

# Enhanced Trade Secret Protection Causes Firms to Stay Private

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## Introduction

- Researchers and policymakers have raised serious concerns about the disappearance of public firms (e.g. *Doidge et al., 2018*)
- Median firm *age at IPO* has almost doubled since 1980 reaching 14 years

### RQ: Why are U.S. firms staying private?

## Institutional Details

- **Trade secret** is confidential and valuable for its owner information
- Trade secret regulation relied on court precedents within states, until they gradually enacted variants of Uniform Trade Secret Act (**UTSA**) over time
- Federal Defend Trade Secret Act (**DTSA**) further enhanced the protection of trade secrets in states that had adopted weaker versions of the UTSA
- Both the **UTSA** and **DTSA** define and clarify trade secret misappropriation, outline penalties, and set time limits for affected firms to seek remedies

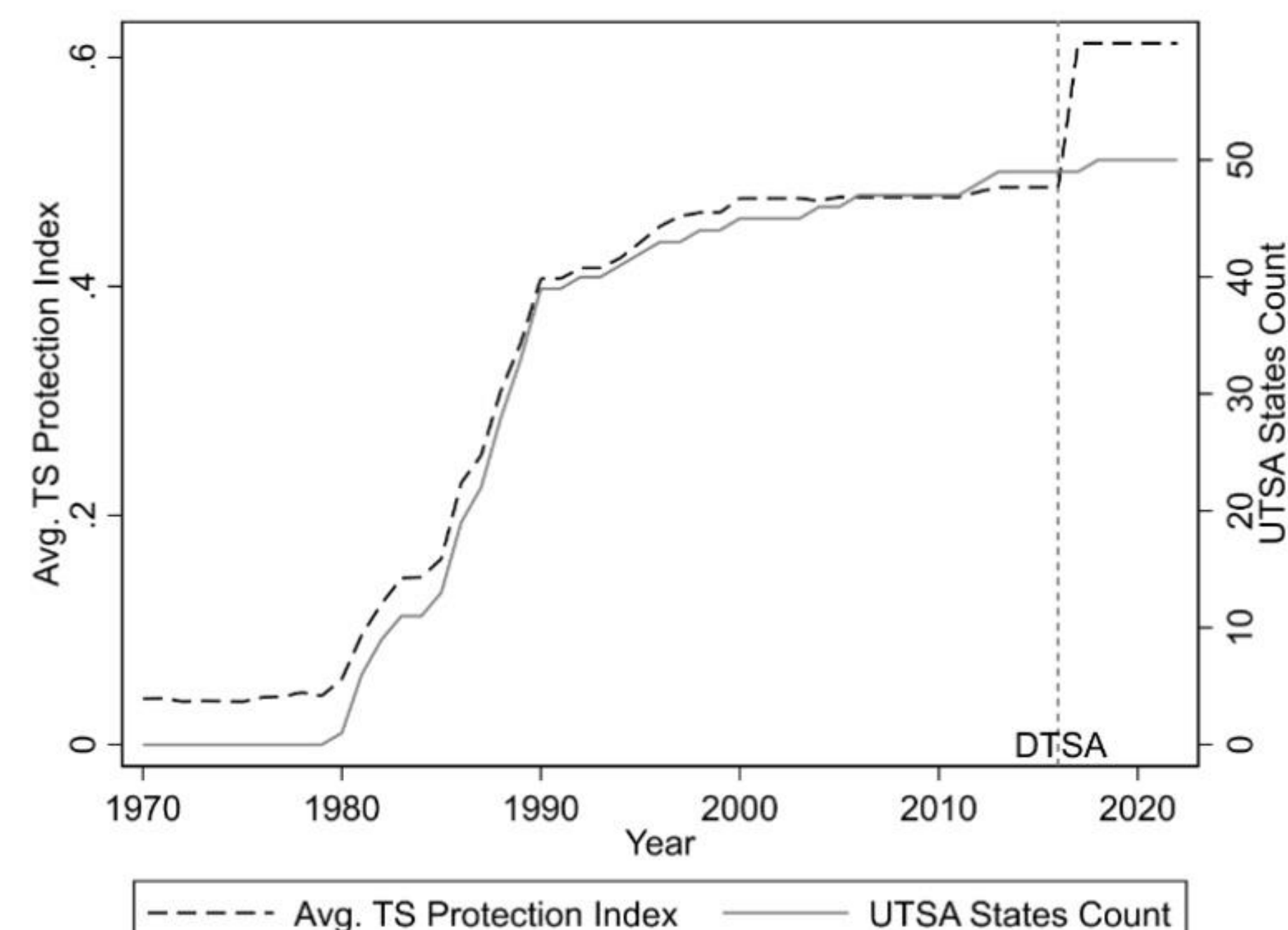


Figure 1: UTSA Adoption Across U.S. States and Increase in Trade Secret Protection

## Estimation Strategies

- **Staggered Diff-in-Diff** estimation of the *age at IPO*, which utilizes the **UTSA**-induced increase of a trade secret protection index (*Png, 2017a*)
- **Diff-in-Diff** estimation of the *age at IPO*, leveraging the Federal **DTSA**'s impact on trade secret protection in states with weaker UTSA versions

## Main Results

- The **UTSA** extended the period firms stayed private by **13 to 16 months**, accounting for up to one-third of the overall effect during 1980 – 2012

Table 4.1: Trade Secret Protection Index Shock and Staying Private Longer

	All Firms			Before 2000	Excl. CA
	(1)	(2)	(3)	(4)	(5)
TS Index	4.412*** (2.92)	4.095*** (3.01)	3.315*** (2.83)	4.081*** (2.98)	3.320*** (3.27)
Observations	8546	8546	8546	7277	6609
Industry × Year FE	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Winsorization	1%	1%	5%	1%	1%

- Firms in states affected by the **DTSA** increased the period they stayed private by more than **20 months** during 2012 – 2020

Table 4.6: Impact of the DTSA on Firm Age at IPO

