WIN FOR LIFE
AN EMPIRICAL EXPLORATION OF THE SOCIAL CONSEQUENCES OF INTRODUCING A BASIC INCOME [1]

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INTRODUCTION

In an interesting book "*Seeing Like a State. How Certain Schemes to Improve the Human Condition Have Failed*", James Scott (1998) warned against implementing Big Ideas without thoughtful empirical consideration or experimentation. Local diversity and unintended consequences, among other things, made theoretical ideas for societal improvement go astray.

Although the cases analysed by Scott were mostly technical engineering cases – building cities, increasing agricultural productivity, etc. – his message can be extended to other Big Ideas. One such idea that has received increasing attention is a Universal Basic Income (hereafter Basic Income). "A Basic Income [is] (...) an income paid by a government, at a uniform level and at regular intervals, to each adult member of society. The grant is paid, and its level is fixed, irrespective of whether the person is rich or poor, lives alone or with others, is willing to work or not (Van Parijs, 2003, p. 5)".

A Basic Income is defended on various grounds: "Liberty and equality, efficiency and community, common ownership of the earth and equal sharing in the benefits of technical progress, the flexibility of the labour market and dignity of the poor, the fight against unemployment and inhumane working conditions, against the desertification of the countryside and interregional inequalities, the viability of co-operatives and the promotion of adult education, autonomy from bosses, husbands and bureaucrats – all have been invoked in favour of a (…) Basic Income (Van Parijs, 1992, p. 3)".[2] Like most Big Ideas, a Basic Income might change society profoundly. Indeed, as Brian Barry (1997, p. 161), stipulates "A subsistence-level basic income would face people with an entirely different set of opportunities and incentives from those facing them now".

Whether and to what extent this different set of opportunities and incentives will result in significant behavioural changes, is an empirical question. Indeed, hypothetically, the introduction of a Basic Income could result in many different micro behavioural changes with distinct macro implications. This has been argued by both proponents and opponents of a Basic Income. In general, several socio-economic and sociological changes can occur due to the introduction of a Basic Income. In this paper we concentrate on changes in labour market behaviour. For example, the introduction of Basic Income might provide an incentive to reduce the amount of time spent on the labour market or even withdraw from the labour market (micro changes). This might result in the abolition or reduction of unemployment since the amount of work will be redistributed over a greater number of people (more people work less). However, when a significant number of people decide to withdraw from the labour market it may create massive shortages on the labour market which can result in economic decline (macro changes).

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[2] For a comprehensive overview of what a basic income is, why we need it and whether it is affordable or not, see (Van Parijs, 2004).

Given these unresolved questions, empirical research into the labour supply consequences of introducing a Basic Income is of obvious importance. It should be noted however that these empirical questions do not affect all arguments for a Basic Income in an equal way. As indicated by Brian Barry (1996) it is useful to distinguish between pragmatic and principled arguments about a Basic Income. "Pragmatists are those who assume that social policy should serve certain ends. (…) [They] suggest that the introduction of basic income would be the most effective way of reforming existing welfare states. (…) In contrast (…) the principled argument seeks to show that the case for basic income can be derived directly from the concept of social justice (Barry, 1996, p. 243)". Evidently, empirical arguments are more important to pragmatics than they are to defenders of principled arguments.[3]

The question remains, however, on how to proceed with research into this counterfactual phenomenon. True, in Alaska a Basic Income has been introduced, but this is hardly a representative case. For one, the amount of the dividend is too low in comparison to most proposals for a Basic Income. For another, as anyone who visited Alaska will know, the external validity of research in Alaska to any, for example, urban setting is very difficult. Alaska is geographically, but also socially, quite a unique place.[4]

In the absence of the actual introduction of a Basic Income, second-best solutions for empirical research must be considered. A key-challenge for such research is to design a research project which enables researchers to make valid inferences. An "inference is the process of understanding an unobserved phenomenon on the basis of a set of observations (King, Keohane & Verba, 1994, p. 55)". In other words, to what extent do research results enable us to draw valid conclusions about what might happen when a Basic Income is introduced?

There are limitations for any research project on the empirical consequences of a Basic Income, which cannot be overcome due to the nature of the proposal. For example, the introduction of a Basic Income

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[3] Of course, the dividing line between pragmatic and principled arguments is not always that clear cut. As Van Parijs (1992, p. 29) argues "The importance of such arguments [that derive basic income from an explicit formulation of the ideal of a free, equal or good society] does not make more limited efficiency arguments irrelevant, (…) because many of these fit, as partial components, into arguments of the more ambitious sort (…)" Furthermore, utilitarian inspired defenses of a Basic Income (for instance most green arguments for a basic income) can be wedded to a certain conception of justice but entirely depend on pragmatic arguments.

[4] Another possible interesting actual implementation of a Basic Income might result from the recent June 2003 reforms of the Common Agricultural Policy (CAP) of the EU which includes a shift from production-based subsidies to direct payments to farmers which will provide them with a guaranteed minimum level of income that is not linked to production. The basic idea is to replace most of the direct subsidy payments for farmers by a single farm payment. The European Commission states that "A major aim of the single payment is to allow farmers to become more market-oriented and to release their entrepreneurial potential. Management decisions that in the past have been influenced by what the CAP offered in subsidies can now be taken on the basis of market requirements. Where a particular production activity is profitable farmers will continue to follow it. The reformed CAP is designed so that farmers take advantage of such opportunities (European Commission, 2004)". The member states will have to decide on the specific implementation of the reform. It is, however, important to note that the amount of the payment will be calculated on the basis of the direct subsidies farmers received in a reference period (2000 to 2002). In addition, the payment is conditional on the fact that beneficiaries of direct payments will be obliged to keep their land in good agricultural and environmental condition.

and a related partial deregulation of the labour market, will clearly influence the demand side of a labour market which can result in different wages, the emergence of new types of previously undervalued jobs, etc. Since this will affect the entire labour market one cannot empirically assess the impact on the demand side before the effective introduction of a Basic Income.[5]

However, questions related to human behaviour are open for empirical investigation. Preferences in relation to willingness to work are assumed not to be that different before and after the introduction of a Basic Income.[6] The Basic Income might influence the capability to implement preferences (for example maximising free time) but not necessarily the preferences as such. In other words, the claim that people would retreat from the labour market once a Basic Income is introduced is open for empirical investigation.

Since many factors influence labour market behaviour the challenge for research is to design a project which takes into account the complexity of this behaviour. To this end two possible research designs can be thought of which both rely on the logic of an experiment.[7] As Groot (2004, p. 97) has argued "There are numerous factors at work which influence labour supply decisions. One cannot hope to include all

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[5] For a discussion on the hypothesized effects of a Basic Income on the demand side of the labour market, see (Widerquist, 2004).

[6] It could be argued that it is sheer impossible to conduct research since the political and normative context in which a Basic Income would be implemented will be significantly different to any existing situation. This change in context might legitimise behaviour which is now regarded as politically and socially 'unacceptable' such as voluntary unemployment. The introduction of a Basic Income founded on clear normative principles for societal ordering and development supported by a clear political majority will imply a transformation of the concept of work and contribution to society which cannot be compared to any existing situation. As a consequence, empirical research is bound to be impossible. This argument, however, could result in a Catch-22 with regard to the effective implementation of a Basic Income since empirical arguments are clearly important in the political discussion of a Basic Income. A Catch-22 is an impossible situation where one is prevented from doing one thing until one has done another thing, but one cannot do the other thing until one has done the first thing. For example, Pels and van der Veen (1995) report in the case of the Netherlands, that many arguments of the opponents of a Basic Income concern the negative effects of a Basic Income on human behaviour. These are empirical arguments about how an unconditional income will influence human behaviour. The Catch-22 then consists out of the following paradox: the argument that it is impossible to do empirical research before one introduces a Basic Income will result in the impossibility of implementing a Basic Income since one needs empirical arguments to make a valid political case. An insight – via empirical research - in what happens when people receive an unconditional income might break the Catch-22.

[7] No doubt, other research-designs may exist. First of all, one could re-analyse existing socio-economic databases. In this case, one could argue that since introducing a Basic Income has mainly to do with income-effects, one can rely on existing survey material and official statistics to analyse the effect of increases in income on several parameters such as labour supply, entrepreneurship, etc. However, this approach is limited since existing datasets hardly ever contain information about significant exogenous non-earned incomes (Imbens et al., 2001, p. 779) and do not contain any information about periodically paid exogenous non-earned income similar to a Basic Income. This makes it almost impossible to make any inferences from such databases to a Basic Income situation. Secondly, one could survey people and ask them what their attitude is towards a Basic Income and what they *might* do under Basic Income conditions (for instance, see (Késenne & Van Durne, 1989)). However, the results of such a research-strategy are hard to interpret since there is an important difference between attitudes (what people say) and behavior (what people do). Although one could argue that attitudes influence behavior (opinion and attitude research in sociology), the relationship can also be reversed (see for example cognitive dissonance theory in psychology). At this point there is no consensus in the social sciences on how to draw inferences from the measurement of attitude to behaviour. The problems for interpretation are worsened by the fact that one investigates a counterfactual phenomenon.

these factors simultaneously within the confines of an economic model. Economic models can, at best, isolate the effects of a few of these factors. An experiment may enable us to solve part of the puzzle, because the limitations of an experiment are of a different nature than those of economic models, whether theoretical or empirical. The main difference is that models rely on assumptions, whereas an experiment allows one to directly observe changes in labour market behaviour." The beauty of an experiment is that it allows researchers to put people in different possible worlds.

One possibility is to conduct a genuine experiment. An experiment is a research design in which an 'independent' variable is manipulated under controlled conditions. As such, an experiment consists of two essential elements, namely the manipulation of a causal factor and the control – mainly via random selection – of all factors that might plausibly affect the causal relationship of interest (Gerring, 2001; Orr, 1999). Via an experiment – and the effective creation of a Basic Income situation – one would be able to monitor what will happen in the experimental group and how this differs from a control group. A Basic Income experiment has never been implemented but has recently been proposed by Groot (2004).

However, an experiment has some limitations with regard to making valid inferences which, at least on theoretical grounds, might be challenged and need further assessment. The most important limitations for Basic Income research, mainly resulting from financial barriers, relate to the difficulty of including variation in Basic Income design in order to analyse variation in behavioural outcomes, running the experiment over a sufficient amount of time and expanding the experimental (and control) groups in order to take institutional effects into account.

Hence, in order to make valid inferences an experiment should be complemented with other types of research. It is only by complementing experimental research with other empirical research that insight into the consequences of introducing a Basic Income might be gained. This can be achieved by making use of natural experiments, such as cases where people receive windfall gains.[8] In a natural experiment the change in the causal factor is provided by contingencies, such as natural occurring phenomena or social interventions, which are independent of the research-project. Promising natural experiments in this context are lotteries. Indeed, lotteries organise interesting games for Basic Income researchers. Some games – such as Win for Life, Lifetime Spectacular, Lifetime Riches, Weekly Bonus, Fun for Life, Lucky for Life, etc. - grant a periodically unconditional lifelong income to winners (cf. annuity games). In this way, they constitute a natural Basic Income experiment and can generate significant insights into the possible consequences of introducing a Basic Income. The strength of this type of natural experiment is that it can include variation in Basic Income design, is possibly unlimited in time and can take into account different institutional settings. A major drawback is that the attribution of people to the experimental and control group is not ad random and selection bias might hamper generalization.

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[8] For more references on this type of research see (Imbens et al., 2001).

The aim of this paper is twofold. First of all, the paper discusses why, how, and to what extent, natural experiments such as lotteries can contribute to research which empirically explores possible social consequences of the introduction of a Basic Income. The second aim is to focus on the question of what, if anything, happens after the introduction of a Basic Income.

The paper is structured in three parts. The first part of the paper addresses the question of why natural experiments constitute an interesting research-strategy. Via a comparison with a genuine experiment a theoretical case is made to conduct lottery research, which has some distinctive strengths vis-à-vis an experiment.

The second part of the paper discusses an ongoing pilot-project which investigates the consequences of winning the Belgian lottery game Win for Life, which grants every winner an unconditional lifelong monthly allowance of 1.000 euro. It is assessed to what extent this game represents a good proxy for a Basic Income and what conclusions can be drawn from it.

