 18 years old</p>
 - ⋆ Monthly wage (3 brackets)
- Funding: contributory system based on employer SSC (7.5% devoted to FA)
- ► Adjusted ≈annually due to inflation



The reform: A change in the payment system

Key question: $Wage_0 = Wage_1$?

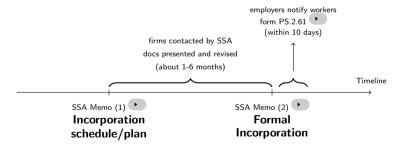
Old system (SFC)

New system (SUAF)

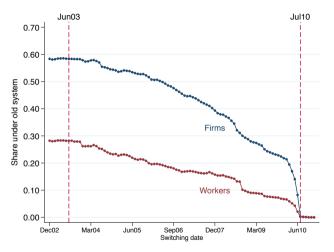


Staggered roll-out

- ► Gradual roll-out: btw June 2003 and June 2010 (8 years)
 - · Limited capacity to incorporate millions of beneficiaries at once
 - Important: # beneficiaries and FA spending don't ↓ •
- Incorporation: switching date set by the SSA rather than firms



Staggered roll-out: using E-E microdata • Macro roll-out



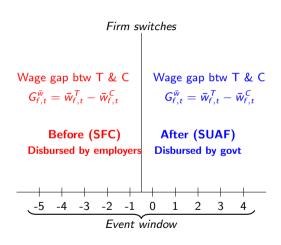
Note: Gradual transition of firms and workers out of the old system.

• Event frequency

• By firm size

• Delinquency rate

Empirical strategy: Event study



- Sample: unbalanced panel of firms
 - \rightarrow paying FA from t=-6 to t=0
 - \rightarrow present in -6/+6 months around the event
 - $\,\rightarrow\,$ with eligible & non-eligible workers in the window:
 - T: employees w/ children ages [0-17]
 - C: employees wo/ children ages [0-17]
 - \rightarrow collapse data at the firm-month-year level (f,t)
- Run a regular event-study specification

$$G_{f,t}^{\bar{w}} = \sum_{j=-13}^{12} \gamma_j \cdot d_{f,t}^j + \mu_f + \mu_t + \epsilon_{f,t}$$

Administrative Data

- 1. Employer-employee (SICOSS) (2003-2010)
 - Panel data available since 1995 [monthly frequency]
 - Main variables: monthly pre-tax-and-transfer wages, monthly transfer
- 2. Family relationships database (ADP)
 - Can link family members (spouse, children);
 - Brings date of birth (DOB)

Descriptive stats

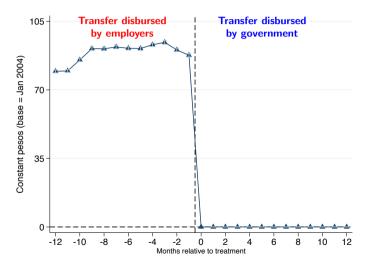
Table 2: Summary statistics for registered wage earners in Argentina, 2004

	1st Bracket	2nd Bracket	3rd Bracket	Universe
	(1)	(2)	(3)	(4)
Wage earners	2,154,722	1,426,404	550,571	4,787,496
Beneficiaries AAFF	480,185	488,414	188,979	1,226,459
Number of children	2.0	2.0	2.0	2.0
Female (%)	21.4	19.5	13.6	33.8
Average earnings	555	941	1,486	1,148
Transfer/Earnings (%)	13.1	6.8	3.6	7.7

Notes: This table displays summary statistics for private formal wage earners in April 2004.

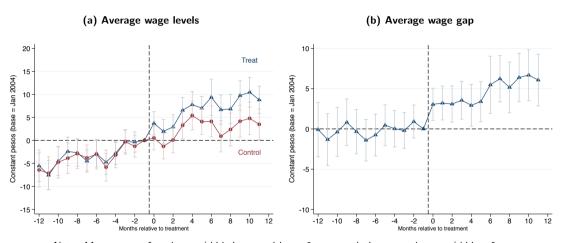
First stage: Benefit delivered by employers up to t=-1

▶ Salience: Pay Slip



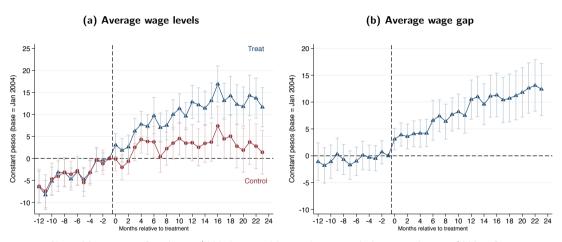
Note: On average, treated workers receive ~ 90 pesos more in transfer, paid by employers, than the control group (simple mean difference). About 10% of average monthly wages.

