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# Anti-SLAPP Laws and the Real Effects of Civil Procedure

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**Research Article**

**Keywords:**

**Posted Date:** October 28th, 2026

**DOI:** https://doi.org/10.21203/rs.3.rs-11353063/v1

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**Additional Declarations:** No competing interests reported.

# Anti-SLAPP Laws and the Real Effects of Civil Procedure

Brandon Schaufele*

October 12, 2026

**Abstract**

Civil procedure has real economic effects. Anti-SLAPP laws – statutes targeting "strategic lawsuits against public participation" (SLAPPs) – have proliferated across the US and Canada. I incorporate SLAPPs into a model of frivolous litigation, showing that their economic implications are narrower than frequently portrayed. Using a staggered-adoption difference-in-differences design, I estimate the effects of SLAPPs in the real estate market. In large Canadian cities, anti-SLAPP laws reduce construction investment by roughly $60 million per month and lower new single-family home starts. In the US, they are associated with median house prices $24,000 higher. Anti-SLAPP laws meaningfully affect investment, housing, and prices.

**Keywords:** Anti-SLAPP laws, civil procedure, frivolous lawsuits, real estate development, tort.

**JEL codes:** K41, K15, R39.

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No funding was received for this manuscript.

*"Everyone loves to hate SLAPPs." – Beatty (1997, pg.108)*

# 1 Introduction

On September 10, 2020, the Supreme Court of Canada released a decision in 1794604 Ontario Limited versus Pointes Protection Association ("Pointes Protection") (2020 SCC 22). The Pointes Protection decision represented the Canadian Court's first guidance on anti-SLAPP legislation. Anti-SLAPP laws have proliferated across North America. The acronym SLAPP refers to "strategic lawsuits against public participation."[1] SLAPPs are meritless defamation lawsuits typically filed by businesses against ordinary citizens who, on public interest grounds, oppose the companies' activities (Beatty, 1997).[2,3] A SLAPP is private claim, where the purported objective is to quell opposition and limit a defendant's ability to participate in public debate. The canonical example, characterized by the Pointes Protection case, is when a developer sues a local, grassroots organization in an attempt to intimidate and silence opposition to a real estate project.

In the US, 31 states have enacted anti-SLAPP provisions as have the Canadian provinces of British Columbia, Ontario and Quebec (Rasmussen, 2011; anti slapp.org, 2021).[4] Anti-SLAPP laws are designed to distinguish meritorious lawsuits that *arise* from public participation from frivolous suits designed to *suppress* public participation. Anti-SLAPP advocates argue that defamation lawsuits are malicious and designed to limit expression on valid public policy issues (Ecojustice, 2010). Plaintiffs, as expected, adopt the opposite perspective. They maintain that

[1]The term SLAPP, or strategic lawsuit against public participation, originates with Canan and Pring (1988). They classify a series of what they view as "intimidation lawsuits," civil tort litigation strategically designed to chill public participation in policy and economic dialogue (Pring and Canan, 1996).

[2]The Pointes Protection decision defines SLAPPs as "lawsuits initiated by plaintiffs who use litigation not as a direct tool to vindicate a *bona fide* claim, but rather as an indirect tool to limit the expression of others" (at para. 2, 2020 SCC 22).

[3]While the large majority of SLAPP claims are for defamation, they may also include breach of contract or a range of torts such as nuisance, conspiracy, process abuse or other business torts. As an example, between 2015 and 2020, the Canadian province of Ontario has had only 3 out of 52 anti-SLAPP motions claim a tort other than defamation (as of November 2020).

[4]The Canadian province of British Columbia originally had anti-SLAPP legislation for several months in 2001, a law was that almost immediately repealed following the election of a new government. The province reinstated (modified) anti-SLAPP rules in 2019.

many legitimate claims are mischaracterized as SLAPPs. Civil litigation, as a general rule, involves disagreements that are factually or legally ambiguous and most jurisdictions have mechanisms to expeditiously dismiss frivolous suits.[5] The unique feature of anti-SLAPP legislation is the interaction of a *private* legal proceeding with a *public* policy debate. Anti-SLAPP laws seek to thaw the alleged chilling effect of litigation on public expression. This was the presumptive motivation underlying the Pointes Protection action in Canada: a grassroots conservation organization, seeking to protect an ecologically sensitive area, *may have been* reluctant to protest the proposed new development if were not protected from costly, uncertain and frivolous legal action.

The nature of most anti-SLAPP legislation is a balancing test where courts sort meritorious from frivolous lawsuits. Anti-SLAPP balancing tests add a unique dimension to the standard rules of civil procedure: they incorporate the prospective value of public expression. Public expression and the ability to participate in policy debates is viewed as foundational to participatory government. As such, these provisions are often viewed as pro-democratic. Yet, while courts can interpret and apply balancing tests, they are not in a position to address broader policy implications of anti-SLAPP legislation. Because of the interaction of private claims with public acts, these laws have the potential to ripple throughout the economy, influencing behaviour outside of the courtroom. That is, there may be real economic effects of civil procedure. The contribution of this paper is to model and measure these consequences.

My focus is the prospective chilling effect of anti-SLAPP laws on construction investment and physical real estate development.[6] The phrase "chilling effect," especially when translated into legal rules, is frequently contested (Kendrick, 2012). Critical to the analysis is that the real effects of civil procedure are difficult to pin down. Hence, I begin by modelling litigants' behaviour under two scenarios: with and without anti-SLAPP laws. The model offers precise, if stylized, hypotheses for the real effects of civil procedure. Importantly, by bringing SLAPPS within the purview

[5]Indeed, the dominant theme of the economics of civil procedure involves studying mechanisms that trade-off direct litigation costs versus error costs (Klerman, 2015).

[6]Bradshaw (2021) describes how land development projects are a source of endless controversy, where groups interact to block, approve or stall projects. Indeed, she outlines how public stakeholders can impose increasing costs on developers, pushing otherwise profitable projects into negative expected values. As a result, real estate is viewed as a particularly important sector to evaluate the implications of SLAPPs.

of canonical models of frivolous lawsuits (e.g., Bone, 1997), the conceptual framework highlights that prospective SLAPP problems are narrower than conventionally believed (e.g., Pring and Canan, 1996).

After establishing how to measure chilling effects, I estimate the economic implications of anti-SLAPP legislation on construction investment and new home starts in Canada. Extensions investigate the implications for house prices in the US and the prospective effect on the tone of public discourse. Measuring the effects of anti-SLAPP laws presents several empirical challenges. Principally, anti-SLAPP laws are not randomly assigned to jurisdictions. Interventions may be confounded with unobserved province-level factors such as the propensity to engage in litigation. To address this, my main research design is based on staggered adoption difference-in-differences assumptions. Using data for 35 municipalities and exploiting cross-provincial variation in the enactment of legislation, I find that anti-SLAPP laws reduce average city-level construction investment by an economically notable $60 million per month. Lower investment is driven by reduced physical construction of single family homes and is concentrated in large cities. The results demonstrate that 120 fewer single family homes are started per month and less investment flows to commercial and industrial projects compared with a counterfactual scenario where anti-SLAPP legislation was not implemented. Declines in single family homes are partially offset by an increase in the number of multi-unit, apartment starts. For the US, states with anti-SLAPP laws experience higher median house prices on the order of $24,000 compared with a counterfactual scenario where the state does not enact anti-SLAPP statutes. Although these estimates fall short of a full welfare analysis because they do not value the democratic and informational benefits of protected expression, they show that anti-SLAPP laws operate on an economically meaningful margin by affecting investment, housing starts, and prices.

While anti-SLAPP legislation has captured the attention of legal scholars, economic and public policy literature on the topic is scant.[7] Hurley and Shogren (1997) and Hurley (1995) model SLAPPs as a game of asymmetric and incomplete informa-

[7]SLAPPs are a category of frivolous lawsuits. Frivolous lawsuits have received substantial attention in the law and economics literature, with contributions from Bebchuk (1988, 1996); Cooter and Rubinfeld (1989); Katz (1990); Rosenberg and Shavell (1985) among many others. Much of this literature has focused on the ability to solicit settlement or the roles of cost shifting and court sanctions in deterring nuisance suits. Few papers empirically link the merits of a suit to a broader public policy dialogue, thus this analysis adds a new dimension to the literature on frivolous suits.

tion with endogenous timing. Yet, it is not obvious that SLAPPs involve asymmetric information and, indeed, there are persuasive arguments against promulgating anti-SLAPP laws based on asymmetric information problems. Courts have mechanisms for discovery and a wide array of tools to minimize informational asymmetries. Judges should therefore be reluctant to pursue early dismissal on the grounds of one side's informational advantage (notwithstanding the costs of the discovery process). More directly, Hurley (1995) and Hurley and Shogren (1997) avoid evaluating SLAPPs as an independent phenomenon. Rather they treat suits as instrumental, revealing an agent's type. In this, they overlook many interesting legal and policy implications of anti-SLAPP rules.

Chilling effects of public actions, in contrast, have a long track record in policy debate. As an economic concept, however, defining how specific rule changes, especially with respect to court functioning, influence real economic activity has proved difficult. To the best of my knowledge, no empirical estimates exist within the law or economics literature on anti-SLAPP laws or on the extra-jurisdictional outcomes from civil procedure more generally. Despite this, several papers measure the economic effects of procedural rule changes. For example, Altindag et al. (2021) show how loss of immunity chilled the political activities of opposition Turkish Members of Parliament. Without immunity, opposition members drafted fewer pieces of legislation and curtailed criticism of the governing party. Galasso and Luo (2022) study how increased upstream product liability chills innovation in the medical device industry. They demonstrate how knock-on liability claims caused upstream suppliers to foreclose input markets, avoiding the risk of future lawsuits, but also reducing new product development. These papers suggest that there are real effects from procedural rule changes. Yet, given the paucity of empirical evidence, there is notable scope for additional study on whether and by how much courtroom procedures influence external economic decision-making.

# 2 Conceptual Framework

## 2.1 SLAPPs in a Model of Frivolous Lawsuits

The real economic effects of civil procedure emerge from a model of frivolous lawsuits that incorporates SLAPPs. Modelling SLAPPs offers several insights. First, it

clarifies how equilibrium strategies and payoffs are determined by a series of background parameters that establish the environment. Notably, anti-SLAPP laws have the potential to affect the real economy even if there is no observed change in the quantity of lawsuits filed (or protests). Nonetheless, because of the model, testable empirical hypotheses become evident.

Second, modelling SLAPPs refines ambiguities in existing definitions of concept. Pring and Canan (1996, pgs. 8-9) state: "To qualify as a SLAPP ... a lawsuit ... had to involve communications made to influence a governmental action or outcome, which, secondarily, resulted in (a) a civil complaint or counterclaim (b) filed against nongovernmental individuals or organizations (NGOs) on (c) a substantive issue of some public interest or social significance." While intuitive, difficulties immediately arise from this definition. In particular, Pring and Canan's interpretation allows for inefficient actions by plaintiffs and defendants. Rational agents will not invest in a lawsuit unless there is a positive expect payoff. By allowing inefficient actions, the Pring and Canan definition classifies virtually any legal action by a business against a non-business entity as a SLAPP. Simply, it is too broad as it includes cases brought on their merits. Similarly, the definition is equivocal with respect to the difference between SLAPPs and otherwise vanilla frivolous suits. As the model clearly demonstrates, SLAPPs are the product of a *complementarity* between reducing opposition to a project and the potential harm inflicted by the defendant. Both elements of the complementarity – reducing opposition to a project and the potential harm caused by the defendant – are required to distinguish a SLAPP from a generic frivolous claim. Without that complementarity, it is dubious to categorize a suit as a SLAPP. (It is better thought of as a simple frivolous suit.)

Using frivolous lawsuits as a starting point poses challenges, of course. Defining frivolous lawsuits has proved difficult.[8] Conventionally, frivolous lawsuits are cases with a negative expected monetary value for the plaintiff (Bone, 2003; Miceli, 2009; Cooter and Ulen, 2008). While intuitive, this definition overlooks a critical access to justice function of the courts: often plaintiffs pursue cases for reasons other than monetary compensation (Kalajdzic, 2018). Establishing jurisprudence, for instance, is viewed as meritorious, even in circumstances where monetary damages are small or doubtful. Defamation cases, the most common form of anti-SLAPP claim, pro-

[8]Indeed, Miceli (2009, pg.181) argues that "it is virtually impossible to offer data on ... suits that are in fact frivolous".

vide another example. Through a public proceeding, a plaintiff may believe that they were libeled. Further, the plaintiff may have full information and know that defamation suits almost always fail (Bezanson, 1986; Young, 2017). Nonetheless, the plaintiff may pursue a case on non-monetary grounds to restore their reputation, perhaps seeking something as simple as an apology. Hence, classifying suits that yield negative expected values as frivolous is restrictive. For analytical clarity, the remainder of this section adopts the conventional definition. Frivolous cases are those with negative expected monetary payoffs.

