

Screening Desire: The Effects of Pre-Code Hollywood on Lifestyle Choices

by Juan Carlos Cisneros, Marie Kaul, and Sameer Nair-Desai

April 18, 2024

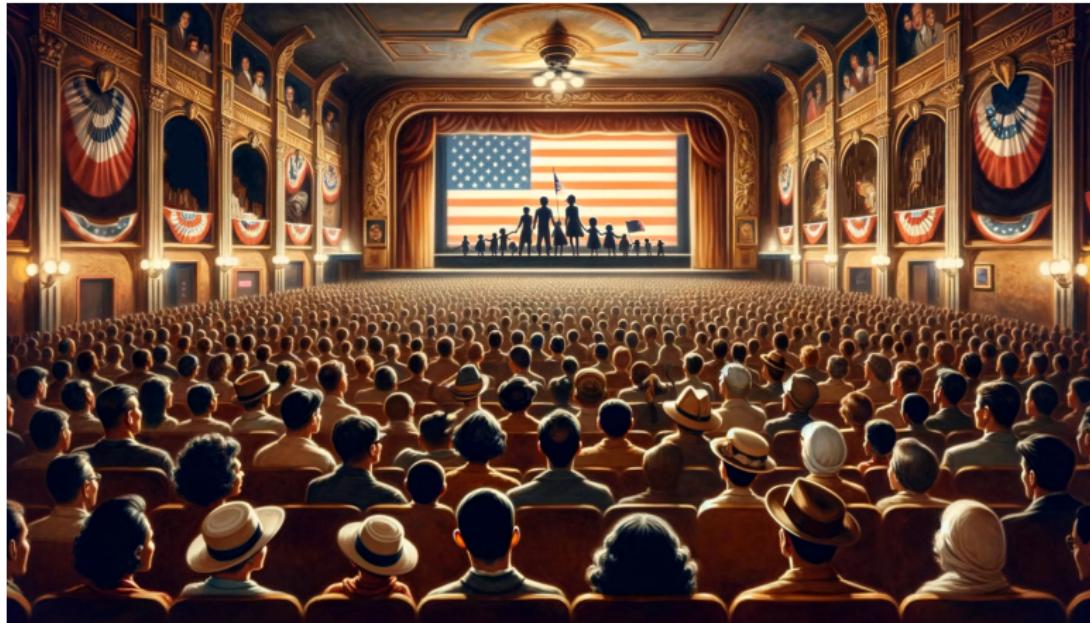
TRADE MARK
Thomas A. Edison
REG. U. S. PAT. OFF.

This Presentation
Has Been Passed by the
National Board
of Censorship.

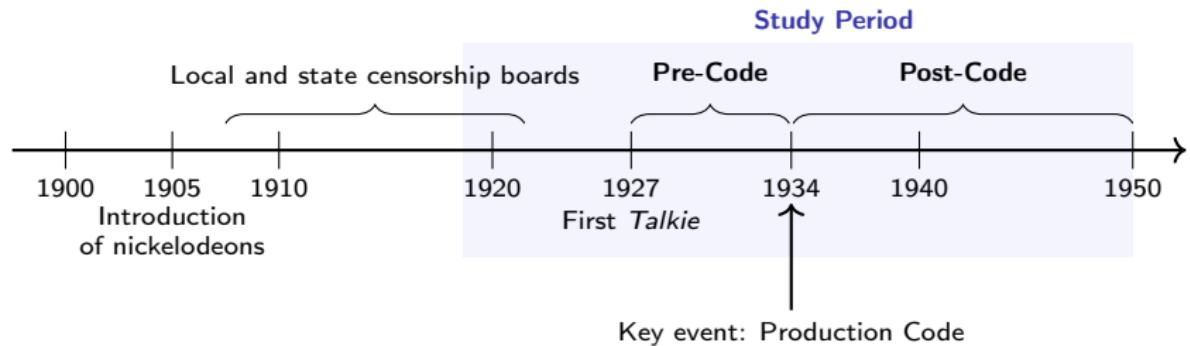
Copyright 1912 Thomas A. Edison Inc.

Motivation

Mass Media → Attitudes → Choices



Setting the Scene: Timeline of Motion Pictures in the U.S.



Setting the Scene: Social Relevance of Films

Exhibitors Times

Vol. 1, No. 1 May 17, 1913 Price 10 Cents

The Policy of This Paper.

As its name implies, this paper addresses the Exhibitor. The success of the Exhibitor rests upon the picture. By "the picture" we mean pictures which *are* pictures.

Every film made and released is not necessarily a picture. That is the trouble of the pictures in the United States, if not the world, to-day. A great many of them should have never been made, or, if made, never released; or if released, never shown.

The harm done to the public by the exhibition of unsuitable pictures is incalculable.

One-third of the population of the United States looks at motion pictures every week. In every country of the world the same interest, possibly in the same degree, is shown in the picture.

