Rethinking Redistribution Goals under Tort Liability: The Use of 'Tags' in Tort Law

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**Abstract**

The well-established consensus in law and economics is that legal rules should not attempt to affect the distribution of wealth. Tort law, for instance, should be designed based on efficiency: minimizing the costs of care and accidents. Any effort to introduce redistribution considerations into tort law is usually rejected as early as the first step of the economic model. In this paper I will present an argument in favor of redistribution goals in tort law, as a means to open the discussion on the issue of the optimal tools for redistribution. My argument is based on the models developed in the law and economics literature, and in particular by Professors Kaplow and Shavell, who vigorously contend that these considerations should be rejected as a general notion when designing the legal rule. Using the concept of "tagging" and drawing on the literature on optimal taxation, I will present an analytical legal framework that can be utilized for the purpose of redistribution in tort law, overcoming the two main obstacles to any new distribution tool: the problem of targeting and the problem of indirect cost ("as efficient as tax law"). This work brings together accepted wisdom from three main areas of research employing an economic analysis of law: optimal taxation, public choice and behavioral economics.

My proposal should be understood as adding a new policy tool which is based on a different strategy to advance equality in society; it is a more rudimentary tool than
tax law, which is focused only on addressing significant welfare gaps among groups in society. The framework suggested here can create a "safe zone" for future inquiries by courts or other institutions that were hitherto hindered by the absence of coherency in research results and policy recommendations.
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1. Introduction

One of the fundamental issues that have puzzled economy and law scholars for decades has been the issue of the redistribution of wealth. Among others, it is constantly debated whether the redistribution of wealth should be considered as a policy goal in and of itself or should the relevant criterion for deciding policy solely consist of the total amount of resources produced. The two different aims are often presented as concerns to the "total size of the pie" (efficiency) as opposed to concerns to the manner in which "the pie is divided" (distribution).

It seems intuitive that society should be concerned about redistribution. One may ascribe an intrinsic value to equality, as many law scholars and philosophers do, making the answer easier – because it is the "just" thing to do; an equal society is a better society. From the economic point of view, which is utilized in this paper, the question can be formulated more precisely as follows: is inequality inefficient? In other words, we should be concerned about redistribution if it affects efficiency.

The basic argument in favor of redistribution, under economic analysis, is that the utility pie may be linked to the distribution of wealth (Posner, 2006, p. 638). However, the specific link between the two may be crucial to the argument. A non-linear relation assumption, such as assuming a diminishing marginal utility of wealth (Weisbacht, 2003, p. 440), can support society's concern with wealth distribution. To put this known notion in simple words: every dollar we earn is worth less to us than the previous one in terms of utility. This in turn implies that taken a dollar from a wealthy

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1 For one of the most analytical legal-moral theories on the topic see Dworkin's work (Dworkin, 1981). A multinational empirical study published in 2009 suggests a strong correlation between inequality and some of modern society's most formidable challenges, and maintaining that inequality is the most serious problem societies face today (Wilkinson & Pickett, 2009).
2 In economics, a distinction is made between utility (welfare or well-being) and wealth; our efficiency concerns should be aimed to the first.
3 A different economic way to support the idea of equity could be on the basis of interdependent utility functions of people. Meaning that people have utility gains from living in a more equal society even if it does not affect them directly (Bergstrom, 1999).
person and giving it to a poor person increases our total utility pie. To explain why this could be true, it is enough to think of what people spend their first dollar on. Food, clothes and rent come before going to the movies or buying fashion accessories, at least for most us.  

The leaky buckets

Most scholars will agree that some level of redistribution is justified in economic terms and will leave the level of equality concerns open for debate (Sanchirico, 2017, p.2). This will also be the assumption of this paper. Still, one may certainly inquire, taking the diminishing marginal utility of wealth into account, why society should not aim for complete equality. After all, theoretically, utility gains can be cultivated to the point of complete equality. The economic answer is that, even under these assumptions, the transfer of wealth has costs, what is known as the "leaky bucket" problem (Weisbacht, 2003, p. 441).

The transfer has a direct and indirect cost: every transfer has a direct cost, no matter what is the tool being used. The money has to be collected and distributed; institutions for the tasks are needed and calculations and information about society have to be performed and gathered. The transfer has also an indirect cost which is a result of inefficient incentives; the collection of wealth from an individual reduces his incentive to earn wealth (money and entitlements) in the first place, and pushes the individual to value his alternative higher. This is referred to in the literature as the "work-leisure distortion". The higher collection (tax) will continue to reduce the work effort to the

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4 This line of thought can be criticized in more than one way. For example, maybe the initial difference between the wealthy and the poor derives from the difference in their preferences (income verses leisure), so actually there is no guaranty that the transfer will increases total utility. This implies that rich people have a higher utility curve; they receive more utility out from every dollar than a poor person in general ("money lovers"). See Posner's work (2006, pp. 639-641). This debate only touches on a key question in the background: what is the root for inequality?

5 Every individual chooses a unique combination of work effort verses free time (leisure). The higher percentage of the individual earned income we collect the less he will value working an extra hour over his leisure, so the equilibrium point between the two choices will shift to the direction of leisure. The total
point at which the total amount collected will start to decrease as well. The exact amount of both costs is debatable. The marginal equilibrium point of the cost (direct the indirect together) and gains from redistribution is the theoretical optimum for transfer.

From this point on I will assume that the goal of redistribution is justified on economic grounds and that a certain level of redistribution is optimal for society. Therefore, society should design its policy instruments with the aspiration to approach an optimal level of redistribution, taking into account the cost of wealth transfer.

This paper will focus on the framework of the optimal instruments for redistribution and more specifically on the indirect cost of incentive, as explained above. From among the various policy mechanisms available, I will set my attention here on two specific possible tools for redistribution: private law, using the example of tort laws; and the tax system, mainly referring to the proverbial income tax.

The core of this paper is a challenge to the consensus surrounding the exclusive use of tax for the purpose of redistribution. By mapping the lessons of leading scholars in the field, I will attempt to reduce uncertainty and present a coherent framework in which tort law is "as efficient as" tax law in the redistribution of wealth. Only when tort law can be persuasively presented as an equally efficient tool for the redistribution, can the debate truly be reopened. Once the choice between both tools is no longer an issue of innate advantage, the possible parallel use of both instruments can be considered and

amount of work effort will continue to shrink as we increase the burden on the individual. One of the major questions regarding this process is in what rate people will alter their choices (Elasticity); this is one of the empirical questions optimal taxation research is trying to answer — work-leisure distortion (Joel B. Slemrod, 2000, pp. 141-146).

6 This is described in the work of Arthur Laffer (it is known as the "Laffer Curve"). Once a tax is being raised two distinguish effects arises, more money is being collected per person but more people are stopping the taxed activity. At the beginning the level of total money collected will continue to increase. At one point, that can change in accordance to the elasticity of work effort, the second effect will offset the first making any increase in tax reduce the total of money collected (Trabandt & Uhlig, 2009, Sadka, 1976).
fine tuning the ability of the said tools to target individuals can be studied. To the best of my knowledge this part of the literature has been almost completely neglected.  

The paper will be organized in this order: First, the relevant literature on the topic will be reviewed. This section will also include my main comments on the existing research, and a formal model designed to emphasize some weak points in part of the current debate; Secondly, a Public Choice argument against the prevailing exclusive use of the tax system will be presented. In other words why we cannot leave the "job" exclusively to the income tax; Thirdly, the "Pocket Theory" developed in this paper will be presented. The main challenge will be to overcome tort law's two main obstacles as redistribution device: the problem of targeting and the problem of indirect cost ("as efficient as tax law"); Lastly, conclusions will be made and future research examined.  

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7 The closest, and only, attempt, to the best of my knowledge, to bring together law and economics literature on this topic is the article by Dr. Zachary Liscow. In his paper Liscow (2014) focuses, like here, on the framework of the optimal instrument for distribution. But Liscow places the emphasis on the initial distribution of entitlements (and the legislator) and he is in fact satisfied with limiting the question as related to tort law to the choice between strict liability and negligence regimes.
2. The Statues Que

The debate on redistribution instruments in the general economics literature is long and sometimes hostile, with roots going back to the middle of the previous century. Moreover, the law and economics literature on the subject is only one part of a broad scope of research in the general field of welfare economics. Some of the earliest research and models were presented in the area of optimal taxation (Mirrlees, 1971) and some of the later developments were put forth under the law and economics discipline (Ackerman, 1971, Kronman, 1980, Polinsky, 1980, Calabresi, 1991). A parallel debate on these critical questions is going on in other areas of research (Jolls, 1998).