This paper's empirical predictions come from a model with two players, stylized as a Developer and a Conservation Group. Figure 1 illustrates their interactions in an extensive form game of symmetric, complete but imperfect information. This game contains five prospective outcomes and the model proceeds sequentially with two stages. The model is fully described and solved in Appendix B. It is briefly summarized here.

The game starts after the Developer proposes a real estate project. In the first stage, the Conservation Group observes the proposal and decides whether to PROTEST or ACCOMMODATE. PROTEST involves fighting the development, while ACCOMMODATE entails letting the project proceed unopposed. In the second stage, if the Conservation Group plays PROTEST, the Developer moves, choosing whether to SUE the Conservation Group. Alternatively, it may choose DO NOT SUE and avoid the courtroom battle. The outcome from this game is determined by nature randomly selecting whether the real estate project is approved or not. The equilibrium is subgame perfect, solved backwards.

The game is solved under two states of the world. In one scenario, player strategies, equilibria and payoffs are evaluated in the game as presented in Figure 1. This is referred to as the business-as-usual (BAU) state of the world, one without anti-SLAPP laws. The second scenario is the anti-SLAPP environment. Anti-SLAPP laws operate by restricting the set of actions – and hence strategies – available to the Developer. Anti-SLAPP laws eliminate the SUE action, forcing the Developer to play DO NOT SUE. The consequences of anti-SLAPP laws are defined by comparing equilibrium strategies in the BAU to the anti-SLAPP versions of the model. Notably, the theory mirrors the paper's difference-in-differences research design which compares counterfactuals without anti-SLAPP laws (i.e., BAU states) to those that introduce these laws during the period of analysis.

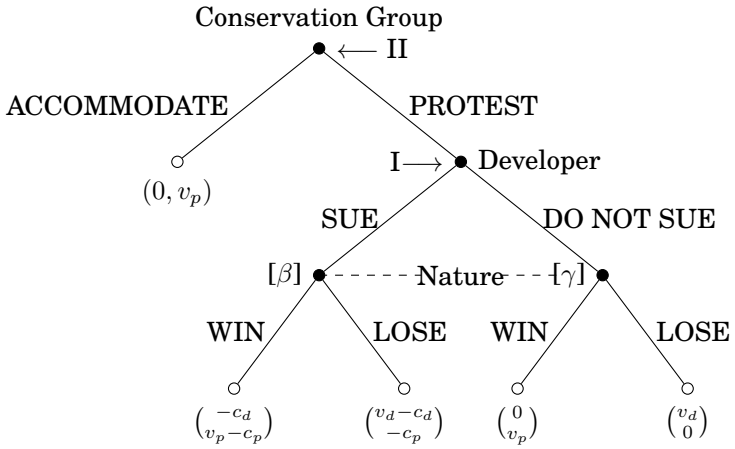


Figure 1: Game Tree for Interactions between the Developer and Conservation Group

*Note:* The figure shows the sequential interaction between the Developer and Conservation Group. Payoffs are ordered as Conservation Group payoff first and Developer payoff second. Subscripts $d$ and $p$ denote the defendant (Conservation Group) and plaintiff (Developer), respectively.

The model assumes that plaintiff payoffs are primarily related to the project, not the purported harm propagated by the tortfeasor. The stylization is where the Conservation Group defames the Developer, potentially harming its reputation. The claim is brought because this defamation, but the suit is only a SLAPP because the developer's payoffs depend on both the remedy for the (potential) defamation and the outcome of the project. This is an important point. Suing exclusively over damage to reputations is a vanilla defamation claim, one covered by conventional models of civil procedure. Suing only based on defamation does not make the case a SLAPP. The case only becomes a SLAPP because the consequences of the Conservation Group's public actions, actions for which the defamation suit is filed, interact with the real estate project. That is, there is a real economic consequence outside the courtroom. SLAPPs are defined by a complementarity between the payoffs of the external real estate project and the alleged harm from the defamation. Both motivations, the alleged reputational harm *plus* the spillover to the project, factor into the plaintiff's strategy. Indeed, this is how and why SLAPPs are distinct from other nuisance lawsuits. If a defamation suit has no influence on the project, then it is dubious to classify the suit as a SLAPP; instead, it is a conventional claim, even if a frivolous one. To restate, SLAPPs occur because of the complementarity between the

legal proceeding and outcomes related to, but independent from, that proceeding. The spillover to outside projects is the characteristic that differentiates SLAPP from vanilla lawsuits.

Next, the real effects of anti-SLAPP statutes exist because of the complementarity *and* because the new law changes equilibrium play. Both public expression and the developer's decision to pursue projects are the objects influenced by anti-SLAPP laws. The suits themselves are secondary. In fact, I do not empirically study SLAPPs directly. I focus on how anti-SLAPP laws change the incentives to develop real estate projects *relative to a counterfactual scenario where the laws did not exist*. It is the change in equilibrium play by the defendant Conservation Group and plaintiff Real Estate Developer that yields testable predictions.

A critical function of the model is to outline what is observable and unobservable in data. Table 1 outlines the equilibria and payoffs as a function of the environmental parameters. Of note, observable SLAPPs (or, say, protests) are only necessary, not sufficient, for there to be a measurable chilling effects in the real economy. The model demonstrates that the mere threat of a SLAPP (or protest), can change behavior regardless of whether actual lawsuits are observed in data. Ultimately, there are four prospective equilibria and two chilling effects. The first chilling effect is on public expression in the BAU scenario. The second is on project development in the anti-SLAPP scenario. Two equilibria predict no extra-jurisdictional consequences (i.e., there are no real effects from civil procedure under these environmental configurations). The value of the model is that it delivers clear predictions for the scope of SLAPPs and their implications for economic outcomes. To state differently, there are real effects from civil procedure in two out of four equilibria, and no real implications in two other equilibria.

Table 1 summarizes the four equilibria with actions, payoffs and real economy consequences summarized in the columns. First, when anti-SLAPP laws exist, the Conservation Group always plays PROTEST and the Developer is restricted to the DO NOT SUE action. Prospective chilling effects evince by comparing this scenario to the three more nuanced BAU equilibria shown in the bottom rows of Table 1. Under BAU, the Conservation Group's choice of action depends on a comparison of the costs and benefits of protesting. In the first case, the Developer plays DO NOT SLAPP and the Conservation Group PROTEST. No chilling of public expression materializes because there is no credible threat of legal action (see the Appendix for additional

discussion).

| | *Anti-SLAPP Scenario* | *Potential Equilibria under Business as Usual* | | |
|---|---|---|---|---|
| *Equilibrium Strategy* | | | | |
| Conservation Group | PROTEST | PROTEST | ACCOMMODATE | PROTEST |
| Developer | DO NOT SUE | DO NOT SUE | SUE | SUE |
| *Payoffs* | | | | |
| Public expression | $(1-\gamma)v_d$ | $(1-\gamma)v_d$ | 0 | $(1-\beta)v_d - c_d$ |
| Real estate development | $\gamma v_p$ | $\gamma v_p$ | $\beta v_p$ | $\beta v_p - c_p$ |
| *Change caused by enacting anti-SLAPP laws:* | | | | |
| Public expression | | No change | Thawing | No change |
| Real estate development | | No change | Chilling | No change |

Table 1: Summary of Chilling Effects due to Enacting anti-SLAPP Laws

Next, the second case shows an equilibrium where public debate is chilled in BAU (thawed in the anti-SLAPP scenario). In this equilibrium, the Conservation Group's strategy is to play ACCOMMODATE. It does not voice opposition to the project because the prospect of fighting the defamation suit is more costly than the benefits of fighting to prevent the development. Since the Conservation Group acquiesces in the face of credible legal action, there is a chilling effect on participation in public debate. This situation, where the Conservation Group remains silent due to the threat of legal action, is what anti-SLAPP laws are designed to mitigate.

Finally, in the third equilibrium, public participation proceeds and there is no chilling effect because the Conservation Group plays PROTEST. Importantly, however, even though public expression is not chilled in this equilibrium, the Conservation Group is forced to engage in costly litigation and their equilibrium payoffs are less than in the anti-SLAPP scenario. Likewise, anti-SLAPP laws do not chill real estate investment because the laws have no effect on the Developer's equilibrium strategy.

Straightforward predictions arise from a standard model of litigant behaviour that includes SLAPPs. The model predicts that switching from BAU to an anti-SLAPP scenario chills real estate investment and thaws public expression. Both effects are proscribed to specific equilibria that depend on the magnitudes of the game's parameters. There is no deterrence in two out of three parameter configurations. Therefore, the extent to which these laws matter for economic outcomes is an empirical question.[9] Further, by clarifying the nature of Developer and Conservation group

[9]Empirically consistent generalizations could also be added to the model. For example, a proposal

interactions, the model demonstrates that SLAPPs, as a phenomenon, are more limited than frequently conveyed.

## 2.2 Anti-SLAPP Laws and Codes of Civil Procedure

The model presented in Figure 1 necessarily simplifies important features of how civil disputes are resolved. Several additional comments on the relationship between anti-SLAPP statutes and civil procedure are merited.

First, factual or legal ambiguity, judicial conservatism or the prospect for legal error are required for SLAPPs – or any lawsuit – to exist. Some uncertainty about how a judge (or regulator) will determine an outcome must be involved, otherwise both the Developer and Conservation Group would immediately settle. This is true for both anti-SLAPP and BAU scenarios. Because of this uncertainty, each player requires some subjective probability distribution over potential outcomes. Stated differently, both players have incomplete information with respect to how the court will treat the plaintiff's defamation suit. (All suits would be foregone conclusions without this uncertainty.) As with the definition of frivolous suits, there is disagreement on the precise causes for incomplete information (e.g., differing perceptions, legal error, etc.). I avoid taking a position and merely accept some case-specific randomness. More directly, Figure 1 adopts a standard trick for this class of game (Harsanyi, 1967). Figure 1 does not illustrate a game of incomplete information. Rather, it shows an extensive form game of complete but imperfect information by introducing Nature as a player that randomly determines the outcome of both the real estate project (as illustrated by $\beta$ and $\gamma$ in Figure 1) and, correspondingly, the defamation suit (as shown with $\alpha$ in Appendix Figure B.2). The purpose of this analysis is to compare scenarios with and without anti-SLAPP laws, so these modelling short-cuts are viewed as innocuous.

Second, this set-up relies on another implicit assumption, namely that, after passing anti-SLAPP legislation, courts are able and willing to distinguish between prospective SLAPPs and otherwise legitimate tort claims. Prior to enacting anti-

stage could be included prior to the Conservation Group's decision node. If sunk costs are required to propose a project, then a Conservation Group's threat of protest may be sufficient to chill real estate investment, even if protests are unobserved. That is, if the threat of protests is sufficiently credible, switching from a BAU to anti-SLAPP scenario may reduce real estate investment while yielding no change (or even a reduction) in observed public expression.

SLAPP laws, the large majority of codes of civil procedure already contained provisions for the early dismissal of frivolous lawsuits. As an example, the Canadian Province of Ontario's Rules of Civil Procedure (O. Reg. 575/07, 2020) contain rule 2.1.01 (1) that states: "The court may, on its own initiative, stay or dismiss a proceeding if the proceeding appears on its face to be frivolous or vexatious or otherwise an abuse of the process of the court."[10] Independent of whether anti-SLAPP statutes exist, judges are expected to evaluate claims on their merits, ignoring irrelevant facts. An absence of anti-SLAPP laws in BAU does not grant frivolous suits free-pass as pre-existing rules *should require* judges to evaluate the facts of the case regardless.

While anti-SLAPP statutes may appear redundant, that conclusion does not necessarily follow from the existence of other procedural dismissal mechanisms. Existing rules determine how courts resolve cases, whereas anti-SLAPP legislation may also alter litigants' incentives before cases are adjudicated. Litigation is costly and uncertain, and risk-averse defendants may rationally avoid speech even when they expect to prevail in court. By reducing the expected costs and risks of defending against meritless claims, anti-SLAPP statutes can shift behaviour before a lawsuit is ever filed. If judges already dismiss meritless suits efficiently, the statutes should have little additional effect. If, however, they reduce the chilling effect created by litigation risk, then they are not redundant even if ultimate courtroom outcomes remain unchanged.

Advocates continue to lobby for the inclusion of anti-SLAPP rules in codes of civil procedure. In fact, prior to enacting its law, the Province of Ontario convened a panel to evaluate the merits of proposed anti-SLAPP legislation. Among received comments, "most of the submissions (27 out of 31) supported the introduction of special legislation against SLAPPs" (Ontario, 2010, at para. 6). Moreover, as the Pointes Protection example from the Introduction highlights, courts have internalized tests of public participation and are paying greater attention to extra-case facts when determining whether early dismissal is warranted. This suggests that anti-SLAPP legislation does influence court behaviour – and likely portends a harsher overall policy and regulatory environment for real estate development, one the goes beyond courtroom manoeuvring. Debate over the merits of legislation – and their

[10]Appendix A also reviews the two-part legal test, used to appraise anti-SLAPP motions, as articulated in the Supreme Court's Pointes Protection decision.

real economic effects – hinges on how courts (and zoning authorities) respond to anti-SLAPP rules. The empirical question in this research is on the consequence for real estate development. Yet, the connection of real estate investment to anti-SLAPP laws occurs through the courts. That is the mechanism through which civil procedure influences economic outcomes. Some real or perceived change in judicial decision-making or shift in investor expectations, as examples, are needed for their to be an observed effect on economic outcomes.