Wage effects: 12 months



Note: Mean wage of workers w/ kids increased by \sim 6 pesos, relative to workers wo/ kids, after firms switched to new system (pre Aug'08). $G_{f,t}^{\bar{w}} = \sum_{j=-13}^{12} \gamma_j \cdot d_{f,t}^j + \mu_f + \mu_t + \epsilon_{f,t}$ ightharpoonup p25 vs p75

Wage effects: 24 months



Note: Mean wage of workers w/ kids increased by \sim 12 pesos, relative to workers wo/ kids, after firms switched to new system (pre Aug'08). $G_{f,t}^{\bar{w}} = \sum_{j=-13}^{12} \gamma_j \cdot d_{f,t}^j + \mu_f + \mu_t + \epsilon_{f,t}$ Composition

Pass-through rate

	All post periods	Last 6 periods	Last period
	[0;11]	[6;11]	[11]
	(1)	(2)	(3)
Reduced form			
Δ monthly wage	4.69***	5.93***	5.73***
(in pesos)	(1.21)	(1.52)	(1.88)
First stage			
Δ transfer (au^e)	-94.13***	-95.28***	-93.94***
(in pesos)	(0.35)	(0.37)	(0.38)
2sls			
$rac{\Delta wage}{\Delta transfer(au^e)}$	-0.05***	-0.06***	-0.06***
Zuansier (*)	(0.01)	(0.02)	(0.02)
Number of firms	26,226	26,226	26,226
Observations	2,285,705	2,128,349	1,998,351
Avg wage at t-1	871	871	871

Note: Standard errors clustered at the firm level in parentheses.

 $G_{f,t}^w = \beta_1 \textit{Window}_{f,t} + \beta_2 \cdot \textit{Window}_{f,t} \cdot \textit{Post}_{f,t} + \beta_3 (1 - \textit{Window}_{f,t}) \cdot \textit{Post}_{f,t} + \mu_f + \mu_t + \epsilon_{f,t},$ where Window is an indicator for the event window. \bullet Robustness Checks \bullet Dynamic window \bullet Who pays? \bullet Turn 18yo

Potential Mechanisms

 \rightarrow Anecdotal/survey evidence on **misperception** of transfers

Rent-seeking story?

- Employers exploit confusion of the old regime and capture part of the transfer
 - → Result driven by **new hires** rather than **incumbents**
 - → Result driven by **small** and **incorporated** firms
 - → Wage effect larger for **less unionized** firms

Bargaining story? unlikely

- Confused employees bargain more aggressively after the event (pay equity concerns)
 - \rightarrow Ruled out by immediate effect at t=0 and new hires
 - ightarrow Also effect broken by **firm exposure** is not U-shaped

Anecdotal evidence about recipient's perception

1. Quote from a book on social security:

"... the old system (SFC) blurred the image of the State as responsible for it. (...) The roles are confused. People consider that these benefits integrate their salary and that employers are responsible for them. They even ignore that it is the State that pays for the benefit ..."

CIESS (2007). "Políticas de Protección familiar, Régimen de Asignaciones Familiares y principales planes sociales en la República Argentina"

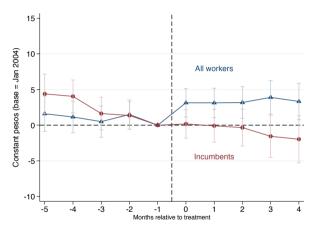
2. SSA phone survey (2018)

Who is the responsible of paying the transfer (FA)?

	Answers	
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	C. Other	4.0%
	D. Don't know	52.0%
_		

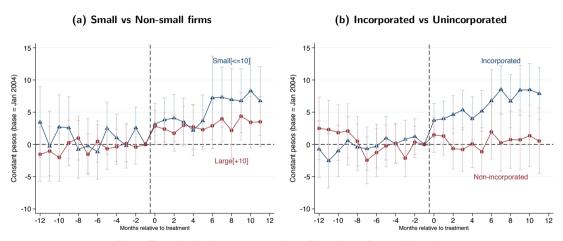
Source: Based on a SSA report (Cruces, 2019).

