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What is the effect of becoming self-employed on happiness?

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Abstract

The last decades showed a trend in The Netherlands where more and more people decided to become self-employed. The most logical reason for someone to become self-employed is expecting an increase in overall happiness. This paper will find out if there is an effect of becoming self-employed on happiness among the Dutch population during the years 2007 up to and including 2019. The regressions also look into a possible difference between the short-term and the long-term effect of being self-employed on life satisfaction. The results show that the effect of becoming self-employed is unclear during the first year of self-employment. However, after the first year of self-employment, self-employment starts influencing overall happiness in a positive way. The regression results also show a different effect for employees and unemployed that become self-employed. Self-employment creates an increase in happiness for the unemployed and a decline in happiness for employees.

I. Introduction

The research question of this paper is “What is the effect of becoming self-employed on happiness?”. To find this relationship as correct as possible, the researcher will use a multiple linear regression with individual fixed effects and year dummies to control for time effects. There are some factors to consider when looking for a relationship between self-employment and happiness. The conditions on the labour market and the reasons for becoming self-employed are essential. The effect on happiness for someone who became self-employed out of necessity will be different from the effect for someone who became self-employed because he or she saw a business opportunity. The results of the regressions show that the short term effect might be different from the long term effect of self-employment on happiness. The possible impact of tax regulations on decisions about self-employment is uncertain. These tax regulations might give a financial incentive to get self-employed, and because of this, the relationship between happiness and self-employment might still be misestimated in this paper.

Research on the relationship between self-employment and happiness never used a Dutch population. A second contribution to the literature is that a clear difference between a short-term and a long-term effect was never made before. It can be assumed that becoming self-employed has a positive effect on overall happiness among the Dutch population considering a period longer than a year. The effect of self-employment on happiness remains unclear for a period shorter than a year. The regressions make a difference between the people that switched from employee to self-employed and people that were first unemployed and became self-employed afterwards. The numbers show that becoming self-employed might harm happiness for employees and might have a positive effect on the happiness of the unemployed.

Over the last two decades, many people in The Netherlands decided to become self-employed (CBS, 2020a). Self-employment can give a person higher job and life satisfaction levels compared with being an employee (Banchflower & Oswald, 1998). According to Taylor (1996), self-employment can also result in increased independence and a higher salary. The benefits of being self-employed do not immediately explain the increasing number of self-employed people in The Netherlands because there are also drawbacks.

Self-employment can, for example, also result in an increase of responsibilities and more wage uncertainty (Parker et al., 2005). It seems easy to think that people pick self-employment over being an employee because the benefits are more significant than the drawbacks. Nevertheless, is it always the case that self-employment increases happiness when someone decides to become self-employed? The literature shows some essential points to think about before laying the connection between self-employment and happiness. First, it is crucial to consider the labour market conditions and other circumstances that influence decisions about self-employment (Anderson, 2008). Research on a Swedish and a British population resulted in different effects on happiness, which shows that local circumstances impact decisions about self-employment and its effect on happiness (Anderson, 2008; Binder & Coad, 2013). There is no research yet about the Dutch labour market and the Dutch population, but a different result may be found in The Netherlands compared with the research done in Sweden and Great Britain.

Research that examines self-employment is fundamental for everyone in our society. Acs, Z. (2006) explains that entrepreneurs have a crucial role in our economy. Simply put, these entrepreneurs create new businesses, create new jobs, and more competition in the market. Entrepreneurs may even increase overall productivity if these businesses come with technological change. Acs also says that entrepreneurship only has a lasting positive effect on economic development when some innovative change creates a shock in the market. The literature gives many different concepts and ideas on the policies introduced to maximise the positive effect of entrepreneurial activity on our society. However, there is still no clear, generic answer on which policy is best. Governments can use some instruments to influence new entrepreneurial activity in a country. For example, a lower number of procedures or lower capital requirements will boost entrepreneurial activity (Dreher & Gassebner, 2013). This paper will contribute to these questions to further explain why people decide to become self-employed. It will become easier to create a policy to stimulate self-employment when it becomes clear if each individual already has an incentive to become self-employed or not. If self-employment increases someone's happiness levels, little stimulation will be necessary to switch from employee to self-employed.