From the start, the research within the law and economics school of thought focused almost entirely on the goal of efficiency, ending the debate on redistribution instruments before it actually began. Any attempt to introduce a redistribution purpose into private law, e.g. via contract law or tort law, is usually rejected at the very inception of the economic model. The part of the literature which will be examined here is that which concerns tort law. The assertion here, as in other cases, is often associated with the idea that society has a better, less costly, tool for redistribution purposes, namely tax law. Although there are several arguments supporting the exclusive use of tax law as an instrument for redistribution, it appears that one specific argument has trumped them all: the tax substitution argument developed by Profs. Kaplow and Shavell (1981, 1994, 2000). Their line of reasoning will be the main focus of this literature review, together with that of their harshest critic Prof. Sanchirico (2000). In the second part of this chapter, I will describe a closely related approach of maximizing goals and instruments, which was developed, *inter alia*, on the basis of Kaplow and Shavell's work. It can be best termed the "Tool Box" (Arlen, 1992, Miceli & Segerson, 1995, De Geest, 2013).

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8 These areas of research will not be covered in this paper due to the limits of its scope.
approach, and it is grounded in optimization models similar to those known in the macroeconomic modeling framework (Tinbergen, 1952, Hallett, 1989).

The literature on optimal taxation will be addressed throughout this chapter (Sanchirico, 2010, 2011, Bankman and Weisbach, 2011), as many of the ideas that govern the debate in law and economics originated there from and the approach that subsequently is also based on concepts taken from studies on optimal taxation.

The sub-chapter on the Tool Box approach will include a formal model that is only intended to explain to the reader the difficulties I encountered in the current debate, not a proposal for an alternative analysis.
2.1 The Tax Substitution Argument

The most basic and formidable argument in the law and economics literature in favor of the tax system having exclusive grounds in the realm of redistribution is the tax substitution argument. The basis for this argument is the common claim of lawyers (Kaplow & Shavell, 2000, p. 823) that redistribution will always come at a price, so there is no predominant reason to favor tax. If you transfer wealth via the tax system, you encounter the work-leisure distortion, thus reducing the incentive to earn money. As explained above, after a tax increase the individuals place a relatively higher value on leisure than before and will choose a different combination of work and leisure. Nevertheless if you transfer money via the tort system, you distort the incentives for optimal care measurements to prevent an accident or any other regulated behavior by private law. I will refer to this incentive cost as the care-level distortion. So what is worse? The answer here was a mixture of more intuitive, less structural, answers, until the analytical tax substitution argument was put forth by Kaplow and Shavell.

According to these professors what many law scholars fail to recognize is that the work-leisure distortion, which would result from a change in income tax, would be identical in size to the effect caused by an income dependent tort transfer. Both transfers would create the same incentive cost to work-leisure. However, and this is the key, the income dependent tort transfer not only creates the work-leisure distortion, but additionally a care-level distortion, reducing the overall efficiency of the tort system. This is a second distortion relevant only to the regulated activity; in this case the levels of care in society. This is why any transfer via the tort system would be more costly. This conclusion holds, according to Kaplow and Shavell, regardless of the size of the

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9 See footnote 4 and the text near it.
10 This incentive cost is the most basic lesson from the economic analysis of tort law (Schäfer & Ott, 2004, Shavell, 1987).
11 This argument is based on the previous debate in the optimal taxation literature (Hylland & Zeckhauser, 1979, Stiglitz, 1987). The argument was first introduced by Shavell in 1981 (taken from optimal taxation literature), and again with Kaplow in 1994.
transfer or of the wealth gains from it. In other words, they claim, a tort transfer would create a "double distortion" of incentives while a tax transfer would create only one.

The understanding of this argument will be the basis for the rest of this paper. Therefore, it is important to comprehend that the indirect cost of transfer is not a matter of counting the number of distortions. It is possible that one distortion might offset the other two, at least in principle. Yet, as explained, and demonstrated in Kaplow and Shavell's formal mathematical model, the two distortions in the income dependent tort transfer are constructed from the same size of distortion to work-leisure incentives, in addition to suboptimal incentives in the tort system. Thus, whatever transfer society wishes to perform in the name of redistribution, it is clear that the best device for the job is the income tax or the tax system in general. This is the absolute advantage of the tax system, which has earned it its exclusive status in law and economics literature and the reason the efficiency goal is practically the only relevant criterion for modeling under this school of thought.

It is worth mentioning already here, that Shavell himself was well aware that the policy maker needs to make a few more assumptions in order to completely ignore redistribution in private law (Shavell, 1987, pp. 2-3, Kaplow & Shavell, 1994, p.675). But as happens at times, the argument has taken on a life of its own, and it seems that this branch of the research was cut off and was unable to grow strong enough roots of its own. The tax substitution line of argument has become the mainstream consensus.

Only when a strong analytical theory, like that of Kaplow and Shavell, was introduced into the literature, could a genuine criticism emerge as well. It took nearly 20

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12 One line of criticism which will not be covered here is the behavioral approach to the economic analysis of law, specifically in regard to the Kaplow and Shavell claim that the same size of distortion of the work efforts will result from tort law as from a tax change. Joll argues that: "work incentives may be distorted less by redistributive legal rules than by taxes […]" (1998, pp. 1653-1677).

13 One might consider the way that the Coase theory was conceived in the later research. See for example the criticism of Ellickson (1986, p. 625) and especially footnotes 2-3.
years for the tax substitution line of argument to be challenged by Prof. Chris William Sanchirico (2000, p. 799).

In an inspiring article of revolt, Prof. Sanchirico placed new emphasis on one of the key assumptions made in the Kaplow and Shavell model: the assumption of homogeneous ability to take care. In the words of the Prof. Sanchirico:

"It is true that Kaplow and Shavell's formal modeling does indeed produce the result that damages should always be set efficiently. Yet a close inspection reveals that this result does not in fact follow from the logic of distortion counting. Rather, it follows from an implicit assumption that all agents are identical with respect to the tort system. In particular, in the model presented, any across-the-board adjustment to damages affects the well-being of all agents by precisely the same amount. As a result, such adjustments have no distributional consequences, and efficiency is the only operative criterion for evaluating legal rules." (Sanchirico, 2000, p. 800)14

In other words, Prof. Sanchirico claims that the model cannot create a possibility for the tort income dependent transfers to offset the cost of the transfer, because the model assumes that all individuals respond identically to a change in incentives in the tort system (which is not assumed in regard to the tax system). Under this assumption the redistribution attempt by the tort system has no effect; the only possible effect is that measured in efficiency (incentive cost).

To further explain this I will briefly address the Kaplow and Shavell (1994, pp. 677-679). Their model is a formal representation of the aggregated utilities function of individuals in society. Each individual attempts to maximize their own utility by responding to legal incentives in the form of tort and tax laws. One's overall wealth determines one's utility when individuals are assumed to be risk neutral. Wealth includes Income where \( y = \alpha \ast \delta \); \( \alpha \) reflects the ability to earn money, which is distributed among the population by a density function.\(^{15} \) and \( \delta \) reflects the choice for

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14 Comments and highlighting in citations throughout the paper are added by the author, unless mentioned otherwise.
15 This set of abilities is the difference between homogeneity and heterogeneity of the population.
work effort, an hour of work for example; it also includes: damages paid (d) and received (d-h, damages minus harm actually suffered) as a function of probability of accidents (p, while \( \bar{p} \) = average in population), which in turn is a function of care choices (x); finally it includes tax paid as a function of income (t(y)). The utility function can be represented in the following equation:

\[
EU\left(\delta, x ; t, d , \alpha\right) = \alpha \cdot \delta - \frac{t(\alpha \cdot \delta)}{\text{pretax income}} - \frac{\delta}{\text{work effort}} - \left(\frac{x + (p)x \cdot d}{\text{cost from care choice}}\right) - \frac{\bar{p}(h - d)}{\text{uncovered harm caused by others}}
\]

Under the assumption of homogeneity in the tort system, all individuals are bound to react in the same manner to a change in damages rule. For example, under the classic efficient rule of d=h, everyone chooses the same care level x, which minimizes the cost of accidents and care. There is no difference in the reaction to the legal incentive. The individual tries to solve the "cost from care choice", in order to minimize it. This is why a change to the damages rule is futile for creating a distribution effect that can offset the efficiency cost (Sanchirico, 2000, pp. 813-816). No transfer occurs due to the change in damages.