Wage effects: new hires vs incumbents



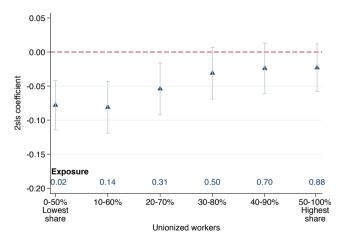
Note: incumbents: workers present -7/+7 months around the event. The difference between lines captures the wage effect on new hires. $G_{f,t}^{\tilde{w}} = \sum_{j=-6}^5 \gamma_j \cdot d_{f,t}^j + \mu_f + \mu_t + \epsilon_{f,t}$

Wage effects: By size and type of business



Note: Firm size is the average number of employees from t-12 to t-1.

Unionization: Pass-through rate by firms' share of unionized workers



Note: Each dot refers to a separate regression. Wage effects are greater in less unionized firms.

Potential Mechanisms

 \rightarrow Anecdotal/survey evidence on **misperception** of transfers

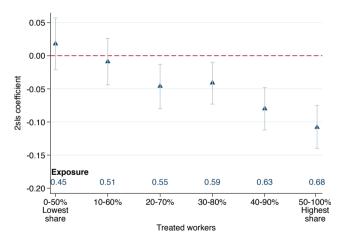
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Horizontal equity? Pass-through rate by firm exposure to FA • Exposure Density



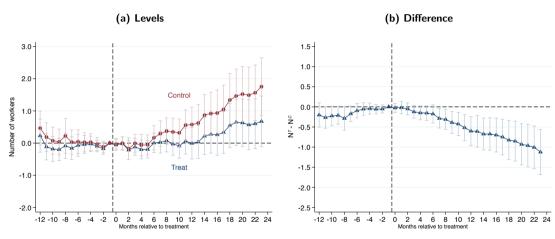
Note: Each dot refers to a separate regression. Wage effects are greater when firms have a higher share of employees receiving child benefits.

Conclusions

- ► The way transfers are disbursed matters (affects the final incidence) (i.e., benefits not *entirely* captured dollar-for-dollar by workers)
- $ightharpoonup \Delta$ in the remittance system (from employers to the govt):
 - ► Wages ↑ after firms switch to the government-based system
 - ightharpoonup Pass-through: employers capture $\sim 6/10\%$ of the transfer by paying lower wages
 - Rent-seeking channel seems to be at play
- ▶ These results raise concerns about the use of firms as intermediaries to disburse benefits
 - Less salient schemes may lead to capture by employers
 - Welfare improving reform from workers' point of view

Many thanks!

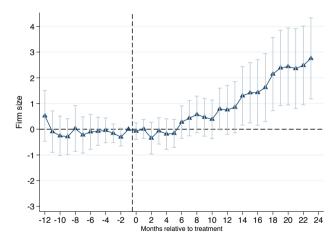
Workers' composition Go back



Note: Workers' composition stable at the beginning and then favors workers without children.

$$G_{f,t}^{N} = \sum_{j=-13}^{14} \gamma_{j} \cdot d_{f,t}^{j} + \mu_{f} + \mu_{t} + \epsilon_{f,t}$$

Total employment • Go back



Note: Firms size increases in the long-run (driven by workers wo/ children). $N_{f,t} = \sum_{j=-13}^{14} \gamma_j \cdot d_{f,t}^j + \mu_f + \mu_t + \epsilon_{f,t}$

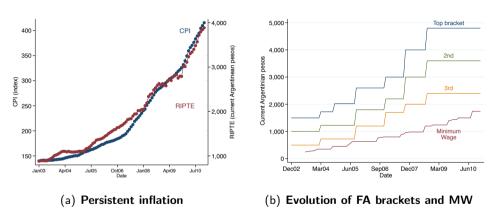
Transfer saliency in payslip Go back



Paid by employers (SFC)

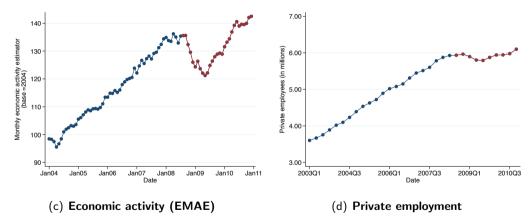
Paid by govt (SUAF)

Inflation and Indexing • Back FA



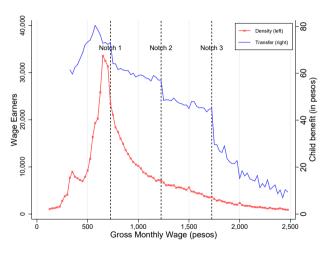
Notes: (a) CPI denotes consumer price index; RIPTE index is the average monthly wage of registered workers (in current pesos). (b) FA brackets are adjusted roughly once per year, with some gaps.