Finally, anti-SLAPP laws will do little to encourage public expression if it is the threat of legal action, rather than the act of filing a suit, that quells opposition. Cheap talk about prospective lawsuits may play a role, even if the threat is not credible (i.e., actions on an off-equilibrium path). Uncertainty due to legal error means that meritless threats may mute some opposition and chill public debate, even if it is mere posturing. Of course, the counter-argument equally applies: many government and regulatory bodies provide explicit and protected opportunities for public consultation. Because public debate has extra protection in these venues, anti-SLAPP motions only add legal costs to plaintiffs' already expensive processes. Lastly, defamation law already involves a balance between freedom of expression and protection of reputation.

# 3 Empirical Research Design

The prospective effect of civil procedure on the real economy is an empirical question, which requires data and a model to measure. Anti-SLAPP laws were introduced at different intervals across Canadian provinces and US states. Differential timing alongside a parallel trends assumption is exploited to estimate the real effects of civil procedure via a staggered adoption difference-in-difference design. Because of the differential timing of the enactment of anti-SLAPP statutes, conventional two-way fixed effects estimators are prone to the Goodman-Bacon problem, diluting treatment effects and making interpretation difficult (Goodman-Bacon, 2021; Borusyak et al., 2021). An imputed outcome design addresses this by adjusting for observations that are treated at different times and for different durations. Specifically, I apply Gardner's (2021) two-stage difference-in-differences model as my main approach. Main specifications are supplemented by applying event study estimators of Callaway and Sant'Anna (2021) and De Chaisemartin and D'Haultfœuille (2020)

as well as a variant of Heckman et al. (1997). Section 3.1 reviews the data. Section 3.2 describes the main econometric specification.

## 3.1 Data for Primary Analysis

The main analysis studies anti-SLAPP laws using city-month observations on construction investment and housing starts as the variables of interest. Data on new Canadian construction investment are from Statistics Canada for 2011-2021 (Statistics Canada, 2021). Observations are monthly, measured in Canadian dollars, for 35 Canadian census metropolitan areas (CMA), referred to as cities. Information on physical housing starts is obtained from the Canadian Mortgage and Housing Corporation (CMHC) for 1990-2021.[11] Appendix Figure C.3 provides an example of a typical Canadian CMA. CMAs are large geographical regions usually comprised of several independent municipalities. The example shows the CMA of London, Ontario, which is comprised of one mid-sized Canadian city (i.e, London), two smaller proximate cities plus several rural municipalities. Importantly, zoning responsibility and local development regulations vary across governments within CMAs as well as across CMAs.

Total construction investment is used as aggregate within city investment. Investment is categorized as residential, industrial, commercial or institutional. The latter three categories are summed into a non-residential investment variable. For both residential and non-residential, investment is further narrowed into new, or greenfield expenditure, representing approximately half of total investment. New investment excludes funds allocated to renovation and maintenance. Total investment and, especially, new residential expenditures are the variables most closely associated with SLAPPs. As an example, the Pointe Estates, the development associated with the *Pointes Protection* decision, was proposed as a new residential neighbourhood.

Similar to the distinction between new versus maintenance investment, housing starts are comprised of two series, single family units and apartments, where apartments includes row housing. These data are for, roughly, the same set of cities as the investment data. Finally, data on population and employment are also retrieved

[11] CMHC is a state-owned company ("Crown" corporation) that reports to the Canadian Parliament and receives its mandate from the federal government (CMHC, 2022b).

from Statistics Canada.

Anti-SLAPP laws exist in the Canadian provinces of Quebec, Ontario and British Columbia. Quebec's law received assent in 2009, so, while treatment turns on for all cities in the housing starts data, there is no variation in treatment status for the Quebec cities in the investment data. In other words, the cities of Gatineau, Montrèal, Quèbec City, Saguenay, Sherbrooke and Trois-Rivières are "always treated" units in the investment analysis. (The housing starts information begins well before the law's implementation, so this is not an issue for the CMHC series.) Ontario's anti-SLAPP laws came into effect in January 2016, while British Columbia's legislation passed in March 2019. Ultimately, 18 out of 35 cities experienced a change in their treatment status during the sample period of the investment data, while 23 out of 34 were treated in the housing starts data. British Columbia's legislation is widely viewed as a replica of Ontario's.[12]

Table 2 contains summary statistics for the main variables. Average monthly construction investment in Canadian cities equals $282 million, but the range is wide, spanning from $3.8 million to $3.4 billion. The range is echoed in the population data. The smallest city in the data has approximately 54,000 inhabitants, two orders of magnitude smaller than, Toronto, Canada's largest, which has more 5.5 million inhabitants.

Average new residential construction investment equals $97.6 million per city-month. The average city sees approximately 137 new homes started per month, while work commences on almost 150 apartment units per month. Dividing average monthly residential construction by average monthly starts (houses plus apartments), single family plus apartments, gives a sense of the average cost of a new Canadian residential unit. This equals $343,179 in the sample. Finally, average new non-residential investment equals $45.6 million per month.

## 3.2 Econometric Models

Identifying variation for the effect of anti-SLAPP laws on construction investment comes from the differential timing of the laws' implementation across Canadian provinces. To address interpretation issues arising from when two-way fixed effects

[12]In fact, a Supreme Court of British Columbia decision, in *Cheema v. Young* (2021 BCSC 461), applied the Supreme Court of Canada's reasoning in *Pointes Protection*, even though the *Pointes Protection* case was based on Ontario's statute.

| | Avg | StdDev | Min | Max |
|---|---|---|---|---|
| Construction investment ($000,000) | 282.4 | 518.6 | 3.8 | 3,436.7 |
| New residential investment ($000,000) | 97.6 | 177.2 | 0.3 | 1,395.2 |
| New non-residential investment ($000,000) | 45.6 | 80.0 | 1.2 | 500.0 |
| Single family housing starts | 136.5 | 227.6 | 0 | 2,524 |
| Apartment unit starts | 147.9 | 381.5 | 0 | 5,043 |
| Population (000) | 615.8 | 998.2 | 54.3 | 5,540.9 |
| Unemployment rate (%) | 6.7 | 1.9 | 1.8 | 16.7 |

Table 2: Summary Statistics for Construction Investment and Housing Starts

models are combined with staggered timing of treatment plus heterogeneous responses, I use the estimator developed by Gardner (2021) (see also, Butts and Gardner, 2021).[13] Robustness checks also apply the estimator of Heckman et al. (1997, 1998) – both the Gardner (2021) and Heckman et al. (1997) estimators are "outcome estimators" in that the missing counterfactual, the potential outcome for the treated group absent treatment, is imputed – and the event study approach of Callaway and Sant'Anna (2021).

Gardner's (2021) estimator involves two stages and recovers the population-averaged treatment effect on the treated of anti-SLAPP laws. Parallel trends facilities this procedure. Absent treatment, under parallel trends, treated units should experience the same evolution as untreated units. Gardner (2021) demonstrates that, because untreated potential outcomes are linear in group and period effects,

[13]To get intuition for why this is important, consider a simplified estimator of the average treatment effect on the treated (ATT). ATTs are simply weighted comparisons of units. Goodman-Bacon (2021) demonstrated how the conventional two-way fixed effect difference-in-difference ATT with differential timing and heterogeneous responses actually recovers a parameter that involves weighted averages of three different comparisons. First, treated units are differenced from never treated units. This comparison is valid and accords with the standard intuition of difference-in-differences. Next, treated units are differenced from yet-to-be-treated units. Again, this comparison matches what researchers are attempting to recover, the effect of switching the treatment on. Finally, the standard two-way fixed effect estimator subtracts (i.e., differences) a weighted average of earlier treated units from later treated units. This final difference is odd and involves applying a negative weight to treated observations. Because later treated units are subtracted in the calculation of the ATT, the true treatment effect is diluted by an unknown amount if there are heterogenous responses over time. Another way to state this is, we do not know whether the conditional parallel trends assumption holds when comparing late versus early treated units, precisely because, when there is the prospect for a heterogeneous treatment effect, we do not know how much the treatment affected the units. That is, there may be bias due to heterogeneity in time when comparing early to late treated units (Cunningham, 2021).

the Frisch-Waugh-Lovell Theorem can be invoked to partial out these factors. It is through formulating the first-stage that the sample selection problem, where the heterogeneous treatment effect is correlated with the fixed effects, is avoided and the second-stage recovers the parameter of interest.

More formally, the two-staged difference-in-differences procedure starts with the following first-stage regression:

$$y_{it}(0) = \lambda_i + \tau_t + \varepsilon_{it}$$

where $\lambda_i$ is the group-specific fixed effect that controls for group-specific, time invariant unobservables and $\tau_t$ is the time fixed effect, capturing shocks common to all units at a particular time. $y_{it}(0)$ is the dependent variable for the untreated observations. The estimates for the fixed effects, $\hat{\lambda}_i$ and $\hat{\tau}_t$, are then used to impute the missing untreated outcome:

$$\tilde{y}_{it} = y_{it} - \hat{\lambda}_i - \hat{\tau}_t$$

where $y_{it}$ is the observed outcome (e.g., real estate investment) and $\tilde{y}_{it}$ is the adjusted dependent variable. The second-stage then regresses $\tilde{y}_{it}$ on the variable of interest:

$$\tilde{y}_{it} = \alpha_1 + \delta_{2SDD} D_{it} + u_{it} \tag{1}$$

where $D_{it}$ takes a value of one if jurisdiction $i$ has anti-SLAPP legislation in period $t$ and zero otherwise (i.e., $D_{it} = \mathbb{1}\{\text{anti-SLAPP}_{it}\}$). $\delta_{2SDD}$ is the parameter of interest, the two-stage difference-in-differences estimate of the chilling effect of anti-SLAPP laws. $\delta_{2SDD}$ can be interpreted as the average treatment effect on the treated. Gardner (2021) and Butts and Gardner (2021) describe a general method of moments procedure which recovers the correct standard errors as $\tilde{y}_{it}$ is an estimate. For each specification, I also calculate randomization p-values by simulating a series of placebo models.

The identifying assumption for two-staged difference-in-differences is, in the absence of anti-SLAPP laws, construction investment for treated and untreated units would follow the same trend. Threats to identification come from simultaneous province-month shocks that are coincident with the enactment of anti-SLAPP

laws. This same identifying assumption is invoked in conventional difference-in-differences designs. To probe the validity of this assumption, I also apply the semi-parametric method of Heckman et al. (1997, 1998),[14,15] invoking a selection-on-observables assumption and the event study estimators of Callaway and Sant'Anna (2021) and De Chaisemartin and D'Haultfœuille (2020).

# 4 Empirical Results

Results on the effect of anti-SLAPP laws on construction investment are presented in section 4.1. Estimates for housing starts are in section 4.2. Extensions and corroborating evidence using US data are provided in section 4.3.

## 4.1 Effect of Anti-SLAPP Laws on Construction Investment

The analysis begins by studying the spillover from civil procedure onto the capital allocated to construction investment. Table 3 shows that anti-SLAPP laws chill construction investment. There are real economic effects from civil procedure.

Table 3 contains two columns. Column (1) shows a regression with province- and time-specific indicators. Province-specific but time-invariant shocks, such as the stock of judges and the propensity to engage in litigation, and time-varying factors that are common across provinces, such as the overall state of the Canadian economy, are captured by these fixed effects. Column (2) adds finer grained interacted province-year parameters. Identifying variation in column (2) is within province-year controlling for other province-level changes that vary over time. (Corresponding results using logged dependent variables, city-level fixed effects, for differing types of heterogeneity and omitting covid years are contained in Appendix D. These supple-

[14] Similar to Callaway and Sant'Anna (2021) and Sun and Abraham (2021), Heckman et al. (1997, 1998) is an aggregation difference-in-difference estimator in that a series of group-by-time treatment effects are estimated and then aggregated according to some weighting. Matching plus difference-in-differences combines the conditional independence assumption with parallel trends, so the underlying causal assumption is "conditional parallel trends" (Callaway and Sant'Anna, 2021).

[15] Common support and irreversibility of treatment are also required (Callaway and Sant'Anna, 2021). The two estimators, the primary two-staged difference-in-differences (Gardner, 2021) and the group aggregation estimator (Heckman et al., 1997, 1998), make slightly different comparisons and recover distinct estimands. They are, therefore, not directly comparable. Conditional on satisfying the identifying assumptions, both do, however, recover the causal effect of anti-SLAPP laws on the outcome.

mentary models support the findings in the main text.) Province-level fixed effects are preferred to city-level parameters as these correspond to the level of treatment. Further, the unit of observation is a CMA which frequently contains several distinct municipal planning authorities, so city fixed effects do not uniquely capture time invariant factors within a local planning region. Table 3 uses the Gardner (2021) estimator.

