# Fireside Chats: Communication and Consumers' Expectations in the Great Depression

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NBER SI DAE, July 8

- Increasing interest and use of communication strategies from economic authorities
- Communication has been used as a complement to conventional policies
- In spite of theoretical findings about these type of policies, little empirical evidence on the effect of communication-based policies
- This paper: Explores the role of policy communication in the Great Depression

Role of Expectations in the Great Depression

- Temin and Wigmore (1990), Eggertsson (2008): Change in policy dogmas can explain post 1933 expansion
- Cole and Ohanian (2004) doubt that policies implemented in 1933 were expansionary
- Since summer 1935, policies more in line with "Big State"
- Hard to measure and identify a policy that changes expectations
- This paper tries to overcome this challenge

Challenges:

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- Hard to find variation on the exposure to the policy
  - This paper: Uses quasi-random variation on message reception, i.e. radio usage
- Hard to get data to measure the effect
  - This paper: Uses novel weekly data to identify effects

### Context: The Fireside Chat of April 28th, 1935

- Fireside Chats: Radio speeches scheduled and designed to be important events
- Lenthal (2007), Shiller (2017) and many others have described the importance of these speeches for Americans' mood
- The Fireside Chat of April 28th, 1935: Different speech from other FSC: talked about legislative agenda, focus on social protection and confidence
- Emphasis on coherent legislative agenda of social policies. Particular focus on:
  - Social Security Act: Signed on August 15th, 1935
  - Works Progress Administration: Implemented in July
- Credible announcement: Bills in Congress and majority in Congress after 1934 midterm elections

#### Context: "Second New Deal"

- The speech marks the beginning of an intense legislative work that happened during the Summer of 1935, known as the "Second Hundred Days"
- Policies included Public Works (WPA), Social Protection (SSA), Laborers rights (Wagner Bill) and Progressive taxes ("Soak the Rich")
- Amenta et al. (1994) indicate that was part of a new legislative agenda looking at the 1936 election and fearing Long's rise: DNC made first (secret) survey two days after the speech
- Policies in line with Eggertsson (2008)

#### Context: "Second New Deal"



#### Source: NBER Macrohistory Database

#### Outline

Motivation

#### Data

Estimation and Results

Discussion

Conclusions

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#### Data: Radio Usage in 1930

I use the Census of Population of 1930, where I get the share of households with a radio in their houses:



Note: National average: 39%

#### Economic Activity Data

- Need data on economic activity with high cross-sectional variation and high-frequency
- Bank debits has those properties:
  - Represents money that goes out from individual bank account
  - A positive change represent a decrease in deposits
  - · Highly correlated with spending on durable and semidurable goods