GDP and Employment • Back FA



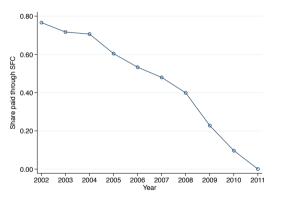
Notes: (a) large drop in economic activity from August 2008 onwards; (b) stabilization of employment in the third quarter of 2008.

Distribution of monthly wages • Back FA



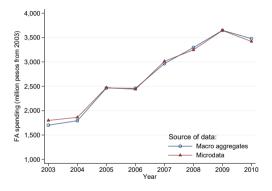
Note: figure corresponds to May'04; employees w/kids working for 12 months. Notch 1 is located at p40, Notch 2 is located at p70, Notch 3 is located at p80.

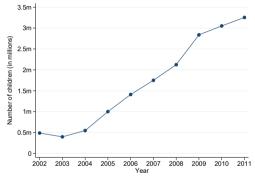
Macro roll-out (official budget information) • Go back



Note: gradual decline in the share of FA paid through the old system (SFC).

FA spending and Beneficiaries • Go back





(e) FA spending (micro vs macro)

(f) Beneficiaries (number of children)

Notes: (a) increase in FA spending over time; replicate macro aggregates using micro-data. (b) N children receiving the transfer increases (economy booming + formalization).

(b) IN children receiving the transfer increases (economy booming + formalization)

Incorporation schedule: memo (1)



(a) Memo (body text)

Resolución Nº 333/2005

Cronograma de inclusión de empleadores al Sistema Único de Asignaciones Familiares, A.N.Se.S

Artículo 1º— Apruébase el cronocrama de inclusión al Sistema Único de Asignaciones Familiares (S.U.A.F.) respecto de los empleadores que se encuentran detallados en el <u>Anexo</u> que forma parte integrante de la presente, y que <u>oblicatoriamente</u> aria incluidos formalmente al Sistema Unico de Asignaciones Familiares en forma paulatina hasta el mes devenação diciembre de 2005.

Articulo 2º— La Gerencia de Prestaciones <u>notificar</u>a fehacientemente a los empleadores referenciados en el articulo 1º de la presente aborte los requisitos que deberán cumpir y la <u>documentación</u> que deberán presentar artic la Unidad de Ancidon integral/Artico Central de esta Administración Nacional de la Seguridad Social, a los efectos de quedar incluidos formalmente en el Sistema Único de Asignaciones Familiares.

(b) Memo annex (with employer identifiers)



333 2005 - AÑO DE HOMENAJE A AÑ

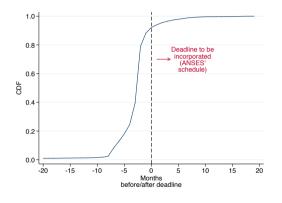


Ministerio de Trabajo, Empleo y Seguridad Social

ANEXO

	ANEXU
A COUNTY OF	AND
20-05047024-6	JUAN NESTOR NARCISO
20-07924169-6	BORDA PAULINO APARICIO
20-14131275-9	WINGEYER HUGO DANIEL
20-17071721-0	BALLARIO JORGE ALBERTO
20-17639159-7	FRIGERIO FERNANDO DANILO
20-20195515-8	CIPOLLONE RAUL ALBERTO
20-22126363-5	RUIZ DIAZ EULOGIO ANTONIO
23-05243056-9	MOROSI RICARDO EDER
23-14940864-9	ROJAS RICARDO ALFONSO
27-13881818-2	HULZANQUI PATRICIA CARMEN
27-22127177-2	GONZALEZ MARIELA ALEJANDRA
30-57189536-2	LINEA 22 SOCIEDAD ANONIMA
30-63872707-9	GREEN S A
30-65464085-4	SE NE MI SRL
30-66760328-1	ASOCIACION COOPERADORA HOSPITAL MUNICIPAL