The homogeneity assumption can be relaxed by introducing heterogeneity of care ability (\( \gamma \)). Similar to ability \( \alpha \) to earn income, now assume that there is a similar ability to take care, which is distributed throughout the population, and effects individuals' choices of care. Now the cost of care is reflected as: \( \chi + p(\gamma \cdot x)d \). This new set of abilities is what alters the results of Kaplow and Shavell and adds another degree of freedom to the equation.

Heterogeneity makes the use of instruments a problem of relative combination of changing incentives. Any change in the choice of instruments (t or d) will alter

\[\text{16 This equation is not the one presented by Shavell, but it describes the same main features in clearer way that will also allow me to change the equation to the one presented by Sanchirico.}\]
people's choices. Possibly, changing \( d \) to customize distribution will now create an overall gain. According to Sanchirico, this is indeed the likely outcome (Sanchirico, 2000, pp. 804-805).

After introducing heterogeneity of care, the optimization problem is similar to the dilemma of a factory trying to produce a product while only being able to choose among different combinations of two instruments (labor and capital for example). The question is not which factor is more efficient, but since different factors have also a relative effectiveness, the question according to Sanchirico is what combination is best for production? The assumption of homogeneity in the tort system makes it impossible to create any difference in effectiveness. This system creates only cost, so it is clear why the tax system easily prevails. The equipped reader is advised to return to Shavell's original work, since this paper does not focus on the modification of his model, I will not cover the technicalities any further here, but from the mathematical view it is an optimization problem with one (Shavell) or two (Sanchirico) degrees of freedom.

The main conflict between these two approaches is inherent in the assumptions of Kaplow and Shavell's model. In a response article by Kaplow and Shavell to Prof. Sanchirico, it seems, at least from the perspective of this humble reader, that the arrows of criticism are directed towards the author, not only towards the actual dispute.\(^{17}\) Kaplow and Shavell also turn to "external" arguments to defend their final conclusion regarding the supremacy of the efficiency goal under the law and economic analysis of private law (Kaplow & Shavell, 2000, p. 823). These arguments may be regarded as part of the debate on the "problem of targeting," which will be addressed in the next chapters of this paper and are not addressed by Sanchirico, or a question of direct cost.

\(^{17}\) Kaplow and Shavell regard the criticism as "theoretical curiosities" (Kaplow & Shavell, 2000 p. 822) and Bankman who was part of the same debate in the optimal taxation literature regards it as "exotic" (Bankman & Weisbach, 2007 p. 793).
(which is the better institution for the job) which is not covered in this paper due to the limitations of its scope.

From this point on, the researchers choose to adopt or ignore the assumption and the results vary accordingly. But it seems that the power of the tax substitution argument has not faded over time. We have to contemplate more closely the root of inequality. Is Alpha (the different ability to earn money) a result of luck, inborn abilities or social status? If we are to say that only inborn abilities like IQ or appearance define our Alpha, then where is the evidence to support a different set of abilities for each instrument? For instance, if we are to adopt this view, when trying to construct a general theory of redistribution and efficiency, the full equation and combination of effects is literally endless. The model would have to assume a set of abilities for contract ("ability to sign contracts"), for consumer protection ("ability to buy smart") and so on. The list could be also extended to sub-abilities such as ability to take care when it comes to car accidents ("coordination ability") and when it comes to behavioral accidents ("ability to adhere to social norms"). The potential list is not clear-cut and additional abilities open up the debate for the bottom line result once again. After all, according to Sanchirico, it is always a question of what is the right combination and not the right choice of tool.18 But more than that, it leaves the policy maker with little guidance.

On the other hand, it is clear that the central tenet in law and economics literature cannot stand as the only option for guiding policy. There is only so far this theoretical debate can take us. The Kaplow and Shavell model should only be a starting point for the research not the end.

18 Sanchirico does claim, at least not firmly, that a different set of abilities exists. He is willing to assume that it is the same set of abilities, but they effect the choices of taking care in the same way they influence the choice of work effort (it is possible that $\alpha = \gamma$). But even under this assumption, the degree of freedom that one enters into the equation (how many $\alpha$ go into the model) is arbitrary in a way.
The law and economics literature should use the essential lessons learned from this debate and research when, taking into account the analysis of possible indirect costs, a change in private law to introduce redistribution is more likely to reach positive results. There is nothing deterministic in the advantage of the tax system; the research results are most likely limited to our ability to describe the behavioral effects of the legal instruments we use. But given the importance of the questions at hand, the baseline model should not dictate the full agenda of the discipline.
2.2 The Tool Box Approach

A second line of reasoning in law and economics literature which will be reviewed here is what I refer to as the "Tool Box" approach. According to this line of argument the optimization problem may be confronted by means of a "Static Controllability" analysis. This concept is taken from the classical literature on macroeconomics and can be explained by the Golden Rule of N goals require N instruments (De Geest, 2013). In simple terms, assuming that each use of an instrument can support at least one goal, but may also offset one or more of the other goals, the first condition for static controllability is that policy makers have an equal amount of social instruments at hand, as they have goals (Hallett, 1989, p.194).

A second condition in the macroeconomic literature is that the instruments must also be linearly independent. The instruments must be able to generate separate effects. This condition is known as the "effectiveness" of the instruments (Hallett, 1989). The basic model is built on separation among four groups of variables: (a) policy targets; (b) policy instruments; (c) data or non-controllable variables; and (d) the non-target or "irrelevant" variables. In our case the "a" group includes efficiency and redistribution, and the "b" group includes tax and tort law, thus an equal amount of instruments to policy targets. To achieve optimal results, we also need to make sure that a policy maker's decision to raise taxes does not affect her ability to set the level of damages by tort law. It does not mean that every instrument effects, or should effect, only one goal. When the two conditions are met, full static controllability can be reached.

The law and economics literature has recognized that the problem of optimizing redistribution and efficiency is actually similar to the macroeconomic models of attempting to control unemployment and deflation, for instance, by the use of monetary interest and tax cuts. Yet, surprisingly, these macroeconomic models were used, inter...


alia, as means to justify the exclusive use of the tax system as a sole instrument for redistribution.

In his article *N Problems Require N Instruments* Prof. Gerrit De Geest imports the macroeconomic models into law and economics literature, but transforms them into a rule of thumb, which excludes redistribution goals from the tort system (De Geest, 2013, p. 7):

"The generally accepted viewpoint is that it is better to redistribute income through the tax system so that tort law can fully focus on providing incentives for optimal care. **To reframe the discussion in terms of instruments and problems: what is wrong with the deep pocket rule is that it tries to solve two problems (unequal income distribution and incentives to be careful) with a single rule [...] There are two problems (income differences and safety), so we need two instruments (tax law and tort law).""

This argument is captivating in its simplicity. But going back to the macroeconomic literature, it would appear that this is not the sole possible conclusion. In fact, Prof. Tinbergen, the macroeconomist who developed the *Golden Rule* concept, specifically alerted from this type of interpretation:

"[The theorem] forces policy makers to distinguish clearly between targets and instruments, and also prevents them from trying to assign instruments to targets on a 1 to 1 basis [...] each policy instrument will be given its own level of specialization while correctly allowing for its interactions with the other instruments. That ensures that the instruments will be used in a way which fully exploits their effectiveness." (Hallett, 1989, p. 196)\(^{19}\)

But the problem actually starts even earlier. We know from the outstart that we have more goals than instruments, so "one on one" use is simply not possible. To explain why that is so, I will continue to a more formal representation of De Geest's argument,\(^{20}\) as developed in the work of Prof. Miceli.

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\(^{19}\) The focus, like in Sanchirico's argument, is on the right combination and not the right assignments of problems and instruments.

\(^{20}\) For a later and opposite approach by Prof. De Geest, see *Removing Rents*, 2013.
In an article exploring the possible role of wealth distribution in defining efficient care (not the level of damages), Miceli & Segerson (1995) presents a theoretical model based on a similar argument of matching instruments to objectives. According to Miceli, society is better off by excluding redistribution goals from the tort system, if one assumes that the tax system can be fully utilized for this goal. This is again, a "one on one" approach.