#### City Level Data

#### The data comes from weekly reports of the Fed for 270 cities on bank debits:

Sunday morning, Dec. 2 not earlier.	2; 2;	ANK DEBI	TS	of the Feder Decen	al Reserve Sy ber 21, 1935	netcas
Debits to individ the week ended Decembe total reported for the responding week of las	ual accounts r 18, aggreg preceding w t year.	s, as rep pated \$9, week and	orted by 985,000,0 15 per ce	banks in lead; 00, or 31 per nt above the t	ng cities for cent above the otal for the	cor-
Aggregate debits tained since January 1 the preceding week and	for the 141 919 amounted \$8,124,000,	cities f to \$9.3 ,000 the	or which 19,000,00 week ende	a separate tot O, compared wi d December 19	al has been i th \$7,038,00 of last year	nain- 0,000
	SUMMARY BY	FEDERAL	RESERVE D	ISTRICTS		
Federal	Number .		77 0 0	k ondo	d	
Reserve	of centers	Dec.	18,	Dec. 11,	Dec. 19,	
District	included	193	5	1935	1934	
No. 1 - Boston	17	535	.929	411,079	480,425	
2 - New York	15	4,995	, 386	3,599,584	4,611,309	
3 - Philadelphia	18	1411 8	1,523	361,735	394,224	
4 - Cleveland	25	591	,497	451,784	491,949	
5 - Richmond	22	283	,237	245,204	251,000	
6 - Atlanta	26	220	,947	194,860	200,785	
7 - Chicago	40	1,327	,170	991,026	993,061	
8 - St. Louis	16	253	.773	212,312	207,431	
9 - Minneapolis	17	172	,675	134,252	140,203	
10 - Kansas City	58	273	,438	221,249	237,941	
11 - Dallas	18	192	,987	154,382	164,756	
12 - San Francisco	28	689	,605	659,339	536,087	
TOTAL	270	9,985	,167	7,636,806	8,709,171	
DE	BITS BY BAN (In the	Usands o	H REPORTI	NG CENTER		
	Teek Dec.	ended 18, 1935			Week Dec. 1	ended 8,197
DISTRICT NO. 1 - BOSTO	N		DISTRIC	T NO. 2 - NEW	YORK (Cont'd	)
		3.325	North	ern New Jersey		
Bangor, Maine		out the	Clof	ring House As:	in. 51	2,518
Bangor, Maine Boston, Mass.		554,140			-	
Bangor, Maine Boston, Mass. Brockton, Mass.		4,242	Passa	ic, H. J.		5,214
Bangor, Maine Boston, Mass. Brockton, Mass. Burlington, Vt.		4,242	Passa	ic, N. J. keepsie, N. Y.		5,214 2,907
Bangor, Maine Boston, Mass. Brockton, Mass. Burlington, Vt. Fall River, Mass.		4,242 2,125 4,195	Passa Pougi Roche	ic, N. J. keepsie, N. Y. ster, N. Y.	2	5,214 2,907 7,035

Data for the week ending on December 18th, 1935

#### Bank Debits and Department Store Sales



Monthly data Table

#### Difference-in-Difference Estimation

Run the following specification for 4 periods: month before and month after (bi-weekly to avoid cyclicality (Example), but similar results with weekly data ):

$$D_{ct} = eta I(1 \, \, \textit{if} \, \, \textit{week} > t_0) * \textit{RadioShare}_{c,1930} + \gamma_c + \kappa_{s(c)t} + heta_{f(c)t} + arepsilon_{ct}$$

with c=county, s=state, f=Federal Reserve district, t=week

 $D_{ct} = log(BankDebits)_{ct}$ 

 $\gamma_c$ : city fixed effect

 $\kappa_{s(c)t}$ : state-time fixed effect

 $\theta_{f(c)t}$ : Federal Reserve district-time fixed effect

 $I(1 \text{ if week} > t_0)$ : = 1 if the week is after the speech and 0 if before

## Identifying assumptions

- Radio share measures the exposure to the speech
- No other event affected differently exposed/non-exposed within the window analyzed:
  - Short window: Month after the speech
  - High Frequency identification: I can look at the week after
- Controls:
  - City FE: level of cities with more and less radio
  - State and FRD-time FE: Any change at the that level after the event (expectations about policies, common characteristics)
- Will test later: No pre-trends and confounding variables

#### Difference-in-Difference Results at the City Level

Table: Bank Debits (log)

	(1)	(2)	(3)	(4)
Radio Share $(t > t_0)$	0.181***	0.182***	0.209***	0.218***
	(0.042)	(0.063)	(0.063)	(0.073)
City FE	Yes	Yes	Yes	Yes
State-Time FE	No	Yes	Yes	Yes
FRD-Time FE	No	No	Yes	Yes
Outliers	Yes	Yes	Yes	No
Observations	1,052	1,024	1,024	916

 $\uparrow$  one SD increase in radio share (0.155)  $\rightarrow$  Bank Debits  $\uparrow$  3.4% (0.155  $\times$  0.218)