In a third part, a proposal for the extension of lottery research is suggested. A genuine research-program based on this natural experiment should cover multiple countries and different types of Basic Income design. Such a research-program will allow for comparison across institutional settings and can contribute to the debate on the labour supply consequences of a Basic Income versus stakeholder grants. The ultimate aim of the research-project is to build a large panel dataset (including several experimental and control groups) which allows for this type of comparison.

1. WHY NATURAL EXPERIMENTS? STRENGTHENING THE CASE FOR LOTTERY RESEARCH

As Groot (2004) suggests, an investigation into the behavioural consequences of a Basic Income could be done via an experiment. This experiment *"would involve (4) a limited group of people in (3) a limited area who would, during (2) a limited time, receive (1) a basic income"* (Groot, 2004, p. 97). However, several limitations affect the possibility to make valid inferences based on such an experiment. This first part elaborates on these limitations and assesses in what way lottery research can complement a Basic Income experiment.

The most important limitations of an experiment, and hence, challenges for another research-design relate to the following aspects:

(1) *A Basic Income.* The experiment does not take into account differences in Basic Income design. However, different types of Basic Income design might result in different behavioural consequences. This implies that a challenge for additional research is to analyse different consequences of different designs.

(2) *A limited time.* The experiment attaches limited importance to time. However, behavioural changes might spread out unevenly over time which might result in biased results when an experiment is conducted over a limited period of time. The challenge then becomes to design a genuine longitudinal research-project.

(3) *A limited area.* The experiment is confined to a limited area (one country) and therefore neglects the importance of institutions. It might be argued that different institutional contexts might generate different outcomes. A third challenge then becomes to design a multi-institutional (multi-country) design.

(4) *A limited group of people.* The experiment only considers the consequences of introducing a Basic Income for social assistance recipients, workers who would earn the same amount of money before and after the introduction of a Basic Income, and prospective entrepreneurs. Because these groups only form a subset of existing socio-economic groups, a challenge for additional research is to analyse the effect of introducing a Basic Income for a more representative sample of the population.

Each of these topics will be elaborated upon.

1.1. A BASIC INCOME

A first limitation concerns the fact that an experiment typically would test the effect of only one Basic Income design. However, one could easily hypothesise that a divergent Basic Income design will differently influence labour market behaviour. In other words, variation in Basic Income design can generate variation in outcomes. [9]

Two issues are important: the level of the awarded income and the frequency of payment. First of all, different amounts of Basic Income will have different behavioural consequences, including effects on labour supply. A high Basic Income will provide more incentives to reduce working time than a low Basic Income. Since no previous empirical research has been conducted on the consequences of granting varying unconditional benefits at equal time intervals, the different incentives this would bring along remains a highly theoretical undertaking. Existing research on winners of regular (non-annuity) lottery games, however, points to the inverse relationship between the amount won and the probability of changing working behaviour. Thus Kaplan (1985) and Imbens, Rubin and Sacerdote (2001) found that there was a significant association between the amount a person won and his or her working behaviour. As the size of the winning increased, so too did the number of changes in working behaviour. "Nearly twice as many winners and spouses in the under- $10.000 category kept working as winners of $30.000 (Kaplan, 1985, p. 90)." Similarly, research into the labour market effects of inheritances suggests the existence of an inverse relationship between large inheritances and a person's labour force participation (Holtz-Eakin, Joulfaian & Rosen, 1993).

In addition, a Basic Income design can vary according to frequency of payments. A Basic Income can be paid weekly, monthly, yearly or as a lump sum (in case it is most often called a 'stakeholder grant'). [10] This choice is possibly not without implications. It might be argued that people will behave differently under different frequencies of payments due to different mental accounting processes which refer to the fact

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[9] There is possibly an additional issue at stake in this context. In an experiment one does not grant a Basic Income but an experimental grant. The extent to which an experimental grant equals a Basic Income in behavioural consequences is a question of 'fungibility'. Fungibility is the premise according to which all instances of a given commodity that meet certain standards are considered interchangeable. Since money is assumed to be the ultimate objectifier (Zelizer, 1989), it is assumed that amounts of money are interchangeable. However, several streams of research have questioned this assumption and argue that depending on the source of money people behave differently (Thaler, 1992). Therefore, one needs to address the question to what extent an income received by participating in an experiment is a good proxy for a Basic Income. 500 euro granted as an experimental grant might not be interchangeable – in terms of behavioural consequences – with a 500 euro granted as a Basic Income. This effect might be reinforced by the fact that only a very small proportion of people receive an experimental income. This will set the group apart from the rest of society, which could possibly result in attaching a very special meaning to the received money. It is hard to assess the importance of this fact, but the possible bias should be taken into account in interpreting research results. A comparison between results of lottery research and experimental research might be very instructive in this context. A careful comparison of cases from the experimental group and the lottery group might generate insight into the behavioural effects of experimental and lottery grants.

[10] Proposals regarding frequency of payment often coincide with different national traditions in organising social security benefit payments. Most proponents of a Basic Income in the UK propose a weekly payment, while in Belgium a monthly payment is proposed (Van Trier, 1995).

that people develop different preferences when a similar amount of money is offered under different conditions (Langer & Weber, 2001; Zelizer, 1989). These different conditions might include different time frames. As a result, the design of a Basic Income in terms of frequency might not be neutral. Indeed a trade-off seems to be at stake. As Van Parijs (1995, p. 48) points out "The shorter the period, the better the real freedom (…) of later stages is protected against irresponsible conduct at earlier stages, but the more restrictions on the time scale of the commitments one is empowered to make".

Lottery research can address design limitations because several interesting variants of games exist both in terms of frequency as well as in terms of amount of money. Some games award a one time lump sum payment while others offer a lifelong grant on periodical time intervals. Within these 'lifetime games' different variations exist. Some games – such as Lucky for Life - guarantee a weekly grant. Other games -– such as Win for Life – pay a lifelong monthly income. Still other games – for instance Fun for Life - pay a yearly income. Besides these differences regarding frequency of payment, different modalities of most games exist in terms of level of payment. This makes it possible to compare different levels of payments.[11]

1.2. A LIMITED TIME

A second limitation for valid inferences of an experimental design concerns the importance of time. Two issues are of importance in this context. First of all, the time frame in which people will change their behaviour is unknown. However, there is no theoretical reason to assume that behavioural changes will reflect any 'general linear reality' (cf. Abbott, 2001). Secondly, a limited time period might bias the answers on behavioural changes resulting from the experiment.

1.2.1. General Linear Reality

Introducing a Basic Income might be labelled an innovation. Research in several different areas has shown that the diffusion of an innovation - and behavioural adaptations to this innovation – is among other things a function of time. As a consequence, behavioural effects of introducing a Basic Income will be time-dependent. There is no reason to assume that introducing a Basic Income will have some kind of tornado-effect (short causes – short outcomes) where you can directly observe the behavioural consequences of introducing such a scheme. Introducing a Basic Income can be more akin to an ecological adaptation process where you have a short time-horizon on the side of the cause but a very long time horizon on the side of the outcomes (Pierson, 2003). More in general, the development of time-dependent modes of (statistical) analysis such as event-history analysis clearly emphasize the importance

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[11] It should be noted that experimental research as such can easily incorporate variation in Basic Income design. Different levels of grants could be given to different experimental groups. The same holds for granting the same amount at different frequencies. These different experimental groups could subsequently be compared with one control group. However, even though theoretically an experimental research design could take various differences in Basic Income design into account, this would in practise become very costly.

of time on behavioural adaptations (Tuma & Hannan, 1984, pp. 187-264). Therefore, time poses severe challenges for empirical research into the behavioural effects of introducing a Basic Income. It would necessitate a long period of observation which would dramatically increase the cost of an experiment. By contrast, lottery research, when designed longitudinally, could eventually generate insights into time-effects.[12]

1.2.2. Bias In Behaviour

A second issue concerns the possibilities of biased results due to a limit in the time-frame in which the experiment is conducted. Widerquist (2004, p. 508), commenting on the Negative Income Tax experiments of the '60s and '70s in the United States, notes that the limited time frame of the experiment might result in biased results, because experiments run the risk of measuring only short time responses to a policy change. He notes, for example, that participants in the experimental group might, on the one hand, face a great incentive to trade working time for leisure time since they now have the financial capabilities to do so. On the other hand, since people have to return to work after the experiment it might provide an incentive to stay in a job in order not to loose it. In other words, experiments might over- or underestimate behavioural consequences due to time constraints (Widerquist, 2004). As noted before, lottery research has an advantage in this respect because some annuity grants are unlimited in time and in this way do not provide specific time-related incentives or disincentives to change labour-market behaviour.

1.3. A LIMITED AREA

Some Basic Income proponents argue for the introduction of a Basic Income in multiple countries at the same time. Hence, research into behavioural effects should take into account the differences between countries that might result in different behavioural changes. The social science literature on structural and cultural differences between countries is significant and points to the fact that differences between nations are pronounced.[13] It is therefore difficult to generalize from one country to another.

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[12] Closely related to the issue of time is the issue of social influence which determines behavioral change. Time and social influence will interact to produce behavioral changes. For example, threshold models have been developed to show that in many cases a critical threshold (cf. tipping point) has to be reached before a significant number of people will change behavior. This line of research has recently gained much momentum with the focus on social networks. The adoption of innovation or the imitation of behavior mainly occurs via networks which transfer information (Gladwell, 2000; Granovetter, 1978; Schelling, 1978). In relation to introducing a Basic Income, the above might imply that at first few or insignificant changes in labour market behaviour will occur, but as time goes on and a certain threshold is reached, many others will follow. For instance, once a few people shift from full-time to part-time work and can still afford a decent life, more people will start to do the same. In many cases these developments are non-linear and extremely hard to model. The crucial issue here is that behavioural effects are not only a result of rational decisions, but also of social contagion which is time-dependent. This contagion mechanism might take a very long time to become effective. The latter can hardly be empirically assessed since it requires a high number which create a sufficiently dense network in which contagion can occur.

[13] The importance of cultural differences is highlighted among others by (Inglehart, 1990; Inglehart, 1998). Structural differences are emphasized by authors such as (Esping-Andersen, 1990; Hall & Soskice, 2001; Kitschelt, Lange, Marks & Stephens, 1999; Madsen et al., 2003).

In other words, the introduction of a Basic Income will not occur in a vacuum. It is hypothesised that the willingness and possibilities to change labour-market behaviour is a function of the societal context.[14] First of all, institutions matter for preference formation and willingness to change preferences. Cultural institutions such as norms and expectations regarding work ethic might influence a change of working time for leisure time or care time in a given society.

Secondly, institutions matter in relation to the possibilities they provide for implementing preferences. Several authors link the institutional structure of labour markets (structure of decision making, institutions for collective bargaining, laws, etc.) to outcomes on the labour market such as participation on the labour market, unemployment rates, spread of labour market activity over a lifetime, etc. (Madsen, Madsen & Langhoff-Roos, 2003; Hall & Soskice, 2001; Wallerstein, 1999). Clearly, countries differ regarding institutional structure of labour markets. This may interact with the introduction of a Basic Income. For example, in a country in which part-time work is easy to obtain or is institutionalised, it is easier to change labour market behaviour in comparison to countries where labour markets are more rigid. These interactions could be very considerable since, in our understanding, Basic Income proponents do not propose a complete abolishment of the institutional fabric of the labour market. Although most proposals for a Basic Income imply a deregulation of the labour market, they do not suggest a complete abolishment of the institutional fabric of the labour market. Many institutions will continue to play an important part.

One should therefore not assume that the behavioural effects of the introduction of a Basic Income in different institutional settings will be the same in every country. Moreover, research into the interaction between a Basic Income and different institutional settings might generate insights in which labour markets or economic development policies best complement Basic Income schemes.

As a result, research should take institutional variation into account when designing a research-project. Experiments which are confined to one country cannot consider institutional and cultural effects. Experiments can be conducted in several countries. However, this will dramatically increase the cost of conducting such experiments. Lottery research, on the other hand, can take into account institutional and cultural variation since similar games are played in different countries.