There are sixteen hundred million people on this earth. It may possibly be an exaggerated estimate to say that one-third of this number—namely, five hundred million—look at pictures every week; but it is probable that at least one hundred million people see them.

When it is considered that human minds are the governing factors in the affairs of the world, it can be seen that if one hundred million people are influenced by this form of graphic art the result is probably as great as, if not greater, than words from the pulpit, the newspaper, and stage.

Research Question

How does the media content adolescents are exposed to influence their lifestyle choices in adulthood? We examine the case of U.S. cinema.

Influence on Lifestyle Choices

[Payne Fund Studies](#)

[Recent Literature](#)

- ↑ Increased: crime, **divorce rate**, **female empowerment in sexual and marital decisions**.
- ↓ Decreased: religious observance, **number of children**.

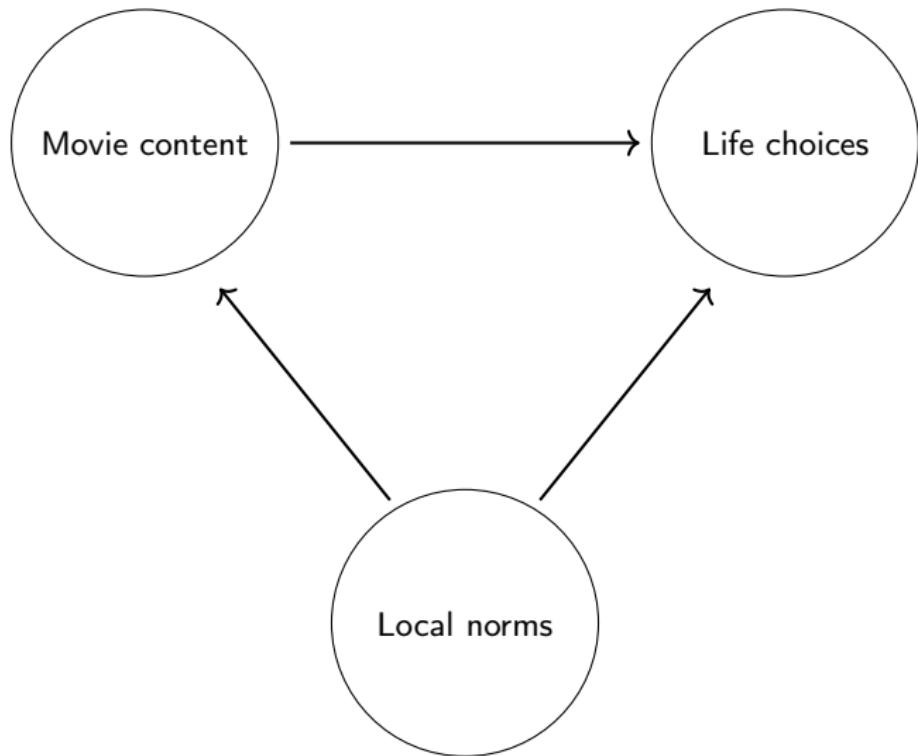
Variation

Enforcement of Production Code starting in **1934** affected the content of new movies produced in Hollywood for national audiences and therefore shifted film content.