Column (1) shows that anti-SLAPP legislation leads to a $61 million reduction in real estate investment per month. This is an economically meaningful estimate. To give a sense of magnitude, the 60-40 interquartile range of the dependent variable equals roughly $65 million. Implementing anti-SLAPP laws, therefore, is equivalent to moving a city from approximately 60th percentile of the investment distribution to the 40th percentile, a notable change. This coefficient is precisely estimated and has a randomization inference p-value equal to 0.02.[16] The corresponding estimate in column (2) is larger (in absolute value) suggesting that anti-SLAPP laws reduce monthly city-level construction investment by $99 million. This estimate is mildly less precise, but corroborates the main conclusion.

Table 3 suggests that civil procedure influences real estate development. Anti-SLAPP legislation restricts developers' ability to use private law, reducing construction investment by roughly $60 million per month relative to a counterfactual scenario without anti-SLAPP statutes.

The estimates in Table 3 hinge on the parallel trends assumption. Figure 2 explores this assumption with a stacked event study model using Callaway and Sant'Anna's (2021) estimator. The effect of anti-SLAPP legislation for pre- and post-treatment periods is obtained from a regression of the form:

$$y_{pt} = \alpha_3 + \sum_{m=-l, m\neq 0}^{M} \delta_m \mathbb{1}\{SLAPP_p = t - m\} + \gamma_p + \tau_t + u_{it}$$

where $SLAPP_p$ is the first period that province $p$ enacts anti-SLAPP laws. This model regresses construction investment on province and time fixed effects and relative time indicators. The variable $\mathbb{1}\{SLAPP_p = t - m\}$ equals 1 if province $p$ has anti-SLAPP laws $m$ periods ago. For $m \geq 1$, $\hat{\delta}_m$ captures the cumulative effect of the

[16] Randomization p-values are calculated by running 500 placebo models, with treatment randomized across observations. Of those 500 regressions, only 2% yielded an estimate more extreme than the $61 million reduction in construction investment.

| | (1) | (2) |
|---|---|---|
| Anti-SLAPP Law ($000,000) | -61.76 | -99.25 |
| | (17.06) | ( 18.51) |
| Randomization p-value | 0.02 | 0.12 |
| Observations | 4,111 | 4,111 |

Column (1) contains year and province fixed effects. Column (2) uses province-year fixed effects. Standard errors, in parentheses, are clustered on city-year. Randomization p-values are calculated as the share of point estimates more extreme than the main specification out of 500 placebo replications.

Table 3: Effect of Anti-SLAPP Laws on Total Construction Investment

$m + 1$ treatment periods. Similarly, for $m \leq -1$, $\hat{\delta}_m$ represents the a placebo coefficient, intended as a test of the parallel trends assumption (de Chaisemartin and D'Haultfoeuille, 2022). These pre-trend estimates compare estimates for jurisdicitons that will and will not pass anti-SLAPP legislation in $m$ periods. Bootstrapped standard errors are generated for the pre-treatment period (De Chaisemartin and D'Haultfœuille, 2020).

Results from this regression are shown in Figure 2. Figure 2 illustrates two main findings. First, few notable pre-trends in construction investment are evident prior to the law's enactment. Coefficients in the "pre" periods hover around, and are statistically indistinguishable from, zero. This suggests that common trends is a credible identifying assumption.

The second important result from Figure 2 is the effect of civil procedure on dollars spent on construction. Figure 2 illustrates a clear decrease in construction investment that is stable but delayed by roughly three months. The cumulative effect of anti-SLAPP laws on investment is roughly $80 million per month, matching the estimates in Table 3. The multi-period effects represented in Figure 2 bolster the estimates from Table 3. Construction investment is chilled by anti-SLAPP laws. There are real effects from civil procedure.

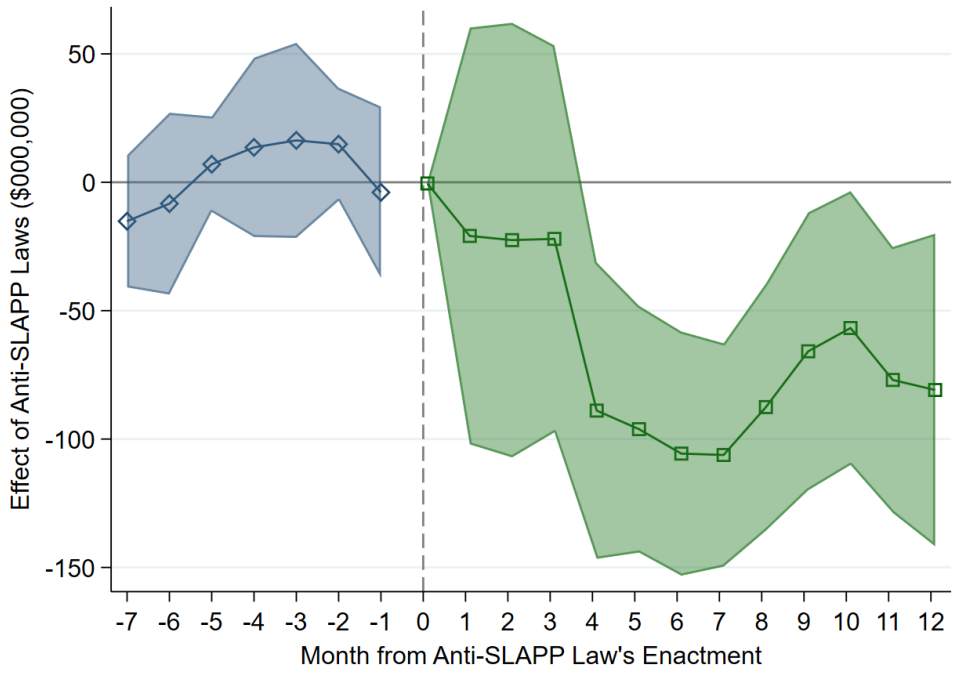


Figure 2: Dynamic Effect of Anti-SLAPP Laws on Construction Investment

**Is the estimate only a "big city" effect?**

A challenge with the results in Table 3 is that they may be driven by idiosyncratic shocks that affect "big cities" in Canada. To address this prospective big city effect, I re-estimate the estimands in two ways. First, I maintain the complete pooled sample of cities but apply the matching-plus-difference-in-differences estimator developed by Heckman et al. (1997, 1998), using the staggered adoption design adaption of Imai et al. (2019). This method offers a distinct estimand than the previous results and matches cities on key characteristics. Still, it offers an additional robustness check on the main results. Next, in subsequent models below, I split the sample by separating small from large cities.

This Imai et al. (2019) estimator is:

$$\begin{aligned}\delta_{MATCH} &= \mathbb{E}\left[Y_{i1}(1) - Y_{i1}(0) | X_i, SLAPP_i = 1\right] \\ &= \frac{1}{N_1} \sum_{j \in I_1} \left\{ \left( Y_{j1}(1) - Y_{j0}(0) \right) - \sum_{k \in I_0} \omega_{jk}(X_j, X_k) \cdot \left( Y_{k1}(0) - Y_{k0}(0) \right) \right\} \end{aligned} \tag{2}$$

where $I_1$ refers to treated cities and $I_0$ are matched cities without anti-SLAPP laws. Cities subject to anti-SLAPP legislation are indexed with $j$, while control cities are indexed with $k$.

Implementation, like with two-staged difference-in-differences, proceeds in two steps. First, matching is completed. The weights used in the counterfactual matching exercise are $\omega_{jk}$, where matching is nearest neighbour, with a radius caliper. These weights are selected to provide a counterfactual estimate of the treated units in an untreated counterfactual scenario. I use a parsimonious matching strategy and match treated to control cities based on population and unemployment rates. (This allows me to verify covariates are balanced between treated and control units. I do not match on pre-treatment trends.) Through this matching process the problem of differential timing is solved. The data are processed to align units based on treatment history, avoiding the inappropriate comparisons that render conventional two-way fixed effects questionable.[17] The second step then recovers the parameter of interest from the following regression:

$$(Y_{j,t} - Y_{j,2011}) - (Y_{k,t} - Y_{k,2011}) = \alpha_2 + \delta_{MATCH} D_{it} + \nu_{jt} \tag{3}$$

where $D_{it}$ is defined as above and $\delta_{MATCH}$ is the estimand of interest, the average treatment effect on the treated of anti-SLAPP laws.

Table **??** shows the results for aggregate construction investment. A clear negative effect is apparent, although, as expected, it is less precisely estimated. Because different estimands are generated, the parameter of interest in Table **??** is not directly comparable to those in, say, Table 3. Still, the qualitative pattern supports the main conclusion that anti-SLAPP laws suppress real estate development. The results suggest that anti-SLAPP laws reduce construction investment in Canadian cities by approximately $22.5 million per month.

### Effect of Anti-SLAPP Laws on New Residential and Non-residential Investment

Next, heterogeneity is explored over several dimensions. The motivation for this is to better understand where investment is most responsive to civil procedure. Table

[17] Implementation, in fact, avoids both the second and third comparisons in Goodman-Bacon (2021), by selecting weights, $\omega_{jk}$ for untreated compared to treated units, which may equal zero.

| | (1) |
|---|---|
| Effect of Anti-SLAPP Law ($000,000) | -22.51 |
| | (22.64) |
| Treated cities | 19 |
| Matched controls | 9 |

Table 4: Effect of Anti-SLAPP Laws on Construction Investment

Matches based on population and the unemployment rate. Standard errors are from Abadie and Imbens's (2006) bias-corrected estimator for matching.

5 adds context to Table 3 by investigating the effect of anti-SLAPP laws on *new* residential and non-residential investment. Whereas Table 3 sums total construction investment, conventional belief is that new developments attract more opposition than brownfields. Thus, they may be more sensitive to anti-SLAPP legislation. Classic depictions of SLAPPs involve grassroots organizations fighting to stall or foreclose specific projects, especially those in sensitive environments. The familiar story is that these protests are chilled because groups face lawsuits from deep-pocketed developers. Therefore, understanding the implications of enacted anti-SLAPP rules on new development is particularly interesting. Results are further disaggregated into small and large cities.

Table 5 shows that anti-SLAPP laws chill both new residential and non-residential investment and that the effect is driven by big cities. Column (1) is the effect new residential investment relative to a counterfactual scenario without anti-SLAPP statutes. Column (2) contains comparable values for non-residential construction. Three panels are included. Panel A displays estimates for the full sample of cities. Anti-SLAPP laws cause a $47 million per month decline in residential investment and a $51 million reduction in non-residential investment. Both parameters are precisely estimated. These estimates are large relative to the sample-wide average construction investment values. Panels B and C, therefore, decompose this average effect into the part driven by large cities and small municipalities, respectively. Panel B shows the effect of anti-SLAPP laws on the 20 biggest cities in the sample, those with a population of greater than 250,000 people. Estimated magnitudes are slightly larger than the coefficients in Panel A (but are not statistically different).

New residential investment declines by $58 million compared to a no anti-SLAPP counterfactual. New non-residential investment falls by a corresponding $69 million. Both effects are precisely estimated. These effects can be contrasted with the results in Panel C. Panel C presents the estimates from the sample of small cities. Effect sizes are dramatically attenuated. Anti-SLAPP laws lead to a small, but imprecisely estimated, *increase* in new residential investment paired with a small decrease in non-residential investment.

| | (1) | (2) |
|---|---|---|
| | Residential | Non-residential |
| *Panel A: All Cities* | | |
| Anti-SLAPP Law ($000,000) | -47.34 | -51.77 |
| | (15.28) | (6.62) |
| Randomization p-value | 0.00 | 0.01 |
| Observations | 5,148 | 5,148 |
| *Panel B: Large Cities* | | |
| Anti-SLAPP Law ($000,000) | -58.19 | -69.46 |
| | (23.34) | (10.18) |
| Randomization p-value | 0.09 | 0.00 |
| Observations | 3,146 | 3,146 |
| *Panel C: Small Cities* | | |
| Anti-SLAPP Law ($000,000) | 2.83 | -4.27 |
| | (0.77) | (0.39) |
| Randomization p-value | 0.79 | 0.02 |
| Observations | 2,002 | 2,002 |

Both columns include interacted province-year fixed effects.
Standard errors are clustered on city-year.

