



## **Is the Government Fiscally Blind?**

### **An Empirical Examination of the Effect of the Compensation**

### **Requirement on Eminent Domain Exercises**

Ronit Levine-Schnur, Gideon Parchomovsky

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**Is the Government Fiscally Blind?**  
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**Requirement on Eminent Domain Exercises**

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*We empirically test the fiscal illusion hypothesis in the takings context. Israeli law allows local governments to expropriate up to 40% of any parcel without compensation. In 2001, the Israeli Supreme Court created a carve out for takings of 100%, requiring full compensation in such cases. We analyzed data for 3,140 takings cases in Tel Aviv between 1990 and 2014. There was no disproportionate share of takings of just under 40%. Nor was there a long-term drop in the share of 100% takings post-2001. Although a short-term drop in the share of 100% takings followed the 2001 decision, the trend was later reversed, and the share of 100% takings surpassed the pre-2001 level. Our findings do not corroborate the fiscal illusion hypothesis in its strict form. Rather, they lend qualified support to the*

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*hypothesis that takings practices are largely shaped by planning needs and fairness considerations.*

## 1. INTRODUCTION

The power of eminent domain and its limits lie at the core of property law in the U.S. and elsewhere. While there is broad consensus as to the justification for the eminent domain power—namely, the need to overcome strategic bargaining problems such as holdouts—there is disagreement among scholars as to the rationale behind the compensation requirement that exists in virtually every legal system (Shavell 2004, p. 127; Kelly 2011).<sup>1</sup> Fairness oriented theorists justify the compensation requirement by reference to the Supreme Court’s decision in *Armstrong v. United States*, where the Court, per Justice Black, stated that “just compensation was designed to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole” (364 U.S. 40, p. 49). Law and economics scholars, by contrast, have advanced a very different justification for the compensation requirement. By their lights, the just compensation requirement is necessary to remedy a “fiscal illusion” problem that would otherwise afflict government officials. On this theory, government officials ignore costs that are not reflected in the budget.<sup>2</sup> Consequently, they will not

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<sup>1</sup> For a recent critique of the efficiency of using eminent domain, see López and Clark (2013).

<sup>2</sup> The generic term “fiscal illusion” is used in the economic literature to denote several numbers of hypotheses (Dollery and Worthington 1996; Dell’Anno and Mourao 2012). Outside of the eminent domain context the assumption is that “politicians deceive citizens by denying or obscuring the social reality that these rulers know is actually happening” (ibid, p. 273). The fiscal illusion version referred to in the context of eminent domain does not assume that the government

take account of the costs their actions impose on private parties as long as those costs do not affect the budget. Government officials, who suffer from fiscal illusion, so the argument goes, would likely engage in inefficient exercises of eminent domain since they only see the public benefit of takings, while ignoring the cost to condemnees. The imposition of a requirement to pay just compensation remedies the problem by incorporating the private cost of takings into the budget and forcing government officials to take full account of it.

Notwithstanding the strong scholarly rhetoric, the fiscal illusion theory has never been empirically tested in the takings context. There is only one empirical study by Yun-chien Chang (2009) that examined the question whether government officials minimize compensation or maximize their political interest and found that political interests are of greater importance, as anticipated by Levinson (2000, 2005). No study sought to test empirically the question whether in the absence of a legal duty to compensate the government would exercise its eminent domain power excessively to the detriment of its citizenry. This Article seeks to fill the void by providing an empirical examination of how compensation rules affect eminent domain practices. We take the fiscal illusion as the tested hypothesis, because it dominates the literature, (the exceptions are Shavell 2004, p. 130; Rose-Ackerman 1988, p. 1706; Been and Beauvais 2003, pp. 92-93; Wyman 2007, pp. 259-60; Heller and Hills 2008, p. 1480). A finding that fiscal illusion does not provide a complete explanation of governmental behavior in this context invites a reassessment of its significance (Epstein and Martin 2014, p. 155).

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intentionally deceives its citizenry, but, rather, that public officials themselves are, just as taxpayers, ignorant of unlisted costs.

We took advantage of the particular design of the Israeli law pertaining to eminent domain compensation. Israeli property law provides a unique opportunity to empirically test the validity of the fiscal illusion theory due to the fact that local government is allowed to expropriate up to 40% (by size) of any parcel *without* paying compensation, when the land is taken by the zoning commission for certain types of local public uses, such as roads, open public spaces, and public buildings. In other words, Israeli law gives the local government a call option on up to 40% of all private land at a perceived exercise price of zero (Wagner 1976).<sup>3</sup> The local government must compensate only for takings that exceed this percentage. For example, when the government chooses to take 45% of a lot, it will be required to pay compensation for 5% (45%-40%) of the property's market value. To the best of our knowledge, a similar prerogative does not exist in any other state.<sup>4</sup> What stands to justify this law is the assumption that the part not taken (the remainder) is benefitted by the public use.<sup>5</sup> Partial compensation is, therefore, fair.

As of June 12, 2001, an exception was carved out for total takings, cases in which 100% of a parcel is being taken. In an important precedent, the Supreme Court ruled that the government would be required to pay full compensation whenever it takes a parcel in its entirety. That is, the ruling

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<sup>3</sup> Clearly, any taking, total or partial, involves administrative costs other than those required by compensation laws (Merrill 1986).

<sup>4</sup> It does not imply, however, that other means to secure private participation in the supply of public needs are not utilized. See, generally, Alterman (2010, ch. 1-3).

<sup>5</sup> If the value of the non-taken remainder was in fact decreased due to the partial taking, owners may petition the Minister of Interior to pay them additional hardship compensation. However, hardship compensation for takings of the kind included in this study—for local, community-oriented purposes—is very rarely granted and if so, only in cases where the special, personal, circumstances of the owner justify it. We arrived at this conclusion after a review of the caselaw, the relevant legal literature, and interviews with land lawyers and experts.

forced the government to pay 100% of the property's market value in cases of total takings (instead of just 60% of the property's market value as was previously required). This decision came as a complete surprise. It overturned previous rulings of the Court that repeatedly and consistently recognized the power of local governments to deduct 40% in cases of total takings.

Consequently, Israeli just compensation law creates one large convex kink point around the 40% point, where the deduction of compensation is fully phased-in, and, therefore, the greatest amount of land can be extracted for the lowest amount of compensation. In addition, for the post 2001 takings, there is a notch point at the 100% mark since at the left of this point an incremental change in the taking share triggers a discrete change in the compensation award. Specifically, a taking of 99% of a parcel requires compensation at 59% of the market value of the parcel, whilst a taking of 100% of a parcel necessitate compensation for the full market value (100%) of the parcel. Hence, two different compensation schedules apply before the notch and at the notch.

To test the fiscal illusion hypothesis, we used an interrupted time-series quasi-experiment. We collected and coded data on all exercises of eminent domain for local uses by the City of Tel Aviv between 1990 and 2014. We were able to complete full data for 3,140 cases (97% of the general population), which compose our sample group. Following the logic of the fiscal illusion hypothesis, we expected to find a correlation between compensation rules and governmental behavior (Saez 2010; Slemrod 2013). In particular, we expected to see for the post 2001 group, bunching just below the 100% taking share notch point to avoid the loss of eligibility to the 40% exemption. In addition, we expected to see bunching around the 40% kink point. Concerns about potential litigation regarding judicial

determinations of the exact percentage taken should move the discontinuity points slightly to the left of the aforementioned marks (40% and 100%, respectively).

Our findings appear to call into question the prominence of the fiscal illusion hypothesis as a single explanation of government behavior in the takings context. While 43% of the takings were in the 1% to 40% taking share range, we did not observe a discontinuity at, or around, the 40% kink point. In fact, there were relatively few cases where the taking share was between 35% and 45% (only 3% of all cases), so an optimization error (including a preference for avoiding takings that border on 40% which might invite litigation) cannot be used to explain this finding (Chetty 2012). Most of the takings in the 1% to 40% range were around 25% or less. The only discontinuity point was at a taking share of 100% (total takings), at which *nearly half* of the takings were concentrated. In only 15% of the cases, the taken share was larger than 40% and smaller than 100%. Moreover, contrary to the prediction of the fiscal illusion theory, the rate of total takings in the post legal change subset was significantly higher, and, thus, there was no greater bunching to at the 100% notch point post 2001. However, we observed reversible changes in the taking practice around the year 2002, which could be attributed to the legal change. Overtime, these changes disappeared. We therefore find that the Supreme Court's decision that mandated full compensation for total takings had *no lasting observable effect* on the government's engagement in such takings.

The remainder of the paper unfolds in four parts. We open, in Section 2, with a short review of the theoretical justifications for eminent domain compensation, and specifically the fiscal illusion hypothesis. In Section 3, we explain the Israeli just compensation law and describe the research design. In Section 4, we introduce the specifics of the study

settings and detail our findings. In Section 5, we discuss possible interpretations of our findings and point out the limitations of the study. A short conclusion ensues.

