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The relationship between the welfare state and the management of risk

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Abstract

I argue that the management of risk is a justification of the welfare state in two ways: First, a justification is possible in conventional economic terms. Because people are risk-averse they benefit from and want to take insurance, which can only be provided by the state due to market imperfections. Second, insurance can be seen as a social contract made under a veil of ignorance, which aims to compensate for bad brute luck. Furthermore, although the rationale of insurance is to reduce uncertainty, insurance is closely related to redistribution and so the side-effects of poverty alleviation and reduction of inequality have to be taken into account. On moral grounds, no overall theory for the management of risk by the welfare state can be found: Theories of justice involve a trade-off between rights, needs and deserts.

Introduction

Political theorists offer three main approaches for assessing a welfare state: The fulfilment of basic needs, the creation of equality in different forms and the guarantee of liberty (White 2010). However, these approaches pay little attention to the role of the welfare state in the management of risk. Barr (2001: 1) classifies the purposes of the welfare state as the “Robin Hood” function, which addresses basic needs and equality through poverty relief and redistribution of income and wealth and the “piggy-bank” function, which provides insurance and redistribution over the life cycle. In the literature, the “Robin Hood” function of the welfare state is usually explored in depth, whereas the management of risk done by the welfare state is often neglected. Therefore it is the aim of this essay to emphasis and examine **the relationship between the welfare state and the management of risk**; this raises questions such as: Is the management of risk only a by-product or result of the poverty relief done by the welfare state? Or is it a function that is independent from and additional to the “Robin Hood” function of the welfare state? Could it even be a justification of the welfare state itself?

I argue that the management of risk is a justification of the welfare state in two ways: First, a justification is possible in conventional economic terms. Because people are risk-averse they benefit from and want to take insurance. According to market and information imperfections, the welfare state is needed to provide this insurance. Second, insurance can be seen as a social contract which should reduce inequality through compensating bad luck. Because of the time horizon involved, only the welfare state is able to fulfil this social contract. In addition, this essay explores whether the principle of insurance can be an all-embracing justification of the welfare state, reconciling different moral theories on the grounds that the rationale of insurance is to reduce citizen’s uncertainty with poverty alleviation and equality as by-products.

The management of risk is a current challenge for our society. The perception of risk has changed, leading to the paradox that although we live in prosperity in the western world, we are exposed to increasing societal risk. Whereas in former times, we suffered from “natural risks” such as crop failure and famine, nowadays we have to cope with risk inherent to our “risk society”. We are amongst others exposed to changes in the labour market, the risk of unemployment and to demographic changes bringing about the risk of increased live expectancy, e.g. the inability to gain one's own living due to sickness or old age. These risks become more pressing, as support from the family is declining (Tayler-Gooby 2000: 3ff). According to Beck (1999: 3), "we are moving from a world of enemies to one of dangers and risk". "Risk is the modern approach to foresee and control the future consequences of human action, the various unintended consequences of radicalized modernization." (Beck 1999: 3)

This paper adopts a liberal approach to state welfare. It favours Miller's pluralist analysis of social justice, which states that a general theory of social justice is not possible. Miller divides social justice into three elements: rights (e.g. political liberty), deserts (e.g. the recognition of individual behaviour and attributes) and needs (the requirements for fulfilling individual life plans). However, these three elements cannot be met at the same time. Either people are rewarded for their merits and they are not taken away by taxation (which is necessary to meet the needs of the others) or the needs of individuals are met by generating revenue from taxation, thus not fully recognising deserts. Summed up, the definition of social justice depends on the importance attributed to rights, deserts and needs, and thus is different in every type of society (Barr 2004: 50).

In section two, the underlying concepts of this essay are defined. Section three explores the management of risk in a more economic approach, especially in the form of insurance, and analyses whether it has to be provided by the state or whether it could also be provided by the market. A theoretical understanding for how insurance works is built. In section four, a broader picture of insurance is offered. Insurance is linked to redistribution, poverty alleviation and equality and more philosophical and moral arguments are explored. The final section offers some concluding remarks.