Table 5: Effect of Anti-SLAPP Laws on New Residential and Non-residential Construction Investment

By comparing Panels B and C in Table 5, a clear pattern is evident. The effect of anti-SLAPP laws are concentrated in larger cities. This conclusion is explored further in Figure 3. Figure 3 illustrates the effect of anti-SLAPP legislation on building investment at quartiles of the investment distribution. Quantile regressions were constructed by applying a modified version of Gardner (2021).[18]

[18]To start, I replicated Gardner's (2021) first-stage is replicated, applying the Frisch-Waugh-

Figure 3 clearly demonstrates that the chilling effects of anti-SLAPP laws are concentrated in larger cities. In fact, the estimated effect in the first quartile is negative but not economically meaningfully different from zero. In contrast, the effect in the upper quartile is economically large with magnitudes comparable to the other estimates.[19]

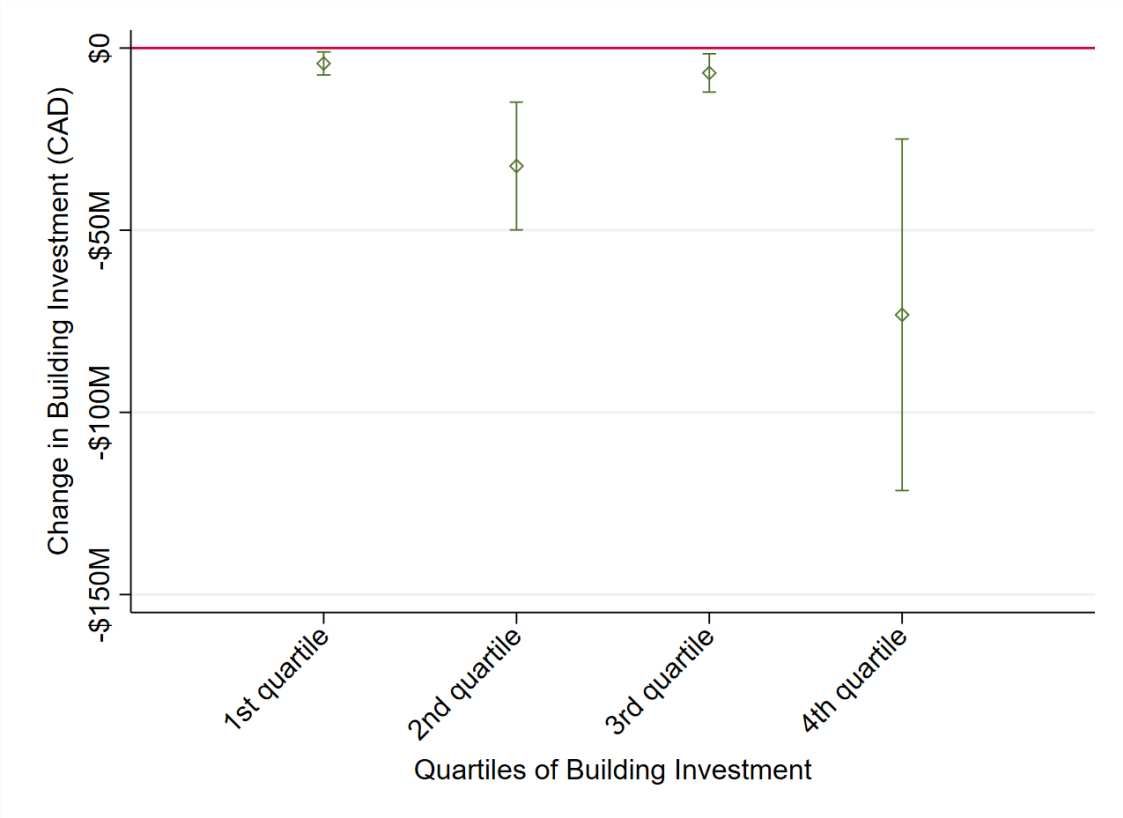


Figure 3: Quantiles Regression Estimates of the Effect of Anti-SLAPP Laws on Total Building Investment

Taken together, these results demonstrate that civil procedure influences investment in the construction industry. Anti-SLAPP laws reduce real estate expenditures in Canadian cities with magnitudes that are economically meaningful. Decreases in investment are concentrated in larger urban centres. More importantly, this analysis offers insight into how the tort system affects incentives in the broader econ-

Lovell theorem to remove province and year effects. Second, an adjusted dependent variable was constructed imputing the missing counterfactual. The data using these adjusted dependent variables were then re-ordered to match the distribution of the raw building investment data. Finally, quantile regressions were estimated using the adjusted and reordered data.

[19]The confidence intervals in Figure 3 are bootstrapped.

omy, suggesting that rules designed to weigh the trade-offs associated with speech, protests and development have real consequences. These consequences should factor in to how laws are drafted and applied (Galasso and Luo, 2018).

**Are these estimates too large?**

Civil procedure has real effects. Yet, few studies have measured the extra-jurisdictional implications of courtroom activities, so it is difficult to evaluate the magnitudes. There are lingering questions about whether civil procedure, which involves how courtrooms operate, can change incentives such that it is able to induce these effect sizes?

While it is not possible answer whether these estimates are too large, it is possible to provide some baselines. Average monthly construction investment in, for instance, the City of Montreal, Quebec, between 2011 and 2021, equalled more than $1.4 billion per month. A 5% reduction in project approval probabilities implies a chilling effect on real estate investment equal to $70 million, roughly equal to the point mid-range estimates in the previous tables. Next, the Pointes Protection project, the case motivating the Supreme Court of Canada decision, included 91 lots valued at approximately $400,000 per lot (see Appendix C for a map of the project). Halting this project yielded greater than $35 million in foregone development in a CMA of fewer than 80,000 residents. Finally, the City of Calgary currently has 39 separate communities in early stages of development. Cumulatively, these communities represent 116,300 prospective homes Gonzalez (2022). Even a small chill could have a large impact given the large scale of the real estate market. A fraction of affected developments can yield multi-million dollar effects.

Beyond specific examples, anti-SLAPP laws are likely a harbinger of a more adversarial approach to real estate development. Revised legal rules alter incentives both inside and outside of the courtroom. Often, these incentives change economic behaviour even when key actions are unobserved. The threat of a protest, for example, rather than an observed action, may be sufficient to chill investment. Planning and regulatory proceedings are costly for developers. Eliminating the ability to protect investments via the courts may have large effects on the willingness to commence projects. To this point, the CMHC (2022a, pg.7) recently argued that Canada faces “long-standing challenges of progressing through the regulatory system to get new housing built” so small changes to processes may have large implications – par-

ticularly if new houses are inelastically supplied. In sum, even seemingly modest changes to civil procedure may translate to meaningful real economic outcomes.

## 4.2 Heterogeneous Effect on New Housing Starts

The previous section studied the effect of anti-SLAPP laws on the value of construction, measured in dollars. Next, the analysis is extended by investigating the effect on physical construction using a longer time series. Focusing on housing starts offers a distinct unit of analysis. A "start" is defined as "the beginning of construction work on the building where the dwelling unit will be located" (CMHC, 2022b).[20] New single family housing developments often change the landscape in ways that provoke local backlash. Whereas investment values may reflect changes in construction costs, housing starts provide a direct measure of whether anti-SLAPP laws affect the amount of development that occurs.

Table 6 shows that, relative to a counterfactual scenario without the enactment of anti-SLAPP laws, there is a striking decline in single family house starts combined with an offsetting increase in apartment starts. Apartment starts reflect the number of units expected in a given building. So, for example, if construction on a single 10 unit apartment complex was initiated in March 2017, 10 apartment starts are recorded for that period. Column (1) shows that new single family housing starts decline by 119 per month following the passage of anti-SLAPP statutes. The standard error on this estimate is small. Column (2), in contrast, highlights that anti-SLAPP laws actually led to an increase in new apartment units. An additional 288 apartment units are started relative to a scenario without anti-SLAPP rules.

The stark contrast in these estimates suggests that developers respond to the new legislative regime by reallocating capital because of anti-SLAPP rules. New single family houses often encroach on previously undeveloped landscapes. New roads, sewers and electrical infrastructure are needed, activities that fundamentally alter the environment. To the extent that changing the natural landscape is more salient to local residents, greenfield development may invite grassroots opposition. Apartments, in contrast, tend to increase density in existing neighbourhoods. Rather than trying to develop larger, neighbourhood scale projects, developers refocused on denser developments.

[20] Pre-fabricated homes are omitted.

| | (1) | (2) |
|---|---|---|
| | Single Family | Apartment |
| Anti-SLAPP Law | -119.0 | 287.6 |
| | (12.5) | (47.2) |
| Randomization p-value | 0.00 | 0.00 |
| Observations | 12,168 | 12,168 |

All models include interacted province-year fixed effects. Standard errors are clustered on city-year.

Table 6: Effect of Anti-SLAPP Laws on New Single Family and Apartment Starts

The results in Table 6 add credibility to the previous estimates. New residential developments are often suburb-style projects on the peripheries of cities. Frequently, these developments infringe on farm land, add traffic to otherwise sparsely populated areas and alter environmentally sensitive regions. These are precisely the developments at risk of local opposition. In contrast, large, dense apartment complexes often re-purpose existing, but under-valued, land within urban boundaries. To the extent that developers are able to predict opposition, they reallocate activity from new single family houses toward denser multi-unit complexes. This reallocation demonstrates that developers are attuned to the broader legal and regulatory context in which they operate.

## 4.3 Extensions using US Data

Thus far, empirical evidence is from Canada. Anti-SLAPP laws are also common across states in the US. US data are used to study two extensions to these main results. Section 4.3.1 investigates city-level home prices against a counterfactual where those cities were not subject to anti-SLAPP rules. Section 4.3.2 develops a largely speculative but interesting analysis. It looks at the positivity of the emotional tone of public expression in states with anti-SLAPP laws compared to a counterfactual scenario where those laws were not introduced.

Data on US SLAPPs were obtained from anti slapp.org (2021). anti slapp.org (2021) is part of the Public Participation Project, a project that maintains a database on state-level SLAPP legislation.[21] There are 31 states with some form of anti-SLAPP

[21]For a small number of situations, when enactment dates for specific rules were unclear in anti slapp.org (2021), state's government websites were consulted.

provision. These rules were introduced at different points over three decades. anti slapp.org (2021) collects information on these laws as well as on revisions or repeals. anti slapp.org (2021) also grades the stringency of the state's legislation. Grades range from "A", for states such as Colorado to "F", when the state does not have any anti-SLAPP statues. The variable, "strong SLAPP", represents the subset of states who are deemed to have strong anti-SLAPP legislation according to anti slapp.org (2021). Strong SLAPPs are defined as having greater than a "B" grade in the database. The two-staged difference-in-differences estimator is used to obtain coefficients for all models.

### 4.3.1 Anti-SLAPP Laws and Median House Prices

Data on median city-level house prices were retrieved from Zillow (2022). Monthly median house prices are for 933 US cities from January 2000 to December 2021, but information is not available for all cities over the entire period, so the panel is unbalanced.

Table 7 has results from two regressions. Table 7 shows that cities located in states with anti-SLAPP laws experienced larger median house price increases than a counterfactual scenario where they did not pass those laws. Further, the effect is more pronounce in states with "strong" anti-SLAPP legislation as judged by anti slapp.org (2021).

| | (1) | (2) |
|---|---|---|
| Anti-SLAPP Law (USD) | 24,462.6 | |
| | (1,268.4) | |
| Strong Anti-SLAPP Law (USD) | | 109,347.1 |
| | | (4,625.1) |
| Observations | 173,679 | 173,679 |

The dependent variable is median (or "typical") house prices in USD. All models include interacted state-year fixed effects. Standard errors, in parentheses, are clustered on city-year. Median home prices provided by Zillow (https://www.zillow.com/research/data/).

Table 7: Effect of US Anti-SLAPP Laws on Median Home Prices

Column (1) of Table 7 shows that cities with anti-SLAPP laws have median house

prices that are $24,2462 greater than a counterfactual scenario where that state did not pass this legislation. This estimate is four-fold larger in states with strong SLAPPs. Column (2) shows that cities in states with strong anti-SLAPPs statutes, as judged by anti-SLAPP.org, have median house prices that are $109,347 greater than a counterfactual city without these laws. Both estimates are precisely estimated.

The results using US median house prices corroborate the evidence on investment in Canada. Anti-SLAPP legislation spills over into the real estate market in both jurisdictions. There are real economic effects from civil procedure.

### 4.3.2 Effect of Anti-SLAPP Laws on Public Expression

There is a second side to anti-SLAPP legislation. While anti-SLAPP laws reduce real estate investment, the primary objective of these laws is to fortify public expression. Table 8 supplements the evidence on construction by looking at the effect of anti-SLAPP laws on the emotional tone or sentiment of public expression. Public expression, the goal of anti-SLAPP statutes, is a challenging concept. Expression is difficult to define let alone measure. As such, the results in Table 8 should be interpreted with caution. Nonetheless, they corroborate the conclusion that civil procedure does yield real effects.