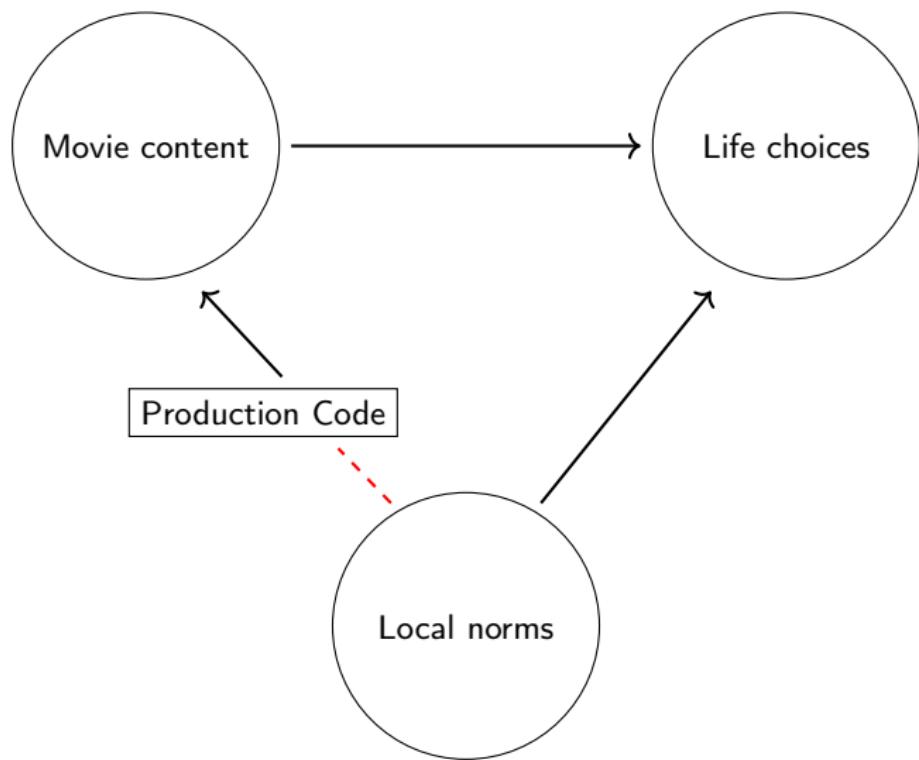
Identification Strategy



Identification Strategy

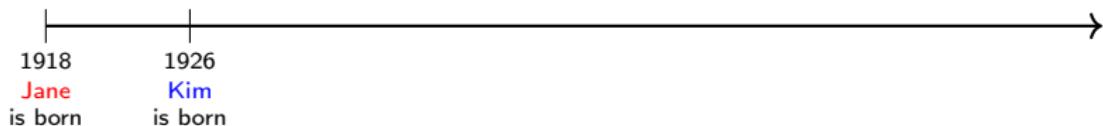


Identification Strategy



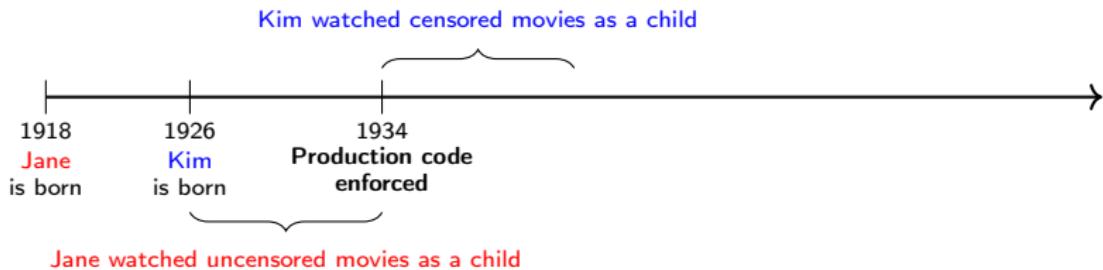
Identification Strategy

Approach: Compare children who grew up watching uncensored movies pre-Code to children who grew up watching censored movies post-Code.



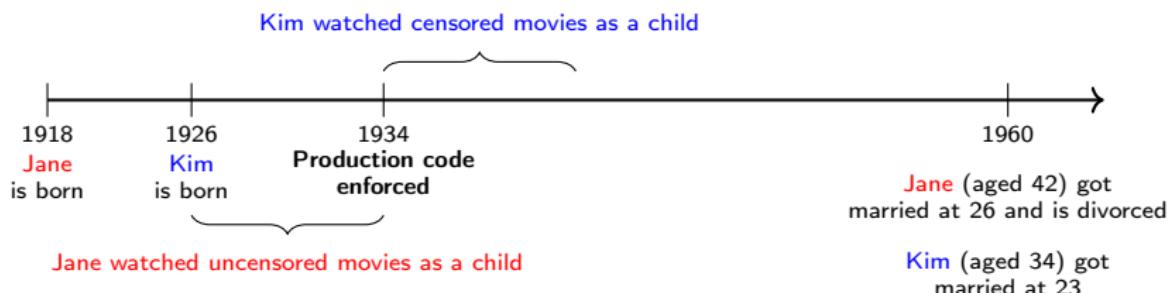
Identification Strategy

Approach: Compare children who grew up watching **uncensored movies pre-Code** to children who grew up watching **censored movies post-Code**.



Identification Strategy

Approach: Compare children who grew up watching uncensored movies pre-Code to children who grew up watching censored movies post-Code.



Identification Strategy

$$(\bar{y}_{c,1910} - y_{i,c,1960}) = \beta_0 + \beta_1 PreCode_{i,c} + \beta_2 Movie\ exposure_{i,c,IA} + \gamma_c + X_{i,c} + \epsilon_{i,c}$$

Identification Strategy

$$(\bar{y}_{c,1910} - y_{i,c,1960}) = \beta_0 + \beta_1 PreCode_{i,c} + \beta_2 Movie\ exposure_{i,c,IA} + \gamma_c + X_{i,c} + \epsilon_{i,c}$$

$\bar{y}_{c,1910}$ Mean of outcome of interest in 1910 in county c (e.g., average age of marriage in county c).

$y_{i,c,1960}$ Outcome of interest in 1960 for individual i in county c .

Identification Strategy

$$(\bar{y}_{c,1910} - y_{i,c,1960}) = \beta_0 + \beta_1 PreCode_{i,c} + \beta_2 Movie\ exposure_{i,c,IA} + \gamma_c + X_{i,c} + \epsilon_{i,c}$$

$\bar{y}_{c,1910}$ Mean of outcome of interest in 1910 in county c (e.g., average age of marriage in county c).