1.4. A LIMITED GROUP OF PEOPLE

Different socio-economic groups will react differently to the introduction of a Basic Income. Therefore, it is important to empirically address this issue. The proposed experiment is limited in this regard. Due to

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[14] Context is defined as different institutional characteristics of the country in which a scheme is implemented. Institutions include laws, rules, norms, values co-ordinating organisations, etc. which provide incentives and disincentives to change behaviour (Ostrom, 1990).

financial constraints one has to focus mainly on those groups whose income before and after the introduction of a Basic Income would be quite similar. These groups are, first, the social assistance recipients, because they already receive a substantial income without performing work. Second, also those workers can be included in the experiment whose incomes are around the break-even level. At the break-even point the net income one receives under the current conditional income scheme and the Basic Income scheme is exactly the same because the unconditionally granted income is entirely offset by the higher level of taxes that have to be paid to finance the Basic Income (cf. infra). The income of a third group, the prospective entrepreneurs, is different before and after the introduction of a Basic Income, but this group would be included because of their theoretical importance (Groot, 2004).

Because the three mentioned groups only form a small and biased sample of the general population it is interesting to supplement an experiment with lottery research whose sample includes many different kinds of socio-economic groups.

An additional problem with regard to experiments concerns the Hawthorne-effect, this is the fact that people – possibly under media influence - will adopt their behaviour in favour of the experiment (Gillespie, 1993). It will be very hard to exclude the experimental group from information on expected behavioral outcomes of the experiment. Once this information is available, the experimental group may act accordingly. Regarding this Hawthorne-effect lottery research is preferable to experimental research. Even though in lottery research a similar Hawthorne-effect might occur, it should be noted that in case of lotteries the money is independently provided by state lotteries and not by the experimenters. This puts the research-population in a more independent (non-reciprocity) relationship to researchers and hence will generate less pro-active behaviour by the experimental group. Lottery winners have fewer incentives to be grateful to the researchers and behave in a socially desirable way.

2. AN EMPIRICAL EXPLORATION OF THE SOCIAL CONSEQUENCES OF INTRODUCING A FULL BASIC INCOME

The theoretical case in favour of lottery research led to the start up of a pilot project with lottery winners of Win for Life (hereafter W4L), who receive an unconditional monthly grant of 1.000 euro for the rest of their lives.

The pilot project had three aims. First of all, the project wanted to explore the *practical* possibilities and constraints of lottery research. Secondly, the project aimed to gather information on the impact of winning W4L on the life of the winners. In other words, the project wanted to start with an exploration of an answer to the question of 'What, if anything, will happen after the introduction of a Basic Income?'. Finally, the pilot project aimed to create a starting point for future research which will be able to discount some of the challenges discussed above.

Even though the similarity between W4L and a Basic Income is striking - both are granted unconditionally, as a monthly instalment until death – the comparability is not straightforward. Therefore, before the pilot-project is presented a further defence of W4L as a valid case for Basic Income researchers is made.

2.1. WHAT CAN WE LEARN FROM W4L-RESEARCH?

The proposal for a Basic Income is not to give everyone a winning lottery ticket. Hence, the question to what extent W4L is a valid case for investigating a possible Basic Income situation needs to be addressed. In order to compare a Basic Income and a W4L situation special attention has to be paid to the difference in tax regime between both situations and the fact that a W4L grant is not adjusted for inflation while a Basic Income is.

2.1.1. Tax Regimes and Inflation

A first difference between a Basic Income and a W4L situation concerns a difference in tax-regime which will influence the net incomes of singles and couples under a Basic Income and W4L situation. Figures 1, 2 and 3 present the relation between the gross and net income situation of both Basic Income recipients and W4L winners.[15] Figure 1 represents a *full Basic Income regime financed with a flat tax* (hereafter UBI).

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[15] Figure 1 is a modified copy of the Basic Income regime as presented by (Van Parijs, 2004, p. 32). Figures 2 and 3 are based on (Van Parijs, 2004, p. 29) but adjusted to the W4L situation. Note that the figures make strong simplifying assumptions. Most important, it is assumed that there is only one flat tax rate, in contrast to the existing progressive tax rate. Furthermore, Figures 2 and 3 assume that social assistance is the only existing transfer income. Finally, Figure 3 presupposes that the situation of one partner in a two person household is the same regarding taxes and transfers (the level of G) as the situation of a single (apart from W4L). Some of these assumptions are discussed

Figure 2 represents the case of a single W4L winner under the *conventional guaranteed minimum income scheme* (hereafter GMI/W4L). Figure 3 represents the conventional guaranteed minimum income scheme for one of the two partners in a couple which equally divide the winning W4L grant between each other. On the X-axes gross income is presented, on the Y-axes net income. The 45° dotted line represents a situation where no taxes are paid. In this case gross and net income is the same. Note that in Figure 1 two dotted lines are presented. The left line represents the situation where every one receives a Basic Income but no taxes are paid, while the right line points to a situation where taxes have to be paid. G represents the subsistence minimum for a single person. The Basic Income is set at the level of this subsistence minimum, irrespective of the household situation, as in most proposals for a full Basic Income. G is set at 580 euro since this is the level of Belgian social assistance for a single person (situation 1/1/2004).[16] The line indicated by W4L depicts the W4L grant of 1000 euro.

The difference between the income line (before W4L) and the dotted line points to the amount of taxes that have to be paid. Comparing Figure 1 to Figures 2 and 3, it becomes clear that the amount of taxes that have to be paid under UBI is higher than those paid under GMI/W4L (compare °UBI with °W4L). This seems to be a valid assumption mainly because more people (for instance students and housewives) will receive an income under UBI while they do not have an income under GMI.[17] Combine this higher tax rate with the fact that a W4L grant is not taxed[18], and a first clear difference between UBI and GMI/W4L becomes clear: The net income of a single person winning W4L is higher than the net income this person would have under UBI (compare Figures 1 and 2). The same partially holds for couples, but the difference is less pronounced. For those earning nothing, the situation under GMI/W4L and UBI will be the same because W4L<G and hence the net income will be raised to the level of G (under the assumptions made in note 15). However, from a certain gross income level onwards, the net income under GMI/W4L will be higher than under UBI (compare Figures 1 and 3).

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in (Van Parijs, 1996). Of course, different Basic Income regimes are possible but the 'Basic Income combined with flat tax' seems to be the most common proposed and hence our discussion will focus on this regime. For a discussion of different Basic Income designs and possible differences in tax regime see (Van Parijs, 2004).

[16] This amount is comparable with the proposal of the Belgian political party VIVANT which proposes a Basic Income of 540 euro a month for every adult between 18 and 65 (VIVANT, 2004). For a discussion of VIVANT see (Vandenborght, 2000).

[17] Another reason could be the following: because the effective marginal tax rate of those earning less than G is obviously much higher (100 percent!) under GMI than under UBI, the loss of this tax revenue has to be compensated for. See (Van Parijs, 2004, p. 29) for a further clarification.

[18] In contrast to other countries, such as the USA, Belgian lottery winners do not have to pay any taxes on the amount won in the lottery. For a discussion, see (Vernat, 2003).
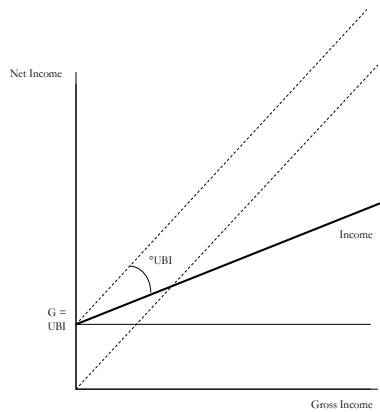
Figure 1. UBI _Figure 2. GMI/W4L (single situation)[19]_ _Figure 3. GMI/W4L (one partner in a couple situation)_
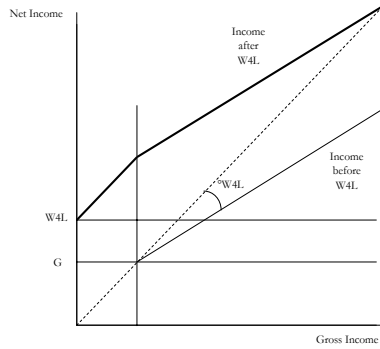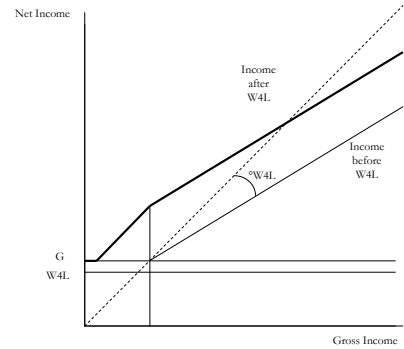
A second difference concerns the fact that W4L is not price related, while a Basic Income, under every serious proposal, would have to be adjusted for inflation. Assuming a yearly inflation of 2%[20] (as in Figures 4 and 5) this would mean that while someone who has won W4L in 2000 will still receive 1000 euro in 2030, the real value of the grant will have been diminished to 545 euro. The real value of a Basic Income will at that time still be 580 euro. As becomes clear from Figure 4 for singles this mean that the W4L grant will for a very large part of their lives be higher than the Basic Income but at some point the two grants will have the same value (in this example this will be in 2028), and after that point the Basic Income grant will be higher than the W4L grant. For one partner in a couple situation this means that the difference between a W4L grant and the Basic Income (with Basic Income > W4L-grant, see Figure 5) will become larger as time passes.

Figure 4. Evolution W4L versus Basic Income grant (single situation) _Figure 5. Evolution W4L versus Basic Income grant (one partner in a couple situation)_
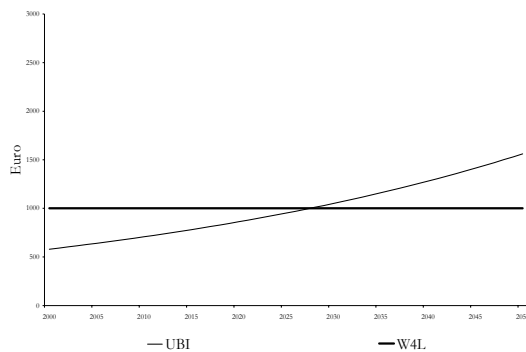
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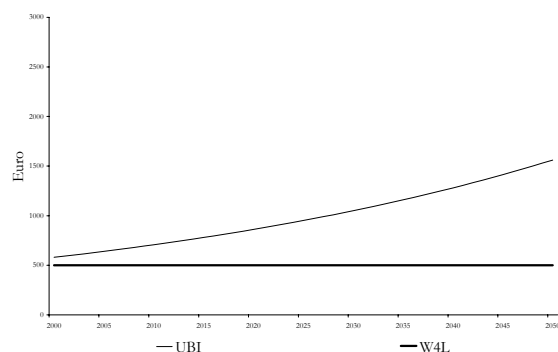
[19] It is assumed that no income tax has to be paid until someone earns a gross income of G. Hence, the angle representing the tax rate of W4L winners with a gross income from work below G equals 45%.

[20] The figures are purely illustrative. However, 2% inflation seems to be a realistic estimate. According to World Bank figures average inflation (calculations based on consumer prices) in Belgium for 1990-2002 was 2.1%.

As will become clear in the next section Figures 4 and 5 are important. However, notice that not only the level of the grant but also the tax regime will be different under GMI/W4L and UBI (cf. supra). Recall that the tax rate necessary to finance a full Basic Income will be higher than the current tax rate. Thus in comparing a Basic Income recipient and a W4L winner one should take into account these different tax regimes. How this influences the difference between the net income situation of W4L winners versus Basic Income recipients will depend on the level of the tax increase and the gross income one earns (see Figures 1 to 3). Assume however that the tax rate under the existing regime is 50 percent and that this has to be raised to 60 percent to finance the Basic Income. In that case Figure 6 compares the net income situation of someone with a gross income of 2500 euro over time. From this figure it becomes clear that the real difference between UBI and GMI/W4L will be bigger than one would expect on the basis of figure 4. The same holds for couples (compare Figures 5 and 7).