Miceli’s formal model is presented as follows: $U_{I,V}$ is the utility of the injurer and the victim. The model does not assume risk neutrality, rather risk aversion with full and fair insurance available (Miceli & Segerson, 1995, p.197). In practice, the model represents a static description of two individuals, or two completely homogeneous groups. The optimization problem is defined as $\max U_I$ subject to $U_V \geq U_V^0$. The meaning is the familiar Pareto efficiency criterion,21 max utility of the injurer, given that the victim is no worse off than at the starting point. $U_V^0$ can be set as the initial utility ($W_I$) or specific threshold.

| 1. $P(X)$ = probability of accidents given care level, when $P' < 0, P'' > 0$ |
| 2. $X$ = care level in $\$ |
| 3. $m$ = the damages suffered by the victim if an accident occurs in $\$ |
| 4. $U(\text{\textdegree})$ utility, as a function of wealth; when $U' > 0, U'' < 0$ |
| 5. $W_I, W_V$ = initial wealth of the parties before the accident |
| 6. $D$ = damages payed by injurer to victim |

Net wealth (w) level of injurer and victim after accident can be presented as follows:

| 7. $w_I = W_I - X - P(X)D - T$ |
| 8. $w_V = W_V - P(X)(m - D) + T$ |

$T$ represents a transfer from injurer to victim that is independent of whether or not the accident occurs. It is also independent of wealth. This is called a lump sum transfer, or a head tax. The availability of such a direct transfer with no indirect costs (incentives)

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21 Miceli also analyze some variations of the Pareto criterion, including aggregated utility $\max (U_I+U_V)$ (Miceli & Segerson, 1995, pp. 191-193).
is what, ultimately leads to the results of Miceli's model, as will be further explained below.

The analysis itself is based mathematically on a series of Lagrangian functions to reach an optimal point under the main constraint of Pareto efficiency. Miceli's main conclusion is that the wealth of the parties is irrelevant for determining the level of optimal care, therefore distribution should not be part of the tort analysis. The first part of the analysis is what Miceli refers to as a "first best" solution, a scenario in which the state sets all the variables in the optimization problem (x, t, d). Only when taxes and damages are set exogenously and assuming some level of trade-off between efficiency and redistribution, wealth consideration will be reintroduced into the tort system. Miceli explains his logic clearly, employing the terminology of instruments and goals familiar from the macroeconomic models and from the De Geest (2013) article:

"The main principle underlying all of our results was the relationship between the number of goals society has and the number of policy instruments it has for achieving those goals. In the case of first-best care, society has two goals: cost minimization and achieving a desired income distribution […] at least two policy instruments are necessary to ensure that the goals be reached without any trade-offs between the two. In this case, the efficient level of care is independent of the defendant's wealth, since the choice of care need not reflect income distribution considerations." (Miceli & Segerson, 1995, p. 205).

Miceli goes on to analyze a "second best" scenario which he defines by introducing the incentive problem into the tort system (the care-level distortion); meaning that level of care (x) is not set by the policy maker, rather it is chosen by the agents on the basis of the legal incentives. First best can still be achieved as long as the extra goal (incentivizing the care level) can be met with an extra instrument. Otherwise, the second best solution would mean that introducing redistribution goals into the tort system is inevitable. And then, as in the Sanchirico argument, the question becomes a matter of the right combination.
It may be argued that Prof. Miceli’s analysis is still not complete. The reason is that Miceli only considers the availability of a lump sum transfer. This device is a "perfect tool" for transfer, due to the fact that it does not cause any behavioral response to the work-leisure dilemma of the agent. In the model, T is defined as a direct transfer from injurer to victim with no other result in the incentives cost. This can only be the case if one assumes a very different tax system than the one we all know. It is not a tax on a person's income or on consumption but rather a tax on some characteristic, perhaps the aforementioned Alpha that reflects the differences in the ability to earn money. But no matter how it is determined, it must include a signal (information) in such a manner that the people from whom we seek to collect money and the people to whom we seek to transfer money are both identified correctly. Only if one assumes omniscience on the part of the state can such a tax exist.\textsuperscript{22}

A different way to put it is that in Miceli’s model there is no problem of information; the money is easily transferred to the target people. But the reason that society uses income tax and not a lump sum transfer is because income is a signal of the different abilities of individuals to earn wealth. Theoretically, we are trying to tax one of the possible sources of inequality (Sanchirico, 2000, pp. 801-802). The result, in the jargon of the Tool Box approach, is that we actually have more objectives then instruments.

Society has four goals: distribution, efficiency, inducing an optimal level of care (up to now similar to the Miceli model) and a fourth goal, which is incentivizing the optimal level of work effort. The complete analysis must include all four objectives. Unfortunately, society still has the same instruments. It cannot determine the level of care and work effort on its own.

\textsuperscript{22} The closest we can get is by using "tags" as a character-based tax. This will be explored in chapter 4.
This means that what might be considered by the reader of Miceli’s article as the least likely result is actually the more likely – and well familiar – result we live with: the inevitable tradeoff of between efficiency and redistribution. In Miceli’s words:

"[...] in the absence of lump-sum transfers, first-best care will only be achievable if the other goals work in concert [...] However, with other presumptions regarding the victim's entitlement, trade-offs between the goals would exist. The efficient care level would thus reflect income distribution goals, thereby making it a function of the defendant's wealth or the victim's presumed entitlement." (Miceli & Segerson, 1995, p. 206)

Thus Miceli’s end conclusion is likely to be our starting point. If we change Miceli’s model by introducing another incentive problem, the work-leisure distortion, which is a byproduct of changing the tax into an income tax, for example, then the model will have one more goal to address. In the Appendix I show formally that first best solution, according to Miceli's model, is almost always impossible, using the same set of assumptions as in Miceli’s model and the Pareto criterion described above, but adding the extra problem of work-leisure incentives.

An informal way to put it is that society now has the same two legal mechanisms D (damages), T (tax), but both X (care level) and E (work effort) are chosen by the injurer to optimize his wealth and utility. A policy maker can set the level of damages and the level of tax to incentivize the optimal level of care and work effort. However, in this new scenario the policy maker can no longer simultaneously achieve the optimal level of redistribution, as the tax device is preoccupied with the work-leisure incentive problem. The results are that second best is the only achievable option under reasonable assumptions regarding the availability of tax transfer, and that getting closer to the second best is possible if redistribution considerations are introduced back into tort law.

This conclusion should not come as a surprise; as Miceli explains, this is the situation in which society has more goals than tools, therefore each tool is aimed at two separate goals with trade-offs between them, or else one goal is being ignored.
In reality, redistribution is not a part of tort law, therefore even the second best solution, as defined by Miceli, is not achieved. But this modification to the model is not to be taken as an alternative suggestion. This model is based on too many simplified assumptions. It is a model of a "society of two people", one wealthy injurer and one poor victim. Attempting to relax these assumptions will take us back to the ending point of the last sub-chapter, to the Shavell and Sanchirico models.

The point of this chapter was to introduce the main notions and models in the literature on the topic of the optimal instruments for redistribution. We have seen that the central tenet in law and economics literature is that tax law is the optimal tool for distribution and as such should be the only one used for that purpose. This assertion is based on the tax substitution, "double distortion" argument, or the "one on one" use of tools for goals in the Tool Box approach.

Both arguments are partly assumption-based arguments (as all arguments\textsuperscript{23}) and as such they should be taken with a grain of salt, considering other reasonable assumptions. Without strong empirical data, it is not clear why society should completely accept the assumption of homogeneity in the tort system or in any other regulated activity. The broad consensus in law and economics on the supremacy of tax law with regard to redistribution aims should be reconsidered.

This brings us to the deadlock which the literature seems to have reached. The no man's land between the arguments has one main outcome – few guidelines for the policy maker. And in this vacuum private law has been partially neglected for the purpose of redistribution under the law and economics discipline.

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\textsuperscript{23} This debate gives rise to questions concerning of the methodology of model building and assumptions in economic research. Unfortunately due to the scope of this paper I will not be able to address them here.
In the next parts of this paper I will develop a small step in this direction, suggesting a way to rethink redistribution goals under private law, using the example of tort law. Before addressing the main thesis of this paper I will go on to argue why tax law should not be the sole legal instrument in pursuing distribution goals in the modern legal system, from a different perspective: public choice theory.
3. The Limitations of Income Tax

This chapter is focused on the limitations of the tax system as the sole mechanism for distribution in modern society from the perspective of the public choice literature. As the previous chapter has shown, the literature on optimal instruments for distribution is not as decisive as one would expect from the general and well-established consensus in law and economics.

In this paper I would like to develop an argument that is not limited to the rejection of Kaplow and Shavell’s assumptions and model. Instead, I seek to support a more general thesis, which is compatible with both acceptable models.

This aspiration raises an additional challenge that this chapter is meant to address: even if a tort tool which is not inferior to income tax can be developed under Kaplow and Shavell’s model ("as efficient as tax"), status quo defenders can argue that it is still preferable to use the income tax for its intrinsic merits (Kaplow & Shavell, 2000, p. 823). However, if both instruments are equally efficient but one is not available at all times, there is a good reason to accept the complementary use of the other. I do not claim that the courts are a superior institution to the legislator in accommodating redistribution goals, although that may be the case (Blumkin & Yoram Margaliot, 2005). My main argument is that the tax system cannot be expected to achieve the optimal level of redistribution; this has been repeatedly the conclusion from decades of research under the public choice theory, in more than one field. Therefore a second device is necessary.