$y_{i,c,1960}$ Outcome of interest in 1960 for individual i in county c .

$PreCode_{i,c}$ Indicator that equals one if individual i was a child in the period before the Code and zero if they were a child in the period after the Code.

Identification Strategy

$$(\bar{y}_{c,1910} - y_{i,c,1960}) = \beta_0 + \beta_1 PreCode_{i,c} + \beta_2 Movie\ exposure_{i,c,IA} + \gamma_c + X_{i,c} + \epsilon_{i,c}$$

$\bar{y}_{c,1910}$ Mean of outcome of interest in 1910 in county c (e.g., average age of marriage in county c).

$y_{i,c,1960}$ Outcome of interest in 1960 for individual i in county c .

$PreCode_{i,c}$ Indicator that equals one if individual i was a child in the period before the Code and zero if they were a child in the period after the Code.

$Movie\ exposure_{i,c,IA}$ Total number of motion picture theatres in county c during individual i 's childhood.

Identification Strategy

$$(\bar{y}_{c,1910} - y_{i,c,1960}) = \beta_0 + \beta_1 PreCode_{i,c} + \beta_2 Movie\ exposure_{i,c,IA} + \gamma_c + X_{i,c} + \epsilon_{i,c}$$

$\bar{y}_{c,1910}$ Mean of outcome of interest in 1910 in county c (e.g., average age of marriage in county c).

$y_{i,c,1960}$ Outcome of interest in 1960 for individual i in county c .

$PreCode_{i,c}$ Indicator that equals one if individual i was a child in the period before the Code and zero if they were a child in the period after the Code.

$Movie\ exposure_{i,c,IA}$ Total number of motion picture theatres in county c during individual i 's childhood.

γ_c County indicators.

$X_{i,c}$ Vector of controls:

- ▶ Characteristics of individual i and their household.
- ▶ Characteristics of county c .

Identification Strategy

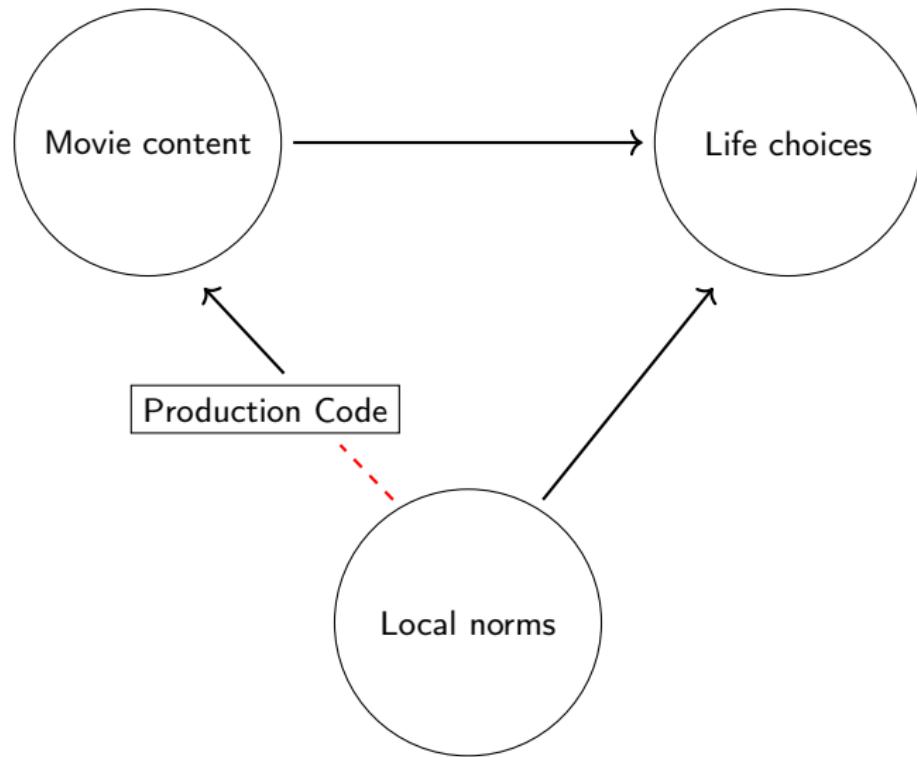
$$(\bar{y}_{c,1910} - y_{i,c,1950}) = \beta_0 + \beta_1 PreCode_{i,c} + \beta_2 Movie\ exposure_{i,c} + \gamma_c + X_{i,c} + \epsilon_{i,c}$$

Key assumptions:

1. **(First stage):** The Production Code significantly changed movie content.
Evidence for First Stage
2. **(Exogeneity):** The implementation of the Production Code – and thus, the change in movie content – was an exogenous shock to states in our sample.
3. **(Identifying Assumption):** In expectation, unobservable factors have the same effect on the life choices of children watching movies just before and just after the Production Code.