#### **City-Level General Specification**

I run the time series for 1935 to see pre-trends and convergence:

$$D_{ct} = \sum_{\tau \neq 0} \beta_{\tau} I(1 \text{ if week} = \tau) * \text{RadioShare}_{c,1930} + \gamma_c + \kappa_{s(c)t} + \theta_{f(c)t} + \varepsilon_{ct}$$

with c=county, s=state, f=Federal Reserve district, t=week

 $D_{ct} = log(BankDebits)_{ct}$ : I will use flows and cumulative during 1935  $\gamma_c$ : city fixed effect

 $\kappa_{s(c)t}$ : state-time fixed effect

 $\theta_{f(c)t}$ : Federal Reserve district-time fixed effect

### High-Frequency Identification: Results



#### Robustness

Robustness checks:

- Result robust to include controls (Newspaper circulation, Population close to retirement, unemployment, excluded, wealth) Result
- Results at the yearly level with cars purchases, GDP and inflation Table
- IV with woodland and antennas show similar results
- Other previous effect have mild or non-effect: what is communicated is relevant Event Study

#### Discussion Expectations

Is this result just "noise" or about the content?

- Mild effects of previous speech indicate that is not the fact of listening to the president, it's about what he communicated
- Speech marks start of "Second New Deal", Amenta et al. (1994) find justification for the change in narrative in 1935
- Results in line with change in dogma (Eggertsson 2008)
- Focus of the speech on change in type of policy, confidence and recovery in line with Narrative Economics (Shiller 2017)

## Discussion

Policy

Are the results in line with the policy announced?

- Parker (1999) find increases in consumption after announcements of expansions in social security benefits
- The SSA also included increases in payroll taxes
- In appendix, I show that when announced, future payroll taxes increase spending in durables
- I provide evidence that this policy was inflationary
- Even "contractionary" part of the announcement creates an effect in lines with the results found

#### Conclusions

- In this paper, I show that communication can modify expectations and, hence aggregate outcomes
- The effect is consistent for different levels of aggregation and persists after controlling for many confounding factors
- This shows the importance of effective communication
- The results show that it is possible to impact consumers' expectations and use them as a countercyclical policy
- This paper also shows the importance of expectations during the great depression, exploring the recovery between 1935-1937



Figure: Source: Chicago Daily Tribune, April 30th, 1935

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#### Instrumental Variable: First Stage

I use the share of woodland in a region as instrument (Stromberg 04) and distance to the closest radio tower (Federal Radio commission 1933)

$$\Delta_{\textit{May}-\textit{April}} y_{c,t} = \beta \times \widehat{\textit{RadioShare}}_{c,1930} + X'_{c,t} \theta + \varepsilon_{c,t}$$

Table: First Stage

	Woodland	Distance
Woodland	-0.597***	-0.001***
	(0.273)	(0.000)
F-Test	27.290	17.770
Observations	266	266
*** p<0.01, *	* p<0.05, * p	o<0.1

#### Instrumental Variable: Results

#### Table: IV Regressions

	Wood	lland	Dista	Distance		
Radio	0.356***	0.523*	0.356***	0.758**		
	(0.087)	(0.273)	(0.087)	(0.323)		
	OLS	IV	OLS	IV		
Observations	266	266	266	266		
*** p<0.01, ** p<0.05, * p<0.1						

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#### State Level Specification

Now I use more direct measures of expenditure and saving. I run the following regression:

$$y_{st} = \sum_{\tau \neq 1934} \beta_{\tau} I(1 \text{ if } year = \tau) * \textit{RadioShare}_{s,1930} + \gamma_s + \kappa_{z(s)t} + X'_{s,t} \theta + \varepsilon_{st}$$

s=state, t=year

 $y_{st}$ : car sales per capita (Hausman 16) Income per capita growth and inflation (BLS)  $\gamma_s$ : state fixed effect

 $\kappa_{z(s)t}$ : zone-time fixed effect

 $X_{st}$ : lagged state income (BLS), income growth (BLS)