Conceptualisation

The concept of the **welfare state** is very hard to define, as “how it should be” varies according to the theoretical paradigm followed by the philosopher, and “how it is” varies depending on different configurations of welfare states shaped by history, culture and politics. For the purpose of this essay, the definition of Barr (2004: 7) is adopted. Barr argues that

> “the welfare state exists to enhance the welfare of people who (a) are weak and vulnerable, largely by providing social care, (b) are poor, largely through redistributive income transfers, or (c) are neither vulnerable nor poor, by organizing cash benefits to provide insurance and consumption smoothing, and by providing medical insurance and school education” (Barr 2004: 7).

To explore the main argument, that the management of risk can be a justification of the welfare state, this essay concentrates on part (c) of the definition.

Management is defined by the Oxford dictionary of English (2011) as “the process of dealing with or controlling things or people”. Thus, by dealing with and controlling risk (as far as possible), the welfare state aims to spread risk and to mitigate the consequences of the occurance of an event for the individuals involved. According to Haveman (1985: 449) the management of risk is “the universal reduction of uncertainty faced by the individuals”.

In common parlance, **risk** and **uncertainty** are subsumed under the concept of risk. Knight (Holten 2004) was first to distinguish between risk, which accounts for “measurable uncertainty” and uncertainty, which is unmeasurable. Regarding risk, either a priori probabilities are known through symmetry, such as the throwing of a dice, or statistical probabilities can be calculated through having homogenous data. By contrast, uncertainty is a

> “situation where the current state of knowledge is such that (1) the order or nature of things is unknown, (2) the consequences, extent, or magnitude of circumstances, conditions, or events is unpredictable, and (3) credible probabilities to possible outcomes cannot be assigned” (Businessdictionary 2011).

Luhmann (1991: 30ff) differentiates between risk and danger. If damage can be influenced by a previous decision, it is a risk. By contrast, a danger cannot be influenced but is caused by natural circumstances.

Insurance in economic terms

By insurance, people can firstly protect themselves against risk and secondly, insurance is an actuarial mechanism, often organised by the private sector, to spread risk. Even if institutions are not designed as actuarial mechanism, they can still offer protection against risk in the first sense (Barr 2004: 102). This section aims to explore why people seek insurance and under what conditions insurance should be provided by the state.

The need or rather wish for insurance is rooted in the assumption that individuals are risk-averse. Risk aversion is the preference of an individual for a more certain, but lower expected payoff compared to a less certain, but higher expected payoff. For a risk-averse individual, the uncertainty of receiving or not receiving causes per se disutility. Risk aversion is best illustrated by the textbook example of flipping a coin. If the coin shows head, which has a probability of 50 per cent (p=0.5), the person is going to gain nothing. By contrast, if the coin shows tail (p=0.5), the person is going to win 100 pounds. Thus, the expected payoff the person receives is 50 pounds (=0.5*0 + 0.5*100). A risk neutral person would be indifferent between the bet and a 50 pounds note. However, a risk-averse person would accept a lower payment, the certainty equivalent (e.g. 30 pounds) instead of taking the bet, where she could end up having nothing. The difference between the certainty equivalent and the expected value is called the risk premium, which is the amount the person is prepared to relinquish in order not to have to take the risk (Erlei 2007: 37).

Thus, risk-averse individuals are willing to pay a risk premium for reducing risk through insurance. Let us assume that an individual with p_1=0.5 gains either y_1=100 or y_2 = 1000 (p_2=0.5) from employment. The average gain is thus 550 pounds. By paying an annual premium of 550 pounds to insurance, the individual will be compensated for up to 900 pounds of lost income. So by taking insurance the person will always gain a net income of 450 pounds (first case: 1000 – 550; second case: 100 – 550 + 900). Essentially, **people are buying certainty when insuring** (Barr

2004: 103ff). The difference between the average gain of 550 pounds and the certain income of 450 is the net price of insurance of 100 pounds, which is the value (marginal utility) of certainty for the person. More formally, the actuarial premium can be written as equation 1 (Barr 2001: 18):

$$\pi_i = (1 + \alpha)p_i L$$

π… price at which insurance will be provided in a competitive market
α… administrative costs
p… probability of loss
L… value of loss

The foundations for insurance are the law of large numbers and gains from trade. Under the law of large numbers, individuals face uncertainty, but by aggregating hundreds of individuals, approximate certainty can be obtained. For example, one in hundred suitcases are lost at airports, and no one knows whether she is the person to lose one, but by aggregating 1000 people, it is known that 10 people will lose their suitcase. If the 1000 passengers all invest 10 pounds in insurance, each of the 10 lost suitcase owners can be compensated with 1000 pounds. So by insuring, people can gain from trade by pooling risk (Barr 2004).