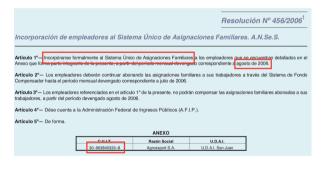
Scheduled vs observed incorporation (micro-data) • Go back



- ➤ We digitized 50+ schedule plans: ~60K firms with their "internal deadline"
- Compare internal deadline with the effective incorporation date
- ► Take away: high compliance
 - $\sim 90\%$ of firms incorporated before internal deadline

Formal approval: memo (2) Go back

(a) Memo (body text)



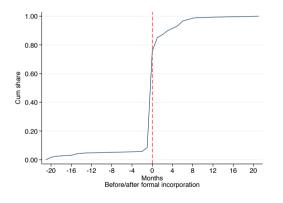
(b) Memo annex (with employer identifiers)



ANEXO

CUIT	RAZON SOCIAL	UDAI			
30575438772	CONFRAVE S A I C	GERENCIA UCA			
30651778170	CONFRAVE INDUMENTARIA S R L E	ERENCIA UCA			
30505426661	TEJEDURIAS NAIBERGER SAICI Y F	GERENCIA UCA			
30515772746	TRIUMPH INTERNATIONAL	GERENCIA UCA			
30515923329	FAMOFEL FABRICA MODELO DE	GERENCIA UCA			
30516142452	EPIFANIO VELASCO E HIJOS S A I C I	GERENCIA UCA			
30500834087	VIDRIERIA ARGENTINA SOCIEDAD	GERENCIA UCA			
30626831660	INDUSTRIAS 9 DE JULIO S A	OFICINA 9 DE JULIO			
30666501396	COOP DE COOPERATIVAS DE	OFICINA 9 DE JULIO			
30545724819	COOPERATIVA ELECTRICA Y DE	OFICINA 9 DE JULIO			
30545744569	COOPERATIVA DE ELECTRICIDAD	OFICINA BALCARCE			
30593302462	MHOR INDUSTRIAL S A	OFICINA ESCOBAR			
30610738369	ASOCIACION CIVIL NAUTICO	OFICINA ESCOBAR			
30608964076	MARTIN BARROCAS Y CIA SRL	OFICINA ESCOBAR			
30520473501	MANDOLA MATEO LORENZO Y	OFICINA ESCOBAR			
30662051868	ABRANTES SA	OFICINA ESCOBAR			
20101633331	SZYKULA MIGUEL ANGEL	OFICINA ESCOBAR			
20121737052	KANDRACHOFF NESTOR PABLO OFICINA ESCOBAR				
30578380015	GOYAIKE S A A C I Y F	OFICINA ESCOBAR			
30653466931	GNC ESCOBAR SA	OFICINA ESCOBAR			
30580736528	BEST PAINT S A	OFICINA ESCOBAR			
30559721502	PRENSADORA MURO SOCIEDAD DE	OFICINA ESCOBAR			
30522601264	COOP ELECT CONS Y SERVICIOS	OFICINA GENERAL ALVEAR			

Formal vs observed incorporation (micro-data) • Go back



- ► Hard to track universe of approval memos
- ➤ We make public queries on a random sample of 300 firms to check the formal incorporation date (see next slide)
- Compare formal vs observed dates
- ► Take away: high compliance
 - $\sim 80\%$ incorporated right at the formal approval date No incentives to delay: can't <code>compensate</code> paid transfers

App to query formal incorporation dates • Go back



Notification to employees (sworn statement) • Go back

					Version 1.3				
		Form PS.2.6			del Régimen de Familiares Sistema gnaciones Familiares				
rente l Este Formulario reviste carácter de Declaración Jurada y se debe completar en letra de Imprenta, sin tachaduras ni enmiendas									
RUBRO I – DATOS DEL TRABAJADOR (a completar por todos los trabajadores con o sin cargas de familia)									
Apellido y Non	bre Completo			1 1	iento Nacionalidad				
Cuil		Tipo y N* Doc /CUIL		Sexo	Estado Civil				
Domicilio - Calle - Nuemero									
Piso	Depto.	Código Postal	Localidad		Provincia				
Teléfono			Dirección de Correo Electrónico						
RUBRO I I – DATOS DEL EMPLEADOR									
Razón Social			CUT						
Domicilio - Calle - Nuemero									
Piso	Depto.	Código Postal	Localidad		Provincia				
Teléfono			Dirección de Correo Electrónico						

Dejo constancia, por medio de la presente, que en el día de la fecha, me he notificado de las normas básicas y principales derechos que me asisten con relación al Régimen de Autgraciones Famíliures y que surgen del cuarfo entiente al destro de la Ley N° 2.471 é, sus normas reglamentarias y de la Realocición ANISS N° 272089 y sus modificaciones.