Figure 6. Evolution net income under UBI versus GMI/W4L (single situation)
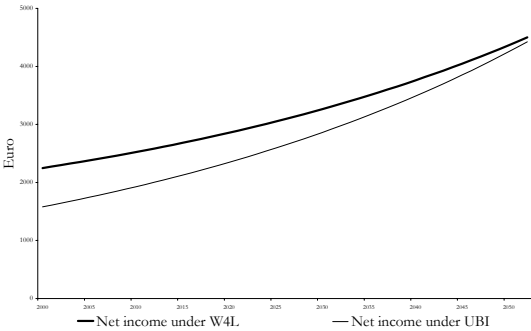
Figure 7. Evolution net income under UBI versus GMI/W4L (one partner in a couple situation)
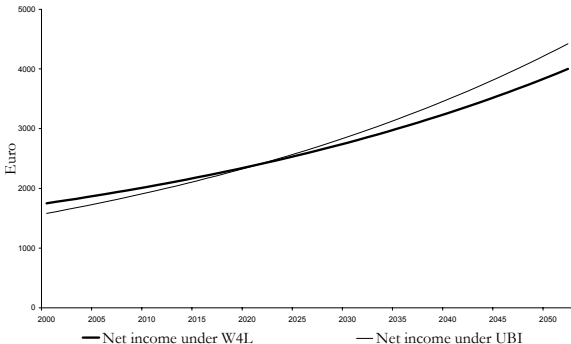
In order to illustrate the figures and hypothesise how W4L compares to UBI regarding possible behavioural consequences, a hypothetical example is used. In the next section we will look at the case of a single who wins W4L. Afterwards, the couple situation will be discussed (cf. 2.1.3.)[21]

2.1.2. Extreme, Not Absurd: Carla Wins W4L

Consider Carla. She works fulltime at a university and earns a gross income of 2.500 euro per month. She pays a 50% tax and hence receives a net income of 1.250 euro a month. Every once in a while Carla buys a lottery ticket on her way home. She is lucky and wins W4L. A 1.000 untaxed euro extra for the rest of her life! She now earns 2.250 euro per month (an 80% increase in income). What will Carla do? With regard to

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[21] Only a stylized discussion of probably the most frequent/expected labour-supply permutations will be presented, namely stop working, start a business, reduce working time or going to work after being unemployed. In other words, we assume that a person either stops, starts a business, reduces working time or goes to work and not a combination of any of these four possible decisions. In reality several combinations of these permutations can occur. In the case of a single person a total of 16 permutations (with a few logical impossibilities - one cannot go to work and stop working at the same time) can occur, while in the case of a couple 32 different permutations could possibly occur.

her position on the labour market she has three options: She can decide to start-up her own business, she can stop working or she can decide to work less. The three options are considered one by one.

Suppose Carla has always dreamt of opening her own boutique. She has always been willing to use some of her savings for this purpose but as a shop needs a few years to become profitable and the first few years are very costly, she has never taken the risk. After winning W4L prospects look very different. Even if the shop is not successful in the beginning and hence cannot make enough profit to live off, she always has her unconditional monthly W4L grant as a security. For Carla, W4L makes her dream come true.

Will Carla have started her boutique under UBI? Maybe she would, but not necessarily. It could be that the 580 euro is a sufficient incentive for Carla to start her shop. However it could also be that after she has made all the calculations she decides that the minimum she needs is more than 580 euro. What seems to be clear then is that if Carla does not decide to open her boutique under GMI/W4L, she is expected not do so under UBI.

Furthermore, if Carla is planning to start her boutique, we should be able to observe this in a relatively short time period. Remember that the W4L grant is not inflation related. As a consequence, people will still receive a 1.000 euro in 30 years time. The real value of W4L however has by that time decreased significantly (see Figure 4). Hence, it is best to start a business in a relatively short time period after winning W4L because the grant guarantees the highest standard of living close to the winning date. As time goes by opportunity costs start to change. In the future, the possible opportunity cost of starting up a boutique will be higher because the real value of W4L decreases over time.

The above example makes clear that W4L is an extreme but not absurd case. It is extreme because the granted amount clearly exceeds a full Basic Income (1000 euro as compared to 580 euro). As a result, incentives to change behaviour are bigger under GMI/W4L than under UBI. Therefore, if people do not change their behaviour under GMI/W4L one can expect that they will not do so under UBI. However, the unconditional income provided by W4L is not absurdly high. Not everyone is willing to substitute a job for the risk of a possible successful boutique. Remember, Carla earned 1.250 euro before winning W4L. Starting-up a shop implies she will loose 250 euro a month during the first few years.

Regarding the stimulation of entrepreneurship W4L research allows us to explore two issues. First of all, if singles do not start up a business under GMI/W4L, it can be expected that they will not do so under UBI (extreme case). Secondly, if they do start up a business, one cannot conclude that they will do so under UBI because of the difference between GMI/W4L and UBI (see Figure 2 and 4). However, the information that they will start-up a business indicates that these singles are willing to start-up a business given sufficient – not absurd - financial incentives to do so. In order words, it can inform us on the presence of a preference to start up a business.

Consider Carla's second option: stop working. Suppose in this case that Carla just works at university out of necessity. Her big passion is surfing and she wants to substitute everything to maximize the possibility to surf. Will she continue to work at university after W4L? After all, W4L provides her with enough income to stay alive and keep on surfing (surfing is not such an expensive sport). Again W4L is an extreme, but not absurd case. It is extreme because the W4L grant exceeds a full Basic Income by a significant amount. If one does not stop working under GMI/W4L it is expected that one will not do so under UBI. However, the case is not absurd, as most of us will consider it impossible to live a comfortable life with just a 1.000 non-indexed euro per month. By contrast, if singles stop working after winning W4L one is not able to conclude that they will do so under UBI because of the difference between a full Basic Income and a W4L-grant. However, it gives us an indication of the preference to stop working.[22]

Finally, suppose that Carla is not such an enterprising person nor the 'lazy' type we supposed she was in the previous paragraphs. Instead, Carla enjoys working at university. But she has always found it very difficult and stressful to combine her fulltime job with her extensive circle of friends and her love for playing the piano. What will she do after winning W4L? Carla, rationally as she is, starts to make calculations. If she would work less, she would obviously earn less. Recalculating her income under the assumption of a part time job of four days a week she ends up with the following sum: 2.000 (income 4/5) - 1000 (tax rate of 50%) = 1000 euro + 1.000 (W4L grant) = 2.000 euro per month. With foregoing 12.5 percent of her income she buys a day off per week and still earns 750 euro more than before W4L. Due to the lottery game Carla faces very strong incentives to reduce work.

Suppose Carla reduces her working time. What does this tell us about Carla's behaviour under UBI? In contrast to the quit working and starting up a business cases the conclusions to be drawn depend on the differences in tax structure under GMI and UBI. Thus, if the taxes to be paid would be lower under UBI than under GMI, this could mean that the income left under UBI after diminishing working time would be higher than under GMI/W4L and hence people who remain in the workforce after winning W4L might not do so under UBI. However, this does not seem to be a realistic assumption. In fact, it seems to be an uncontroversial statement that granting everyone a full Basic Income would require an increase in tax rate as compared to GMI. Thus, even more pronounced than in the 'boutique' and 'stop working' examples, we can say that if Carla does not reduce working time under GMI/W4L, it can be expected that she will not do so under UBI. If she does, this might indicate the presence of a preference to do so, given sufficient, not absurd, financial incentives.

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[22] However, in this case the preference to stop working does not necessarily imply a lifelong preference for not working. W4L can provide a strong incentive to maximize surfing over working for a certain amount of time since it is now financially possible. However, this does not necessarily imply that Carla will surf for the rest of her life. After a few years surfing she may return to the labour market. Hence, there might be different behavioural changes as time proceeds (see 2.2.).

To conclude, if single persons with a high annual additional tax-free W4L income do not become self-employed, withdraw from the labour market or reduce working time, the expectation is that they will not do so under UBI. Some of the criticism against the introduction of Basic Income resolves around this specific issue, since some opponents argue that the introduction of a Basic Income will provide significant disincentives to work and hence reduce labour supply. Investigating these claims via an extreme but not absurd case is a valid research strategy which could empirically explore this claim.

What if Carla does not have a job when she buys her winning W4L ticket? Proponents of a Basic Income point out that a Basic Income might abolish the 'unemployment trap'. They argue that under GMI unemployed people are not encouraged to return to work due to the low marginal difference in disposable income between accepting a job and staying unemployed. A Basic Income in contrast is given unconditional and would therefore abolish the unemployment trap because going to work will always result in a significantly higher disposable income. What can W4L research suggest with regard to the unemployment situation? Are people trapped or do they not want to work?

In order to explore this issue a distinction has to be made between unemployed people who receive a social assistance benefit (someone who earns less than G in Figure 2) and those who receive an unemployment benefit (not represented in Figure 2).

Suppose Carla receives social assistance benefits when she wins the lottery. In this case her social assistance income, which is means-tested, will be replaced by an unconditional W4L grant, which is substantially higher. What if Carla starts working under GMI/W4L. Would she also have started working under UBI? This could be expected because the fact that she starts working under GMI/W4L clearly indicates that Carla has a preference for working and that she was caught in a social assistance trap. What if Carla, after winning W4L, decides not to start working? What does this tell us about Carla's behaviour under UBI? In this case no clear expectation can be formulated because any interpretation would be strongly dependent on additional assumptions (such as the assumption of availability of jobs).

What if Carla receives an unemployment benefit? After winning W4L she will have available to her both her unemployment benefit (say at level U) and the W4L grant. What if Carla starts working under GMI/W4L. Would she also start working under UBI? This seems to be the case because the fact that Carla works with having available an income of U + W4L, indicates that she has a preference to work and was previously trapped in an unemployment trap. Hence, just as in the social assistance case, the conclusion is that if Carla starts to work under GMI/W4L it can be expected that she would do so under UBI. What if Carla, after winning W4L, decides not to start working? Again no clear expectations can be formulated.

2.1.3. Carla and John

Imagine Carla is married to John. Carla has met John at university and both have the same job. Now Carla wins W4L. What will they do? Carla and John could decide that Carla (or John) gets all the money and can do whatever he/she wants with it. In this case we are back to the extreme but not absurd Carla case. However, they could also decide to share the money equally between them. Now they have several options of which the three most important are discussed: they can become self-employed, they can quit working or they can both reduce working time.

As to starting up a business and quitting work the couple example constitutes a baseline scenario for UBI since it is slightly below subsistence/full Basic Income level (see Figures 1 and 3). However, due to the fact that W4L is not adjusted for inflation, as time goes by, the gap with subsistence level increasingly widens (see Figures 5 and 7). Thus, while a full Basic Income can be estimated to be around 1400 euro in ten years time, the W4L income for Carla and John will still be 1000 euro. What conclusions might be drawn from the research-findings? If Carla and John decide to become self-employed and start up their boutique under GMI/W4L they can be expected to do so under UBI. The same holds for quitting and surfing. If they decide to quit working after one of the two has won W4L, they can be expected to do so when they would receive a Basic Income. If Carla and John decide not to start-up a business or to quit working, however, no strong expectations can be formulated with regard to their behaviour under UBI, since the W4L grant is lower that the full Basic Income (and increasingly so as time goes by).[23]

What about reducing working time? How does GMI/W4L compare to UBI? In this case the lower amount of W4L grant (as compared to the full Basic Income) is offset by the fact that the tax rate under UBI can be expected to be higher than under GMI/W4L. Thus, what can be learned from reducing working behaviour under GMI/W4L for UBI is strongly dependant on the amount of gross income from work one receives and the tax rate under UBI. Thus, if a couple reduces its working time due to W4L this indicates a preference to do so given extra (not absurd) financial means. How this couple would react under UBI is however strongly dependent on additional assumptions. [24]

What if Carla (or John) is on social assistance when winning W4L? Her income situation would not change since under GMI the social assistance grant would just top up the W4L income until G. However, the W4L grant, as opposed to social assistance, is given unconditionally. What if Carla starts working

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[23] Note that this does not mean that no relevant conclusions could be drawn from such cases. In fact, some proposals for BI do not refer to a subsistence level Basic Income, but point to the desirability of a partial Basic Income. If such a partial Basic Income is lower than the W4L money available to the couple under GMI/W4L the interpretation would be similar to the one developed in the Carla case.