The research field of public choice theory is deep-rooted under the broad umbrella of law and economics. In a nutshell, this school of thought proposes utilizing economic thinking and modeling to address traditional political science problems. For

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24 The authors refer mainly to three "advantages" of the tax system: the tax system affects the entire population, the tort system has a problem of heterogenic groups and price adjustments can be made when income-dependent tort is being used.
example public choice theory asks whether policy decisions are best explained by an analysis of political actors attempting to maximize their chances of re-election (Schnellenbach & Schubert, 2015, Tullock, 2005, Voight, 2011). Here we ask, utilizing the public choice approach, can we expect an optimal scheme for redistribution via income tax to be fully and stably implemented?

Remember, the tax substitution argument is based on the assumption that income tax is used for taking care of the redistribution deficit. As Shavell writes:

"[I]f one assumes that the income tax and transfer system will be used to effect desirable changes in the distribution of income, the distributional impact of the choice of legal rules should not matter. Of course, one might not make the assumption that the income tax and transfer system would always be used to redistribute wealth beneficially, in which case the choice of legal rules might be decided in part on the basis of their redistributive effects." (Shavell, 1987, p. 2-3)

My assumption, as explained above, is only that optimal redistribution is an efficient public goal with an economic justification. Thus, redistribution, as any other justified public goal, should be advanced by our politicians through the "optimal device", a stable tax schedule for redistribution.

Throughout this work I have used the terminology of distribution and redistribution indiscriminately, but at this stage it is worthwhile to pause and contemplate the difference between the two. What we actually mean by redistribution is the collection of wealth and its new circulation in society. It is not just the supply of entitlements from the origin ("pre-distribution"), but a more complex process of first taking and then dividing. My argument here is that this process is especially "sensitive" to the difficulties that the public choice research has been successful in pinpointing. There are no strong theoretical or empirical reasons to believe that our tax system operates in the form envisioned by Shavell, or Shavell followers, for their support of the exclusive use of the tax system for redistribution purposes.
As already shown by Stigler (1970), the income tax will probably be transferred to those who have political power. The groups toward which we wish to transfer tax money ("the target groups") are not necessarily the strongest groups in society as far as concerns political power. These target groups might be part of various minorities, such as the case I will present hereinafter. We might also fail in the distribution of wealth, for example, by redistributing to the general population\(^{25}\) or to specific groups of voters associated with the party momentarily in power. Moreover, the groups from which we seek to collect money probably have a much higher social standing and stronger connections to political power, even in modern democratic countries. Therefore, in reality this process could go wrong at either ends of the task.

For my purposes, I do not need to take on this heavy burden of arguing a total failure of the tax system, nor do I think that is the case. It is sufficient to see that the tax system is struggling to create a stable pattern for redistribution. Atkinson (1996) has shown in his work that while addressing redistribution as a zero-sum game, no stable pattern of redistribution can be preserved under majority rule.

Different analytical approaches (Becker, 1983, Wittman, 1989) have also reached similar conclusions as far as concerns the absence of overlapping results between optimal taxation research and the tax policy models of public choice.\(^{26}\) The bottom line is that the political environment, without specific constraints that are not

\(^{25}\) This is why Stigler suggested a substantial overlap between taxpayers and recipients of redistribution. Effectively, the money has been "re-distributed" in the intuitive meaning of the word. The research mainly focused on the hypothesis of the median voter, which suggests that greater inequality would lead to greater redistribution (Borge & Ratto, 2004). The lack of strong empirical support for the hypothesis has motivated the development of theoretical models with the opposite prediction – greater inequality leads to less redistribution, but the evidence is still very much ambiguous.

\(^{26}\) Hettich and Winer (1988) following Becker's approach, showed a significant deviation of public choice theory from classic optimal taxation literature.
present in many cases (Plotnick, 1986), would most likely prevent the tax system from achieving an optimal level of redistribution.27

Prof. Fennell & McAdams (2016, p.1053) argue along similar lines that the tax substitution argument (in their words: tax superiority argument) does not hold due to the "political cost" of transfer via a tax regime. They claim that this law and economics bias creates a deficit in redistribution.

These theoretical conclusions are not unique to the question of optimal redistribution tools. For instance, similar conclusions in the literature on international trade suggest that states do not follow the logic of optimal tariffs, which is the desired scheme of tariffs in order to maximize states' utility gains (not international utility). Instead, states are influenced by political pressures to protect local industries or prefer other values that, by definition, do not extract the full utility potential from their policy tool (Posner & Sykes, 2013, p. 264).

To conclude this chapter, standing on the shoulders of giants, Nobel Prize laureate Heckman (1997, p. 332) once wrote:

"A fully satisfactory analysis would require a careful accounting of the politics of redistribution and the gap between ideal policies and those that are actually used by governments as they emerge from political compromises."

If we are to accept that our optimal policy for redistribution will not be fully integrated into the actual tax schedule, then a not-inferior, "as efficient as tax", tort tool may be appropriate for covering this deficit; even if a few intrinsic merits are attributed to the tax system. In the next chapter I will present my proposal for such a tool.

27 As mentioned earlier, Kaplow & Shavell (1994, p. 675) were well aware of this criticism. I believe that there answer is insufficient, ignoring the learned lessons of public choice altogether. The question of relative advantage of institution (legislators vs. courts) is again beyond the scope of this paper. For my argument now I only claim that given that the result suggested by Kaplow and Shavell is based on this assumption, and the serious questions that are raised by the public choice theory, the burden of argument has to be shifted back to those who assume this ability of the tax system. The ability of the courts to fulfill this function can be examined further in the future, but the basic claims will be presented in chapter 4 of this paper.
4. The Pocket Theory

In this chapter I will elaborate on my proposal to use the tort system as a redistribution mechanism. The idea behind the Pocket Theory is to explore the possible use of tort law for the purpose of redistribution, based on the review of insights reviewed thus far.

One preliminary note: this chapter should not be perceived, at this stage, as a full rigorous legal test. The aim is to offer a basis for a future legal doctrine. It is only one crack in the wall of the tax substitution argument in law and economics.

The theory is designed to successfully comply with two constraints. First, the conditions are intended to target the individuals for the transfer (“the problem of targeting”). Meaning, the tools must enable the basic transfer from rich to poor or from high ability to low ability as discussed in previous chapters. Transferring must also satisfy the second constraint – low cost transfer compared to tax. In order to explore this we first need to find a way to transfer wealth without running into the tax substitution argument. If the tax substitution argument does not hold, a direct comparison between the incentive costs of the two instruments can be conducted. The last step would be to ensure that in this comparison, tort is as efficient as tax (“the problem of indirect cost”).

This chapter will follow a three-step structure: I will begin with a simple description of the three main conditions of the Pocket Theory analysis; then continue to explain how these three conditions comply with the two aforementioned constraints, and how they can be relaxed; and I will conclude with the illustration of a case relevant to the analysis of Pocket Theory: Israeli-Arabs construction workers.

The task of the theory is to provide a baseline formula that can be developed into a doctrine to be followed by the courts. The conditions are flexible, valve like; rules of thumb which can be used as easily as the hand formula, and which can be developed over time. The conditions follow the economic analysis of the Kaplow and Shavell
model, to pinpoint specific areas of tort law – "pockets" – that can create an opportunity for welfare gains to society by the use of tort law to redistribute wealth.

The three conditions of the Pocket Theory are: 1) Effectively immutable, government-observable "tags"; 2) Homogeneity of income within the group; 3) An overlapping problem of incentives in tort law.

4.1 Effectively Immutable, Government-Observable "Tags"

First, let us return to logic of the Kaplow and Shavell model. In the framework of income tax, individuals choose their combination of work-leisure, while raising taxes disincentives the work effort. Income-dependent tort damages have the same effect on the work-leisure choice, but at the same time they distort the optimal incentives for care effort. Increasing damages might incentivize too much care (or too little in the case of decreasing damages), and less work.

The most fundamental aspect of this argument is that the government uses information about individuals' income in order to target the people on both sides of the transfer: collecting from the rich and giving to the poor. But what if we try to redistribute via a change in damages which is not dependent on an individuals' income?

The tax substitution argument does not hold when damages are not determined on basis of the parties' income. If the total amount of damages paid by an individual does not vary with his choice of work effort (income), there is no reason for his work-leisure choice to change in any way. I suggest a different base for the tort transfer – information on group average incomes. This is a way around the information asymmetry between the government and the citizens that does not in turn alter work incentives.