Data on public expression and its emotional tone are collected from the Global Database of Events, Language, and Tone (GDELT). Relying on "hundreds of thousands" of broadcast, print and online news sources, the GDELT project categorizes more than a quarter-billion event records, tagged by location and time. Its objective is "to construct a catalog of human societal-scale behavior and beliefs across all countries of the world, connecting every person, organization, location, count, theme, news source, and event across the planet into a single massive network that captures what's happening around the world, what its context is and who's involved, and how the world is feeling about it, every single day" (Leetaru and Schrodt, 2013; GDELT, 2022). GDELT is accessible through Google's BigQuery data warehouse.

An extremely wide array of variables are contained in GDELT. Extensive documentation on what these variables measure and how they are collated are found in GDELT (2022). The focus here is US state-level event records. Data are collected every 15 minutes with information that is aggregated to the state-month level for 1997-2021. This analysis uses a dataset with 14,682 observations, with events as-

signed to states according to the text in the expression. GDELT measures the average emotional "tone" of each expression. The close connection between anti-SLAPP laws and defamation suggest that it is not merely whether a particular remark was expressed, but what precisely was said. Tone helps to capture this dimension. GDELT provides tonal scores that range from -100, indicating an extremely negative expression, to +100 for extremely positive. The average emotional tone equals 3.4 and the variable has a narrow, bi-modal distribution. A clear positive tonal peak is evident as is a slightly smaller negative peak.

For this analysis, tonality is coded as a binary variable and linear probability models with fixed effects are used. Positive average tonality is defined as a one. Negative tone (or neutrality) is coded as a zero. Table 8 shows results. The dependent variable takes a value of one, if the average tone of expression within a month-state is positive. The point estimates show the marginal effect of passing anti-SLAPP laws on having a positive average emotional tone.

The point estimate in column (1) of Table 8 shows that passing anti-SLAPP laws reduce the probability that the average expression is positive by 33%. This coefficient is precisely estimated. The specification includes state-year effects, while clustering the standard errors by state-year. Column (2) isolates the effect for states with strong anti-SLAPP laws. Column (2) shows a large reduction in the probability that expression has a positive emotional tone. Strong anti-SLAPP laws reduce the marginal probability that an expression will have a positive tone by 45%, relative to a counterfactual scenario where the state did not enact anti-SLAPP rules. The effect is precisely estimated, with both a precise standard error and a randomization p-value equal to 0.00. Passing anti-SLAPP laws appears to reduce the likelihood that an online expression has a positive emotional tone, suggesting that parties feel as though their ability to participate in public discourse is protected.

The results of Table 8 warrant caution. Expression is difficult to measure and the data are imperfect. Yet, they do suggest that anti-SLAPP laws influence public expression. This adds an interesting dimension to the preceding estimates on real estate markets. It also suggests that anti-SLAPP laws are working the way that advocates intended.

Table 8: Effect of Anti-SLAPP Laws on the Tone of Expression

| | (1) | (2) |
|---|---|---|
| Anti-SLAPP Law | -0.33 | |
| | (0.02) | |
| Strong Anti-SLAPP Law | | -0.45 |
| | | (0.06) |
| Randomization p-value | 0.00 | 0.00 |
| Observations | 14,682 | 14,682 |

The dependent variable is an indicator taking the value of one when the average tone of expression is positive. Coefficients represent marginal effects from a linear probability model. All models include state-year fixed effects. Standard errors, in parentheses, are clustered on state-year. Randomization p-values are calculated based on 500 placebo regressions.

# 5 Conclusion

Confronted with potentially expensive obstruction and delay, developers may use the courts to intimidate opponents. Protesters, faced with the prospect of costly and drawn-out legal battles, may self-censor and remain silent rather than voicing dissent with respect to new development. Anti-SLAPP laws are designed to eliminate this outcome. Anti-SLAPP laws attempt to remove the threat of bad faith suits, enabling citizens to freely and publicly express their views on economic activity. Yet, anti-SLAPP laws involve a trade-off. By protecting opposition to economic development, fewer projects will be planned and economic activity will be chilled.

SLAPPs rely on a complementarity between a purported harm, caused by the tortfeasor, and an outside project. Incorporating SLAPPs into a standard model of frivolous lawsuits demonstrates that the definition of a SLAPP is narrower than often contended. For a lawsuit to be classified as a SLAPP, the suit must both be frivolous on its merits and, in equilibrium, increase the probability that the business's project will be approved. Meritorious claims are not SLAPPs because they should proceed irrespectively. Likewise, if a protest does not influence the probability that a project will be approved, businesses will not pursue meritless cases as

this yields additional legal costs with no commensurate benefit. SLAPPs must be frivolous and there must be an interaction between the purported harm and an outside project.

Empirically, this paper demonstrates that anti-SLAPP laws chilled construction investment and new home starts in Canada. The magnitude of estimated effects are notable. Relative to a counterfactual scenario without anti-SLAPP laws, investment declines by roughly $60 million per city per month. Similarly, 120 fewer new single family houses are started. Evidence from the United States further suggests that these effects extend beyond investment and construction activity, with anti-SLAPP laws associated with roughly $24,000 higher median house prices. The behavioural response is concentrated in more populous, urban centres. These results add to a scarce body of research on the effects of civil procedure on the broader economy. Anti-SLAPP laws, and civil procedure, more generally, have the potential to influence many areas of economic behaviour. Appreciating the effects of torts and legal rules on public activities warrants greater attention, especially as what occurs in the courtroom – and disagreements that fail to reach the courtroom – can have far-reaching implications for communities and businesses.

More broadly, the results underscore that procedural rules are not merely administrative details. Legal procedures shape expectations, alter bargaining positions, and influence decisions that occur far from the courtroom. Economic activity responds to the anticipated consequences of litigation and regulation. Understanding off-equilibrium effects are therefore essential for understanding the full consequences of legal reform.

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**Supplementary Appendix — For Online Publication**

# A Ontario's Two-part Anti-SLAPP Test: Interpretation based on the Pointes Protection Decision

Anti-SLAPP provisions add legal tests to existing rules of civil procedure. To provide some intuition for how this works, I outline Ontario's law and its interpretation in the Supreme Court of Canada's *Pointes Protection* decision.

Ontario's law was drafted via a multi-year process. In 2010, the province's Attorney General convened an Advisory Panel to investigate the prospect of implementing anti-SLAPP legislation (Ontario, 2010) and consider what that law might include. In 2008, the Government attempted to pass an anti-SLAPP bill, but this initial attempt failed on first reading. After extensive consultation, the Attorney General's Advisory Panel recommended that Ontario adopt a "two-part test" to determine whether a claim should be dismissed as a frivolous SLAPP case. In November 2015, Ontario introduced Bill-52, the *Protection of Public Participation Act*. This law largely embraced the Panel's recommendation by adding section 137 to the *Courts of Justice Act* ("*CJA*"). Notably, the *Act* created the "s.137 motion", whereby a moving defendant seeks to dismiss a respondent plaintiff's civil claim on grounds that the suit is a SLAPP. The Supreme Court of Canada's first guidance on this law is the *Pointes Protection* decision.

The two-part test in Ontario's law is as follows. First, defendants, those moving to dismiss a suit on grounds that it is a SLAPP, must satisfy the "threshold burden." The threshold burden requires the moving party to establish on a "balance of probabilities, that the proceeding arises from an expression ... relates to a matter of public interest" (2020 SCC 22). This threshold burden, itself, requires two steps. The moving party must demonstrate that the underlying issue arises from an "expression made by the moving party" and "that the expression relates to a matter of public interest" (at para. 21, 2020 SCC 22). Ontario's *CJA* defines "expression" in s. 137.1(2). An expression is "any communication, regardless of whether it is made verbally or non-verbally, whether it is made publicly or privately, and whether or not it is directed at a person or an entity" (CJA, 2021). The Supreme Court of Canada stressed

that both "expression" and "public interest" should be interpreted expansively.

If the defendant, the moving party, meets the threshold burden, onus shifts to the plaintiff as respondent for the second part of the test. To prevent the proceeding from being dismissed, the plaintiff respondent must satisfy both a "merits-based hurdle" and a "public-interest hurdle." The merits-based hurdle states that the plaintiff's claim has "substantial merit" *and* the defendant "has no valid defence." The language used by the Supreme Court when interpreting substantial merit is "something more than mere suspicion but less than proof on the balance of probabilities" (at para. 40). The plaintiff's initial claim, which is usually a defamation claim, must have a "real prospect of success." The Court also offered clarity on how it interprets no valid defense. Finally, plaintiffs must also satisfy the public-interest hurdle as described in the *CJA*. The public-interest hurdle states that the plaintiff respondent must demonstrate, on a balance of probabilities, that the harm suffered as a result of the defendant's expression "is sufficiently serious that the public interest in permitting the proceeding to continue outweighs the public interest in protecting that expression" (at para. 126).

# B Extended Discussion of Conceptual Framework

The following provides a complete solution for the equilibria presented in Table 1 and theoretical framework described in Section 2.1 and Figure 1. Figure 1 contains two subgames, labelled I and II. These are reviewed, respectively, in sections B.1 and B.2.

Figure 1 is reproduced as Figure B.1 for exposition. Note that payoffs in Figure 1 refer to the real estate project only (i.e., costs are net of defamation awards).

## B.1 Developer's Decision to File a SLAPP Suit (Subgame I)

A plaintiff Developer's decision to file suit is subgame I in Figure 1. This node shows the plaintiff's decision depends on two factors. First, the Developer's lawsuit hinges on the alleged harm from the Conservation Group's defamation (or similar tort), which may, for example, include damage to reputation. Suing exclusively over damage to reputations is a vanilla defamation claim, one covered by conventional models of civil procedure. Suing only based on defamation also does not make the case

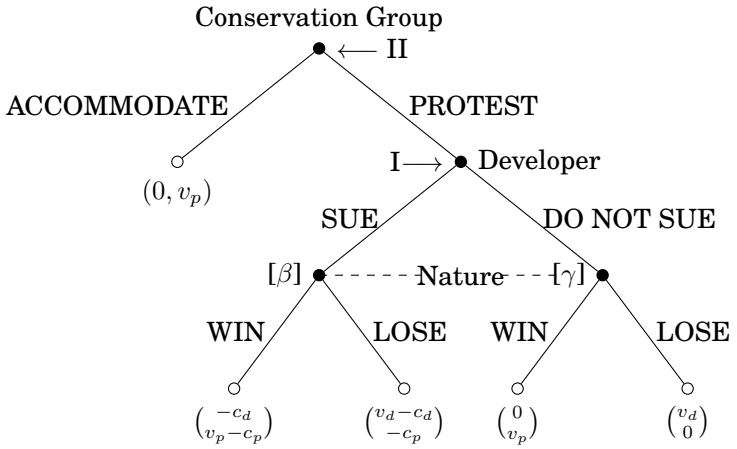


Figure B.1: Game Tree for Interactions between the Developer and Conservation Group

a SLAPP. The case becomes a SLAPP once the implications of the Conservation Group's public actions, actions for which the defamation suit is filed, interact with the real estate project. SLAPPs are defined by the complementarity between the payoffs of the external real estate project and the alleged harm from the defamation. Both motivations, the alleged harm plus the spillover to the project, factor into the plaintiff's strategy.

Because the plaintiff's strategy depends on two elements, I outline each and then describe how anti-SLAPP laws alter the actions available to the Developer. I start by looking at the plaintiff's decision to file suit based on the purported defamation. Following this, I introduce the SLAPP dimension of the game. Finally, these elements are combined providing the complete strategy for the plaintiff.

First, the Developer alleges it was defamed by the Conservation Group. The Developer, as plaintiff, must decide whether to seek a legal remedy for this alleged harm. It bases its decision to file suit on a rule with three terms (Miceli, 2009). The first term captures the costs of filing a claim, $c_p$. (Lower case index "p" refers to the Developer "plaintiff", while lower case "d" is for the defendant Conservation Group.) These costs include all legal and court costs associated with the case.[22] Second is the claimed damages, $D$, inflicted by the defendant on the plaintiff. Finally, there is the probability, $\alpha$, that the plaintiff's suit is successful. Uncertainty, even with symmet-

[22]Some models decompose these costs into fixed and variable portions to explore the roles of timing and sunk costs on a plaintiff's attempt to extract settlement from a defendant (e.g., Rosenberg and Shavell, 1985).

ric information, arises from the prospect of legal error or idiosyncratic judge-specific shocks (Kaplow and Shavell, 1994; Kaplow, 1994). Combining the three terms, a rational plaintiff files a suit on defamation grounds if the expected value of the suit is positive:

$$\alpha D - c_p > 0 \tag{4}$$

where the payoff for the plaintiff from not pursuing the claim is set to zero. Critically, the decision to file suit, reflected in (4), is not associated with the economics of SLAPPs. Damages $D$ and probability of success $\alpha$ represent the parameters of a conventional civil suit. Missing is the interaction between the defamation case and the public opposition to the real estate project that defines a SLAPP.