[24] The Carla and 'Carla and John' cases should be considered 'ideal' cases. In reality it is of course possible that one partner of a household (for instance the winner) feels free to use the greatest part of grant but not all of it. In this case neither the Carla nor the 'Carla and John' case applies. These cases will therefore be in between the Carla and 'Carla and John' case.

under GMI/W4L, would she also have started working under UBI? This could be expected. Remember that Carla's income would be exactly the same under GMI/W4L than under UBI (under the assumptions made in note 15). The fact that she now starts working means that the unconditionally given W4L grant relieves her from a social assistance trap. Under a full Basic Income the unconditional income would be higher that under GMI/W4L. Hence it could be expected that if Carla starts working under GMI/W4L they will also do so under UBI. What if Carla or John, after winning W4L, decides not to start working? What does this tell us about their behaviour under UBI? As in the Carla case, a clear interpretation would depend on additional assumptions.

What if Carla receives an unemployment benefit? After winning W4L she will have available to her both her unemployment benefit (say at level U) and half of a W4L grant. If Carla starts working under GMI/W4L, would she also start working under UBI? This seems to be so because the fact that Carla works with having available an income of U + W4L/2, indicates that she has a preference to work but was caught in the unemployment trap. Hence, just as in the social assistance case, the conclusion is that if Carla starts to work under GMI/W4L it can be expected that she would do so under UBI. What if Carla, after winning W4L, decides not to start working? Again the same reasoning applies as under the social assistance case. The fact that Carla can manage just with her income of U + W4L/2 does not mean she can manage with U (the level of the Basic Income). Hence, no expectations can be formulated about what they will do under UBI.[25]

2.2. DESIGN OF THE PILOT PROJECT

Having analyzed how GMI/W4L compares with UBI, the next section focuses on the empirical results. Before that, however, in this section the design of the pilot project is discussed.

Since anonymity is secured by the Belgian National Lottery it was not possible to contact the Lottery winners directly.[26] This introduced an extra hurdle not to co-operate since people can stay anonymous.

Given this difficulty, it was decided to conduct the research via a two-step approach. In a first step, all winners received a short mail questionnaire which aimed to identify some major socio-economic effects of winning W4L and asked them to co-operate with an extended face-to-face interview. In a second step, all winners who are willing to co-operate further with the research-project are contacted for a more elaborated structured interview on the effect of winning W4L. This interview aims to document a more

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[25] In the Carla and 'Carla and John' cases it is assumed that a Basic Income will not affect labour demand. Although this is a hard assumption to make, it is at this time hard to model labour demand changes (Widerquist, 2004).
[26] It should be noted that this problem is only confined to a number of countries. In other countries the names of lottery winners are publicly known.

detailed picture of changes in life patterns and to bind the respondents to the research team in order to set up a longitudinal design.[27]

The design of the mail questionnaire had to discount two limitations. The questionnaire should not be too long and should contain questions on the effects of winning not only for the winner but also for the partner.

Although the relationship between the length of a questionnaire and a response rate is also influenced by factors such as the respondents' interest in the research topic and the presence of incentives (such as money) there exists an inverse relationship between the length of the questionnaire and the response rate (Bogen, 2004; Smith, Olah, Hansen & Cumbo, 2003). The longer a questionnaire, the less the response. A rule of thumb is that a questionnaire should not be longer than 20 minutes. After the 20-minute threshold response rates begin to decline. It was a specific objective of the pilot project to generate a high response rate in order to document patterns of change and non change for the maximum number of W4L winners.

Since households can bargain on the use of time and money it was decided to investigate both the winner as well as the spouse. Existing lottery research mainly focuses on the winner. This, however, might bias assessments since decisions are often made on the level of the household. For example, it is possible that the winner of W4L does not reduce working-time but that his/her partner does.

The interaction between a limit on the length of the survey and the desirability to extend the survey to the winner's spouse, clearly limited the number of questions included in the mail questionnaire. Considering these limitations it was decided to draft a mail questionnaire which could be filled in in less than 15 minutes and which contained questions on several topics for the household. The questionnaire was structured using mostly closed answer categories.[28] At the end a general open question invited respondents to share any information they considered relevant in the context of the research-project. This proved to be an interesting source of information.

The topics discussed in the questionnaire were:
- Labour market position of winner and partner, before and after W4L, including questions on type of job, number of working days per week, average number of hours worked. In case of a job change the respondents were asked for their motives to change, in order to identify the W4L effect.
- Entrepreneurship of winner and partner, before and after W4L.
- Active participation in associations of winner and partner, before and after W4L.

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[27] This paper only addresses the results of the survey.
[28] The questionnaires are available on request in Dutch or French.

- Volunteering of winner and partner, before and after W4L, including questions on the type of volunteering and the number of hours spent on voluntary work.
- Background topics such as age, education and lottery behaviour.

Note that only changes in the lives of W4L winners (and partners) were investigated and at this time no control group was established. Hence, the situation of W4L winners cannot be compared with the situation of those who did not win (but also play the lottery). This poses problems of causality since it means that it cannot be checked whether changes in the lives of W4L winners after they won are causally related to winning or whether the changes are caused by other factors then the winning of W4L. In order to partially discount with this problem, W4L winners were asked whether the change in their live was related - at least partly - to winning W4L. In a next phase of the research project a control group will be established. However, this requires a significant logistic and financial investment.

2.3. RESULTS

In this section the results of the survey are presented, in the context of the analytical framework developed in paragraph 2.1. The results will be presented in a descriptive way. Afterwards, using Qualitative Comparative Analyses (QCA), a specific analytical technique for small N analysis, a sub-sample will be analysed in order to formulate some hypotheses. First, the characteristics and representativeness of the sample are discussed.

2.3.1. Representativeness of the Sample

In March 2004 questionnaires were sent to all 189 Belgian W4L winners. Of these, initially 55 winners responded. A month later a recall questionnaire was sent, resulting in 28 more responses, totaling 83 respondents. Nineteen surveys returned due to changes in the address of the winners. As a result, 48% of the winners who received the questionnaire participated with the survey. In general this constitutes a high response-rate for mail surveys.

The critical question is of course whether the respondents are representative for the wider Belgian population? Given the small sample (only 83 cases) this is impossible to claim. However, one can assess if there are obvious misrepresentations which enable researchers to put the results into context. To this end, for the variables age, sex, educational level and composition of the household a comparison is made between respondents and total Belgian population. For the variables occupation and hours worked, no meaningful comparison with the population could be made. For those variables only the distribution among the sample could be presented. These distributions are presented here because they provide for meaningful background information when interpreting the research analysis.

In Tables 1 to 4 respondents are compared to the total Belgian population on age, sex, educational level and composition of the household. Table 1 compares age of the respondents with the age structure of the Belgian population. In this table one can see that the 25-49 year old are slightly overrepresented. Regarding sex, secondly, the characteristics of the respondents and Belgian population is totally comparable (cf. Table 2). Thirdly, in relation to education it can be observed from Table 3 that in the sample people with a lower education are underrepresented (compare 17% versus 34%). This could be due to the fact that there are not as much lower educated winners, but could also be related to the known fact that lower educated people are less prone to cooperate with surveys.

Table 1. Comparison of respondents, winners and total population on age.

Age	Respondents		Winners		Population*	
	#	%	#	%	#	%
18-24	6	8	13	7	888 173	11
25-49	45	57	102	54	3 745 494	46
+50	28	35	74	39	3 557 211	43
Total	79	100	189	100	8 190 878	100

* Situation on 1/2003. Population data based on administrative statistics.
Source: NIS, 2003.

Table 2. Comparison of respondents, winners and total population on sex.

Sex	Respondents		Winners		Belgian Population*	
	#	%	#	%	#	%
Man	36	47	93	47	3 959 839	48
Woman	40	53	105	53	4 231 039	52
Total	76	100	198	100	8 190 878	100

* Situation on 1/2003. Population aged 18 or older. Population data based on administrative statistics.
Source: NIS, 2003.

Table 3. Comparison of respondents, winners and total population on educational level.

Educational Level	Respondents		Winners		Belgian Population*	
	#	%	#	%	#	%
Lower	13	17	-	-	2 097 686	24
Secondary	43	56	-	-	4 560 120	53
Higher	21	27	-	-	1 895 338	22
Total	77	100	-	-	8 553 146	100

* Situation on 1/2003. Population aged 15 or older. Estimates based on survey data. Note that due to the fact that also those studying at the moment of the survey were questioned, the proportion of those with a secondary and higher level of education might be slightly underrepresented while those with only lower education might be overrepresented.
Source: NIS, 2004b.

Finally, Tables 4 and 5 compare the presence of children, both for singles and couples. The main conclusion to be drawn from these tables is that in general the presence of children is overrepresented among the respondents. Whereas for singles the percentage of those without children is the same between respondents and general population, for couples the difference is very marked, with only 19% of the respondents without children, as compared to 45% in the total population. This might indicate that people with a family play the lottery to supplement their income. Furthermore, by comparing the absolute figures of Table 4 and 5 it becomes clear that couples are overrepresented compared to singles. [29]

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[29] In the sample and population statistics different definitions are used in order to determine whether one is single or part of a couple. The population data are gathered by the Belgian National Institute of Statistics (NIS) who defines a single as someone who is not married. A couple is defined as two partners who are married. In the sample, however, marital status is not questioned. Therefore, someone is considered as part of a couple if that person is in a steady partner relationship and someone is defined single if he/she is not part of such a relationship. As a consequence, considerations of marital status are of no importance. This difference in definition might explain why the singles with children seem to be underrepresented in our sample as compared to the population data of the NIS.

Table 4. Comparison of respondents (couples) and total population on the presence of children.

Children	Respondents*		Winners		Belgian Population*	
	#	%	#	%	#	%
No Children	12	19	-	-	968 226	45
1 Child	13	21	-	-	485 879	21
2 Children	21	34	-	-	479 770	22
≥ 3 Children	16	26	-	-	234 492	11
Total	62	100	-	-	2 168 367	100

* Situation on 1/2004. Population data based on administrative statistics. Note that the Belgian Institute of Statistics (NIS) defines a couple as two partners who are married. In the sample, however, marital status is not questioned. Therefore, someone is considered as part of a couple if that person is in a steady partner relationship. As a consequence, considerations of marital status are of no importance.
Source: NIS, 2004a.

Table 5. Comparison of respondents (singles) and total population on the presence of children.

Children	Respondents*		Winners		Belgian Population*	
	#	%	#	%	#	%
No Children	12	75	-	-	1 636 893	73
1 Child	0	0	-	-	363 189	16
2 Children	1	6	-	-	166 103	7
≥ 3 Children	3	19	-	-	62 074	3
Total	16	100	-	-	2 228 259	100

* Situation on 1/2004. Population data based on administrative statistics. Note that the Belgian Institute of Statistics (NIS) defines a couple as two partners who are married. In the sample, however, marital status is not questioned. Therefore, someone is considered as part of a couple if that person is in a steady partner relationship. As a consequence, considerations of marital status are of no importance.
Source: NIS, 2004a.

Tables 6 and 7 provide for a rough image of the working situation of the W4L winners. Using the International Standard Classification of Occupations, the original occupations were reclassified (see Appendix). The result of this reclassification is shown in Table 6. As becomes clear from this table, W4L winners are quite diverse regarding occupational status (including low wage jobs such as janitor and postman but also high status professions such as judge and civil servant for the European Commission). As also becomes clear from that table about 75% of the respondents were active. For these, Table 7 distinguishes those working more than 40 hours a week from those working less. Again a diversified image emerges, with around 25% working more than 40 hours a week.

Table 6. Reclassification of occupations using ISCO codes, singles and couples (winner and partner).

Occupation (reclassified)	Single	Couple	
		Winner	Partner
Teacher	0	2	4
Social worker	1	3	5
Civil servant	2	6	3
Clerical and related worker	3	9	11
Sales worker	0	4	4
Service worker	2	9	3
Blue collar worker manufacturing	5	4	11
Self-employed	1	5	2
Student	3	1	2
Unemployed	0	4	1
Unemployed / pensioner	0	5	3
Pensioner	1	10	9
Total	17	62	58

Table 7. Hours worked, singles and couples (both winner and partner).