28 It is important to distinguish between the actual tool – the tax system – and the use of income as the only "signal", information, society uses to redistribute wealth. We can say that the tax system is the better way to transfer money between individuals; but information is gathered from income, tort and other systems as signals for understanding the place of an individual in the economy (Sanchirico, 2001).
The change is similar to a head-tax. Think of a very large group of people in a population; the group is big enough to include nearly the entire population. In this scenario, a change in the level of damages paid by the members of the group does not make any of them "feel" as thought his income caused the change. If we consider the opposite option (a group of one person) then we can be sure that the individual is likely to alter his choices.

Data on the average income on the group level can guarantee that our groups of injurers largely consist of wealthy individuals (rich) and our groups of injured consist, on average, of non-wealthy (poor) individuals. In this case an increase in damages can theoretically ensure successful targeting – the desired effect of redistribution from rich to poor.²⁹ We might imagine the inhabitants of slums in a highly polluted area near a large chemical factory that is owned by oligarchs (Banzhaf, 2012, p. 1).

But if group membership is changeable, a new incentive problem will arise: the distortion to change groups for non-efficient reasons, for example, changing one's work place for extra damages or "moving into the nuisance"³⁰ (Innes, 2009). This is the work-leisure incentive problem transformed to the group level. First, the larger the group, the less this effect is plausible, as explained above. Second, this effect can be decreased or even completely erased if group membership is effectively immutable: age, race, ethnicity, gender, height (Mankiw & Weinzierl, 2010), and eye-color are good examples and overall genetic information is the most challenging option (Logue & Slemrod, 2008). If individuals cannot change their affiliation with the group, no distortion will come into action (it is not possible to "move to the nuisance"). For example, if a specific society is struggling with ethnic, race, gender inequality for historical reasons or any other reasons, this information on the group level can be used by the tort system without

²⁹ The opposite example is possible by the same logic.
running into the double distortion, argument and without creating a group distortion, or with a relatively small effect of such a distortion (Sanchirico, 2000, pp. 799-800). Inelastic membership will prevent individuals from responding to the change with a change in their behavior.

This is similar to what the optimal taxation literature refers to as *tags* – informative characteristics that target, by group average, recipients for wealth transfer (Akerlof, 1978, p. 8): "various characteristics, such as age, employment statues, female head household, to identify (in my terminology to 'tag') groups of persons who are on the average needy."\(^{31}\) Tagging is said to reduce the cost of redistribution compared to using income tax alone (Akerlof, 1978, Nichols & Zeckhauser, 1982). The rationale here is the same, using tags as a quasi-lump sum transfer.

**Thirdly**, an accident reflects an ex post tag per se, regardless of the group chosen, as well as moral justification (for those outside of the law and economics discipline who are seeking it) for the in-group difference.\(^{32}\) By this I mean that the information regarding the fatality or losses which were actually caused in the accident is another proxy that is not available to the tax system ex ante but can certainly be relevant to the income potential of the injured or his survivors. In the terminology used here, it is information that is worth taking into account when trying to estimate an individual's Alpha level.\(^{33}\) Thus, even if some distortion arises at the group level, this advantage could in fact offset it.

It is important to note that many tags can be relevant only to legal rules such as tort rules. It is almost impossible to imagine a tax tag which is based on ethnicity. These

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\(^{31}\) Prof. Akerlof, refers to "needy", in relation to low income. But it is worth mentioning, again, that the government needs income information in order to reduce inequality. But inequality is not measured in income gaps alone, and it does not emerge out of income. Inequality can arise from many causes and income can be regarded as "just" one proxy for these reasons ("ability" to earn money marked as Alpha in the models mentioned), and not necessarily even the best one. Other tags, proxies, can be found.

\(^{32}\) See chapter 4.2.

\(^{33}\) For a similar argument see Liscow's work (2014, p. 2504).
types of tags may be highly controversial in the political-tax sphere but much less so in the realm of legal rules. Discrimination on ethnic grounds has good and familiar justification in many legal rules, such as labor law. Tort law can take advantage of these unused tags.

So far I have only referred to the work-leisure distortion. This deviation from the optimal level of damages still comes with the indirect costs of incentivizing sub-optimal care. This indirect cost will be examined under the third condition. Before that, the success of targeting the right individuals is still not fully achieved as "in-group differences" can affect the success of tort tool.

4.2 Homogeneity of Income within the Group

Tags alone are insufficient for ensuring the ability to target. In order to ascertain that we target the correct individuals on both sides of the transfer it is not enough to consider the group's averages. A high level of homogeneity within the two groups must be guaranteed as well, otherwise poor individuals might wind up on the paying side of the transfer and wealthy individuals could find themselves on the receiving side; this is what I have referred to so far as the "in-group differences". If the standard deviation within the group is relatively small (individuals are close to the average), the groups can be said to be sufficiently homogenous. Usually there is an inevitable trade-off between the size of the group and the standard deviation. Thus, if the income distribution in the beneficiaries group, for example, is too heterogenic, the group can be narrowed down (also applicable to the injuring side). This can be done with other effectively immutable qualities – tags – or more elastic ones. For example, if a specific ethnic group is very heterogenic in income distribution one can use an age

\[ \text{Akerlof defines tags in a broader sense, including characteristics that are changeable by behavior, for example the amount of children in a household. Although the analysis in this regard is less clear-cut, he still considers the use of these tags as wealth-increasing (1978, p. 13-15).} \]

\[ \text{The bigger the differences in average income between the groups and the smaller the standard deviation, chances are higher, roughly speaking, for the transfer to remain from high income to low income.} \]
factor (effectively immutable) or a general working profile (skilled vs. unskilled workers) to narrow it down and increase homogeny without losing the entire advantage of the tags (Akerlof, 1978, p.64).\textsuperscript{36} Homogeneity can be understood as a mark for the strength of the tag. The more homogenous the group, the stronger the tag.

4.3 An Overlapping Problem of Incentives in Tort Law

When the tax substitution argument does not hold and targeting is accomplished on the group level, a comparison can be made between the two tools: tax and tort law. If a relatively low-cost mechanism can be found under tort liability, a strong argument can be made in favor of rethinking redistribution goals under tort law. The key here is to estimate distortions in work and care efforts.

The least possible distortion to the tort system is a change in the liability regime alone. Switching from negligence to a strict liability rule would have a zero distortion effect on the care level efforts, while still inducing a redistribution effect (Liscow, 2014, p. 2487). The problem is that choosing the liability rule is usually a privilege reserved to the legislator. So there is no reason to assume that the difficulties mentioned in the previous chapter will be overcome here.\textsuperscript{37}

If we accept a certain level of distortion to incentives in the tort model,\textsuperscript{38} the risk of creating a larger care-level distortion compared to the work-leisure distortion arises. To start a comparison, we need a benchmark for the distortion cost in the tax system. A well-known study suggests a waste of one-third of each marginal tax dollar (Ballard et al., 1985).\textsuperscript{39} Using this, or any other, benchmark can leave a "margin of cost"

\textsuperscript{36} Creating some level of "group seeking" does not automatically result in welfare loss; the advantage of the tag can offset part of the loss.

\textsuperscript{37} This is another key difference from the approach taken by Liscow (2014) who ignores the political cost of altering liability rules.

\textsuperscript{38} According to Sanchirico there is actually no loss in efficiency when moving away "on the margin" from the optimal point; however, he admits that there is no accurate way to say how large are these discrete adjustments before incentives are affected (Sanchirico, 2001, p. 1023).

\textsuperscript{39} Ballard refers to marginal, not the average, cost of funds, which is the relevant comparison (Auerbach & Hines, 2002, p. 1384).
for an equity motivated shift in damages: the tort system can be as efficient as the tax system with regard to the indirect costs of incentives, as long as it is still under the benchmark.

Without specific empirical research the theory can only offer limited guidance on the magnitude of equity-motivated shifts in damages. This is one of the key reasons that confidence in tort law as a tool for redistribution has not developed over time. As an alternative defense for the exclusivity of the tax system, supporters of the tax substitution argument argue that legal rules lack the certainty necessary for designing a redistribution policy (Sanchirico, 2017, pp. 347-350). They further argue that the data needed for such estimations is not available for empirical analysis and as a result, policy changes might even backfire (Kaplow & Shavell, 2000, p. 832, Bankman and Weisbach, 2011, p. 550).