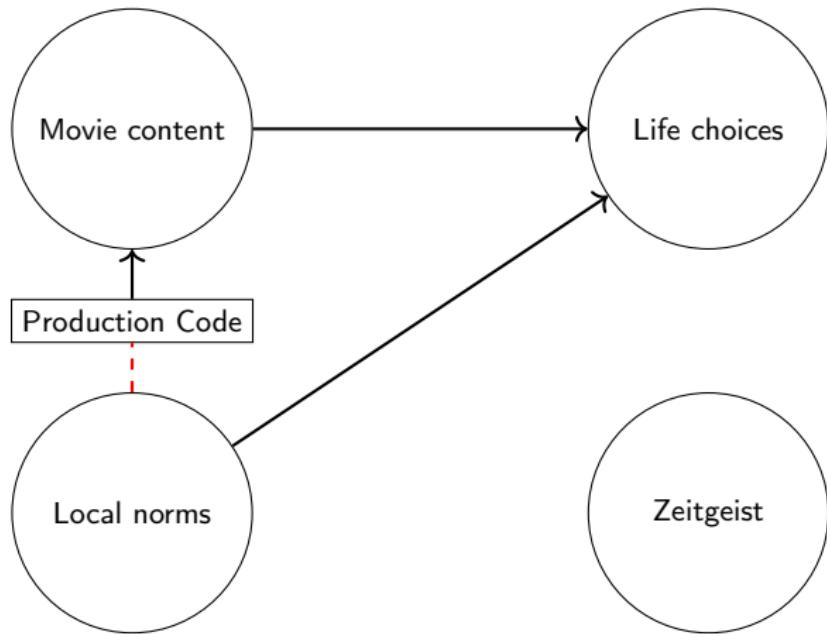
Threats to Identification: Zeitgeist

Recall our core DAG:

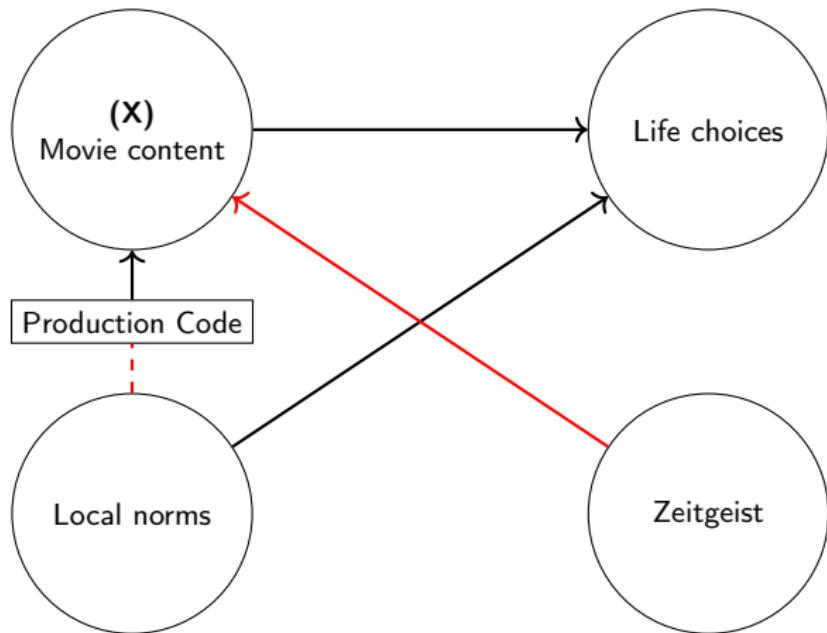


Threats to Identification: Zeitgeist

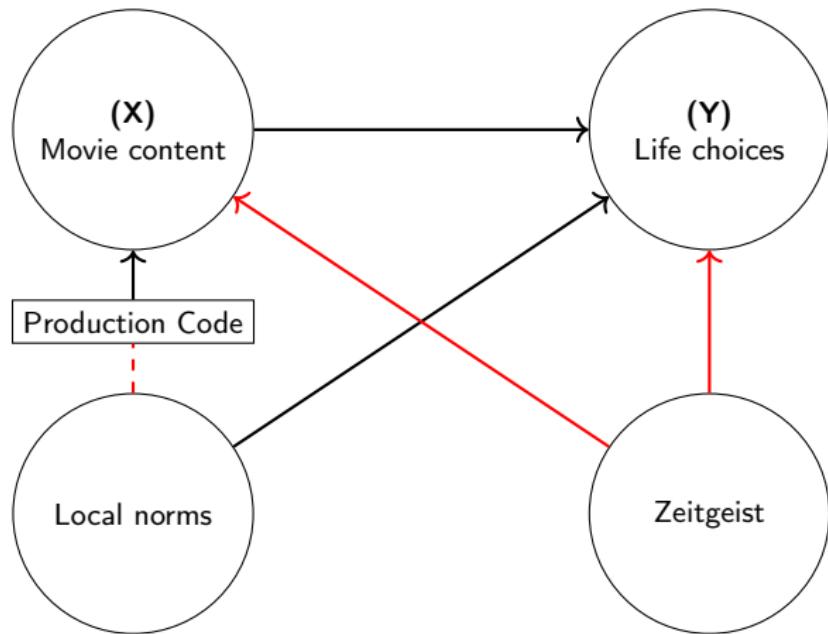
- ▶ “Zeitgeist” effects: The general national mood and attitudes of a period of time could have influenced both the content of the movies (**X**) and the future life choices of children (**Y**), through **unobservable** channels.
 - ▶ Major events (e.g., the Great Depression, “the Dust Bowl”, World War II).
 - ▶ Interaction effect of “zeitgeist” with age of birth. Alt. Identification