Hours worked	Single	Couple	
		Winner	Partner
< 40	8	31	31
≥ 40	1	12	11
Total	9	43	42

These comparisons show that all social categories are represented under the W4L-winners. Since many people play the lottery this could be expected. In this way the group is not very distinct from the general population and constitutes an interesting sample to explore the consequences of introducing a Basic Income. [30]

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[30] However, this seemingly 'representative' sample could be the result of a double bias. First the initial W4L-sample (winners) can biased vis-à-vis the total population. Secondly, the response might be biased vis-à-vis the winners. The

2.3.2. Changes in Working Behaviour. A Descriptive Analysis

The Carla and 'Carla and John' cases showed that W4L research can lead to some clear expectations regarding labour supply effects of unearned exogenous income. Concerning people working at the time of winning W4L, W4L research can explore the following hypotheses. If a single person remains employed or if one or two of the partners of a couple quit working or becomes self-employed under GMI/W4L it can be expected that this will also happen under UBI. For those unemployed at the time of winning, it is expected that if they start working under GMI/W4L they will also do under UBI.

Bearing in mind these insights, this paragraph aims to provide a first tentative exploration of the question "What, if anything, happens after the introduction of Basic Income?". The paragraph is structured as follows. First, an assessment is made of the number of winners, working at the time of winning, who quit working after W4L. Secondly, it is investigated how many winners have become self-employed. Thirdly, the amounts of people who did not quit but diminished their working time are assessed. Finally, those not working at the time of winning are analysed.[31]

2.3.2.1. From Working to Not Working

Table 8 presents the working situation at the time of the survey of those working at the time of winning. In the table a distinction is made between singles and couples because both clearly constitute separate units of analysis (cf. 2.1.). In addition, changes of winners and partners within a couple are distinguished because for some couples there might be a difference in how the gains from a W4L grant are distributed between winner and partner. Finally, changes that have occurred between winning W4L and the time of the survey and who are not related to winning W4L are distinguished from those changes (at least partly) caused by winning W4L. The latter changes are represented by numbers in between brackets. The numbers highlighted in bold point to the situation in which W4L research can generate meaningful expectations about behaviour after UBI (cf. 2.1.).

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latter is referred to as non-response bias which means that only people with an interest in the research topic participated in the survey. The double bias occurs when the sample (winners) is unrepresentative of the total population (bias 1) but due to the answering behaviour of the respondents (bias 2) the final set of cases becomes seemingly representative again. These two biases might be significantly related to changes in labour market behaviour (the outcome to be analyzed) and hence it is important to detect a possible double bias. In order to assess the double bias a comparison was made on two variables for which data of the winners is available: age and sex (see Tables 1 and 2). On the basis of this comparison there is no indication that a double bias occurred.

[31] From further analyses respondents who are students or not working and above 55 were excluded from the analyses because they do not (yet) participate in the labour market.

Table 8. Employment of singles, winners and partners (working at the time of winning) at the time of the survey

	Working at the time of winning	Working at the time of the survey	
		Yes	No
Singles	13	**12**	1(0)
Winners	43	40	3(**1**)
Partners	43	42	1(**0**)

Of the thirteen *singles* working at the time of winning, twelve still worked at the time of the survey. Hence, it can be expected that these twelve would also remain employed under UBI. One single, a 44 year old mechanic at the time of winning, quit working. There is no information available on the reason for his withdrawal from the labour market.

Concerning the couples, as with the singles, most *winners* did not quit working. Forty five *winners* were working at the time of winning. Of those 45 only three quit working. Of these, two point out that their quitting was unrelated to winning W4L, one went on early retirement and another quit because of illness. One person, a 45 year-old nurse in an old age home, quit working to spend more time with her children. She mentions that her quitting is partly caused by winning W4L.

With regard to the labour supply behaviour of the *partner,* only 1 out of 43 working before W4L quit working. This person was a 32 year old shop-assistant at the time of winning. She relates her quitting to the fact that she wants to spend more time on her household. However, she does not mention that the quitting is related to winning W4L.

What can we infer from this in relation to labour supply consequences of introducing a Basic Income? Does a Basic Income lead to significant withdrawals from the labour market? The discussed tentative results point to no such consequences. Of those 13 singles that were employed at the time of winning, 12 still work. As argued, this points to the expectation that these people will remain in employment after UBI. Regarding the couples, only one person out of 88 quits working and relates this event to the received W4L payments. As argued in the 'Carla and John' case it is expected that this person would also quit working under UBI. The discussion of the 'Carla and John' case, however, also made clear that no clear conclusions can be drawn from the fact that the great majority remains in employment after W4L.

2.3.2.2. From Employee to Self-employed

So far changes in working behaviour regarding entrepreneurship were not presented. This is done in Table 9, which indicates how many respondents, not (at least in part) self-employed at the time of

winning, were self-employed at the time of the survey. As becomes clear from this table, no respondent became self-employed after W4L. Again the interpretations are the same as before. It can be expected that none of these singles would become self-employed if a Basic Income would be introduced. Regarding the couples, no clear conclusions can be drawn.

Table 9. Employment of singles, winners and partners (not-self-employed) at the time of the survey

	Not self-employed at the time of winning	Self-employed at the time of the survey
Singles	**13**	0
Winners	37	**0**
Partners	41	**0**

It could be objected that the extra monthly income could be invested in a business of a friend or relative and that therefore introducing a Basic Income would result in more changes than predicted on the basis of the above analysis. While this is indeed a probability, no actual evidence of such decisions was found in our sample. This question was specifically posed in the survey and no one (either single or couple) has ever invested in the business of a friend or relative.

2.3.2.3. Diminishing Working Time

Another possible labour supply change caused by winning W4L consists of reducing working time (apart from quitting work). Table 10 provides information on the amount of winners who have reduced the amount of hours worked.

Table 10. Employment of singles, winners and partners (not working at the time of winning) at the time of the survey

	Working at the time of winning	Diminished working time at the time of the survey
Singles	13	0
Winners	43	**2**
Partners	43	2

Table 10 shows that no single person reduces the hours worked after W4L. Of the couples two winners and two partners diminished the amount of hours worked. The two winners clearly relate this change in labour supply to winning W4L. As shown in the 'Carla and John' case a generalisation to a UBI situation is not straightforward.

Table 11 presents the situation as measured at the time of the survey, of those not employed at the time of winning. As becomes clear from the table only 8 cases were not employed at the time of the survey (under the selection conditions made in note 31). All of them were women, either older than 50 or with at least two children, explicitly stating that they considered themselves housewives.

Table 11. Employment of singles, winners and partners (not working at the time of winning) at the time of the survey

	Not employed at the time of winning	Employed at the time of the survey
Singles	0	0
Winners	6	0
Partners	2	0

None of the cases not working at the time of winning, were working at the time of the survey. As pointed out before, this finding can not easily be extended to a UBI situation.

2.3.3. Qualitative Comparative Analysis

2.3.3.1. Methodology

In the previous part a descriptive analysis of all the cases was presented. In this part, a further exploration of the data is done using Qualitative Comparative Analyse (Hereafter QCA) which was developed by Charles C. Ragin for the analysis of a medium-sized number of cases (Ragin, 1987; Ragin, 1994; Ragin, 2000; Ragin, 2003). QCA is a research technique which enables researchers to systematically compare differences and similarities of configurations of variables between a set of cases and enables researchers to inductively explore data and develop explanatory models. In this paper, QCA is mainly used as a tool to summarize and explore data (De Meur & Rihoux, 2002; Rihoux, 2004).

QCA is a case-oriented approach. This implies that each individual case is considered a complex entity which needs to be comprehended as such. Different parts of each case are understood in relation to one another and in terms of the total picture that they form together. The organizing idea in such research is that the parts of a case do constitute a coherent whole and hence cases are regarded as configurations of variables (Ragin, 1987; Ragin, 2000). The essence of case analysis is to understand the configuration of variables and how that configuration is linked to a certain outcome. As such, this approach resembles more qualitative-oriented case research than quantitative-oriented variable research and hence can easily

complement a qualitative description of cases. In other words, instead of analyzing relationships between variables (standard quantitative variable-oriented approach) QCA compares cases by comparing configurations of explanatory conditions with the presence or absence of an outcome. In this way it is truly comparative, in the sense that it explores similarities and differences across cases by comparing configurations. The goal is to unravel the different conditions connected to different outcomes. In this way it is a comparative exploration and examination of empirical diversity. As a result, QCA allows for *multiple conjunctural causation* (Ragin, 1987; Ragin, 2000; Rihoux, 2004). This means that the technique allows for the possibility that there may be several combinations that generate the same general outcome, can address complex and seemingly contradictory patterns of causation - a condition can be important in both its presence and absence – and that it eliminates irrelevant causes.

In order to explore and summarize data using QCA several basic analytic steps are required. In brief, the following seven steps can be identified (Becker, 1998, pp. 187-188; Ragin, 1994, p. 118).

1. Decide what outcome needs to be investigated and list the variables which might contribute to an explanation of the outcome.
2. Define the research population and select the cases for analysis (comparability requirement).
3. Define each variable and outcome as a categorical variable.
4. Construct a data matrix which is a table whose rows and columns provide cells for all the combinations of those variables.
5. Reformat the data matrix as a truth table that lists all possible logical combinations of the presence or absence of these attributes
6. Simplify the truth table. The simplification strategy follows the logic of an experiment. Only one condition at a time is allowed to vary (the "experimental" condition). If varying this condition has no discernible impact on the outcome, it can be eliminated as a factor. The rule of combining rows of the truth table as a way of simplifying them can be stated formally: If two rows of a truth table differ on only one causal condition yet result in the same outcome, then the causal condition that distinguishes the two rows can be considered irrelevant and can be removed to create a more concise combination of causal conditions.
7. Interpret the resulting equations

2.3.3.2 Model

The application of QCA to the W4L dataset aims at answering two main questions:

(1) Which conditions contribute to a change in labour market behaviour?
(2) Which conditions influence the decision not to change labour market behaviour?

Since the available information on the cases is limited it was decided to inductively explore answers to both questions. As a result, the information available in the questionnaire was transformed into several variables. For the transformation of the variables a dichotomous crisp set approach was chosen because of the explorative nature of the exercise. In a crisp set approach all variables are transformed in dichotomous variables (absence or presence of the variable). This implies a loss of information and nuance. An advantage of this approach is that it allows for the creation of 'sharp' typologies. In other words, it creates a black/white picture of reality which allows for the formulation of clear hypotheses.[32]

The exploration of the data was done by using 10 variables on which information was available through the questionnaires. The variables are presented below. For ease of presentation the variables are in italic to make a clear distinction with lowercase and uppercase letters which both have a special meaning in QCA. QCA uses lowercase notations of variables to indicate the absence of a variable and uppercase notations to indicate the presence of a variable.

The outcome to be explained is change in labour-market behaviour

Change: Presence or absence of effective or intention to change labour market behaviour due to W4L.[33]

The outcome will be explained by testing several models consisting out of all or some of the following nine explanatory conditions.

Kids: Presence or absence of one or more children
Kids2: Presence or absence of two or more children
Kids3: Presence or absence of three or more children
Civic: Presence or absence of active membership (on average more than 2 hours a week) of one or more associations
Hoursres: Winner works more (presence) or less (absence) than 40 hours a week
Hourspart: Partner of the winner works more (presence) or less (absence) than 40 hours a week
Edures: Presence or absence of a university or higher education degree for the winner
Edupart: Presence of absence of a university or higher education degree for the partner of the winner
Ageres: Winner is older (presence) or younger (absence) than 50
Agepart: Partner of winner is older (presence) or younger (absence) than 50

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[32] It should be noted that a QCA analysis can also be conducted with multi-value scales and fuzzy-sets. For more information see (Conqvist, 2003; Ragin, 2000; Ragin & Giesel, 2002).
[33] It is important to emphasise that in the QCA-analysis the dependent variable – change on the labour market – does not only include people who have effectively changed their behaviour, but also those who indicated that they had the intention to change their behaviour in the future. In this way, the *Change* variable is distinctively different from the change variable in the descriptive part which only included effective changes in labour-market behaviour.

Couples: Both the winner and the partner works (presence) or either the winner or the partner works, but not both (absence).

The analysis was performed on a subset of cases because not all cases were suitable for the analysis. Three types of cases were not selected for further analysis. The first type are the single persons since they constitute a distinct unit of analysis in this research-project (see 3.2.1.). No separate analysis of the singles was conducted due to an insufficient number of observations. The second type of cases which were not included in the analysis consists out of students and pensioners since they were not (yet) active on the labour market. Finally, cases with significant item non-response on several variables were deleted because they could not be meaningfully analysed. In the end the subset of cases suitable for analysis contained 40 cases.