	All Firms			Excl. CA	VC-backed
	(1)	(2)	(3)	(4)	(5)
Δ TS Index	21.662*** (3.21)	21.398*** (3.25)	14.899** (2.65)	24.763*** (3.61)	10.500*** (3.34)
Observations	1253	1253	1253	883	658
Industry × Year FE	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Controls	No	Yes	Yes	Yes	Yes
Winsorization	1%	1%	5%	1%	1%

- These results remain robust when applying a log transformation to the *age at IPO* variable, using the Poisson fixed-effects model, discretizing trade secret protection shocks, and utilizing new event study techniques

## Mechanisms

- Opportunity costs of IPO rise as corporate disclosure threatens secrecy
- Firms operating in more competitive product markets are more likely to conceal information (*Verrecchia & Weber, 2006*) and **stay private longer**

Table 4.8: Competitive Advantage Channel: Industry Concentration

	UTSA: 1980-2012		DTSA: 2012-2020	
	(1)	(2)	(3)	(4)
TS Index	5.601* (1.87)	0.314** (2.61)		
TS Index × TNIC HHI	-9.428* (-1.84)	-0.528*** (-3.36)		
Δ Index			34.736*** (3.54)	1.715*** (3.57)
Δ TS Index × TNIC HHI			-47.702 (-1.16)	-3.606** (-2.30)
Observations	7724	7724	1078	1078
Industry × Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Winsorization	1%	Log	1%	Log
F-test p-value	0.27	0.22	0.75	0.29

- Secrecy heightens inform. asymmetry between insiders and outsiders
- Firms operating in industries with extensive analyst coverage are more sensitive to changes in information asymmetry and **stay private longer**

Table 4.9: Financing Channel: Industry Analyst Coverage

	UTSA: 1980-2012		DTSA: 2012-2020	
	(1)	(2)	(3)	(4)
TS Index	2.729 (1.69)	0.078 (0.83)		
TS Index × High # of Analysts	2.993** (2.05)	0.131* (1.92)		
Δ Index			11.676 (1.57)	0.418 (0.80)
Δ TS Index × High # of Analysts			23.022*** (2.82)	1.111** (2.51)
Observations	8546	8546	1253	1253
Industry × Year FE	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Winsorization	1%	Log	1%	Log
F-test p-value	0.00	0.01	0.00	0.00

## Takeaway message

- I show that intellectual property protection, trade secrets in particular, plays a large and “unintended” role in the decline of public firms