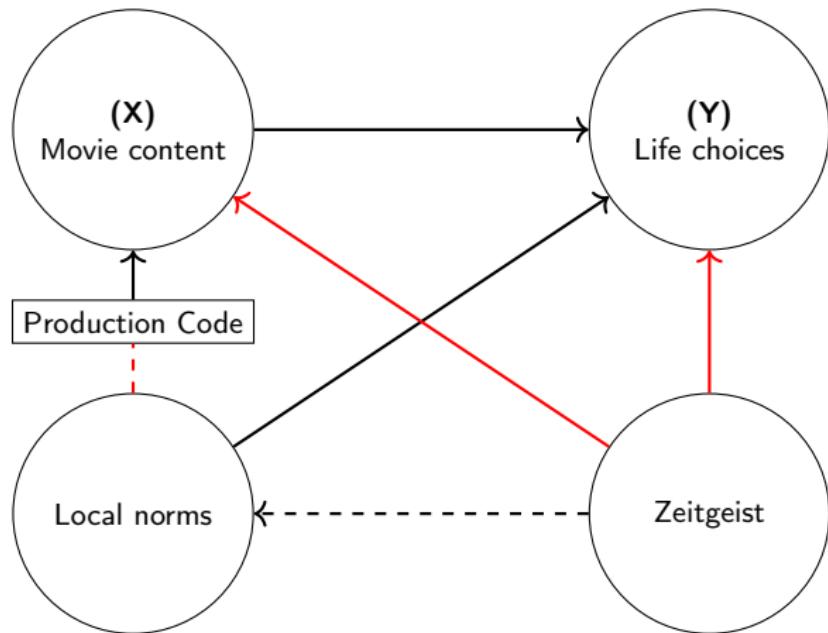
Threats to Identification: Zeitgeist



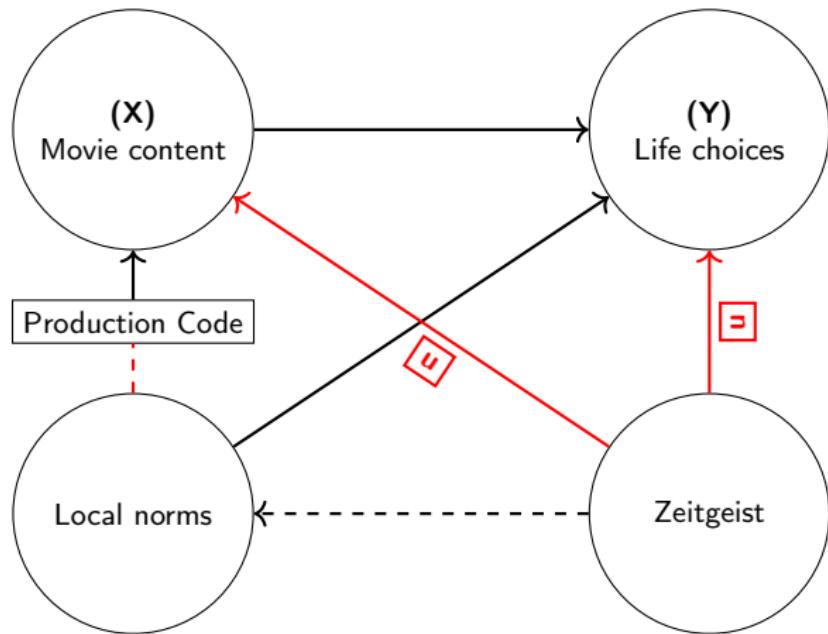
Threats to Identification: Zeitgeist



Threats to Identification: Zeitgeist



Threats to Identification: Zeitgeist



Other Concerns

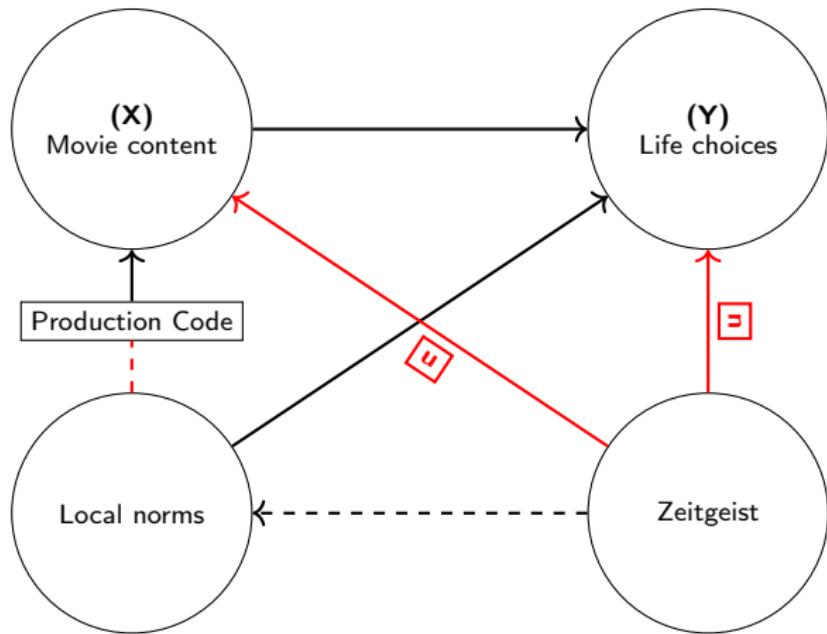
- ▶ *Confounder:* Immigration and internal migration.
- ▶ *Confounder:* Adoption of radio, television, or other competing media tech.
- ▶ *Data limitation:* Unobservable key events in cohort trajectories (i.e., between census years) may dictate life choices.
- ▶ *Data limitation:* No individual-level data on film intensity/exposure. Proxy with theater location, films produced, and box office records.

Data

- ▶ Full-count US **Census data** (1910-1950)
 - ▶ Allows us to link individuals in cohorts across the decadal Censuses and track our core outcomes of interest.
 - ▶ Social Security gender extension by Althoff et al. (2023).
- ▶ Motion Picture **Trade Journals** (Media History Digital Library)
 - ▶ Provides theater locations, films released, reviews and summaries of films, and box office records.
- ▶ **Film Scripts**
 - ▶ Provides complete full-text scripts of movies and list of actors/actresses.
 - ▶ Allows us to validate the first stage with text analysis techniques (Hays Code → "conservative" film content).
- ▶ **Studio Records and Production Code Correspondence**
 - ▶ Documents correspondence between film studios, state censorship boards, womens' groups, religious entities and the Production Code staff.
 - ▶ Allows us to directly observe: (1) the arguments and major players driving censorship; and (2) the direct effects of censorship on film content (we see film submissions from studios, and the final product post-censorship).
- ▶ **Local Newspaper Coverage** (American Stories Project)
 - ▶ Digitized records of full-text U.S. newspapers across the study period.
 - ▶ Potential control to capture the "Zeitgeist" effect.

Feedback

$$[1] (\bar{y}_{c,1910} - y_{i,c,1960}) = \beta_0 + \beta_1 PreCode_{i,c} + \beta_2 Movie\ exposure_{i,c,IA} + \gamma_c + X_{i,c} + \epsilon_{i,c}$$