The Developer only arrives at its decision node if the Conservation Group, whose strategies are discussed below, chooses PROTEST in subgame II. In the BAU state, a developer chooses between two actions. It must decide between SUE and DO NOT SUE. SUE refers to filing a lawsuit with respect to the alleged defamation. It incorporates the terms in (4), but also the spillover to the real estate project. DO NOT SUE means no claim for defamation is made in response to the Conservation Group's protest.

Let $\beta$ represent the probability that the Developer's real estate project proceeds given it chooses to SUE. $\gamma$ represents the probability the project proceeds when the Developer chooses DO NOT SUE. Assume that $\beta \geq \gamma$. For the claim to be considered a SLAPP, there must be some interaction between the defamation claim and the real estate project (otherwise, the scenario reduces to one of conventional litigation). Moreover, the Developer's decision to file suit must (weakly) increase the probability that the project will be approved. Therefore, for SLAPPs to be a meaningful concept in a game of complete information, $\beta$ must be at least as big as $\gamma$.[23] To make this point clearer, consider the value of the lawsuit for the real estate project, exclusive of the defamation. The value of the project is denoted $v_p$. The Developer's

[23]Even if the real estate project was independent of the alleged defamation, the Developer may still file suit. In this case, because the lawsuit is independent of the project's expected outcome, the case should not be classified as a SLAPP as there are no chilling effects on public participation. Rather, it is a vanilla defamation claim.

*defamation-exclusive* decision-rule to SUE is given by the condition:

$$(\beta - \gamma)v_p - c_p > 0 \tag{5}$$

Equation (5) says that the Developer should SUE if the expected increase in the value of the real estate project exceeds the costs of litigation (net of any defamation award). The increase in the project's approval is governed by the difference in approval probabilities $(\beta - \gamma)$, where $\beta$ is the project's probability of success with SUE and $\gamma$ is the probability of success with DO NOT SUE.

The next step connects the defamation claim with the effect on the real estate project. Figure B.2 shows the Developer's strategy including the complementarity between the real estate project and the alleged harm. The vertical axis of Figure B.2 represents the expected payoff to the Developer from its defamation suit. The horizontal axis is the probability that the Conservation Group will be found liable for defamation. Two lines represent the Developer's strategies in an environment with and without anti-SLAPP legislation.[24,25]

The curve labelled **A** represents the plaintiff's decision to file a defamation suit, ignoring complementarities. That is, curve **A** represents the decision rule for a defamation claim on its merits as shown in (4). Litigation is costly. If either $\alpha$, the probability that the defamation suit is successful, or $D$, the payoff from the defamation suit, are small relative to costs, $c_p$, then the case is "frivolous" because it has a negative expected value. The point where curve **A** crosses the horizontal axis defines a threshold, delineating meritorious from frivolous suits. Cases to the left of this point are frivolous and should not be filed (or should be dismissed at an early stage). Suits to the right are credible, because the Developer's expected recovery is positive.

The second line in Figure B.2, curve **B**, represents the plaintiff's decision rule in-

[24] A completely frivolous suit implies either $\alpha = 0$ or $D = 0$ and, hence, the decision to file suit is a horizontal curve at $(\beta - \gamma)v_p + c_p$.

[25] It is straightforward to add features to Figure B.2 to, say, explore various cost allocation rules or court sanctions. For example, consider the difference between the so-called "American Rule", illustrated in the main text, where all parties pay their own costs, and the "English Rule", where the losing party pays both the plaintiff's and defendant's costs. Switching from the American to the English rule has two main effects. First, it shifts the intercept downward. In Figure B.2, the intercept for curve **A** is given by $c_p$, representing the plaintiff's legal costs. Under the English rule, this equals the sum of plaintiff and defendant costs, $c_p + c_d$. Second, the slope of the curve becomes steeper, because the the plaintiff's payoff increases with her probability of success. As the probability of success approaches one, expected legal costs approach zero.

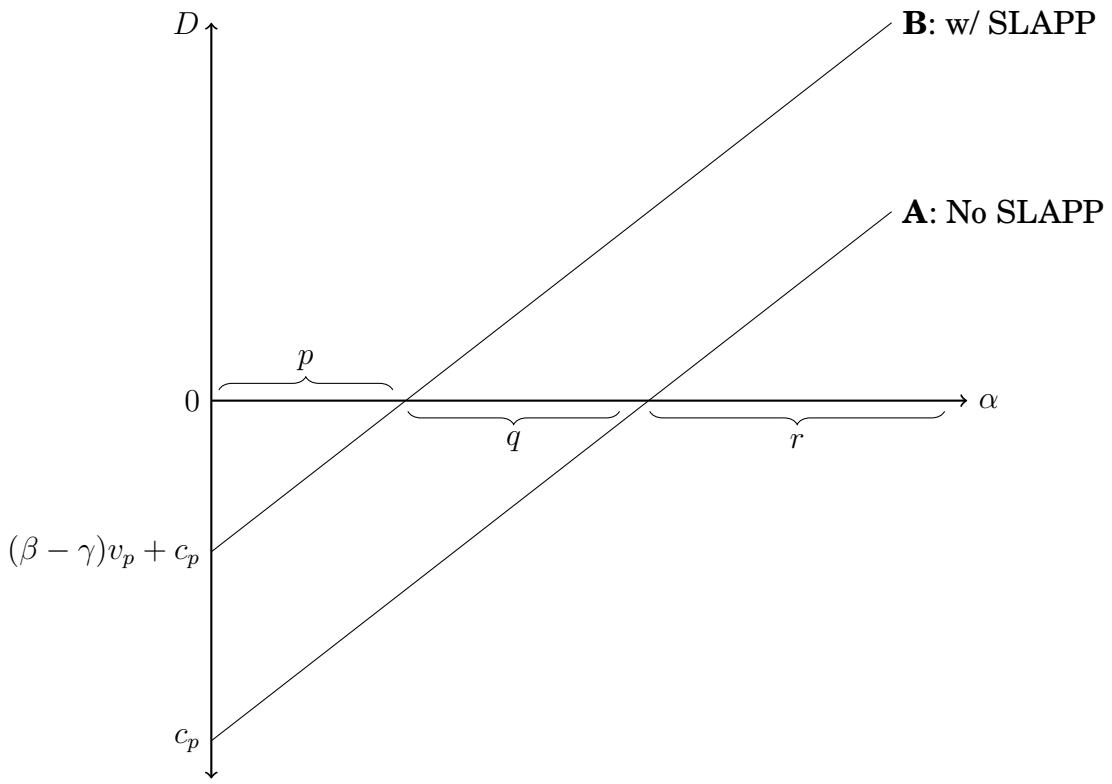


Figure B.2: Illustration of a Plaintiff's Subgame Decision to File a Claim

cluding a complementarity with the real estate project. The combined decision rule gives the Developer's strategy in the BAU environment. Under BAU, the Developer's strategy is play:

$$\begin{cases} \text{SUE} & \text{if} \quad \alpha D + (\beta - \gamma)v_p - c_p > 0 \\ \text{DO NOT SUE} & \text{otherwise} \end{cases} \tag{6}$$

The complementarity between the defamation suit and the real estate project reduces the net costs of filing a lawsuit. Stated differently, filing a suit against the Conservation Group increases the likelihood that the real estate project will be approved. This, in turn, increases the incentive to sue, holding $\alpha$ and $D$ fixed. Indeed, if $(\beta - \gamma)v_p > c_p$, the Developer will always file a lawsuit, even if there is no compensable defamation (i.e., either $\alpha = 0$ or $D = 0$).

Comparing curves **A** and **B** in Figure B.2 illustrates the goals of anti-SLAPP legislation. In Figure B.2, the BAU scenarios shows that SLAPPs lead to a vertical

shift in expected value of the lawsuit curve from **A** to **B**. The point where **B** cuts the horizontal axis defines the threshold given by (6). Suits to the left of this threshold lead to DO NOT SUE. Suits to the right yield SUE. Anti-SLAPP laws restrict the Developer's strategies, by eliminating the SUE action. Anti-SLAPP laws constrain the Developer to curve **A**.

Anti-SLAPP laws decrease the density of lawsuits filed by an amount represented by area $q$ in Figure B.2. To understand why, it is useful to characterize three regions of the probability distribution, defined by the two thresholds where the curves **A** and **B** cross the horizontal axis. First, consider region $r$ and a prospective suit to the right of the point where **A** crosses the horizontal axis. This case has a positive expected payoff for the plaintiff irrespective of the complementary with the real estate project. A plaintiff will always pursue this case wholly on its merits. Likewise, cases in region $p$, shown to the left of where curve **B** cuts the horizontal axis, have negative expected values. These claims are never pursued, even after incorporating interactions. Only claims in region $q$, between curves **A** and **B**, defamation claims that are frivolous on their merits but have a positive expected payoff because of their complementarity with the real estate project can be defined as SLAPPs. The horizontal distance $q$ is the increase in nuisance suits that arise from the interaction of the alleged defamation damages and the project. It is these suits that supply the *necessary conditions* for a chilling effect on public participation.

Unambiguously defining the conditions under which SLAPPs exist has proved elusive in many legislative discussions (e.g., Ontario, 2010). Routinely, SLAPPs are taken to be any lawsuit brought by a business against citizens. Figure B.2 shows that this characterization is too broad. SLAPPs are cases for which a defamation award (or other tort) is too small on it merits to warrant court proceedings, but one where, after incorporating the change in the expected value of a complementary project, a lawsuit yields a positive net expected value for the plaintiff. SLAPPs are constrained to region $q$ in Figure B.2. Defamation claims falling into region $r$ are not SLAPPs as these cases would proceed on their merits even in a but-for scenario with no change in project approval probabilities. Similarly, there are disputes, as shown in area $p$, with protests and perceived defamation, but no lawsuits.

Anti-SLAPP laws chill real estate development because they limit the plaintiff's choices with respect to alleged defamation. Restricting the Developer's strategies with respect to lawsuits, in turn, results in a lower probability that proposed real

estate projects are approved. In Figure 1, anti-SLAPP laws reduce (i.e., chill) observed real estate investment by $(\gamma - \beta)v_p$, an amount proportional to the difference in project approval probabilities.

## B.2 Chilling Effect of SLAPPs on Public Expression (Subgame II)

Working backward, the Conservation Group's strategy for whether to protest or accommodate a proposed real estate project depends on whether anti-SLAPP legislation exists. Subgame II illustrates the choices and stylized payoffs at the Conservation Group's decision node.

The available actions for the Conservation Group are: ACCOMMODATE and PROTEST. If the Conservation Group chooses ACCOMMODATE, their payoff, as illustrated in Figure 1, is set to zero and the project is guaranteed to proceed.

To start, consider an environment that has enacted anti-SLAPP rules. Developers, in this scenario, are forced to play DO NOT SUE. Given the Developer's strategy, the Conservation Group does not incur extraneous costs from meritless civil litigation, irrespective of their action. The Conservation Group's expected payoff from playing PROTEST is $(1-\gamma)v_d > 0$ (i.e., the Developer "loses", with probability $(1-\gamma)$). Therefore, when anti-SLAPP laws exist, the Conservation Group's pure strategy is to always play PROTEST.[26] The subgame's equilibrium, in the anti-SLAPP scenario, is, therefore, the Conservation Group plays PROTEST, obtaining payoffs of $(1 - \gamma)v_d$, while the Developer plays DO NOT SUE, receiving an expected payoff of $\gamma v_p$.

In the BAU environment, the Conservation Group's strategy must consider the both actions available to the Developer. To start, if the Developer plays DO NOT SUE, then the Conservation Group's strategy is identical to the scenario with anti-SLAPP rules. They should play PROTEST, obtaining a payoff of $(1 - \gamma)v_d$.

If the Developer plays SUE, then the Conservation Group should play:

$$\begin{cases} \text{PROTEST} & \text{if} \quad -\alpha D + (1-\beta)v_d - c_d > 0 \\ \text{ACCOMMODATE} & \text{otherwise} \end{cases} \tag{7}$$

[26] Even if the Developer wins in the anti-SLAPP state of the world, or, alternatively, as $\gamma \to 1$, the Conservation Group has not incurred costs, so they are indifferent between accommodating and protesting.

In words, the Conservation Group plays PROTEST if the expected benefits from halting the real estate project exceed the expected defamation penalty plus legal expenses: $(1-\beta)v_d > \alpha D + c_d$.

All strategies in the BAU setting generate equilibria in pure strategies. But, unlike in the anti-SLAPP scenario, the equilibria of BAU environment depend on the magnitudes of the parameters. Equation (6) shows that the Developer will play SUE if $\alpha D + (\beta - \gamma)v_p - c_p > 0$. Given this, there are three cases to evaluate. (To show the prospective equilibria as simply as possible, define $c_d$ as net of defamation damages costs.[27])

Begin with the simple case. Assume that $(\beta - \gamma)v_p < c_p$. In this case, the Developer plays DO NOT SUE and the Conservation Group plays PROTEST. Payoffs are $\{\gamma v_p, (1-\gamma)v_d\}$, respectively, for the Developer and Conservation Group.