## **2. THEORETICAL JUSTIFICATIONS FOR EMINENT DOMAIN COMPENSATION**

While there exists a broad scholarly consensus that the power of eminent domain is necessary to overcome holdout problems that would otherwise thwart public development projects, there is no similar scholarly convergence as to the justification for the just compensation requirement that is triggered by eminent domain exercises.

The Supreme Court and some legal scholars have justified the compensation requirement on fairness grounds. The fairness justification is rooted in notions of equality. The gist of the fairness argument was captured by Justice Black in *Armstrong v. United States*. It maintains that the cost of development and progress should not fall on a handful of property owners whose land was condemned to enable the attainment of socially desirable goals, but, rather, should be borne by society at large.

Law and economics scholars, on the other hand, have proffered a very different rationale for the compensation requirement. They have argued that the payment of just compensation is necessary to overcome a fiscal illusion problem that afflicts government officials, making them ignore costs that do not appear on the budget. Yet, full compensation for property takings might lead property owners to over-investment in the improvement of their property, and to treat the government's duty to compensate as an insurance scheme (Blume, Rubinfeld, and Shapiro 1984; Blume and Rubinfeld 1984).



The correlation between the compensation requirement and landowners' investments has been subject to ongoing studies, mostly theoretical (e.g., Bell 2003; Miceli 2008; Shavell 2010; Pecorino 2011; Bar-Gill and Porat 2014). Since there is a sort of a "trade-off" between governmental incentives and landowners' incentives (Miceli 2011, p. 95), it is important to consider the governmental side of the equation as well. This is the focus of the current paper.

The idea of fiscal illusion had been hypothesized long before it was applied to the compensation for governmental taking (McCulloch 1845). John Stuart Mill in his monumental monograph published in 1848 asserted that "[p]erhaps... the money which [the taxpayer] is required to pay directly out of his pocket is the only taxation which he is quite sure that he pays at all... If all taxes were direct, taxation would be much more perceived than at present; and there would be a security which now there is not, for economy in the public expenditure" (p. 237).<sup>6</sup> Mill suggested that relatively "invisible" taxes cause taxpayers to underestimate the tax burden, and, as a result, the government is involved in "excessive" public expenditure (Sausgruber and Tyran 2005, pp. 39-40). It was, however, Nobel Laureate James Buchanan (1967) who took the pioneering path of exploring the effects of fiscal illusion on decision-makers' behavior.

The roots of the fiscal illusion hypothesis as an explanation for taking compensation can be traced back to the 1960s. For example, Joseph Sax, in his 1964 article, expressed the concern that the government's power to set its goals and to select the means for executing them might result in excessive zeal to take land if a compensation rule is not adopted. Likewise, Frank Michelman, in his seminal 1967 article on takings, suggested that

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<sup>6</sup> The term "fiscal illusion" was probably coined by an Italian scholar in a monograph which was never published in English (Puviani 1903).

payment of compensation might furnish a necessary assurance against capricious redistributions.<sup>7</sup> Importantly, Michelman endorsed an alternative explanation for the compensation mandate, one that relies on demoralization costs—the effect of uncompensated takings on individuals’ utilities and loss of future production.

The term “fiscal illusion” was first introduced into the takings literature in 1984 by Lawrence Blume, Daniel Rubinfeld, and Perry Shapiro (1984) who noted that “[p]ublic investment choices are often made subject to a form of budgetary fiscal illusion in which only dollar outlays are included as costs in its benefit-cost calculation. Compensation will force the government to make correct project choices” (p. 72) (see also Blume and Rubinfeld 1984).

Soon after Blume, Rubinfeld and Shapiro’s work came out, the fiscal illusion justification for taking compensation gained prominence in the law and economics literature. In 1986 Louis Kaplow wrote that “[n]umerous commentators favor providing compensation for takings to alleviate fiscal illusion” (p. 567). Since then the fiscal illusion hypothesis has become a staple in law and economics articles on takings (e.g., Fischel and Shapiro 1988; Heller and Krier 1999; Dagan 2000; Fischel 2004a; Dana and Merrill 2002; Serkin 2005; Niemann and Shapiro 2010; Aisbett, Karp, and Mcusland 2010; Pecorino 2011; Cooter and Ulen 2012; Chang 2012; Göller and Hower 2014).

As Richard Posner (2011, pp. 73-74) wrote “[w]hat remains to justify the just compensation requirement today is that without it government would have an incentive to substitute land for cheaper inputs that were, however, more expensive to the government. . . . Of course, this

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<sup>7</sup> For other early references to compensation as a mechanism to assure against inefficient governmental behavior, see Berger (1974); Johnson (1977).

assumes that the government makes its procurement decisions approximately as a private entrepreneur would do, that is, on the basis of private rather than social costs unless forced to take social costs into account. The assumption is realistic; government is sensitive to budgetary expense.”

Similarly, Thomas Miceli (2004, p. 224) has argued that in the absence of a compensation requirement or when the compensation mandated by the law is too low, the government “will likely take too much . . .” (see also Miceli 1997, p. 141). Furthermore, in his *Economic Theory of Eminent Domain*, Miceli (2011, p. 95) stated that: “[t]he assumption of a benevolent government that always acts to promote social welfare is perhaps overly naïve. More realistic models suppose, instead, that the government acts in the interests of the majority of landowners, subject to budgetary constraints.”

Based on the fiscal illusion theory, there should be a strong correlation between compensation rules and governmental takings behavior. In other words, the extent of the duty to compensate should have an effect on the frequency of exercising the power of eminent domain in terms of the number of takings and the size of the land taken.

### **3. RESEARCH DESIGN AND ISRAELI JUST COMPENSATION LAW**

In the U.S., as well as in other Western countries, the government is required to pay compensation whenever it engages in a physical taking—large or small—of private land. The government is under a duty to compensate even if it takes only a fraction of a percentage of a particular parcel. No amount is considered *de minimis*.

The design of U.S. compensation law has two salutary effects when viewed through the lens of the fiscal illusion theory. First, it forces the government to take account of the cost its actions impose on private individuals. Second, it eliminates, to a large extent, the incentive of the government to act strategically in deciding what *percentage* (share) of the property to take. Given that there are no discontinuity points in the compensation the government must pay, government officials will be inclined, *ceteris paribus*, to take the efficient amount of private property—namely, the amount at which the marginal benefit to the government equals the marginal cost.

In most respects, Israeli eminent domain law closely resembles U.S. takings law. There is one critical difference, however. In 1936, in the days of the British Mandate, the law empowered local governments to take up to 25% of any parcel without paying compensation if the land is taken for construction of local roads, playgrounds, and play fields.<sup>8</sup> In 1965, the uncompensated share was enlarged to 40% and was extended for other public purposes: parks, sports and recreation, education, culture, religion, and health. The compensation requirement comes into play only after 40% of a particular parcel are taken, and, then, it is applied only on the margin: that is, if the government takes 41% of a certain parcel, it will have to pay compensation for 1% of the property's market value.<sup>9</sup> The justification that

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<sup>8</sup> Town Planning Ordinance, 1936 (Isr.), S27. This power was later on extended to expropriations of the central government as well. Land (Acquisition for Public Purposes) Ordinance, 1943 (Isr.), S20. Earlier versions of these ordinances, from 1921 and 1926, respectively, included even more restrictive powers in this regard. In fact, the Mandate law maintained a previous Ottoman law from 1891, according to which 25% of an undeveloped parcel are not compensated when the purpose of taking is road paving (Goadby and Doukhan 1935, pp. 315, 332).

<sup>9</sup> Planning and Building Law, 5725-1965 (Isr.), S190(a)(1) and Land

was advanced for this rule is that, in general, the public use to which the taken property is put enhances the value of nearby properties, including that of the remaining portion of the taken property. And, moreover, that it is fair to require individual property-owners to shoulder some of the burden implicated by the provision of public amenities to the community.

In an unexpected landmark decision from 2001, the Israeli Supreme Court, deviated from past precedent,<sup>10</sup> and ruled that in cases of total taking, in which the government condemns 100% of a parcel, full compensation would be awarded to condemnees and the government would not be able to avail itself of the standard 40% deduction.<sup>11</sup>

This legal change provides us a natural opportunity to examine how public officials react to different compensation regimes. The Court's ruling occurred as a truly exogenous event, whose timing and occurrence were not in response to longitudinal patterns in the use of eminent domain. In addition, the legal change could not have been anticipated by the relevant governmental actors.<sup>12</sup> Where the treatment is applied randomly, not as a policy response to trends in levels of activity, and without relation to the prior state of affair of the dependent variable "the correlation between pretest scores and exposure to treatment is zero" (Campbell and Ross 1968,

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(Acquisition for Public Purposes) Ordinance, S20.