Apparently, the fact that we do not know very much about optimal taxation, is not sufficient to take the risk associated with change; *status quo* is always more convenient (Sanchirico, 2000 pp. 808-809, 2017, pp. 348-349). According to Sanchirico this can be interpreted as a "precautionary principle", which is inconsistent with acceptable research methodology. Sanchirico suggests using courts as "natural laboratories for (relatively) controlled policy experiments"; the experiments would help in estimating the responsiveness of individual choice (elasticities) to changes in legal rules (damages), which are necessary empirically for estimating the efficiency costs of equity-motivated adjustments. Thus, the broad discussion is narrowed down to risk tendency.

Although I cannot provide here an empirical estimation of the loss in care incentives (Kotz & Schäfer, 1993), a theoretical foundation can be laid in order to

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40 The authors investigate the introduction of rebates and surcharges system into insurance and the reduction in the number of accidents. The "cost" here is measured by increase of accidents. Similar
facilitate the development over time of an empirical estimation, without risking a larger distortion than that which arises in the current status quo. The third condition supplies the "safe zone" required to proceed with a minimal risk of mistake, as I will now explain.

One way to bypass the problem of estimation is to use buffer zones where the exact estimation is not critical for the guarantee of a "positive shift". By positive shift I mean, cases where an equity-motivated shift is not likely to create a large care-level distortion: cases or areas in tort law which have been identified in economic analysis of law as having a problem of suboptimal incentives. These areas can be used as experimental territory by courts, as Sanchirico hopes, towards developing a complete theory of redistribution goals via tort law. Furthermore, in many cases the problem in the tort system may correlate to the problem of inequality, as we shall see further below.

An inward-looking approach on tort efficiency can propose a relatively large number of possibilities for improvement. The aim here is not to "fill in" the efficiency gap. No additional argument is necessary to justify that shift; it is enough to argue for suboptimal incentives. The idea here is to use these areas for promoting redistribution goals.

The literature in the tort field is too extensive to cover here. Over time tort literature has recognized a growing number of incentive issues that can justify adjusting the level of damages to above or below what is considered "optimal" in classical literature (damages are equal to harm). The cost of litigation (Polinsky & Rubinfeld, 1988), non-pecuniary losses for fatal accidents (Arlen, 1985) and the low probability of actual liability (probability is lower than 100%) (Cooter, 1989, Polinsky & Shavell, 1988) are only a few examples gleaned from a large body of literature. I will focus on attempts following the same logic can be found but none of them, to the best of my knowledge, provide an estimation of cost increase due to a change in the damages rule in the general sense.
one specific problem here: *biases in the setting of damages*. For the sake of my proposal it is irrelevant if the problem is a difficulty to measure actual harm, or if actual harm is not sufficient for the optimal incentives. The key is that *status quo* damages do not facilitate optimal incentives. This is where theory meets reality.

The increasing interdisciplinarity in the field of law offers the last point of view for this paper: the behavioral approach to law and economics (Halbersberg & Guttel, 2014). One of the arguments put forth in that body of literature suggests that tort law, like all human behavior, is "infected" with biases, some related to different "groups of people". The biases impact our judgment by means of external stimulation driven by implicit attitudes and stereotypes. These implicit biases can affect, *inter alia*, the entire judicial process of a tort claim; from the witness’ perception of losses (for instance, a doctor estimating pain) to the court's final estimation of damages.\(^{41}\) Judges, who are considered to be specialists, have been found to be specifically subject to these biases (Krieger & Fiske, 2006, p. 1009, Merritt & Lieberman, 2004, p. 45-46). The problem is more severe when the injured party is a member of a minority group which is based on race, ethnicity, gender, etc. (as opposed to age or changeable characteristics). This may indicate a more systematic failure related to said characteristics and inequality (Wilkinson & Pickett, 2009) than mere coincidence.

The suggestion under the Pocket Theory is treating these areas of overlapping problems as "double justification" instead of double distortion. In this way the debate can progress, overcoming the problem of estimating equity-motivated shifts in the damages costs of indirect incentives. The risk, as *status quo* defenders argue, should no longer stop us from trying to achieve redistributional goals under tort law.

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\(^{41}\) See Encyclopedia of Law and Economics (2017).
4.4 Case Study: Israeli-Arab Workers

The goal of this paper was to put forth the theoretical argument for the possible use of tort law as a redistribution device. The example given in this chapter is more of a "relevancy test" than anything else, as some readers will immediately consider the three identified conditions or principles as being too restrictive – rendering the entire argument irrelevant.

One example, taken from my own country\textsuperscript{42} for a possible use for the Pocket Theory is the case of Israeli-Arabs, as unskilled workers subject to severe physical injuries or death in work related accidents. The three conditions set above can be applicable to this group, based on information which is readily accessible to Israeli courts. I will try to review some information gathered from public resources relating to the three conditions to support my claim, but again, this is just a relevancy check, not a complete analysis. Obviously, this case is much too complex to be fully reviewed here.

The Israeli-Arab ethnic group is approximately 20\% of the population of the state of Israel, but it comprises around 37.4\% of the state's poor (Miaari, 2015). The difference in income between this ethnic group and the rest of society is extremely significant for many reasons, including, \emph{inter alia}, demographics, human capital and wage discrimination. Studies suggest that the average differences between the Israelis-Arabs and the rest of the working class (man) population ranges between 40\%-60\% depending on various economic and social trends, while the estimated "ethnic" variable alone can explain differences in wages of 5\%-20\% (Miaari, 2011)\textsuperscript{43} This difference is

\textsuperscript{42} In general Israel struggles with issues of inequality. Israel's Gini rating, for example, is considered to be high (last 5 countries) in the OECD, with 0.365 and the Gini pre-tax and transfers is 0.455 (2014). See: http://stats.oecd.org/index.aspx?queryid=66670.

\textsuperscript{43} In this study the researcher used a quantile regression model including a dependent variable of income and an explanatory variable of ethnicity, with a series of control variables such as: age, years of study and type of work (skilled vs. unskilled). The data was extracted from the official reports of the Israeli statistical governmental body between the years 1997-2009 for 6,400 men. One of the keys in the analysis of income differences is which controls are being used; researchers offer different view-points on the issue, measuring what they refer to as the "total ethnic fine" and the "net ethnic fine", since discrimination
reduced but not eliminated in the sub-groups of the Israeli-Arab unskilled workers. Some other sub-groups present similar gaps, but all besides age are not *effectively immutable* tags. Since the size of the Israeli-Arab group is about 20% of the population, a degree of heterogeneity is to be expected. Within this group, the unskilled workers group can be considered to be relatively homogenous, but other options may be examined as well. On the other hand, the employers of unskilled workers, to the best of my knowledge, come from the general population and even if some of them are a part of the same minority group, the companies they operate are by large not part of the poverty group of Israel; but I do not possess sufficient information, at this stage, to support that aspect of the analysis here.

The third condition requires more specific empirical studies as to the effects of ethnicity on tort claims in Israel. The courts will have to examine evidence analyzing the Israeli tort system in general, and if possible, specifically in the areas of tort claims which can be marked as being subject to under deterrence (sub-optimal incentives to take care). Some information from the criminal justice system concerning accidents in the field of construction (a type of unskilled workers) may be analyzed as an indication of possible deterrence problems, again merely as an example.\textsuperscript{44} Between the years 2011-2014, 30,000 workers were injured in the field of construction in Israel. The numbers increased annually and reflected a 10% total increase over that period. The three main groups in the field of construction are: Israeli-Arabs, Palestinians, and foreign workers. According to the information gathered by the Israel Justice Ministry, in six years eleven criminal charges were brought before the courts, out of 180 cases of death in the field. Only eight ended in convictions and only in one case was the penalty imprisonment.

\textsuperscript{44} As explained previously there is no need to estimate actual under-deterrence and its roots. Depending on the group selected in the first two conditions, courts can examine evidence concerning different fields of tort claims. Here, for reasons of the availability of public information, I refer to the highly debated topic in Israel (Kashti, 2016, Zaira, 2015).
The Ministry of Justice estimated that the chances of being criminally prosecuted are only about five percent. Of course, these facts, are not directly relevant for any conclusion with regard to the tort system, but there are substantial reasons to assume that the under-deterrence which arises, *inter alia*, from different biases influencing the criminal justice system do not stop there. These low socioeconomic groups are much less likely to bring a successful claim to civil courts and it can be assumed (until empirical evidence can be gathered) that when doing so, they receive lower damages rulings than other victims, and more importantly, lower damages than their actual losses, due to the problem of implicit-biases. When analyzing the third condition it is important to note that we are not looking for actual numbers for measuring under-deterrence. It is sufficient from my perspective to recognize, for example, that the ethnic group's tort claims are likely to be influenced by these implicit biases. Other examples may be considered as well.45

The example used here is not unique to Israel. Researchers around the world have found similar effects caused by race and ethnicity (Becker, 1957, Freeman, 1973, Chiswick & Miller, 2002, Blank, 2004, Dovidio & Gaertner, 2004, Heath & Cheung, 2007). But the relevancy of the theory is not limited to these problems. It is a framework for identifying "double justification" where redistribution cannot be rejected on the basis of the tax substitution argument or that of high uncertainty and risk.