The role of the state

On one hand, if there was no risk, or if at the other hand people were not risk-averse, insurance would be unnecessary. People could borrow on perfect capital markets to finance e.g. old age and education and the only function of the welfare state would be to provide poverty relief. Therefore part (c) of the underlying welfare definition could not be a justification of the welfare state. Introducing risks, insurance could be provided by a perfect market with perfect information in absence of shocks. However, if the assumptions are relaxed (imperfect and asymmetric information, risk and uncertainty and external shocks), a welfare state is needed to provide insurance.

Insurance as a protection against risk (cf. definition) can be in form of regulations and subsidies, such as regulation of quality (hygiene laws, consumer protection, etc.), regulation of quantity (compulsory school attendance, automobile insurance etc.), price regulation (e.g. minimum wage) and price subsidies (e.g. free kindergarten)[1]. Insurance is as well provided by the state in form of pooling risks and under certain conditions, the state and not the market is needed to provide insurance in the form of an actuarial mechanism (Barr 2001).

Private insurance based on equation 1: $\pi_i = (1+\alpha)p_iL$ can only accommodate individual risk and no common shock. Following, the probabilities p_i and the variances are independent. On the contrary, if one person suffers a shock, so would everyone else and private insurance would not dispose of the necessary funds. This is e.g. a problem of inflationary shocks for pensioners. Secondly, only risk and not certainty can be insured. If p_i= 1, it is certain that the person is going to suffer a loss, and risk cannot be spread. The insurance premium, which contains handling costs and the insurance company's profit, would exceed the insured loss. Private medical insurance, for example, does not cover pre-existing medical conditions. Thirdly, insurance can only cover risk and not uncertainty. Thus, p_i has to be known. Otherwise the insurance premium could not be calculated. This problem occurs if it is a rare event with too few observations, if complexity makes it too difficult to calculate (e.g. future inflation) or when the time horizon is too long (Barr 2001: 19ff).

Furthermore, insurance companies face problems of imperfect information regarding adverse selection and moral hazard. Adverse selection is the tendency for low-risk individuals to avoid or leave insurance pools, because they are charged too high a price. As high-risk individuals seek insurance and try to conceal their risk from the insurer, the risk premium becomes too high for low-risk individuals. Following, insurance pools combine a disproportionate percentage of high-risk individuals and the pooling of risk is no longer possible (Baker 2003: 261).[2] The problem of moral hazard occurs if a person behaves differently after insuring and thus increases his risk and the insurer's expected loss p_iL. This is for example the case if women get pregnant after taking out medical insurance (Barr 2001: 21).

On an unregulated insurance market, insurance companies are free to classify risk by categorising insured or to deny insurance. As outlined by Baker (2003: 267ff), risk

[1]Regulation is needed if market imperfections such as monopolistic competition, external effects, increasing returns to scale, public goods or imperfect information occur.

[2] See Akerlof, G. A. (1970): The Market for 'Lemons': Quality Uncertainty and the Market Mechanism. Quarterly Journal of Economics, Vol. 84, Nr. 3; pp. 488–500 for his famous description of adverse selection.

classification contains a moral commitment. The main moral justifications for risk classification are first, that otherwise, low risks would be forced to subsidise high risks, second, risk classification advances efforts to prevent loss and third, it supports individual responsibility. However, these justifications have limits. Risk classification reduces the degree by which insurance spreads risk, which is its initial function. By denying insurance for high-risk individuals "institutions not only maintain status, they also assign it" (Baker 2003: 262-263). An example comes from the United States from the 1980, where some insurance companies refused to sell life, health and disability insurance to women who were victims of domestic violence because they posed an unacceptably high risk. From a moral point of view, it should be considered whether someone "deserved" the low or high risk status or not. Women certainly cannot be taken liable for becoming victims of violence. Sinn and Dworkin offer a skilful device to resolve this problem: Decisions on insurance should be/are made under a veil of ignorance, before everyone's position is known. Due to the long time horizon and the legal commitment, such a social contract can only be provided by the state.