<sup>10</sup> CA 377/79 *Pfizer v. Ramat Gan Planning and Building Commission* 35(3) PD 645 [1981] (Isr.).

<sup>11</sup> CA 5546/97 *Kiryat Ata Planning and Building Commission v. Holzman* 55(4) PD 629 [June 2001] (Isr.), *translated in* [http://elyon1.court.gov.il/files\\_eng/97/460/055/106/97055460.106.pdf](http://elyon1.court.gov.il/files_eng/97/460/055/106/97055460.106.pdf).

<sup>12</sup> In December 1999, for instance, the Supreme Court recited *Pfizer* as the prevailing doctrine (CA 6663/93 *Zaig v. Rishon Le'Zion Planning and Building Commission* 55(1) PD 49 [1999] (Isr.)). In an article published in 1985, Rachelle Alterman criticized the *Pfizer* doctrine. So did Daphna Lewinsohn-Zamir in 1994, and Hanoch Dagan in 1997. However, these critiques were totally ignored by the Supreme Court but until the *Holzman* case (this is based on citations analysis of court decisions for the years 1985 to 2001).

p. 40). Even though in such cases it is reasonable to interpret trends prior to the introduction of the legal change, and after, as evidence to its casual impact (Gerring and McDermott 2007, p. 694), caution should be exercised when inferring causality due to our inability to produce sufficient control.

Given that the legal change was uniformly implemented in all cities in Israel, a proper control group does not exist, not even a nonequivalent one. Similar remote states are not available. As Campbell and Ross put it: “for matters of either weather or culture, adjacency and similarity are apt to be strongly associated” (id, p. 46). In our case, the pretreatment state of affairs is unique to the studied group. For these reasons we cannot test causality but rather describe the results, test whether the legal change is associated with changes in the taking share, and suggest this case-study only as a prediction (Privitera 2014, p. 272).

The logic of the fiscal illusion argument, which emphasizes direct out-of-budget costs as meaningfully different than other costs of governmental behavior, would suggest that fiscally afflicted government officials would respond to the peculiarities of the Israeli compensation regime in two distinct ways. First, they would tend to disproportionately engage in takings of 40%, or just under 40% due to optimization error, as doing so gives them the highest payoff at the least cost. Given that the perceived cost (in terms of compensation) remains fixed at \$0 between 1% and 40%, if government officials are assumed to behave as rational self-interest maximizers, they should also elect to take 40% and not any lesser share. For any taking, and for every taking share, that is not required for public uses, there are costs.<sup>13</sup> Such are due process costs (Merrill 1986), loss

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<sup>13</sup> We assume that the cost of a move from a no-taking to taking of, say, 5%, are different than the cost of a move from, say, 5% to 10%. Also, since our data goes back only to 1990, we have no information about takings that preceded that

of property tax, and costs for managing unneeded properties. These costs are deemphasized or overlooked by fiscal illusion's proponents (Berger 2016).

Second, and more importantly, an anticipated effect of the Israeli compensation regime is that since the year 2001 Israeli local government officials should have shied away whenever possible from total takings as these impose a disproportionately high cost on the public fisc. This is so for the simple reason that any taking of 41% to 99% of a parcel imposes on the government a cost (in terms of compensation) that can be assumed to increase linearly, on average, at a steady rate proportionate to the benefit the government receives. A taking of 100%, however, raises government expenses by a very large amount as it deprives the government of its ability to refrain from compensating for the first 40% taken relative to taking of 99% or any lesser share (which is higher than 40%). Hence, one would expect to see a relatively smaller share of total takings (taking share of 100%) after 2001. We can also assume that a purely strategic behavior on part of the government, such as the taking of exactly 99%, might be invalidated by the courts as unfair.<sup>14</sup> The possibility of an optimization error should also be incorporated into the analysis. It is, therefore, reasonable to expect that the effect of the 2001 legal change will be observed around a taking share of 90%.

Israeli law, therefore, contains two *potential* discontinuity points. The first one is at or around the 40<sup>th</sup> percentile and the second is around the 100<sup>th</sup> percentile, for a pre and post 2001 comparison.

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year.

<sup>14</sup> According to the Attorney General of Israel's instructions from 2003, where the remainder part of a taken land in partial takings is of only a few percentage points away of the entire lot, full compensation should be paid.

Against this legal backdrop, we set out to test the hypotheses that after 2001 the share of cases of total taking (taking share of 100%) would be relatively smaller than in the pre-2001 period; that the rate of cases between 41%-90% would be larger, and that the 100% point or around it should appear as a notch point after 2001. In addition, we tested whether there are cases in the range of 1%-35%, and whether there is a clear discontinuity kink point at 40% or around it, and a “hole” of no cases to the right of this point.

#### **4. METHODOLOGY AND EMPIRICAL FINDINGS**

##### **4.1 METHODOLOGY**

In Israel, in order to take private property for local uses, the local government must first enact a zoning map (or amend an existing one) and designate land for public uses. It must then comply with the dictates of takings law. In large cities like Tel Aviv the local planning and building commission (zoning commission) is comprised of all the members of the city council, headed by the mayor, so there is an overlap between the planning body and the elected local government. Municipal elections for mayor and the city council, and, in fact, for a seat at the zoning commission, were held in Tel Aviv in 1993 and every five years thereafter.<sup>15</sup>

The Zoning Commission is responsible both for approving the designation of certain lots for public uses and for their ensuing taking. The central government and other agencies are not involved in takings decisions. Compensation is paid out of a specific allocation in the city’s budget. The

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<sup>15</sup> In 1993 Mayor Milo was elected to replace Mayor Lahat (Chich) after 20 years in office; in 1998 Mayor Huldai replaced Mayor Milo, and ever since then Huldai was elected.



central government and other agencies are not involved in the compensation process.<sup>16</sup>

At any time after a zoning map is amended to designate property for public use, the Commission may publish a public notice declaring its intent to take the designated property, and demand immediate transfer of possession. In Tel Aviv, in most cases these public notices contain information about the size of the parcel and the taking size. The procedures required for a taking are independent of the amount or share of land taken in each case. The same procedure applies to all cases.

We used an interrupted time-series quasi-experiment to test our hypothesis. The data collected includes all taking notices for local purposes which were signed and published in public records between January 1, 1990 and December 31, 2014 by the Tel Aviv Planning and Building Commission. We were able to compile full data for 97% of the entire population. Throughout the examined period, there were no changes in record keeping. In total, there were 488 notices.<sup>17</sup> These notices cover 3,140 takings that refer to 449 development projects.<sup>18</sup> The specific public

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<sup>16</sup> Because the city pays compensation out of its own budget (and not out of central government's grants) we should not be bothered by the problem reported by Fischel (2004b), where earmarked Federal and State money distorted condemnation decisions in Poletown, Detroit.

<sup>17</sup> As a quality check, we collected another set of condemnation notices. These notices are published when the local government desires to transfer full ownership of the taken land, typically for land registration purposes. Between 1990 and 2014 there were 359 such notices, which included 1,791 observations that matched our dataset. Only in rare cases there was a change in the taken size upon completing the formal procedure, which indicates consistency throughout the process. Obviously, total takings are more likely to appear in the subset of cases in which the government registers title to the taken parcel. The fact that it is possible to match most of our records with a separate set of records, provides an assurance for the quality of the records used in the main findings.

<sup>18</sup> If for a certain project more than one notice was published within no more than a year, we referred to it as one project, which is the case for a couple of

purpose for which the land is taken (e.g., road, park, etc.) appears in 725 (23%) of the cases in our dataset. With respect to a sample of cases in our study (1,923 observations), we measured the time lag (in years) between the designation for a public use in an amended zoning map and the date of announcing on the taking of that land (Median: 3; Mean: 9.45; SD: 11.94).

We begin with a general description of the levels of taking activity and turn to test the implications of the 2001 legal change.<sup>19</sup> Our main dependent variable is Total Taking (taking share of 100%), which is tested per discrete taking observation, as well as for per project, as the unit of observation. While we observe differences among the pre legal change group and the post group, we also describe patterns in specific years such as election years. We use parcel size, taking size (amount of land taken), taking share, and pre/post treatment, as measures per unit of observation. We also use additional dataset on compensation paid out of the city's budget.