Next, in the second case, let $(\beta - \gamma)v_p > c_p$, so the Developer plays SUE in subgame I. The Conservation Group's action depends on a comparison of its legal costs versus the expected value of halting the project. If $(1-\beta)v_d < c_d$, the the Conservation Group will play ACCOMMODATE and equilibrium payoffs are $\{v_p, 0\}$.

Finally, for the third case, let $(\beta - \gamma)v_p > c_p$, so the Developer plays SUE in subgame I but $(1-\beta)v_d > c_d$. On this equilibrium path, the Conservation Group plays PROTEST, the Developer SUEs and expected payoffs are $\{\beta v_p - c_p, (1-\beta)v_d - c_d)\}$.

# C Background Maps

## C.1 Canadian Census Metropolitan Areas

Figure C.3 is an example of a typical CMA in Canada. CMAs tend to include an major urban centre plus a range of proximate smaller municipalities. Often the geographies include substantial rural and agricultural land. Figure C.3 shows the CMA of London, Ontario. The CMA has a population of 543,551 according to the 2021 population census.

[27] Recall that $\alpha D$ represents the expected damages that the Conservation Group needs to pay the Developer for the alleged defamation. Most defamation claims fail, so $\alpha$ is likely small. Further, much of the SLAPP literature assumes minimal monetary damages for defamation, implying that $D$ is also small. Nonetheless, the Conservation Group may be held liable if a judge finds the protest to be injurious to the Developer's reputation (or other tort).

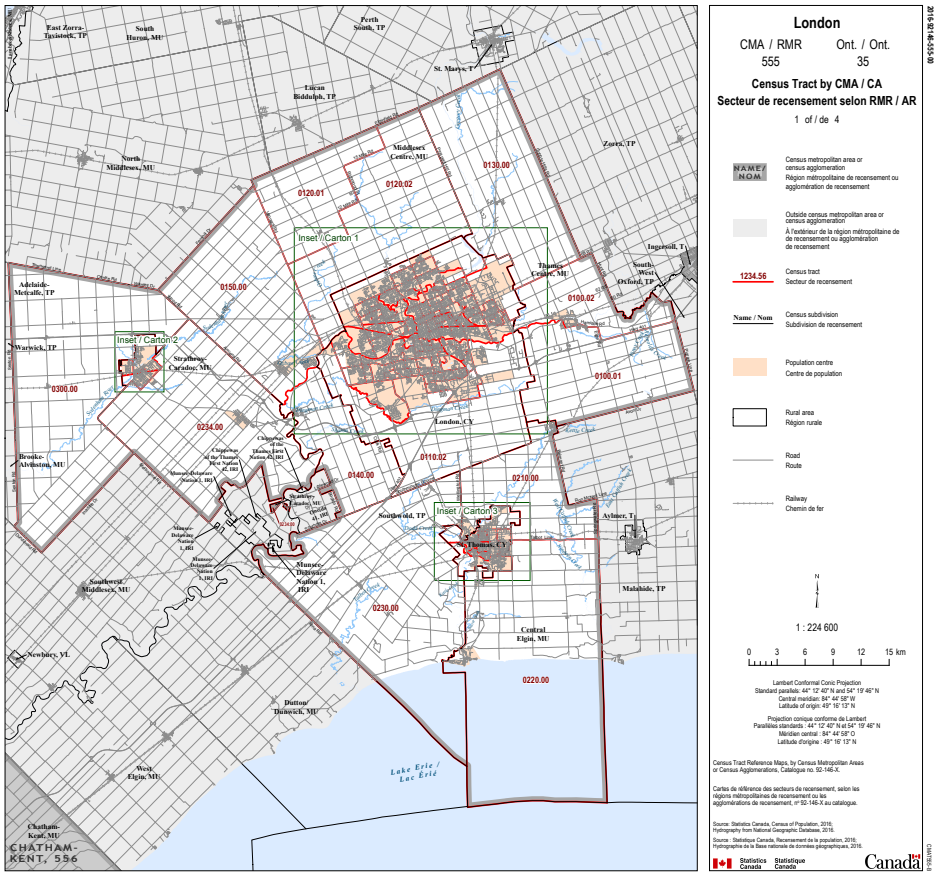


Figure C.3: Example of a Canadian Census Metropolitan Area, London

## C.2 Pointe Estates

The *Pointes Protection* decision related to a proposed residential real estate development in Sault Ste Marie, Ontario. Figure C.4 illustrates the proposed waterfront development. In total, the Developer intended to sell 91 lots.

Figure C.4: Proposed Pointe Estate Development

# D Additional Results and Robustness Checks

The following tables present a series of robustness checks and alternative econometric specifications for results presented in the main text.

## D.1 Logged Dependent Variables

Three tables – Tables D.1, D.2 and Table D.3 – replicate Tables 3 from the main text, using logged dependent variables and different configurations of fixed effects. Results are consistent with those presented above.

Table D.1 includes province and year fixed effects (column (1)) and province-year fixed effects (column (2)).

| | (1) | (2) |
|---|---|---|
| | Logs | Logs |
| Anti-SLAPP Law | -0.30 | -0.56 |
| | (0.10) | (0.21) |
| Randomization p-value | 0.00 | 0.01 |
| Observations | 4,111 | 4,111 |

The dependent variable is logged millions of CAD. Column (1) contains year and province fixed effects. Column (2) uses province-year fixed effects. Standard errors, in parentheses, are clustered on city-year. Randomization p-values are calculated as the share of point estimates more extreme than the main specification out of 500 placebo replications.

Table D.1: Effect of Anti-SLAPP Laws on Total Construction Investment, Logged Dependent Variable

Table D.2 uses a logged dependent variable but separates residential (column (1)) and non-residential (column (2)) investment.

Table D.3 looks at logged single family home starts (column (1)) and multi-unit starts (column (2)).

| | (1) | (2) |
|---|---|---|
| | Residential | Non-residential |
| Anti-SLAPP Law | -0.75 | -1.28 |
| | (0.11) | (0.10) |
| Randomization p-value | 0.00 | 0.00 |
| Observations | 5,148 | 5,148 |

The dependent variable is logged millions of CAD. Both columns include interacted province-year fixed effects. Standard errors, in parentheses, are clustered on city-year.

Table D.2: Effect of Anti-SLAPP Laws on New Residential and Non-residential Construction Investment

| | (1) | (2) |
|---|---|---|
| | Single Family | Apartment |
| Anti-SLAPP Law | -0.64 | 2.24 |
| | (0.10) | (0.17) |
| Randomization p-value | 0.00 | 0.00 |
| Observations | 12,168 | 12,168 |

The dependent variable is logged starts. All models include interacted province-year fixed effects. Standard errors, in parentheses, are clustered on city-year.

Table D.3: Effect of Anti-SLAPP Laws on New Single Family and Apartment Starts, Logged DV

## D.2 Results with City-level Fixed Effects

Table D.4 investigates total construction investment using city-level fixed effects and studying heterogeneity by city-size. These are finer grained fixed effects than in the main text. City and year fixed are included for three groups: all cities, cities with more than 250,000 residents and cities with fewer than 250,000 residents. Results illustrate that the main effect is driven by larger centers. Small cities have statistically insignificant, small and positive coefficient estimates. Table D.5 includes city fixed effects but uses single family housing and apartment starts as the dependent variables.

| | (1) | (2) | (3) |
|---|---|---|---|
| Restriction on cities: | All | Large | Small |
| | *Dependent Variable in Levels* | | |
| Anti-SLAPP Law | -247.1 | -441.0 | 10.9 |
| | (86.9) | (137.2) | (3.1) |
| | *Dependent Variable in Logs* | | |
| Anti-SLAPP Law | 0.26 | -0.17 | 0.17 |
| | (0.09) | (0.07) | (0.05) |
| No. of Cities | 35 | 19 | 16 |
| Observations | 4,111 | 1,983 | 2,128 |

All models include city and year fixed effects. Large cities are defined as having a population greater than 250,000 residents. One city changes categorization, moving from small to large, during the period of analysis. Standard errors are clustered on city-year.

Table D.4: Effect of Anti-SLAPP Laws on Total Construction Investment, City-level Fixed Effects

| | (1) | (2) |
|---|---|---|
| | Single Family | Apartments |
| *Dependent Variable in Levels* | | |
| Anti-SLAPP Law | -27.84 | 253.76 |
| | (12.37) | (47.18) |
| *Dependent Variable in Logs* | | |
| Anti-SLAPP Law | -0.44 | 0.60 |
| | (0.10) | (0.17) |
| Observations | 12,168 | 12,168 |

All models include interacted city-year fixed effects. Standard errors, in parentheses, are clustered on city-year.

Table D.5: Effect of Anti-SLAPP Laws on Starts, City-Year Fixed Effects

### D.2.1 COVID Robustness: Dropping Observations from 2020 and 2021

Table D.6 shows the main construction investment and housing start estimates, excluding observations during the covid pandemic. Specifically, all observations after January 2020 are dropped from the sample.

| | (1) | (2) |
|---|---|---|
| | Investment | Starts |
| Anti-SLAPP Law | -105.33 | -122.61 |
| | (20.01) | (15.30) |
| Observations | 3,669 | 12,144 |

All models include interacted province-year fixed effects. Standard errors are clustered on city-year.

Table D.6: Effect of Anti-SLAPP Laws on Construction Investment and New Single Family Starts, Excluding Observations Affected by Covid

## D.3 Event Study Results on New House Starts

Figure D.5 adds context to Table 6. Figure D.5 replicates the stacked event study plot in Figure 2 for new single family housing starts. This graph illustrates the cumulative treatment effect and probes violations of the identifying assumption. There are two main results. First, common trends appears reasonable as an identifying assumption. Few meaningful deviations between treated and untreated cities are observed in the months prior to the enactment of anti-SLAPP laws. The bands illustrate 95% confidence intervals. Second, the dynamic effect of anti-SLAPP laws on new housing starts is immediate but mitigates over time. After 10 months the cumulative effect of anti-SLAPP legislation on new single family housing starts is negative, yet it is smaller and noisier than the immediate response. While speculative, this hints that developers may adapt to the new rules after an early learning phase or that the new rules are useful at stalling, but not fully eliminating, the creation of new neighbourhoods.

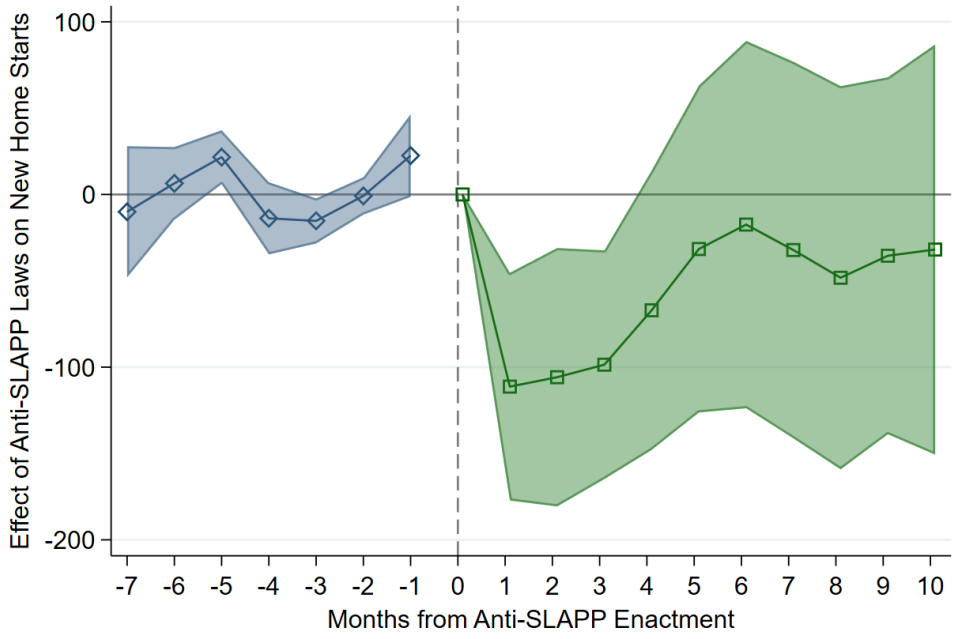


Figure D.5: Dynamic Effect of Anti-SLAPP Laws on Single Family Home Starts

## D.4 US House Price Data with Logged Prices

Table D.7 displays estimates of anti-SLAPP laws on logged US house prices corresponding to Table 7 in the main text.

| | (1) | (2) |
|---|---|---|
| Anti-SLAPP Law (USD) | 0.02 | |
| | (0.01) | |
| Strong Anti-SLAPP Law (USD) | | 0.40 |
| | | (0.02) |
| Observations | 173,679 | 173,679 |

The dependent variable is median (or "typical") house prices in USD. All models include interacted state-year fixed effects. Standard errors, in parentheses, are clustered on city-year. Median home prices provided by Zillow (https://www.zillow.com/research/data/).

Table D.7: Effect of US Anti-SLAPP Laws on Median Home Prices, Logged DV