The above-mentioned obstacles for private insurance can be overcome by social insurance offered by the state. Private insurance is still efficient for insuring risks that do not feature these obstacles, as car insurance or insurance for lost luggage. However, social insurance such as health insurance, unemployment insurance and old-age benefits need to be provided by the state. Firstly, by having enough funds and a long time horizon, the state can handle common risk (e.g. unemployment insurance). Secondly, only risk but not (un-)certainty can be insured. However, a person is insured from birth onwards (e.g. health insurance), before any certainty can be known. The problem of adverse selection can be resolved through compulsory insurance, thus preventing low risks from opting out. In addition to market failure, government failure is possible as well.[3] Whereas government failure for providing social insurance might occur, an unregulated market certainly fails to provide social insurance due to the outlined obstacles.

[3] The main problems are that public officials, who cannot be fully monitored, might act for their own benefit and that the government responds short-sightedly to pressure groups and electoral coercion in order to secure its power. However, these problems are often overstated compared to problems of the market (Barr 2001: 27).

This “economical” justification of risk management by the welfare state is independent from considerations of equality. As Barr (2001: 1) argues,

> “the piggy bank function can be seen additional to and separate from poverty relief. (…) Even if all poverty and social exclusion could be eliminated, so that the entire population were middle class, there would still be a need for institutions to enable people to insure themselves and to redistribute over the life cycle.”

For risk-averse individuals, uncertainty is reducing their personal utility. Following, through insuring themselves, they are guaranteed an expected payoff, and they are willing to pay an insurance premium for gaining security and thus utility. In their decision for insurance, they do not take into account their fellow citizens. Following, the distributive function of insurance can be seen as side effect of the “economical” argument for insurance.

The “functionalist approach”, one of three perspectives on the emergence of the welfare state,[4] considers the welfare state as answer to the changes created by capitalist industrialisation (Caramani 2008: 523ff). With the disappearance of subsistence economy and of traditional relationships of mutual assistance (in families, through guilds or charities), modern risks of an industrial society increased (cf. Tayler-Gooby 2000; Beck 1999). The new raison d'être of the welfare state was “the provision of secure social services and transfer payments in a standard and routinized way that is not restricted to emergency assistance” (Flora and Heidenheimer 1981: 23 cited in Caramani 2008: 524). Baldwin (1990) argues that the modern welfare state emerged as a mechanism to redistribute risk rather than redistribute wealth. He analyses the Swedish example, where the establishment of universal insurance was in the farmers’ interest. Generally, it was often in the interest of the middle class to share risk with those less well off than themselves. Class can coincide, but does not determine someone’s risk category. Social insurance only secondarily distributes between rich and poor, middle and working class, but primarily between healthy and unhealthy, young and old, employed and unemployed, unharmed and disabled. (Baldwin 1990)

[4] The second theoretical perspective being a class mobilisation approach and the third one relies on state institutions and bureaucratic elites.

Political theory of insurance

Insurance and poverty relief

The main characteristic to differentiate between the redistribution through insurance and the redistribution from the rich to the poor is the time horizon (cf. Barr 1992). **The decision for insurance is made ex-ante, before it is known who is going to suffer from the incident. The ex-ante decision justifies the ex-post redistribution of resources. This is a decision made under a "veil of ignorance".** By contrast, the decision to redistribute from the rich to the poor is made ex-post, when it is already known who was hit by bad luck.

In general, the function of insurance is the maintenance of status and thus contains the element of poverty[5]. It prevents people from becoming poor, and therefore relieves poverty even before it could strike. Even if the entire population is middle class, without having insurance, the danger of poverty is still inherent to life. Similarly, Barry (1990) argues that poverty alleviation is a by-product of a "well-ordered" welfare state, whose main objective is income maintenance. A substantial part of poverty relief is done by policies whose rational is rather different. Barry (1990: 73) points out that

> "For all except a few unfortunate who fall between the cracks the relief of poverty is a by-product of a system of cash benefits founded upon principles that do not include the relief of poverty."