#### **4.2. LEVELS OF TAKINGS ACTIVITY**

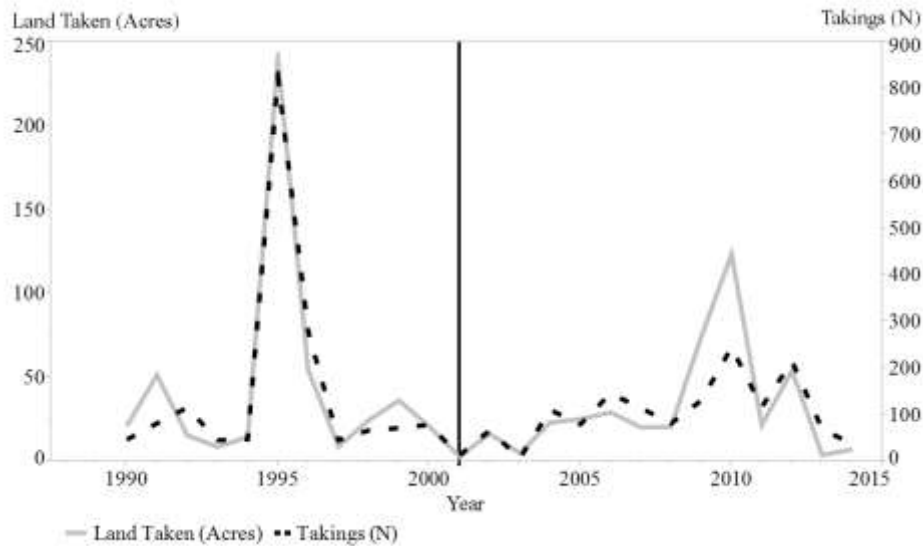
As shown in Figure 1, the number of takings varies from year to year without any visible trend. The year of 1995 witnessed a peak in the number of takings with a total of 822 (26%) discrete takings. The lowest number of takings was 7 in 2003. The annual average was 126 takings. The years 2001-2003 exhibit low levels of activity. Breaking down the observations pre- and post-2001 results in a rather balanced picture with respect to the number of takings observations. 1,716 (55%) discrete takings observations came prior to the legal change and 1,424 (45%) observations came after that

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dozens of notices.

<sup>19</sup> We took the date of the Court's decision as the time-resolution (June 12, 2001) (see Wagenaar and Komro 2011). In 2001, there was one taking observation past that date which was technically attributed to the post legal change group.

date (clustered into projects, the pre change group refers to 223 [50%] development projects, while the post 2001 group refers to 226 [50%] projects). Figure 1 also summarizes the amount of land taken each year. We see that the variables are rather stationary, apart for two years – 1995 and 2010. There is a correlation between the two series ( $r=0.93$ ,  $p<0.001$ ).



**Figure 1: Amount of Land Taken per Year (Acres); Number of Takings per Year**

Since for both series no significant autocorrelation was detected, we could conduct a t-test to examine the change between the periods.

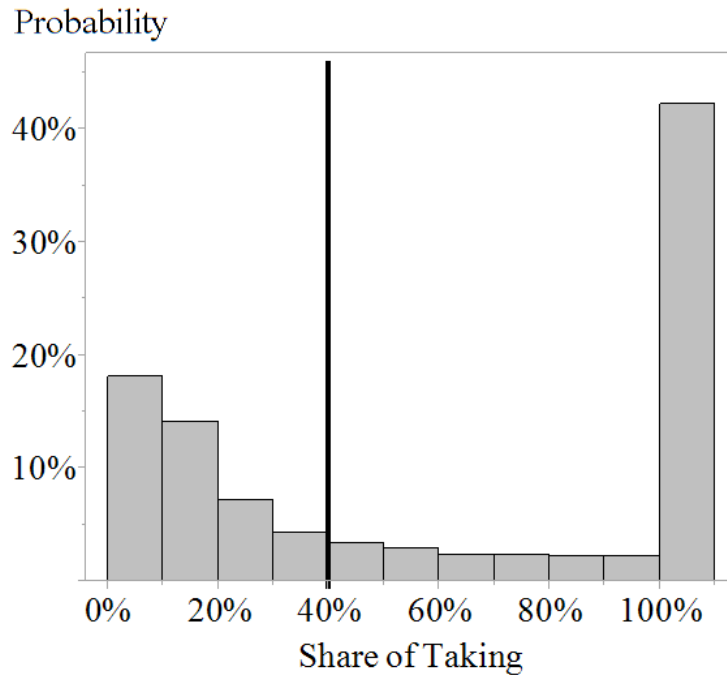
Table 1 shows that there is no significant change in the annual measures pre/post the legal change in terms of the amount of land taken and the number of takings. Note, however, that the number of observations is so small (25 overall) that even large differences may not be statistically significant.

**Table 1: Amount of Land Taken and Number of Takings per Year Pre and Post the Legal Change**

	Legal Change	Number of Years	Mean	SD	t ratio	Pvalue
Amount of Land Taken per Year (Acres)	Pre	12	41.68	64.41	-0.43	0.67
	Post	13	32.76	33.54		
Takings per Year (N)	Pre	12	143.08	224.19	-0.5	0.63
	Post	13	109.46	65.87		

**4.3. TAKING SHARE PER EACH TAKING**

We turn now to inspect the main variable of taking share, measured by the size of the taken part relative to the overall size of the parcel. Figure 2 provides a histogram of the taking share for the entire sample (3,140 observations), which can be characterized as bimodal with high frequency towards the ends of the range. It is clear that there is only one breaking point along the range, at a taking share of 100%. For 1,324 (42%) observations total taking was declared. Partial taking of 40% of a parcel or less was declared for 1,357 (43%) observations, leaving only 459 (15%) observations in the 41%-99% range. There are 95 (3%) observations at taking share of 35%-45%. In other words, the most frequent taking share is either high (100%) or low, of 40% or less. Medium shares of takings are rather rare.

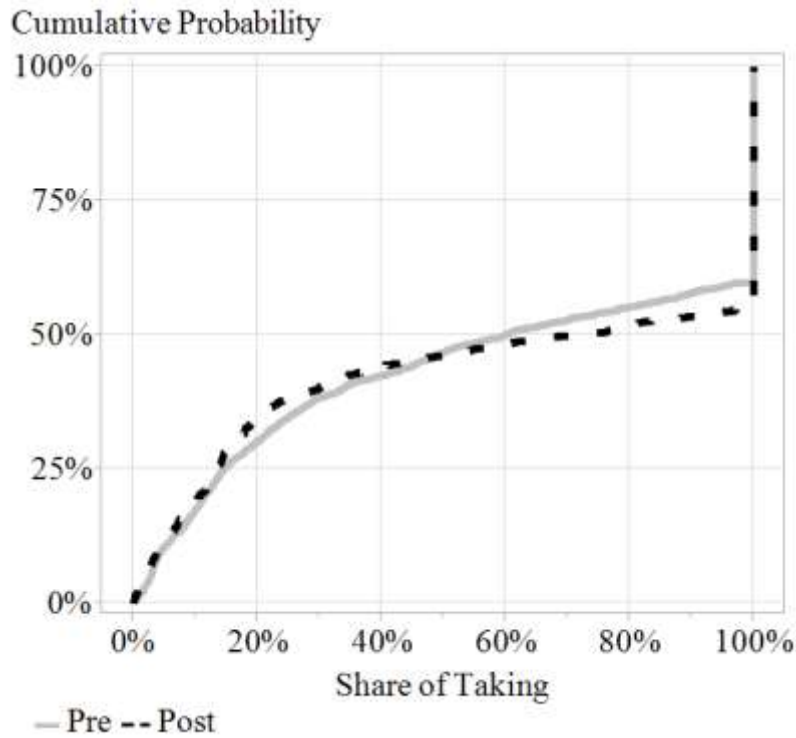


**Figure 2: Distribution of Share of Taking – 1990-2014 (N=3,140)**

These findings are inconsistent with the expectation that there would be almost no cases between 1% and 35%, and that there would be a clear kink point where a large portion of the takings would bunch under 40%. We also note that there is a moderate correlation between the parcel size and the taking size (see Appendix).