References |

- Althoff, L., Gray, H. B., and Reichardt, H. (2023). The missing link: Women and intergenerational mobility.
- Ang, D. (2023). The birth of a nation: Media and racial hate. *American Economic Review*, 113(6):1424–1460.
- Chong, A. and Ferrara, E. L. (2009). Television and divorce: Evidence from brazilian novelas. *Journal of the European Economic Association*, 7(2-3):458–468.
- Dahl, G. and DellaVigna, S. (2009). Does movie violence increase violent crime? *The quarterly journal of economics*, 124(2):677–734.
- Dale, E. (1935). *The content of motion pictures*. Number xv, 234 p. in Motion pictures and youth; the Payne fund series. Macmillan, New York.
- Dale, E. (1937). Child welfare and the cinema. *The English Journal*, 26(9):698–705.
- Denby, D. (2016). Sex and sexier. <https://www.newyorker.com/magazine/2016/05/02/what-the-hays-code-did-for-women>.
- Faria, V. E. and Potter, J. E. (1999). 11 television, telenovelas, and fertility change in north-east brazil. *Dynamics of values in fertility change*, page 252.

References II

- Fearing, F. (1947). Influence of the movies on attitudes and behavior. *The ANNALS of the American Academy of Political and Social Science*, 254(1):70–79.
- Ferrara, E. L., Chong, A., and Duryea, S. (2012). Soap operas and fertility: Evidence from brazil. *American Economic Journal: Applied Economics*, 4(4):1–31.
- Forman, H. J. (1933). Our movie made children.
- Gentzkow, M. and Shapiro, J. M. (2008). Preschool television viewing and adolescent test scores: Historical evidence from the coleman study. *The Quarterly Journal of Economics*, 123(1):279–323.
- Holiday, P. W. and Stoddard, G. D. (1970). Getting ideas from the movies. (*No Title*).
- Jensen, R. and Oster, E. (2009). The power of tv: Cable television and women's status in india. *The Quarterly Journal of Economics*, 124(3):1057–1094.
- Peterson, R. C. and Thurstone, L. L. (1933). Motion pictures and the social attitudes of children.