2.3.3.3. Analysis: Problems and a Partial Solution - Two-step Approach

Analysing 40 cases with a model of 10 possible variables in QCA generates two problems. First there is the *problem of uniqueness*. If one uses all possible 10 variables, chances are considerable that each case is unique. Each case is described as a distinct configuration of 10 variables. This results in the fact that there is no summarisation of data and one does not generate any typologies. In other words, one ends up with 40 descriptions of cases and few possibilities to generate hypotheses.

A second problem related to a QCA-analysis is the *problem of contradictions*. This problem mainly occurs when one uses only a few of the 10 variables. It should be noted that QCA was mainly developed to comparatively analyze macro social entities and processes such as state-formation, revolutions, etc. for which much historical data is available and which allows for a constant dialogue between theory and data. It is only recently that QCA has been applied to individual level data (Britt, Risinger, Miller, Mans, Krivchenia & Evans, 2000). The application to individual level data generates problems for explaining *each* case. In case of individual level data the chances that similar configurations produce different outcomes increases dramatically. Individual contingent, idiosyncratic or non-modeled factors might influence the outcome. As a result, a QCA-analysis on individual level data can generate what is called contradictory results, i.e. the same configuration generates different outcomes. In addition, QCA was developed to generate explanatory models via a constant dialogue of theory and data. This implies a regular return to data and the gathering of additional data. If a return to the field to acquire new data is not possible it can be difficult to resolve contradictions in the analysis. In the pilot-project it was not possible to return to the field and hence an analysis could only be done on the basis of data available in questionnaires.

Moreover, there seems to exist a trade-off between the two problems. The smaller the models, the more contradictions, the more extensive the models, the less possibility to summarise data and create typologies. The two problems and the trade-off are illustrated by Table 10. The more extensive the model is (#

variables) the more configurations and the less contradictions occur. A limited model, with a few variables, generates less configurations but more contradictions.

How to solve these two interrelated problems? In relation to the problem of uniqueness the only solution is to develop limited explanatory models which implies that the number of variables of an explanatory model should significantly be lower than the number of cases. Concerning the problem of uniqueness there are several ways to deal with contradictions. First, a new more homogenous and comparable research population can be constructed by including new cases or removing cases. Secondly, new variables could be included in the explanatory model. Thirdly, existing variables could be recoded. Since, it was not possible to return to the research population to gather additional information none of these three options were available to resolve contradictions. A final way to deal with contradictions is to include only those configurations which contain at least two cases since it is often the case that contradictions are generated because only one contradictory case occurs. These contradictions are disregarded when one specifies that at least two or more cases should be covered by a given configuration. The drawback of this decision is that it decreases the number of cases in an analysis and hence excludes possible relevant configurations. This is especially problematic when one works with (biased) samples and the aim is to explore data and generate hypotheses. Concerning the latter it is best to exclude as few cases as possible and hence proceed with an analysis of all possible cases.

As a result, the problem of contradictions is not easily overcome. In order to deal with these two interrelated problems a two-step approach was used for analysing an explanatory model. In a first step, (a) model(s) which best fits the data was identified. In a second step a further analysis of the selected model was performed.

The first step is time consuming and implies analysing the results of all possible and meaningful models. Table 10 lists a sample of tested models and presents the number of configurations which occur in the data on the basis of the model and the number of contradictions. If both numbers tend to go to 40 it means that either little reduction in data has occurred (each cases is unique) or that the model (almost) only generates contradictory results. Both are an indication that the model does not fit the data and provides little explanatory insight. For example, the first row presents an elaborate model with almost no contradictions (5%) but also very little simplification (34 configurations). Here one encounters the uniqueness problem. Each case is a unique combination of the presence and absence of each of the 10 variables. By contrast, the last row generates considerable simplification of the data but has a very high percentage of contradictions which means that the same explanatory model is inductively identified for both cases were labour-market change occurred and cases where this change did not occur.

Table 12. Possible models to explain working behaviour

	Models CHANGE =	Variables #	Configurations #	Contradictions #	BFM
1	*Eduresp+Edupar+Civic+Kids+Hourresp+Hourspart+Couplesft+Ageres+Agepar*	10	34	2	18
2	*Eduresp+Edupart+Civic+Kids2+Hourresp+Hourspart+Couplesft +Ageres+Agepar*	10	36	2	19
3	*Eduresp+Edupart+Civic+Kids3+Hourresp+Hourspart+Couplesft+Ageres+Agepar*	10	35	0	17,5
4	*Kids+Eduresp+Edupart+Hourresp+Hourspart+Couplesft+Ageres+Agepar*	9	30	6	18
5	*Kids+Eduresp+Edupart+Civic+Hourresp+Hourspart+Ageres+Agepar*	9	34	2	18
6	*Eduresp+Edupart+Civic+Kids2+Hourresp+Hourspart+Ageres+Agepar*	9	36	2	19
7	*Eduresp+Edupart+Civic+Kids3+Hourresp+Hourspart+Ageres+Agepar*	9	35	0	17,5
8	*Kids+Civic+Hourresp+Hourspart+Couplesft+Ageres+Agepar*	8	23	12	17,5
9	*Kids+Eduresp+Edupart+Civic+Hourresp+Hourspart+Couplesft*	8	32	4	18
10	*Kids+Eduresp+Edupart+Hourresp+Hourspart+Ageres+Agepar*	8	33	4	18,5
11	*Eduresp+Edupart+Civic+Hourresp+Hourspart+Couplesft*	7	30	5	17,5
12	*Kids+Eduresp+Edupart+Hourresp+Hourspart+Couplesft*	7	26	14	20
13	*Kids+Eduresp+Edupart+Civic+Couplesft*	6	17	26	21,5
14	***Kids+Civic+Hourresp+Hourspart+Couplesft***	**6**	**20**	**8**	**14**
15	*Kids2+Civic+Hourresp+Hourspart+Couplesft*	6	21	15	18
16	*Civic+Hourresp+Hourspart+Couplesft*	6	16	25	20,5
17	*Eduresp+Edupart+Civic+Couplesft*	5	15	27	21
18	*Kids+Eduresp+Edupart+Couplesft*	5	14	27	20,5
19	*Kids+Couplesft+Ageres+Agepar*	5	13	28	20,5
20	*Kids+Civic+Ageres+Agepar*	5	12	32	22
21	*Kids+Civic+Hourresp+Hourspart*	5	22	13	17,5
22	*Eduresp+Edupart+Civic+Couplesft*	5	15	27	21
23	*Hourresp+Hourspart+Couplesft*	4	11	31	21

The selection of the best fit model was based on balancing the number of contradictions and the number of configurations. The aim is to find a model with jointly the least configurations (reduction of data – creation of typologies) *and* the least contradictions. In other words, one does not select the model with the least configurations or the least number of contradictions, but the model which scores best on the two criteria combined. The model which best fits these two combined criteria is model 14 which was further analysed. As one can see in Table 10 this model consisting out of 6 variables generates 20 configurations and 8 contradictions. Model 14 is able to discriminate several types of cases in relation to making changes on the labour-market or not (problem of contradictions) and is able to capture some configurations which explain several cases at once (not each case is unique).

More formally, the model is selected on the basis of the following formula:

Best Fit Model (BFM) = MIN((#Contradictions + #Configurations)/2)

The model with the lowest score is the best fit model for further exploring the data. This model states that changes and no changes in labour market behaviour is a function of the combined presence and absence of the following 5 variables: *Kids + Civic + Hourresp + Hourspart + Couplesft*.

In a second step the best fit model was used to conduct a QCA-analysis showing a description of the cases as a configuration of the presence and/or absence of each of the variables of the model. All the configurations which exist in the data are presented in Table 12.

Table 12 lists all the configurations which exist for the best-fit model. Uppercase notations indicate the presence of a variable, while lowercase notations indicate the absence of a variable. Most cases (67,5%) are covered by the 7 first rows. The most important configurations in relation to change are row 2 and 3. The configuration of row 2 states that couples who are inclined to change can be described by the following characteristics: they both work, one of the partners is working more than average and they have kids. The configuration of row 3 indicates that couples who combine a busy personal life (kids and civic engagement) with the fact that the two partners are working are also more inclined to change. In other words, two paths lead to a change in labour-market behaviour. In contrast, the configuration which captures most non changes is row 1. This configuration indicates that couples with children where both partners work but none of the partners works more than average are less inclined to change. In addition, it should be noted that in several of these no change cases one of the partners is not working full-time but has a part-time job which makes a better combination between working life and family life possible. From row 8 onwards all cases are captured by a unique configuration of explanatory conditions

More in general, on the basis of these configurations one could develop the hypothesis that couples where the two partners work, one of the partners works more than average and which either have kids or are actively involved in civic activities are more inclined to change their labour-market behaviour. The

contradictory cases to this hypothesis (mainly rows 5 and 6) can be explained by the fact that in these cases the couples are older than 50, which might indicate that the children are adults and hence require less attention. This suggests that balancing working-time and family time influences labour-market behaviour and that the provision of an exogenous non-earned income might in certain cases and under certain conditions change labour market behaviour. Obviously more data is required to assess this hypothesis.

Table 13. Overview of all configurations of the Best Fit Model

		# of cases	
		Change	No Change
1	KIDS civic hourresp hourspart COUPLES	0	10
2	KIDS civic HOURRESP hourspart COUPLES	4	1
3	KIDS CIVIC hourresp hourspart COUPLES	3	0
4	KIDS civic hourresp HOURSPART COUPLES	2	1
5	Kids CIVIC Hourresp hourspart COUPLES	0	2
6	KIDS CIVIC hourresp HOURSPART COUPLES	0	2
7	KIDS civic HOURRESP HOURSPART COUPLES	0	2
8	Kids civic hourresp hourspart COUPLES	1	0
9	KIDS civic HOURSPART couples	1	0
10	Kids CIVIC Hourresp	1	0
11	KIDS CIVIC hourspart couples	1	0
12	Kids CIVIC HOURRESP hourspart COUPLES	1	0
13	Kids civic hourresp hourspart COUPLES	0	1
14	KIDS CIVIC HOURRESP couples	0	1
15	KIDS civic hourspart couples	0	1
16	KIDS civic Hourresp	0	1
17	KIDS civic Hourresp HOURSPART couples	0	1
18	Kids CIVIC hourresp HOURSPART COUPLES	0	1
19	KIDS CIVIC HOURSPART couples	0	1
20	KIDS CIVIC HOURRESP HOURSPART COUPLES	0	1
	Total	14	26

3. DISCUSSION AND FUTURE RESEARCH

This study had two aims. First, to explore the advantages and disadvantages of different research strategies to empirically assess socio-economic consequences of introducing a (full) Basic Income. Secondly, to investigate the possibilities and outcomes of a research-strategy which uses a lottery game – the Belgian Win for Life (W4L) – as a natural quasi-experiment. These two goals were addressed in two distinct parts.

In the first part it was argued that a case can be made for the use of empirical research into the possible consequences of a Basic Income. An argument was made to use natural quasi-experiments such as annuity lottery games to this end because some of the limitations related to other research strategies, i.e. a Basic Income experiment, can in this way be overcome. More specifically, natural experiments allow researchers to build in relevant variation in different types of Basic Income design and institutional context and to design longitudinal research which captures different types of social dynamics in relation to introducing an exogenous unearned income.

Since, however, introducing a Basic Income is not the same as granting everyone a winning lottery ticket, an assessment was made as to what degree W4L constitutes a good case for analysing the labour supply consequences of a Basic Income. In a nutshell, the argument was made that W4L constitutes for singles an extreme, but not absurd case. For couples, W4L research represents a baseline scenario for a full Basic Income.

In relation to singles it was argued that if people with a monthly additional tax-free W4L income do not withdraw from the labour market, reduce working time by a significant amount or become self-employed, it can be expected that this will not happen under a Basic Income regime (UBI). If, in contrast, they do change labour market behaviour it is not possible to conclude that they will do so under UBI. However, the latter indicates a preference to do so given not absurd financial incentives. For couples, different conclusions should be drawn. If one or two of the partners stop working or become self-employed, it cannot be concluded that they would do so under a Basic Income since W4L provides a lower income than a full Basic Income. If they do so, it can also be expected that this will happen under UBI. Interpreting a reduction in working time is more difficult however since the difference between receiving a Basic Income and W4L is less pronounced and strongly dependent on differences in tax regime and income from labour.