In order to see if there is any indication for adjusting the taking share to the changes in the compensation criteria, we next inspect the distribution of the taking share overtime. The 2001 legal change triggers the hypothesis that we should find a smaller share of cases of total takings post 2001 (a notch point around the 90% mark). Figure 3 provides an overlay of the cumulative distribution function of the share of taking for the observations divided by their taking date, pre and post 2001. From this graph it appears as though there is no substantial change in the shape or the position of the curves. This comparison is not consistent with our hypothesis's two

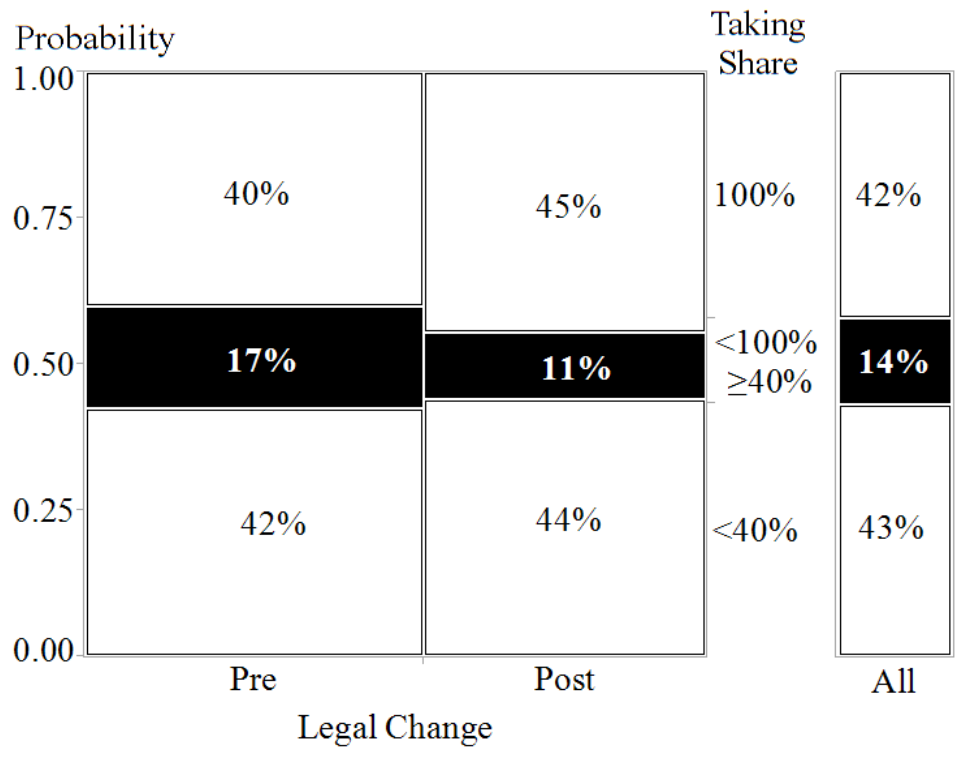
predictions – that the share of total takings would be relatively lower post 2001 and that the share of takings in the range of 41% to 90% would be larger.



**Figure 3: Cumulative Distribution of Share of Taking Pre (N= 1,716) and Post 2001 (N=1,424)**

Considering the patterns of taking share, this variable can be best characterized as an ordinal categorical one. The first category contains all the takings of less or equal to 40%, a top category for total takings and a mid-range category for the rest. Figure 4 provides the breakdown of the taking categories pre and post 2001 indicating a significant difference between the periods. The direction of the change is opposite to the

prediction: the share of total takings is higher in the post 2001 group, at the expense of the mid-range category.<sup>20</sup>



**Figure 4: Composition of Taking Share by Legal Change: Pre (N=1,716) v. Post 2001 (N=1,424), ( $\chi^2_{(2, 3,140)} = 23.92, p<0.001$ )**

In order to examine whether the probability of a total taking grew over the years and whether it changed after the legal change, a multiple logistic regression was estimated. The dependent variable is 1 for a Total Taking and null otherwise. The independent variables are Year, Parcel Size, a dummy for the Legal Change, and a dummy for Election Year. Table 2

<sup>20</sup> Considering the possibility that a transition period might have influenced our results, we tested the data without observations created between 2001 and 2003 (N=87, 2.77% of the entire sample). We found that the difference between the groups is similar ( $\chi^2_{(2, 3,053)} = 30.06, p<0.001$ ) with a similar distribution.

shows the parameter estimates of the model in which the Year and Parcel Size were centered and also interacted with Legal Change.

**Table 2: Regression Analysis for Total Takings by Year, Parcel Size and Legal Change**

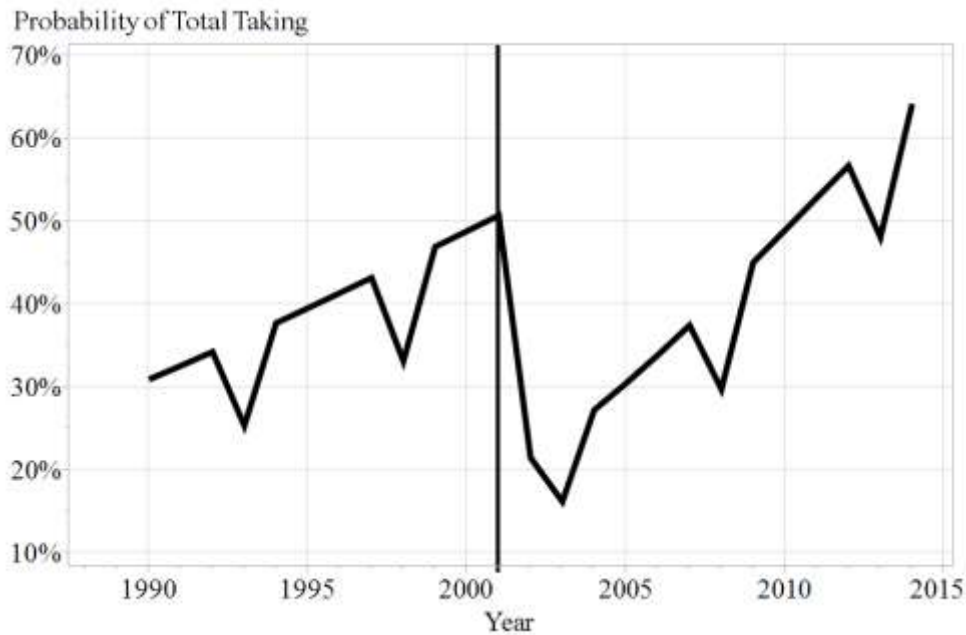
Term	B	Exp (B)	SE	$\chi^2$	Pvalue
Intercept	-151.113		46.525	10.55	0.0012
Year	0.076	1.079	0.023	10.52	0.0012
Parcel Size	-4.97E-06	1.000	1.00E-06	24.5	<.0001
Legal Change	-1.460	0.232	0.215	45.96	<.0001
Year * Legal Change	0.081	1.084	0.030	7.34	0.0068
Parcel Size * Legal Change	-4.58E-06	0.999	0.000	6.48	0.0109
Election Year	-0.504	0.604	0.141	12.74	0.0004

N = 3,140  
 McFadden's  $R^2 = 0.05$   
 for log odds of Total/Less than total

As can be seen from the odds ratios in Table 2, all the odds are very close to 1.0 (consistent with no effect) except for Legal Change and Election Year. The positive coefficient for Year indicates that the share of total takings was growing by 8% per year over the years before the legal change. Therefore, without the legal change, in a “business as usual” scenario, we would have expected to see this trend continues. Furthermore, the positive interaction coefficient between Year \* Legal Change indicates that post 2001 the propensity for total takings grew faster over the years (by 16% each year).

The coefficient of Legal Change itself is negative, which indicates that at the year 2002 there was a discontinuity of the probability for total takings in comparison to the trend line of the pre period (see Figure 5). The substantial negative shock to the probability of total takings immediately post 2001 might be consistent with the fiscal illusion hypothesis. We further address this issue in the Analysis part.

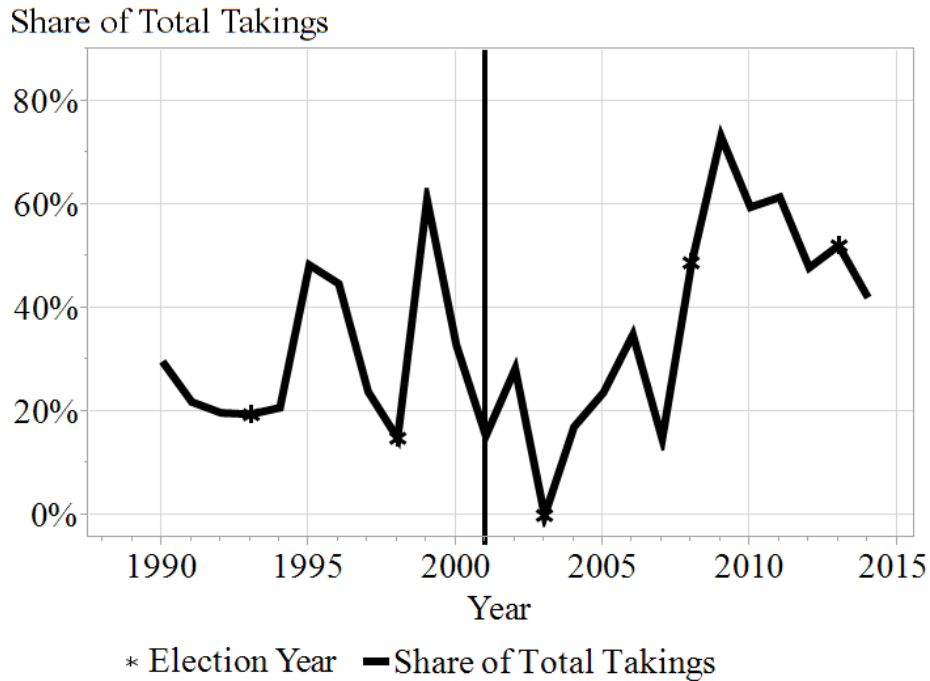




**Figure 5: Predicted Probabilities for Total Taking Each Year**

For Parcel Size, we notice that its coefficient is negative indicating a diminishing propensity for total takings as the parcel grows. In addition, the negative sign of its interaction with Legal Change indicates that in the post period the slope is even a bit steeper.