Motion Pictures and Youth - The Payne Fund Studies (1929-1932)

"But that the movies are actually molding their habits of mind, their imagery, their outlook on and adjustment to life, supported as it is by numerous facts gathered by the Payne Fund research, is a discovery of the most vital importance in all the field of social study." (Forman, 1933)

"With a few special exceptions, everybody - social scientists, movie makers, and laymen - seems to agree that there are profoundly important relationships between motion pictures and human behavior." (Fearing, 1947)

- ▶ Twelve studies documenting the influence of motion pictures on children and the youth with a budget of over \$200,000 (Dale, 1937) - over \$4M in 2024 dollars.
 - ▶ Around forty to fifty percent of the pictures are occupied with love, sex, and crime (Dale, 1935)
 - ▶ The average retention rate of content on the screen for children is 70% of adults. The percentage of relative retention grows after the lapse of a month. (Holaday and Stoddard, 1970)
 - ▶ A before-after comparisons of attitudes towards nationality and race in high schools in Illinois suggests a change in attitudes (even nine months after watching the film) in the direction conveyed by the film (Peterson and Thurstone, 1933)

Back

Recent literature

- ▶ Preschool TV exposure in the US: ↑ average adolescent test scores (↑ for children from households where English is not the primary language, for children whose mothers have less than a high school education, and for nonwhite children) (Gentzkow and Shapiro, 2008).
- ▶ Introduction of cable television in rural India: ↓ acceptability of domestic violence towards woman and son preference and ↑ school enrollment for younger children (Jensen and Oster, 2009).
- ▶ Globo telenovelas in Brazil: ↓ fertility (Ferrara et al., 2012; Faria and Potter, 1999) and ↑ divorce rates (Chong and Ferrara, 2009).
- ▶ *Birth of a Nation* in the US: ↑ local Klan support in the 1920s, ↑ rates of hate crimes and hate groups a century later (Ang, 2023).
- ▶ Violent movies in the US: ↓ violent crimes via voluntary incapacitation (Dahl and DellaVigna, 2009).

Back

Alternative Identification Strategy

$$(\bar{y}_{1910} - y_{i,1950}) = \beta_0 + \beta_1 \overline{FilmContent \times ImpYears}_{it} + \mathbf{X}_i + \omega_t + \varepsilon_{idt}$$

where

$$\overline{FilmContent \times ImpYears}_{it} = \delta_0 + \delta_1 \text{Post Hays Code}_t + \mathbf{X}_i + \omega_t + \zeta_{idt}$$

\bar{y}_{1910} Mean of outcome of interest in 1910 in the US (e.g., average age of marriage)

$y_{i,1950}$ Outcome of interest in 1950 for individual i

$\overline{FilmContent \times ImpYears}_{it}$ Average content shown in the films exhibited over each year that corresponds to individual i's impressionable age period.

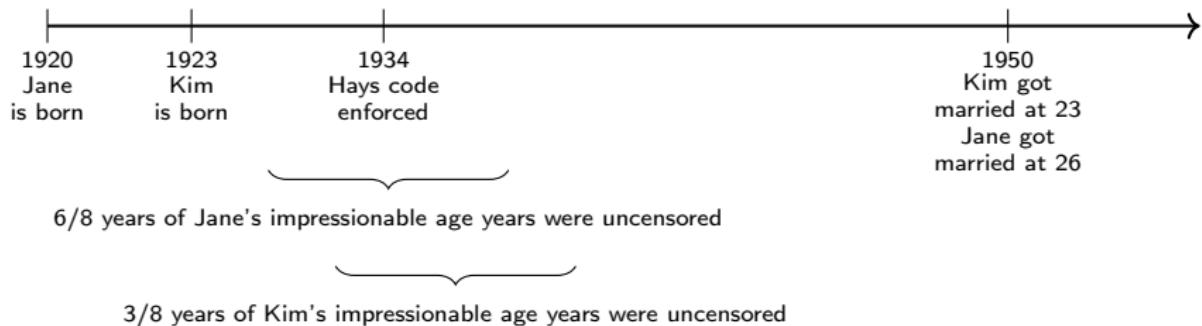
\mathbf{X}_i Vector of controls

- ▶ share of years exposed to exogenous shocks (Great Depression, WW2)
- ▶ parents' characteristics

γ_s is a place Fixed Effect (e.g., state/county/census tract)

Alternative Identification Strategy

Assumption: After including our above controls, for any given impressionable age range $[x - y]$, the only relevant difference in expectation between the two comparison groups is their year of birth.



Back

On the "First Stage"

By the end of Breen's first year, the freewheeling sexual atmosphere of the cinema had been effectively smothered (Denby, 2016).



Figure: Betty Boop before and after the Hays Code.

Back