Anismon me acelencición ANISS N° 272089 y sus modificaciones.

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Dajo constancia tembién, que asamo el compromiso de notificar a mi empleador toda novededimodificación que se produza con relación a mis cargo, y relaciones de lamisa, acompalárnol, de documentación que las acreditos, a efectos de que éste las informe a ANSES a través del Programs de Simplificación Registra!

Me compromeso a informer a ANSES el medio de sace a traviel del caul desto percibir las Asiranciones Familianes.

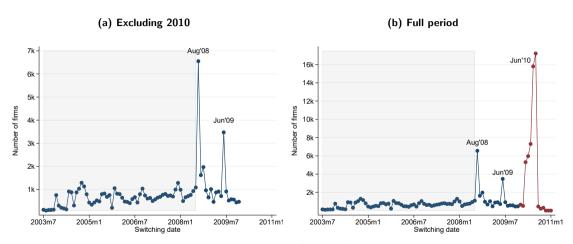
Me comprometo a informa a ANSES el medio de pago a través del cual deseo percibe las Augusciones Firmilianes. Finalmente me nodifico que tedos los lodas que apores a ANSES personalmenta, ravinés du m'Representanie" o de mi Emplasdo; para la percepción de las Augusciones Firmilianes, cendriar carácter de Declaración jurada, recrociociendo del deverdo de ANSES a reclamante su establición o compensar sueministicamente los importes con oras asignaciones en caso de percepción indebida de mi parte, sin necesidad de notificación previsi sor carre del citado Crazalmeno.

Localidad, de de de

Firma/Aclaración de Firma del Trabajador Firma/Aclaración de Firma y Sello del Empleador

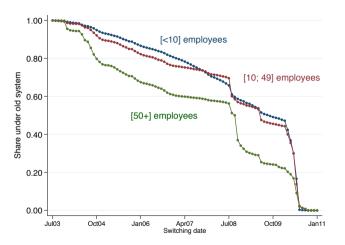
- Within ten days after the switch, firms must inform their workers about the new payment mechanism of family allowances
- Employer and employees must sign this declaration acknowledging the change
- ► The sworn statement + change in pay slips, make the policy change salient

Event frequency Go back



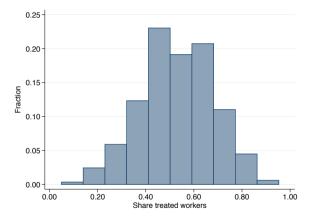
Note: massive incorporation in Aug'08 (Recession), Jun'09, Mar-Jul'10.

Roll-out by firm size Go back



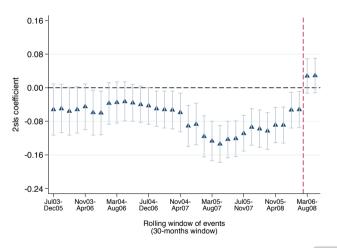
Note: Large firms switched first into the new system (size = N of employees in 2003). (N firms by group: 86,868 small, 23,159 medium, 5,839 large).

Distribution of firm exposure to family allowances



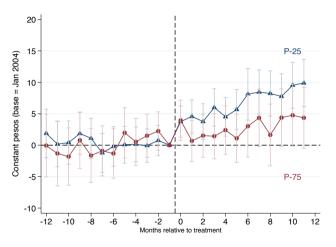
Note: exposure defined as the within-firm share of workers with children. • Go back

Dynamic effects: rolling window of events Goback



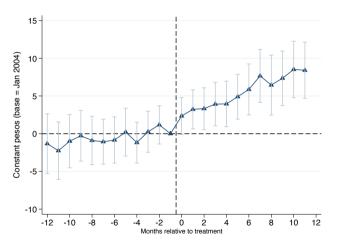
Note: Each dot refers to a different regression with a rolling window of events. • Go macro context

Wage effects: △ p25 and p75 • Go back



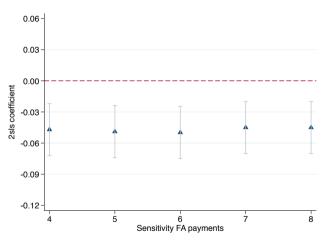
Note: Increase in wage is larger for workers located at the bottom of the distribution (*p*25); likely more treated due to the progressive transfer scheme.