The negative coefficient for Election Year indicates that controlling for all other variables in the model, the probability of a total taking in an election year is lower by 40%. Considering the limited size of election years in the sample ( $N=5$ ), caution is required. Looking more closely at the activity per each election year, we observe that for some election years (1998, 2003) the share of total takings was relatively small when compared to 1-2 years around it, while in other years (1993, 2008, 2013) the share of total takings was similar or higher to that of 1-2 years around it (see Figure 6). Note that in 2003 there were only 7 cases, and 1998 belongs to the pre legal change period.



**Figure 6: Share of Total Takings per Year 1990-2014**

#### 4.4. TAKING SHARE PER PROJECT

Another way to examine the effects of the legal change is by checking whether post 2001 takings were less aggressive (i.e., more limited in their scope) as a result of budgetary concerns due to the legal change. To test this, we compared for the pre/post legal change the average number of projects per year, and the intensity of the projects by measuring the average number of takings per project, the average taking size per project, the amount of land taken per project, and the share of total takings per project. Despite some differences between the groups, none of these were significant. Notably, the share of total takings per project remained exactly the same for the pre and post groups (see Table 3).

**Table 3: Pre vs. Post 2001 Comparison per Project**

	Legal change	N	Mean	Std Dev	t Ratio	Pvalue
Number of projects per year	Pre	12	18.58	10.48	-0.33	0.75
	Post	13	17.38	7.58		
Mean takings per project	Pre	223	7.7	19.8	-0.9	0.36
	Post	226	6.3	11.92		
Mean taking size per project (acers)	Pre	223	0.46	1.07	-0.15	0.87
	Post	226	0.44	1.13		
Amount of land taken per project (acers)	Pre	223	2.24	12.88	-0.39	0.69
	Post	226	1.88	4.45		
Share of total takings per project	Pre	223	0.37	0.44	0.15	0.87
	Post	226	0.37	0.45		

We regressed Share of Total Takings for each project against the Year, a dummy for the Legal Change, and Election Year. Table 4 provides the parameter estimates in which the Year was centered and interacted with Legal Change.

**Table 4: Regression Analysis for the Share of Total Takings per Project by Year and Legal Change**

Term	B	SE	t Ratio	Pvalue
Intercept	-25.084	19.155	-1.31	0.191
Legal Change	-0.228	0.094	-2.43	0.0155
Year	0.013	0.010	1.33	0.1845
Year * Legal Change	0.012	0.013	0.93	0.3503
Election Year	-0.078	0.061	-1.29	0.1979

N = 449  
 $R^2 = .023$

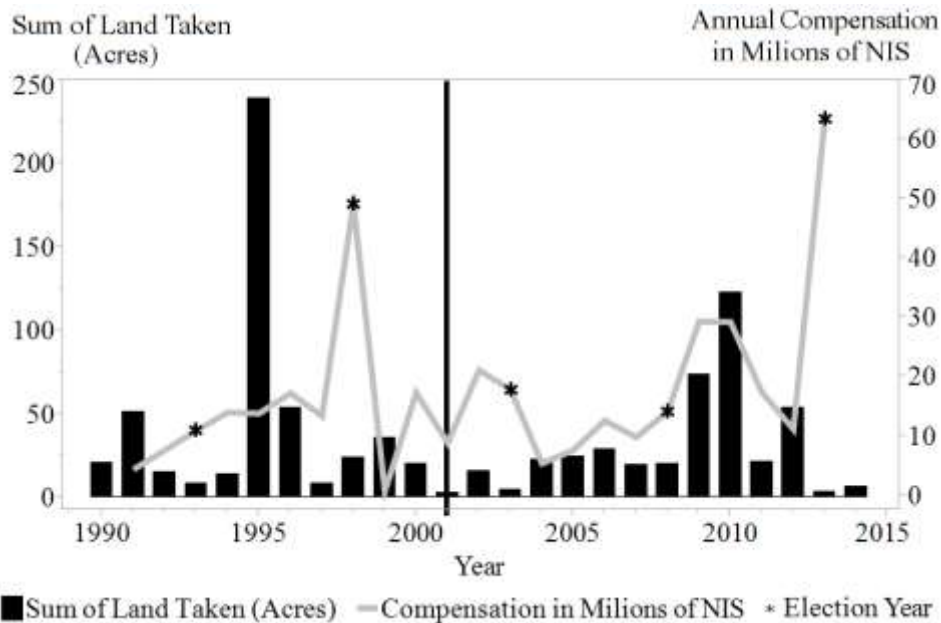
As can be seen the coefficient of Year is insignificant indicating no trend over the years before the legal change in the share of total takings per project. For the post 2001 period, the slope is estimated by the sum of Year and Year \* Legal Change coefficients in the table, which is  $B=0.025$ ,

SE=0.009,  $p=0.006$ . Therefore, we conclude that for the post legal change period the share of total takings per project is growing over the years by 2.5% per year. The coefficient for Legal Change is significantly negative indicating that in 2002 there was a drop in the share of total takings, a trend which was also identified on the per discrete taking model and will be discussed in the Analysis part. The coefficient of Election Year is insignificant.

#### **4.5. COMPENSATION PAID OUT OF THE BUDGET**

As was already noted, takings compensation in our case study is paid out of a specific allocation in the City's budget. We compiled an additional dataset of the total amount of compensation paid each year out of the city's budget, using the annual financial reports of the city. Over the examined period there were no dramatic budgetary changes, even in election years; only incremental additions were observed. A strong correlation was found between annual compensation and share of compensation out of the budget, indicating budgetary flexibility to increased levels of compensation (see Appendix).

From the following graph (Figure 7) it can be observed that there is no correlation between the amount of land taken and the amount of compensation paid that year. The election years 1998 and 2013 exhibit high compensation levels.



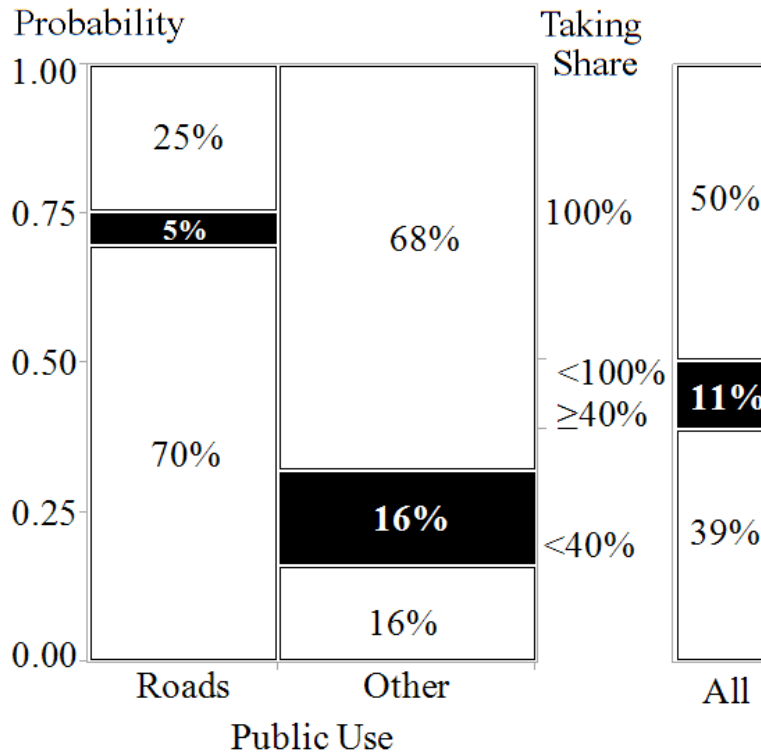
**Figure 7: Amount of Land Taken, Compensation Paid (nominal values), per Year**

When implementing a time lag of 3 years between the date of taking and the timing of actual compensation payments, a positive correlation ( $r=0.72$ ,  $p<0.001$ ) is observed. This correlation is wholly attributed to the high levels of takings activity in 1995 and 2010, which are followed by high levels of compensation three years later, respectively. Excluding these two years, the estimate drops ( $r=-0.07$ ,  $p=0.76$ ) and no significant correlation can be found between the annual amounts of land taken and annual amounts of compensation payments at any time lag.

#### 4.6. PUBLIC USE

With respect to a portion (725 takings) of the entire sample the specific public use for which the land was taken was identified in the taking notice. For 308 (42%) of the cases, the identified purpose was for local roads, while in the rest of the cases the property was taken for other local

public purposes (mainly open public spaces, public buildings, parking, or combinations of these purposes with or without roads), which we regarded indistinctively. Figure 8 presents the partition of public uses by taking share.