## State-Level Results

	Cars pc sales	$\Delta\% GDP_pc$	Inflation
l(year=1930)*radio	0.006	0.448***	0.032
	(0.005)	(0.146)	(0.034)
l(year=1931)*radio	0.007	0.368**	0.029
	(0.005)	(0.155)	(0.042)
l(year=1932)*radio	-0.006	0.503***	0.063
	(0.004)	(0.130)	(0.048)
I(year=1933)*radio	-0.000	-0.000	-0.035
	(0.003)	(0.125)	(0.027)
l(year=1935)*radio	0.019***	0.451***	0.087**
	(0.005)	(0.135)	(0.040)
I(year=1936)*radio	0.022***	0.271**	0.076**
	(0.006)	(0.120)	(0.030)
l(year $=1937)$ *radio	0.011***	0.350***	0.101***
	(0.003)	(0.121)	(0.035)
l(year=1938)*radio	-0.003	0.349***	0.051**
	(0.004)	(0.125)	(0.025)
Observations	490	490	140

### Other Speeches

The 1935 speech was not the first, but it has important features

- Announced important social policies + future taxes
- Isolated event in calm times

Other speeches before the April 28th, 1935 not suitable:

- Six other Fireside Chats
  - Focused on policies already implemented
  - In very volatile period, currency policies
- State of the Union 1935
  - Broadcast at noon
  - Congress was the target

### Event Study

I look at other speeches that were close to policy announcements

- Fireside Chat of July 1933: Proposed employer-employee code
- Fireside Chat of October 1933: Announced currency controls
- SOTU 1935: Explained WPA and SSA

Run event study

$$y_{e,c,t} = \sum_{i=-F}^{F} \beta_i 1(t=i) \times RadioShare_{c,1930} + \delta_{e,c} + \kappa_{s(c),t} + \theta_{f(c),t} + \varepsilon_{e,c,t}$$

#### Event Study: Results





#### Example Noisy Data



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## Table Debits and Deparment Store Sales

(4)(6)(7)Change in Debits 0.627\*\*\* 0.630\*\*\* 0.495\*\*\* 0.499\*\*\* 0.246\*\*\* 0.249\*\*\* 0.158\*\*\* 0.160\*\*\* (0.057)(0.056)(0.067)(0.069)(0.033)(0.033)(0.038)(0.040)0.264\*\*\* Change in Debits (-1) 0.354\*\*\* 0.354\*\*\* 0.265\*\*\* (0.035)(0.035)(0.038)(0.038)Change in Debits (-2) Change in Debits (-3) Zone FE No Yes No Yes No Yes No Yes Time FE Yes No No Yes Yes No No Yes Observations 754 754 754 754 715 715 715 715 0.732 R-squared 0.628 0.634 0.705 0.710 0.659 0.666 0.727 (9) (14)Change in Debits 0.194\*\*\* 0.198\*\*\* 0.135\*\*\* 0.144\*\*\* 0.172\*\*\* 0.174\*\*\* 0.113\*\* 0.124\*\* (0.030)(0.030)(0.043)(0.044)(0.029)(0.030)(0.042)(0.043)Change in Debits (-1) 0 198\*\*\* 0 198\*\*\* 0 242\*\*\* 0 245\*\*\* 0 179\*\*\* 0.181\*\*\* 0.233\*\*\* 0.237\*\*\* (0.050)(0.050)(0.047)(0.047)(0.046)(0.046)(0.045)(0.045)0.248\*\*\* 0.137\*\*\* 0.162\*\*\* 0.161\*\*\* 0.166\*\*\* Change in Debits (-2) 0 249\*\*\* 0.134\*\*\* 0.165\*\*\* (0.028)(0.029)(0.025)(0.026)(0.046)(0.045)(0.043)(0.043)0.142\*\*\* 0.142\*\*\* Change in Debits (-3) 0.044 0.048 (0.030)(0.032)(0.035)(0.036)Zone FE No Yes No Yes No Yes No Yes Time FE No No Yes Yes No No Yes Yes Observations 676 676 676 676 637 637 637 637 R-squared 0.694 0.701 0.750 0.755 0.701 0.709 0.752 0.758

Percentage change in Retail sales over change in Debits

Standard errors are clustered at a Federal Reserve district level. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1.