Taking into consideration these comparisons between UBI and the conventional guaranteed minimum income scheme adjusted for W4L recipients (GMI/W4L), a pilot project was set up to investigate Belgian W4L winners. The results were presented in the second part and consisted of two types of analysis. On the one hand, a descriptive overview was presented. On the other hand, a Qualitative Comparative Analysis (QCA) was performed.

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Regarding changes in entrepreneurship, the (limited) descriptive analysis gave no evidence that exogenous unearned income stimulates entrepreneurship. Not one person started up a business after winning W4L. Thus, it could be hypothesised that the introduction of a Basic Income will have little effect on entrepreneurship. Of course this is a very tentative conclusion.

Only one person quit working because of winning W4L. There is therefore no indication for an immanent emergence of a 'lazy society' after introducing a Basic Income. The idea that people would retreat from the labour-market and would live off a Basic Income is not supported by the evidence. Even the number of people that reduce their working time seems limited. Only four respondents (both with partner) worked a lesser amount of hours after W4L. Of these only two attributed this to winning W4L. Thus only very few people diminish their working time because of an increase in exogenous unearned income. However, as indicated, generalising to a UBI situation is in this case not straightforward.

The QCA-analysis focused on couples winning W4L and analysed what type of couples changed (or intend to change) their labour-supply. It showed that couples with both partners in a full-time demanding job (work more than average) and with (up-growing) children are more inclined to change labour-market behaviour. Hence, a Basic Income might result in a different balance between working and family life for couples with a heavy burden on available time. Consequently, there is some evidence that supports the idea that a Basic Income will influence how people balance family and working life.

This conclusion may have important implications for the design of an experiment. If changes in labour-market behaviour occur they are likely to occur in 'normal – standard' households, i.e. working families with children. This implies that an experiment should include these types of households if it aims to make inferences about what might happen after the introduction of a Basic Income.

Furthermore, since having children plays a part in labour market decisions and in balancing family life and working life, the question of how a Basic Income will influence demographics becomes important. The pilot-project generated some anecdotic evidence that W4L provides an incentive to expand the family.[34] More evidence was found regarding the reduction of uncertainty about the future after winning W4L. Without asking any specific questions about it, many people indicate that W4L provides much more security which enables them to expand their choices and decisions. In other words, from an empirical point of view an argument can be made that introducing a Basic Income allows people to better plan their future life due to uncertainty reduction. How this would affect demographics is still an open question but a more systematic investigation of uncertainty reduction and its ramifications should be explored.

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[34] One respondent indicated they planned a second child after winning W4L because they can now afford it.

These are, of course, very tentative conclusions which require further investigation. Three major limitations of the pilot-project need to be overcome to generate more robust results. First, the number of cases should be increased, both in terms of lowering non-response as well as expanding the research-project to new winners. Secondly, data-collection on each of the cases needs to be improved significantly with a clear preference for face to face to face interviews and the use of administrative records. Thirdly, future research should establish a control group among W4L-players who have not won the game. This is of quintessential importance in the design of a natural experimental research design. However, the formation of a control group is not straightforward and implies a significant investment of resources. In addition, four important caveats of the pilot-project which need to be addressed in the near future have to be stressed.

First, the pilot-project only provides a partial assessment of changes in labour-market behaviour. It only focused on changes in labour supply caused by winning W4L. However, also non changes could be the result of winning. To give an example, suppose Carla finds herself in an intrinsically rewarding but low paid job and wins the lottery. Winning W4L makes it possible for Carla to stay in her job even though it does not pay well. Suppose she did not win the lottery. In that case it could very well be that Carla would have quit her job. Thus, besides focusing on changes in labour-market behaviour, non-changes due to an unearned exogenous income might also be important and should be analysed.

Secondly, the pilot-project observed the situation only at one moment in time. It is crucial to get an insight into the dynamics of introducing an unearned exogenous income and how effects play out over time. Several people indicated that they have the intention to change labour-market behaviour, but they have not yet done so. However, there is of course an important difference between what people say and what they effectively will do. A longitudinal research design is necessary to gain insight into the dynamics of changes.

Thirdly, labour-market behaviour is in the present study narrowly defined as paid work and changes in labour supply only refer to changes in relation to paid work. This is a much too restricted definition of work in the context of the Basic Income debate which explicitly aims to reward unpaid forms of work. In future research, a thorough conceptualisation of the concept of work, including volunteering and family/care work, should be done and included in the analysis of changes in working behaviour.

Finally, there is an important issue of representativeness and selection-bias. These were discussed before. Several selection biases can occur on which no definitive assessments can be made at this point. More research is needed to generate more robust results.

It is our intention to overcome these limitations and caveats by expanding and improving annuity games research. This will imply, among other things, an improvement in data-gathering techniques. Mail surveys

are limited data collection tools due to (item) non-response and low reliability of data. In order to better capture changes it is advisable to construct longitudinal datasets based on face to face interviews. Apart from the better reliability, these interviews would have two more advantages. First of all, they should enable researchers to deepen the investigation into labour market consequences by tracking employment records and creating more elaborate working profiles in terms of several characteristics which might be relevant such as earnings, autonomy of decision in occupation, job fulfillment, etc. Secondly, face-to-face interviews should allow researchers to fully explore other relevant intended and unintended social consequences of an exogenous unearned income such as effects on family planning and other demographic factors.

In addition, a major challenge for future research is to expand W4L-research into other countries to allow for institutional variation and to assess labour supply effects of different Basic Income designs. Especially interesting in this respect is a comparison with the United States where many similar annuity games exist in different forms for some years. Thus, it could be illuminating to compare Belgian W4L with the W4L game organized in the state of Arizona, granting each winner a lifelong 1000 dollars a month, or with the Weekly Bonus game, organized in the state of Delaware, in which 250 dollars a week are granted. Similarly, it would be interesting to compare the Belgian W4L winners with the Belgian Fun for Life winners, who receive 25000 euro a year.

Furthermore, natural experiments such as lotteries can be used to analyze the behavioural effects of other proposals which are closely related to a Basic Income, namely the idea of stakeholder grants (Ackerman & Alstott, 1999) and baby bonds (Le Grand, 2003). The idea of a stakeholder grant is to give 'each (American) [as he/she] reaches maturity, [a] guaranteed … stake of eighty thousand dollars. [This would] point the way to a society that is more democratic, more productive, and more free (Ackerman & Alstott, 1999, p. 3).'

The potential of research into social consequences of introducing a stakeholder grant is significant since the potential research population is huge. A research-design could include all people who won approximately 80.000 euro/dollars between the ages of 18 to 25. Since almost every country has lottery games which grant a one-time sum of approx. 80.000 euro, the possible research population is very significant. This is interesting for two reasons. First, the initial research population will be big which will reduce possible selection biases and problems of representativeness. Although a further assessment of how representative lottery players are for the wider population should be conducted, it should also be stressed that the lottery populations are probably not as skewed as one would expect on the basis of common sense notions. The pilot-project showed that many different types of people play the lottery. Secondly, since many countries can be compared, the effect of institutional variation can be further assessed and conceptualized.

In a latter stage lottery based research on the labour supply consequences of un-earned exogenous income paid either as a lump sum (stakeholder grant) or as a weekly, monthly or yearly endowment (Basic Income) could be compared. This comparison could contribute to recent debates on the possible different advantages and disadvantages of Basic Income versus stakeholder grants. It is clear that this may constitute a future research agenda for Basic Income and stakeholder grant researchers.

APPENDIX. RECLASSIFICATION OF OCCUPATIONS

In the questionnaire all respondents were asked for their occupation before W4L. Because of the great diversity of jobs however, it was necessary to aggregate these to a higher level of abstraction. This was done using the International Standard Classification of Occupations (ISCO68), developed by the International Labour Organization (ILO). In a first instance, the jobs were classified on the most detailed level. Thus, depending on the information given by the respondent, a code is allocated between 1 or 5 digits. The categories student, unemployed, unemployed/pensioner (unemployed and between 50 and 60 years old) and pensioner were added. Next, the attributed classifications were reclassified. This classification was mainly based on the ISCO68 codes, lowering the level of detail. As can be seen by comparing the 'ISCO code'-column with the 'job classification reclassified'-column, some adjustments were necessary for the purpose of this study.

Table 14. Reclassification of occupations (before winning W4L).

Job classification	ISCO code	Job classification reclassified
Sport co-ordinator	1.3	Teacher
Teacher	1.3	
Teacher	1.3	
Teacher Secondary Education	1.32.00	
Language Teacher Secondary Education	1.32.15	
Instructor company	1.39	
Nurse hospital	0.71.10	Social workers
Social worker	1.93	
Social worker	1.93	
Social worker	1.93	
Social worker	1.93	
White collar employee social sector	1.93	
Caretaker old people's home	1.93	
Therapist in a centre of psychological health	1.93.40	
Social worker delinquency	1.93.40	

Judge	1.22.10	Civil Servant
Civil servant	3.00	
Civil Servant European Commission	3.00	
Civil servant	3.00	
Civil servant	3.00	
Translator in government administration	3.00	
Civil servant	3.00	
Civil servant	3.00	
Civil servant	3.00	
Civil servant	3.00	
Civil servant	3.00	
Computer programmer	0.84.20	Clerical and related workers
Book editor governmental organization	1.59.20	
Self-employed librarian	1.91.20	
Budgeting and accounting manager telecom sector	2.19.50	
White collar employee bank and insurances	3.31	
White collar employee bank and insurances	3.31	
White collar employee bank and insurances	3.31	
Accountant in a company	3.31.10	
Book keeping clerk	3.39	
Book keeping clerk	3.39	
Book keeping clerk	3.39	
White collar employee metal processing company	3.9	
Railway clerk	3.99.60	
White collar employee private company	3.	
White collar employee private company	3.	
White collar employee private company	3.	

White collar employee private company	3.	
White collar employee private company	3.	
White collar employee pharmaceutical company	3.	
White collar employee private company	3.	
Private guard	5.82.40	
Private guard	5.82.40	
Private guard	5.82.40	
White collar employee fish company	7.7	
Salesman in a company	4.31	Sales workers
Representative catering industry	4.32.00	
Worker in a supermarket	4.51	
Shop-assistant dress shop	4.51.25	
Salesman Cheese shop	4.51.25	
Salesperson retail trade	4.51.25	
Salesperson mobile phones	4.51.25	
Street vendor food	4.52	
Postman	3.70.30	Service worker
Postman	3.70.30	
Cook	5.31.00	
Cook hospital	5.31.30	
Snack-bar manager	5.32	
Waitress	5.32.10	
Building care taker	5.51.00	
Janitor	5.51.25	
Janitor	5.51.25	
Janitor	5.51.25	
Janitor hospital	5.51.25	

Fire fighter	5.81.10	
Soldier	5.83.40	
Travel attendant	5.111	
Drilling, machine operator	7.11.30	Blue collar worker manufacturing
Blue collar worker sawmill	7.32	
Blue collar worker sawmill	7.32	
Petroleum refinement worker	7.45	
Blue collar worker in a meat company	7.7	
Blue collar worker textile company	7.9	
Blue collar worker metal processing	7.2	
Blue collar worker private company	7-8-9	
Blue collar worker private company	7-8-9	
Automobile mechanic	8.43.20	
Automobile mechanic	8.43.20	
Automobile mechanic	8.43.20	
Blue collar worker electronic assembly company	8.5	
Plumber and pipe fitter	8.71	
Tile setter private company	9.51.50	
Warehouse man	9.71.45	
Warehouse man	9.71.45	
Lorry and van driver	9.85.55	
Lorry and van driver	9.85.55	
Lorry and van driver	9.85.55	
Construction worker	9.95.00	
Self-employed		Self-employed
Self-employed hairdresser	5.70.25	
Self-employed hairdresser	5.70.25	

Bicycle repairer	8.41.90	
Self-employed in machine construction	8.4	
Self-employed in machine construction	8.4	
Free lance express service T.V. production	9.85.00	
Student		Student
Student		
Student		
Student		
Student		
Unemployed		Unemployed
Unemployed		
Unemployed		
Unemployed		
Unemployed		
Unemployed/Pensioner		Unemployed/Pensioner
Unemployed/ Pensioner		
Unemployed/ Pensioner		
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