Wage effects: Balanced panel Go back



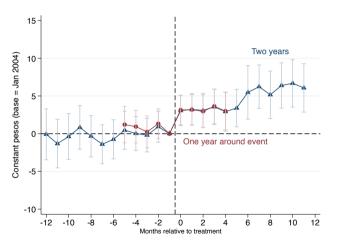
Note: Results remain unchanged for a balanced panel of firms present in the 96 months of data.

Sensitivity to months of transfer payments (2SLS) Go back



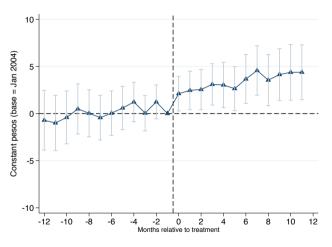
Note: The result is very stable when we vary the sample of firms based on the number of months they were paying family allowances right before the event. We consider firms paying at least 4, 5, 6, 7, and 8 months.

Sensitivity to the event window Go back



Note: Results remain unchanged when we use a time window of 6 months before and after the event instead of 12 months.

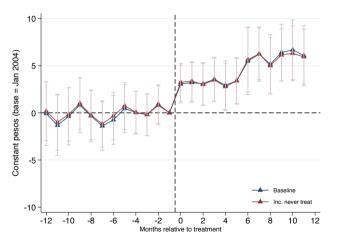
Alternative treatment group definition • Go back



Note: Results remain unchanged when using a treatment group with workers that are fully treated during the period 2003-2010 (with children ages less than 18 years old during the whole roll-out period).

Alternative including never treated • Go back

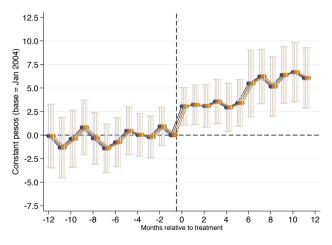




Note: Results remain unchanged when we include never treated firms in the control group.

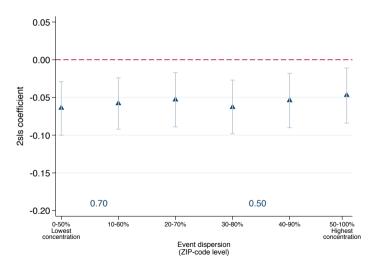
Wage effects under alternative specifications (including controls)



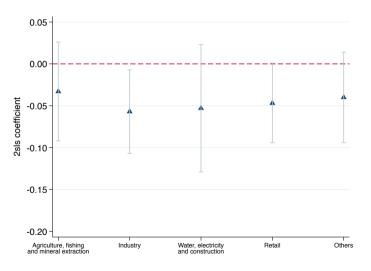


Note: Event-study estimates for the main specification (blue); controlling for firm size (green); controlling for the gap in the number of T and C workers (orange).

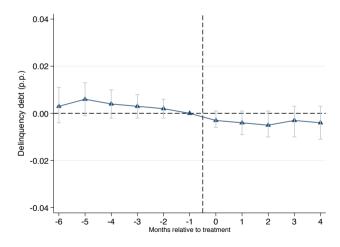
Heterogeneity by ZIP-code dispersion of events (2SLS) •••



Heterogeneity by sector (2SLS) • Go back

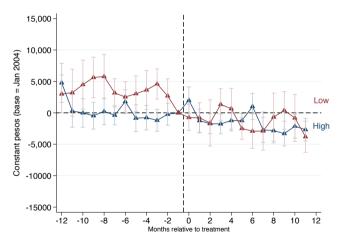


Delinquency rates: past due debt (90+ days) Go back



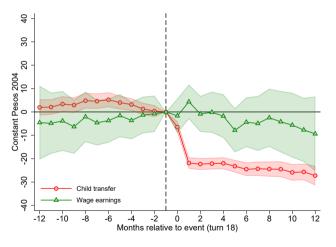
Note: firms switching btw Oct'03 and Jul'04 and in 2005 (N=10,481).

Wage bill of high vs low exposed firms Go back



Note: No large or visible effect on total wage bill.

Child turns 18: 1st and 2nd stage (within firm T-C) • Back FA



Note: event study when a kid turns 18 and workers lose eligibility.