45 See the research by Banzhaf, 2012.
5. Conclusions

The aim of this paper was to establish a case for equity concerns under tort liability. On the basis of Kaplow and Shavell's model, I have shown that changes to the optimal damages rules can be made without running into the double distortion effect. The fear of adverse effects stemming from changes in the damages rules can be reduced or avoided when focusing on overlapping problems within tort law. These overlapping pockets can facilitate a possible use of the tort system as a redistribution mechanism. By creating safe zones for courts to account for group differences – tags – where a possible systematic failure of the tort system overlaps the inequality concern the information needed can be gathered and the circle of the status quo can be broken.

When rethinking the optimal tool for redistribution we need to bear in mind what is at stake. With inequality becoming increasingly relevant for developed countries (Alvaredo et al, 2013), using long-forgotten instruments such as tort law can improve outcomes, without increasing taxes. Legal rules, such as tort and contract law applications, are far-reaching, and the number of possible pockets which can be exploited for redistribution purposes is larger than one would expect from a casual glance.

A few key arguments could not be covered here due to the scope of the paper but will have to be included in future research. The Bargaining Around (Demsetz, 1972) argument can be seen as a possible obstacle for legal rules attempting to redistribute, but it is not necessarily insurmountable (Liscow, 2014). In contrast to the status quo, here I do not support any exclusive use of legal rules as the sole mechanism for redistribution, but rather the complementary use of both systems.

Liscow (2014, p. 2500) refers to this from the perspective of the Coase Theorem as an offsetting effect for distortions when a contract between parties is possible, and Blumkin & Margaliot (2005, p. 4-5) explain why it does not give the tax system any advantage over legal rules.
6. Appendix

The assumptions of the following model are identical to Miceli's model. Two individuals, a zero sum game of tax transfer and a unilateral ability to take care by the injurer. The individuals are risk averse, but full insurance is available resulting in utility as function of wealth; as Miceli defines it: \( U_1 = U(w_I), U_V = U(w_V) \).

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<tr>
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<tbody>
<tr>
<td>1.</td>
<td>( P(X) = ) the probability of an accident given care level ( X ), with ( P' &lt; 0, P'' &gt; 0 )</td>
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<tr>
<td>2.</td>
<td>( X = ) the injurer's care level in $</td>
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<tr>
<td>3.</td>
<td>( m = ) the damages suffered by the victim if an accident occurs, in $</td>
</tr>
<tr>
<td>4.</td>
<td>( U(\circ) = ) utility as function of wealth, of both the injurer and the victim, with ( U' &gt; 0, U'' &lt; 0 )</td>
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<tr>
<td>5.</td>
<td>( W_I, W_V = ) initial wealth the injurer and victim, respectively</td>
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<tr>
<td>6.</td>
<td>( D = ) damages payed by injurer to victim</td>
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<tr>
<td>7.</td>
<td>( E = ) the injurer's work effort, in hours</td>
</tr>
<tr>
<td>8.</td>
<td>( Y(E) = ) the injurer's income; as a function of work effort</td>
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<tr>
<td>9.</td>
<td>( T(Y) = ) tax paid by the injurer(^{47}); as a function of income</td>
</tr>
<tr>
<td>10.</td>
<td>( Y_N = Y - T, ) net income after tax payments; with ( Y_N' &gt; 0, Y_N'' &lt; 0 )</td>
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To reflect the work-leisure dilemma, I denote an additional function \( f(E) = E \beta \) which represents the cost of work, and \( \beta \) is the opportunity cost parameter (constant number). In a more complete model, this will reflect a non-linear relation between the cost of work and effort as explained in the second chapter of the paper. I will continue this exercise adding only a constant opportunity-cost parameter (the cost does vary over time). Intuitively this could be seen as an opportunity cost in terms of leisure time. My point here is only to create a simple incentive dilemma for the worker, trying to maximize his income taking into account the tax function and his work cost. This addition is the connection to the previous Shavell-Sanchirico discussion, which is entirely missing in Miceli's paper.

The opportunity cost parameter (\( \beta \)), together with the tax function set the equilibrium point of the work-leisure dilemma. In this point the marginal income is

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\(^{47}\) Tax payment is independent of whether or not an accident occurs, as in Miceli's model.
zeroed out by the cost of work ($Y_\prime = \beta$). Theoretically, the tax system is utilized to maximize state revenue and work effort by the worker in the same time; this is the field of optimal taxation research. If taxes are higher than the optimal tax ($T^*$), the effort, revenue or both are not maximized. After adding the income tax payments and work cost, the optimization problem will be captured by these equations:

11. \[ w_I = W_I - X - P(X)D + Y_N(E_I) - f(E_I) \]
12. \[ w_V = W_V - P(X)(m - D) + T_I(E_I) \]

I refer to a scenario where only our injurer receives an income and pays income tax. This limitation is in line with Miceli's world of only two person's analysis: rich and poor and a zero sum game of tax transfers. Making the two individuals earn money and pay taxes is similar to making both parties able to take care and reduce chances for accidents. Here, any income tax paid by the injurer will be transferred to the victim; this is the definition of the zero-sum game.

Lastly, my mathematical solution only addresses what Miceli defines as the second best scenario, where incentives problems in the tort system arise ($X$ is determined by the injurer). The solution is almost identical to what is shown in the appendix of Miceli's article. I start by constructing a Lagrangian function representing the optimization problem, with three constraints: max the utility of the injurer under Pareto criterion, optimal incentives to take care ($D = m$, so that the injurer chooses $X^*$), and an additional constraint which is setting $T^*$ optimal (to max $E$, under a state revenue budget constraint). Setting $T^*$ optimal means an exogenically chosen $T$, which it reflecting the extra incentive problem. The Lagrangian function for optimization is:

\[
L = U_I(w_I) + \gamma [U_V(w_V) - U_V(w_V^0)] + \delta(1 + P'(x) * D) + \theta(Y_N'(E_I) - \beta)
\]

Each expression represents one constraint in the respective order mentioned above. To solve the equation the functions derivatives are extracted including the Lagrange multipliers ($\gamma, \delta, \theta$):
1. \[ \frac{\partial L}{\partial X} = U'_i (w_i) (-1 - P'(x) * D) + \gamma (U'_v (w_v) (-P'(x)) (m - D)) + \delta (P''(x) * D) = 0 \]

2. \[ \frac{\partial L}{\partial D} = U'_i (w_i) (-P(x)) + \gamma (U'_v (w_v) * P(x)) + \delta (P'(x)) = 0 \]

3. \[ \frac{\partial L}{\partial E} = \theta * Y''_N (E_i) = 0 \]

4. \[ \frac{\partial L}{\partial \gamma} = (U_v (w_v) - U_v (w_v^0)) = 0 \]

5. \[ \frac{\partial L}{\partial \delta} = 1 + P'(x) * D = 0 \]

6. \[ \frac{\partial L}{\partial \theta} = Y''_N (E_i) - \beta = 0 \]

The solution to the system offered by Miceli is \( D = m, \delta = 0, X = X^*(m) \), in Miceli’s model this is sufficient. \( T \) is an endogenous variable and can be set to transfer the (any) needed wealth to guaranty that: \( U_v (w_v - T) = U_v^0 \), and \( \gamma \) is determined by \( U_v^0 \). But after adding the new constraint, the optimal tax \( (T^*) \), which is set by \( E \) and \( \beta \), the model does not yield the same results: \( E \) is chosen by the injurer to solve equation 6 and the state can change \( T \) to reach required revenue. Unless by coincidence \( T^* \) is also the \( T \) that solves \( U_v (w_v - T) = U_v^0 \), the solution does not hold. In other words, the only way that \( T^* \) can be set and still solve the optimization problem is by coincidence or by a non-binding Pareto criterion \( U_v^0 = U_v (w_v) \), where the initial wealth of the victim is sufficient to meet the threshold. This is very unlikely scenario (which makes redistribution completely redundant) and as explained in chapter 2, shows why an exclusive use of the tax system is not expected to reach a first best optimum under reasonable assumption of the tax system.
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