Insurance made under a "veil of ignorance"

Sinn (1996: 261-262) elaborates Barr's view and points out that

> "Insurance and redistribution are two sides of the same coin. Every insurance contract involves redistribution from the lucky to the unlucky, and most redistributive measures can be interpreted as insurance when the time span between assessing and taking these measures is sufficiently

[5] Independent from the definition of poverty, from whether it is seen in absolute or relative terms and what the poverty threshold is.

> long. Understanding redistribution as insurance is simply a matter of making the judgement before the veil of ignorance has been lifted."

Sinn (1996: 263) compares this veil of ignorance to parents insuring their children before they are born. They do not know their children's abilities or health, whether they will have bad teachers or friends or get married successfully. Although the welfare state cannot eliminate these risks, it can provide a redistributive contract between lucky and unlucky children and thereby mitigate the results. Insurance is a timing problem: Because of the value we attribute to rights (cf. Miller's tripod), parents cannot sign contracts for their children that would allocate a substantial part of their income to a private institution without the possibility for the child as an adult to opt out again (which would cause adverse selection). However, if private insurance is taken at adulthood, the veil of ignorance will have been lifted and the outcome will be certain and no longer a risk with a probability. Therefore, insurance is no longer possible and no "mutually agreeable redistribution contract" will be found. Moreover, the insured could have superior information and thus pose a problem of adverse selection. Following his example, Sinn (1996) considers redistributive taxation as a form of social insurance, which should insure against lifelong risks of career.

Dworkin (1981) distinguishes between brut luck and option luck. If someone benefits from option luck, he decides to take a risk, and thus the benefit can be attributed to him as a kind of merit. An example is the investment in a company. By contrast, brut luck cannot be calculated or influenced by the person. This is e.g. the case if someone is hit by a falling meteorite. Often the line cannot be clearly drawn. If someone suffers from cancer and led a normal life, he experienced bad brute luck. However, if this person smoked 40 cigarettes a day, he is likely to suffer from bad option luck. By insurance, brute and option luck can be linked. The decision for or against insurance is a decision about (not) taking risk (Dworkin 1981: 293). Dworkin uses a hypothetical society of shipwreck survivors on a desert island to elaborate his argument for a hypothetical insurance market. Proceeding insurance, the available resources have to be divided between the immigrants, who agree that this should be done equally. In order to identify the value resources (also holds true for goods, talents, etc.) have, some sort of economic market is needed. Dworkin suggests that each immigrant should receive an equal number of clamshells, which he can use to bid in an auction for the available resources, and thereby reveal his true preferences.

This procedure secures equality of resources, which can be tested by the envy test. The envy test is met if no "immigrant would prefer someone else's bundle of resources to his own bundle" (Dworkin 1981: 285). Following the auction, nobody "will envy another's set of purchase because, by hypothesis, he could have purchased that bundle with his clamshells instead of his own bundle" (Dworkin 1981: 287).

Individuals who enjoy risk and decide to take riskier options have the opportunity to gain (A) or lose (B) more income than individuals who prefer a safer life (C) and therefore sacrifice the chances of gaining income from risk-taking. Individuals A, B and C chose either to take risk or not to take risk (and so passed the envy test), therefore no redistribution should occur between them. Dworkin (1981) argues that people should pay the true costs of the lives they lead; they are and should be held responsible to the results of their decisions. Accordingly, if it is possible to insure against blindness, but individual D decides not to do so and gets blind, she should not receive any compensation.

However, as people are usually not equal in the first place, but endowed with different talents and natural disadvantages, the envy test would fail. Full equality is impossible, but we can try to equalise circumstances as much as possible through a second-best theory, which is constituted by a hypothetical insurance market (Kymlicka 2002: 78). To put Dworkin's complex considerations in a nutshell, people should buy insurance against ill health or low income under a veil of ignorance, before they know their natural disadvantage or what their talents could earn on a market. Accordingly, it is known how people value different outcomes and what people would be willing to spend on insurance. All compensation for natural disadvantages is thus equal to the amount of insurance coverage people would ask for. However, the envy test has one shortcoming: Individuals who buy very high insurance to be guaranteed a very high income and are endowed with good talents pose a problem for the envy test. In order to be able to pay the high insurance premium, the person has to work hard in a job he cannot choose (only few jobs provide very high income), before "he is free to make the trade-offs between work and consumption he would have been free to make if he had not insured" (Dworkin 1981: 322). The next step is to translate this hypothetical insurance structure into a tax scheme, but this only can approximate the insurance scheme. Various problems arise, such that differences in talents partly reflect differences in choices and partly different natural talents. Second, it cannot be determined in advance of the auction what counts as natural talent, as these change over time (Kymlicka 2002: 78). Kymlicka (2002: 80) considers Dworkin's conclusion to be