#### High-Frequency Identification: Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
:	:	:	:	:	:	:	:
2-Mar-35	-0.044	-0.066	-0.047	-0.077	-0.101	-0.039	-0.076
	(0.085)	(0.085)	(0.086)	(0.087)	(0.096)	(0.093)	(0.088)
16-Mar-35	-0.018	-0.035	-0.027	-0.050	-0.083	-0.021	-0.059
	(0.098)	(0.098)	(0.098)	(0.099)	(0.109)	(0.112)	(0.100)
30-Mar-35	0.056	0.045	0.063	0.047	0.002	0.006	0.038
	(0.080)	(0.080)	(0.078)	(0.079)	(0.081)	(0.089)	(0.079)
13-Apr-35	-0.078	-0.083	-0.050	-0.058	-0.074	-0.032	-0.065
	(0.094)	(0.094)	(0.091)	(0.091)	(0.097)	(0.102)	(0.091)
11-May-35	0.217**	0.223**	0.225**	0.232**	0.202*	0.229**	0.218**
	(0.105)	(0.106)	(0.106)	(0.106)	(0.108)	(0.115)	(0.105)
25-May-35	0.153*	0.164**	0.154*	0.170**	0.212**	0.217**	0.177**
	(0.083)	(0.083)	(0.084)	(0.084)	(0.087)	(0.091	(0.084)
8-Jun-35	-0.076	-0.059	-0.075	-0.052	-0.069	-0.041	-0.051
	(0.118)	(0.119)	(0.118)	(0.119)	(0.122)	(0.122)	(0.119)
22-Jun-35	-0.002	0.020	-0.007	0.023	0.026	0.069	0.018
	(0.110)	(0.111)	(0.109)	(0.111)	(0.119)	(0.125)	(0.111)
8-Jul-35	0.158	0.185	0.161	0.199	0.129	0.191	0.195
	(0.124)	(0.127)	(0.124)	(0.127)	(0.139)	(0.134)	(0.128)
20-Jul-35	0.003	0.036	-0.008	0.038	0.045	0.097	0.031
	(0.123)	(0.125)	(0.124)	(0.127)	(0.138)	(0.145)	(0.128)
:	:	:	:	:	:	:	:
Cities	261	261	257	257	244	230	256
Observations	6,525	6,525	6,425	6,425	6,100	5,750	6,400
Sample	All	Controls	No Outliers	(2)+(3)	No Fed	90 %	No NYC

## High-Frequency Identification: Weekly Results



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## Robustness: Confounding Variables

$$D_{ct} = \beta I(1 \text{ if week} > t_0) * \text{RadioShare}_{c,1930} + \sum_{\tau \neq 0} \alpha_{\tau} I(1 \text{ if week} = \tau) * X_{c,1930} + Z_{c,t} + \varepsilon_{ct}$$

#### Robustness: Confounding Variables

$$D_{ct} = \beta I(1 \text{ if week} > t_0) * \text{RadioShare}_{c,1930} + \sum_{\tau \neq 0} \alpha_{\tau} I(1 \text{ if week} = \tau) * X_{c,1930} + Z_{c,t} + \varepsilon_{ct}$$

Controls	Newspapers	House Owners	Unemployment	African Am	Older
Radio Share $(t > t_0)$	0.208***	0.201***	0.205***	0.216***	0.219***
	(0.075)	(0.076)	(0.077)	(0.075)	(0.075)
City FE	Yes	Yes	Yes	Yes	Yes
State-Time FE	Yes	Yes	Yes	Yes	Yes
FRD-Time FE	Yes	Yes	Yes	Yes	Yes
Outliers	No	No	No	No	No
Observations	872	892	892	892	892

Table: Difference-in-Difference with Controls