From a social point of view, it is crucial to understand why so many people decided to become self-employed. The most logical reason is that the positives outweigh the negatives when talking about overall happiness. If this statement is correct or not is one thing this paper will answer. However, it could also be the case that there is another incentive that results in this choice and that the decision for self-employment is not made based on happiness alone. Someone could also choose to become self-employed to escape unemployment. This is called entrepreneurship out of necessity (Maritz, 2004). A second option is an incentive that is, accidentally or not, created by the government. The Dutch government's tax policy for self-employed is different compared with the rules for employees (Belastingdienst, 2020a; Belastingdienst, 2020b; Belastingdienst, 2020c). Therefore, the Dutch tax policy could result in an incentive to become self-employed (Liebregts, 2016). In understanding this behaviour and this trend in The Netherlands, this paper will make the first step and test if the positive effect on happiness outweighs the negative effect of self-employment on happiness. What is the overall effect of becoming self-employed on happiness?

The structure of this paper is as follows. First, in section II, the literature regarding self-employment and happiness will be explored. Then, section III will explain the data used for this research and explain the essential characteristics of the Dutch labour market. Section IV shows which methods the researcher used in this paper. Section V explains the results found, and finally, section VI concludes and gives the ideas for further research.

II. Literature review

Before doing any research, it needs to be clear what information the literature already provides on this topic. Binder and Coad (2013) argue that self-employment does not necessarily increase job or life satisfaction. Becoming self-employed can also be a way to escape unemployment, and in this scenario, becoming self-employed does not increase satisfaction. Even when self-employment does not happen out of necessity, there will always be risk involved when one switches from employee to self-employed (Parker, 1997). In The Netherlands, a self-employed is not paid in case of sickness and needs to take care of most of his pension and insurances himself (Aerts, 2005). Having pension coverage as an employee will reduce the likelihood of switching towards self-employment (Zissimopoulos & Karoly, 2007). These are all reasons why it is not sure that being self-employed will increase happiness compared with being an employee.

Schonfeld and Mazzola (2015) agree with this idea. They did an experiment in which 54 individuals were involved. Their primary focus is the amount of stress among the self-employed. They found that uncertainty is the most crucial factor that creates stress. Moreover, uncertainty is, generally speaking, higher for the self-employed compared with employees. Schonfeld and Mozzola (2015) used only 54 individuals; each individual has quite a significant impact on the results. These individuals represent 50 different occupations, leading them to believe that a saturation point is reached. Extra stress among the self-employed might mean that their happiness will be lower than the happiness of employees. Thus, becoming self-employed is something which is not only positive, but it also has its drawbacks.

A. Different reasons to become self-employed

Anderson (2008) was also interested in the well-being of the self-employed. She took a survey among Swedish employees and a survey among Swedish self-employed in 1991 and 2001. In 1991, she found no clear difference between these two groups. In general, well-being is lower in 2001 than in 1991 due to changed conditions in the Swedish labour market. Nevertheless, the necessary conclusion of this paper is that those who became self-employed somewhere during this period were less likely to experience a drop in well-being between 1991 and 2001 compared with the employees. The main reason this happened was the

difference in job satisfaction between the self-employed and the employees. The self-employed also experienced their job as less stressful and less mentally straining compared with the employees. It will be interesting to see if the same results will be found when The Netherlands and a different period are examined. Anderson mentions in her paper that the conditions on the labour market heavily impacted these results, so that is also something that needs to be considered later on. Differences between labour markets are essential in the context of the relationship between self-employment and happiness. These dissimilarities make it crucial to use year dummies in the regressions later on. Good examples of possible differences between labour markets are variances in unemployment rates and employees' salaries.

Binder and Coad (2013) make some excellent points in their paper on life satisfaction and self-employment. They say that the relationship between self-employment and overall happiness is hard to find because being self-employed affects job satisfaction and not directly overall life satisfaction. Besides that, it is also not clear if an increase in job satisfaction will always increase life satisfaction. It might be the case that an increase in job satisfaction is a reason to neglect other vital parts of life. Such that a friendly job crowds out other areas leaving the person not happier overall.