> "rather disappointing: we tax the rich, even though some got there purely by effort with no natural advantage, and support the poor, even though some (…) are there by choice without natural disadvantage."

On the basis of Dworkin's hypothetical insurance contract it can be seen that an unintended side-effect of insurance is the creation of equality. Generally, Dworkin is more concerned about redistribution and equality than about insurance. These are the grounds on which Nozick would contest Dworkin's theory. According to his entitlement theory of justice, not needs or merit are decisive as justification for possessions, but solely how people obtained their property. A person cannot be seen separate from his talents, as he owns them and they are an integral part of him. Accordingly, Nozick argues for a minimal state. The only justification of a state is to safeguard people's rights and to protect them against force. Moreover, the state may not force people to participate in projects that advance their own well-being, which would be insurance (Wolf 1991). Nozick's point against

> "end-state theories is that if voluntary actions will disrupt a distribution, then the only way of maintaining that distribution will involve preventing or otherwise nullifying those voluntary actions, and this will be to interfere with people's liberty" (Wolf 1991: 80).

Dworkin's hypothetical insurance contract can be seen as an attempt to reconcile with Nozick's entitlement theory, which would lead to a non-contestable argument. The implicit assumption seems to be that people are entitled to their talents. However, because they do not know their talent's value, they voluntarily insure against the risk of low income, and their marginal propensity for insurance should be translated into taxation. However, as Dworkin's theory is not all-encompassing, failing the envy test in some cases, it cannot be applied as universal theory. It is probably the best second-best theory instead.

Conclusion

Although the management of risk is a justification of the welfare state in conventional economic terms as outlined above, actuarial science soon reaches its limits and a moral account is needed. This is for example illustrated by the example of battered women, who were refused insurance because they posed a risk too high. Moreover, a fundamental question of the welfare state concerns the nature of insurance. Redistribution by the state can be viewed as an actuarial mechanism, if the decision was made ex-ante behind a "veil of ignorance". As outlined in the introduction, according to Miller social justice rests on three elements: rights, attributed deserts and needs. As the fulfilments of these three elements contradict each other, Miller argues that a definition of social justice depends on the importance assigned to each. Following, no general definition of social justice can be made. Dworkin tries to reconcile these factors by means of a hypothetical insurance contract. People enter it voluntarily (rights are met), they are entitled to their deserts, but voluntarily decide under a veil of ignorance to pay a part of their income as insurance premium, and the needs of the unlucky are met by receiving this premium. To justify this insurance, Dworkin uses the envy test. However, the envy test fails in some cases, and following Miller's tripod cannot be reconciled.

Summed up, the findings of this essay are as follows. The management of risk is a justification of the welfare state in conventional economic terms; because people are risk-averse they benefit from and want to take insurance, which only the state can provide due to market imperfections. Nevertheless, the management of risk cannot be seen solely as economic mechanism, but the side-effects of poverty relief and the creation of equality have to be taken into account. Moreover, insurance can be regarded as a social contract which should reduce inequality through compensating bad brute luck. Because of the time horizon involved, only the welfare state is able to fulfil this social contract. However, no all-encompassing justification of insurance/redistribution by the welfare state is possible, but the justification rests on the underlying moral theory.

I would like to conclude citing Jacques (1849, cited in Baker 2003: 258), an American lawyer and insurance entrepreneur, who had a utopian vision on the relationship between the management of risk and the welfare state in the mid-nineteenth-century:

> "We thus have the mechanic, the laborer, and the merchant, joined hand in hand in mutual protection against the risks of their callings; we have the masses, above all, shielded from the most blighting evil of the inequality of human condition, the danger of destitution; we have society united on the basis of mutual insurance."

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