**Figure 8: Composition of Taking Share by Public Use: Roads (N=308) v. Other (N=417) ( $\chi^2_{(2, 725)} = 221.7, p < 0.001$ )**

The relationship between the public use and taking share is significant. Taking shares for roads were more likely to be smaller than other uses and were most probably below 25%.

## 5. ANALYSIS

Our data reveal a discontinuity point at a taking share of 100% (total takings), at which *nearly half* of the takings were concentrated. We expected the share of total takings to drop following the 2001 legal change that forced

the government to pay full compensation for total takings. Our findings show that the level of takings activity remained unchanged after 2001. We observe a discontinuity in trend in 2002, so that the legal change itself is correlated with a drop in the share of total takings. However, overall, the break in trend is in the other direction, and, overtime, the rate of total takings grew faster than before. Thus, generally, post 2001, there was no shift from total takings toward partial takings of 90% of a parcel or any other percentile point. This result is not dependent on the observation unit—discrete takings or development project. The bunching at the taking share of 100% is not correlated with the notch created by the new compensation rule.

Due to the methodological limitations on a quasi-experiment of this type, where the pretreatment state of affairs is unique to the studied group and the treatment (legal change) was implemented uniformly to all equivalent or semi-equivalent groups, we have no control group. We cannot rule out the possibility that the share of total taking cases would have increased even more sharply absent the 2001 legal change. Nonetheless, we note that the legal change was exogenously imposed by the Israeli Supreme Court without any advance signs or warnings, and it had an ongoing effect on each and every taking post 2001. Furthermore, the pretreatment assessments provide us with a means to project the level and slope of posttreatment measures, assuming that the legal change did not happen (Thyer 2012, p. 109). When employing this approach, we find that in comparison to the pre legal change period the propensity to engage in total takings doubled over the years post the legal change. This finding is supported by the per project perspective: while the pre group indicates no trend with regard to total takings, the post group shows a positive trend over the years.

There are several ways to understand the discontinuity in trend immediately post the legal change. One possible interpretation is that the negative coefficient for “Legal Change”—but the positive coefficient of “Year \* Legal Change”—implies a substantial negative shock to the probability of a total taking, which is consistent with the fiscal illusion hypothesis. If this is true, it admits of a somewhat weaker argument against the fiscal illusion hypothesis, which suggests that even if there was a period of shock after the legal change, things simply reverted to the long-term trend within a few years.

The difficulty with identifying such an effect is that a decision to exercise the eminent domain power takes a long period of time, since it necessitates a careful planning process. The median time lag between approval of a zoning amendment and a taking decision is 3 years (with a higher mean of 9.45; SD: 11.94).<sup>21</sup> This time factor might have an effect on the taking exercises in the years immediately after the legal change. Moreover, each of the years 2001, 2002, 2003, exhibited very low levels of activity (13, 67, 7, respectively, with an average of 29 per year while the general average is 126), which requires greater caution when basing strong conclusions on them. In addition, these minimal levels of activity—and minimal shares of total takings—might be explained by other factors. They may be related to changes in the real estate market during those years, which also displayed low levels of new construction activity in general (see Appendix).<sup>22</sup> We find this interpretation more convincing.

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<sup>21</sup> Relatedly, we noted a 3-year time lag between the date of taking and the timing of actual compensation payments.

<sup>22</sup> In the aforementioned years, there was a recession following the burst of the dot.com bubble, the collapse of the peace process between Israel and its Arab neighbors, the eruption of violent conflicts through the West Bank, and multiple terror attacks in Israel, including in Tel Aviv. This, however, is merely a



Election years have had some effect on total taking activity per discrete observations, which was not repeated when projects were used as the observation unit. Compensation for taking, paid directly out of the city's budget displayed a budgetary flexibility to increased levels of compensation. A positive correlation was observed between the amount of land taken and the amount of compensated land taken when implementing a time lag of 3 years between the date of taking and the timing of the actual compensation payments. This correlation is wholly attributed to the high levels of takings activity in 1995 and 2010, which are followed by high levels of compensation three years later, in election years.

To conclude, it seems as if the 2001 Israeli Supreme Court decision that mandated full compensation for total takings had no lasting observable effect on eminent domain practices. Overtime, there is no meaningful drop in the rate of 100% takings after 2001, even though the government had to pay *full compensation (i.e., 100%)* for total takings since then, while before the legal change it had to pay only *partial compensation (i.e., 60%)* in such cases.

The fact that we observed bunching at 100% at an even greater magnitude in the years post the legal change does not necessarily stand in direct opposition to the fiscal illusion hypothesis notwithstanding the fact that the incentive to bunch to the left of the notch post 2001 should be a strong one given its impact (Ramnath 2013). This is especially true given that we have observed signs of a reversible shock. The point is that there are so many other constraints affecting government takings that fiscal illusion is simply not a first-order factor. Other limitations on governmental power can bring about the same result that the compensation requirement is set out to

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conjecture.

achieve, as anticipated by Merrill's (1986) discussion of the "due process" costs of eminent domain. Israeli property and administrative law impose a large set of constraints on government officials that are independent of compensation rules. First, the government must always act fairly and in good faith. As a consequence, the government cannot leave a token interest in the hands of private property owners just to avoid paying them full compensation. Such attempts will be thwarted by the courts, which may cause expensive delays in development projects. Hence the government cannot bypass payment of full compensation unless it has a genuine reason to take just below 100%. The burden of proof in such cases will be on the government and it will be substantial. This, too, increases administrative, due process, costs to the government. Once the broader legal and regulatory context is taken into account, it is not entirely surprising that we did not see an ongoing drop in the rate of total takings post 2001.

We also found that it is smaller parcels that tend to be taken in their entirety. For small parcels, a taking of more than 40% and less than 100% might result in the creation of excessively small, and, thus, unusable, tracts of land. In such cases, the law allows the owner to file a suit demanding that the government would take the parcel in its entirety (Alterman 1985, p. 224). However, the Israeli Supreme Court gave a very restrictive interpretation to this rule, rendering it almost impractical. The Court rejected all suits brought based on this rule, even where the remainder was of no more than 10% of the parcel, as long as it was of a certain minimal size (Lewinsohn-Zamir 1999, p. 378; AAP 4955/07 Ra'anana Planning and Building Commission v. Torah and Avoda Fund (2010) [Isr.]). It seems that the city itself realized that very small leftover tracts of land that cannot be efficiently developed create an urban planning problem of unusable lots. This may explain the fact that smaller parcels tend to be taken in their

entirety. The fact that post 2001 the coefficient for parcel size is even a bit steeper might indicate a government tendency to allow small owners to enjoy full compensation by taking their property in its entirety. It is also clear that in some cases properties cannot be divisible without rendering the whole purpose of the taking irrelevant. For instance, leaving a residential lot in the middle of a planned park might make no sense from a planning standpoint. And, indeed, our sample shows that for public uses other than roads—such as public parks—the tendency is to acquire the lot in its entirety. This can explain the bunching at the 100% taking share before, as well as after, the 2001 legal change.

The share of takings of 41% to 99% was relatively small. Within it, there were only 95 takings, where the taking share was between 35% and 45%, which amounts to only 3% of all takings. It is, thus, clear that the government does not always take exactly 40% of the lot. In fact within the under 40% category, 4 out of 5 takings were of 25% or less, far below what could have been explained by due process costs.<sup>23</sup> There appears to be a tendency to carry out takings of less than 25% when parcel are not taken in their entirety. These findings are inconsistent with the prediction that the design of Israeli compensation law will lead to an excessive share of takings of 40% even when smaller shares could have satisfied the public's need (Alterman 1985, pp. 216-20).

It is suggested that the paucity of takings of 25% to 99% is due to planning reasons and public use needs. For instance, in developed areas where there is a need to expand a road, the government would only take the

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<sup>23</sup> If the government takes a part of a certain parcel more than once, the 40% rule will apply to the cumulative share of the takings. One could argue that the government can split its takings from a certain parcel so only the overall share of the taking should be counted. However, we found that only in 125 (4%) out of 2,998 parcels there was more than one taking event per parcel.

maximal amount of any developed lot that would not require the destruction of existing buildings or houses.<sup>24</sup> As we already noted, our sample of cases in which the particular public use was specified supports this assertion: the public use (local roads or any other public use) is strongly correlated with the taking share. A more detailed analysis is required in order to correlate the taking share with land cover characteristics, prospective uses of the taken land, the location of the taken land with respect to other parcels which are being expropriated, etc.

Another factor that can explain why the government takes 25% when it can take up to 40% without compensation is that when taken land is not being put to a productive use, the government must bear the cost of maintaining the unused land, the loss of property tax, and the destruction of value from the creation of sub-optimal land fragments in cases of partial takings. Another cost is due process. Any taking that borders on 40% will invite litigation. A governmental agency may prefer to avoid litigation by choosing a taking percentage that steers clear of the 40% kink point. Additionally, for each taking, there must be a transparent public procedure in which officials are required to justify their actions. These indirect costs suggest that we ought to adopt a broader understanding of the cost structure faced by government officials in eminent domain cases.

The main limitation of this study is that we do not have any real data on the “demand” for takings by the authorities. The distributions we plot show that the city sometimes requires small taking and, at many other times, larger ones. Therefore, one could argue that the government did not respond

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<sup>24</sup> Compare with Kades (2008, p. \*9) who suggested that “In more densely populated states, new road routes will traverse occupied parcels with greater frequency. In less populated states, new roads more likely will go over farmland and other less intense uses.”

to the change in the compensation scheme because it first had to address changes in demand that occurred over the years. If, this is true, then the hypothesis that budgetary concerns are the *only force* that shapes government decision-making is refuted by our data. Specifically, our findings refute the claim that without mandatory compensation government officials will be totally oblivious to the private cost of their actions and will take the largest percentage of every lot that they can possibly take without paying compensation.

We are unable to say whether the takings we studied were efficient; our data did not allow us to do so. Even if one assumes a benevolent government, it does not mean of course that it acts efficiently. We have not tested whether the uses to which the taken properties were put are more valuable than the private uses. These questions are beyond the scope of this project.

A final possible interpretation of our findings is that since takings compensation comes from the public fisc, government officials are not truly constrained by the compensation mandate. As agents, who transact with “other people’s money,” government officials are at liberty to promote other personal interests, such as political support. The fact that election years have had some effect on the share of total takings and the making of out-of-budget compensation further supports this interpretation. This explanation finds corroboration in Chang’s study (2009) that also found that political considerations play important role in decision-makers determinations of how much compensation to pay.

## **CONCLUSION**

Our study gives reason to reassess the centrality of the fiscal illusion hypothesis as a single explanation for mandating compensation for takings.

It calls into question the predominant hypothesis that government officials, when exercising their eminent domain power, act as narrow self-interest maximizers who are exclusively motivated by budgetary constraints, specifically those created by compensation rules. Our findings lend qualified support to the alternative hypothesis that government officials are largely motivated by a variety of budgetary and non-budgetary considerations, such as actual needs, fairness, and political effects, when they take private property.

Based on our findings, future studies of fiscal illusion should proceed in two directions. First, they should try to identify the forces that shape government decision-making in the takings context. Second, and equally importantly, there is a need to test the fiscal illusion hypothesis in other, related, contexts, as well. Steven Shavell (2004, p. 130), one of the few law and economics scholars who expressed skepticism about the fiscal illusion hypothesis as an explanation for the compensation requirement, queried why it is that the fiscal illusion problem afflicts government officials in the takings context, but not in other cases. Our study suggests that the fiscal illusion theory, notwithstanding its theoretical elegance, exerts a much smaller effect on the behavior of government officials than previously hypothesized, even in the takings context. It, therefore, raises the possibility that the seeming anomaly noted by Shavell is actually not a real one.

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**APPENDIX****Supplementary Data****Table A1: Correlation Between Parcel Size, Taking Size and Taking Share (N=3,140)**

	Taking Size	Share of Taking
All Parcel Size	0.56***	-0.20***
Taking Size		0.15***

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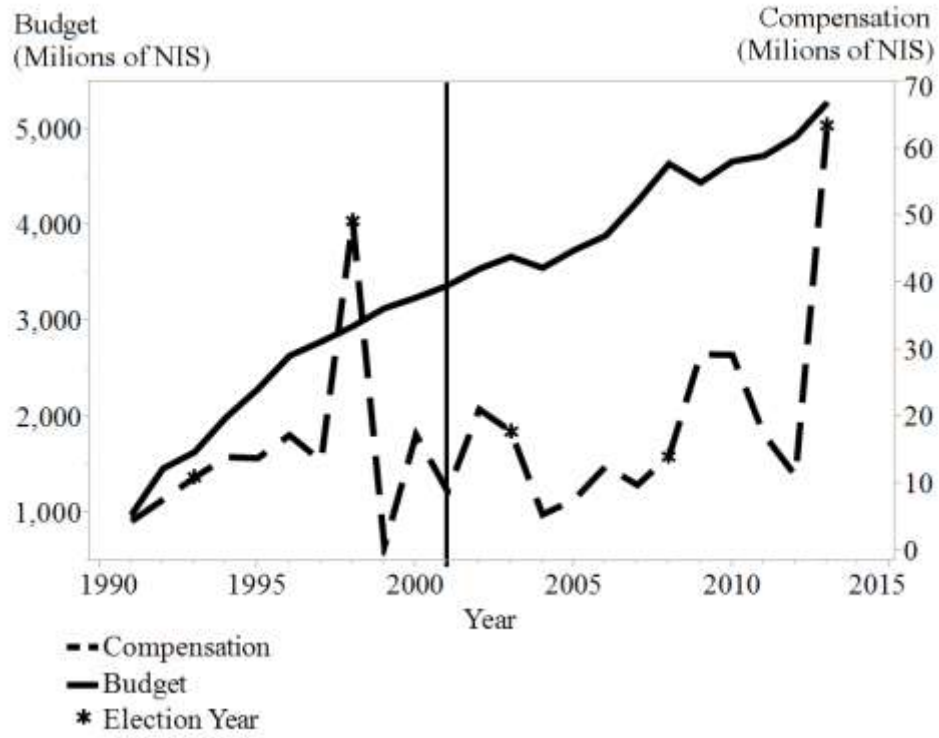
\*\*\*p<0.001

**Table A2: Correlation between Annual Budget, Annual Compensation, and Share of Compensation Out of the Budget**

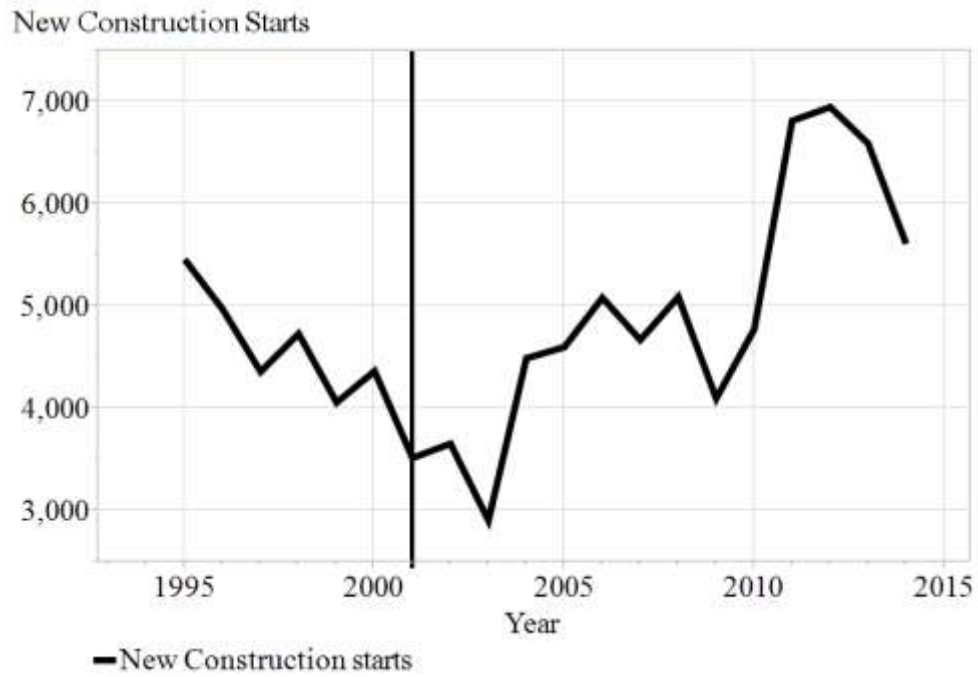
	Annual Budget	Annual Compensation	Share of compensation out of the budget
Annual Budget	1	0.41	-0.08
Annual Compensation	0.41	1	0.85***
Share of Compensation Out of the Budget	-0.08	0.85***	1

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\*\*\*p<0.001



**Figure A1: Correlation between Annual Budget, Annual Compensation, and Election Years**



**Figure A2: New Constructions in Tel Aviv 1995-2014; Source: Israeli Central Bureau of Statistics Database**

## **Gazit-Globe Real Estate Institute**

The Gazit-Globe Real Estate Institute was established with the aspiration of serving as the main academic platform in Israel for the study and research of the field of real estate. The institute began operating at IDC Herzliya in October 2011 thanks to a generous donation from Gazit-Globe. The institute acts in the spirit of academic excellence, innovation and entrepreneurship that has earned IDC Herzliya renown.

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