There are also different reasons to decide to become self-employed. Binder and Coad (2013) used data from the British labour market from 1996 up to and including 2006. They try to split the self-employed into two categories. The first one is self-employment out of necessity, which means that someone is unemployed before starting his own business. The second one is self-employment because of a business opportunity, which means that someone is first a regular employee and decides to switch towards self-employment when there occurs an excellent opportunity. Binder and Coad (2013) did not find significant differences between the people who moved from unemployment to self-employment compared with those who moved from unemployment to being employees. So, for the unemployed, becoming self-employed might not always be the right thing to do. The people that went from employment towards self-employment experience a positive and significant increase in life satisfaction. It occurs that becoming self-employed because of a business opportunity has a positive effect on happiness. In case of entrepreneurship out of necessity, this positive effect of becoming self-employed on happiness is not significant.

Van der Zwan et al. (2016) wrote a paper about the differences between entrepreneurs that started their business out of necessity and entrepreneurs that started because they saw an opportunity. They used survey data from 29 European countries, three Asian countries, and the United States to find these differences. These researchers directly asked the respondents of their survey if their motives to become an entrepreneur are necessity-driven or opportunity-driven. For the European countries, 63 per cent of the respondents said that they started their business because of an opportunity. For the Asian countries, only 37 per cent of the entrepreneurs said that they were opportunity-driven. These numbers show that the amount of entrepreneurship out of necessity is higher in poorer countries. However, examining a Dutch population, the different reasons someone has to pick self-employment are still important. The percentage of opportunity-driven self-employment for European countries is higher than for Asian countries and the United States but still not equal to 100 per cent.

Besides the impact of wealth on entrepreneurial activity, there is also the impact of cultural norms. Hechavarria and Reynolds (2009) predicted the amount of entrepreneurship in a country based on the World Values Survey (WVS). Using the scores of this survey, they explained half of the variation in entrepreneurship between countries. Hechavarria and Reynolds (2009) conclude that contextual forces and the entrepreneurs' perception of the environment is crucial. So, it is clear that cultural norms and environment impact entrepreneurial activity looking at a macro-level. To know what cultural changes need to be made to maximise the positive effect of self-employment on happiness, it needs to be clear which aspects of culture influence entrepreneurs and their businesses on a micro-level. Verheul et al. (2002) mention that respect for entrepreneurs differs per culture. They find a positive correlation between respect for entrepreneurs and the number of start-ups in a country. An interesting thought that Verheul et al. (2002) have is that culture changes slowly over time, but that entrepreneurs are also able to influence culture and, by doing so, create a better environment for themselves. The relationship between culture and entrepreneurial activity remains abstract and challenging to find, but it is at least assuring that entrepreneurs can change their cultural environment themselves as well.

So, there are different conditions in each local labour market. There is a difference between necessity-driven and opportunity-driven entrepreneurship. Moreover, the third aspect is the differences in cultural norms in each country, impacting entrepreneurship. These three reasons will make it hard to give a clear answer about the relationship between self-employment and happiness, valid for all countries and periods.

B. Differences on the individual level

Another exciting topic when thinking about the connection between self-employment and happiness are personality characteristics. Are there certain personality traits that make it more likely that someone picks self-employment over being an employee? Caliendo et al. (2014) tried to connect specific personality characteristics to entering and leaving self-employment. They found that higher openness to experience, extraversion and emotional stability makes it more likely that someone will enter self-employment. Suppose that these traits are learnable or otherwise achievable for each person. In that case, everyone can still move towards self-employment and experience a possible increase in happiness. A second option is that a high level of extraversion is just something a person is born with, and it will not change over time. In this scenario, self-employment will not increase happiness, and the person cannot do something about it. This second scenario also makes it odd to compare the self-employed with people who did not become self-employed. It is not a fair comparison if there are differences in personality characteristics between these two groups before deciding about self-employment.

Caliendo et al. (2014) also mention that measuring an individual's motivation and perseverance is still challenging. However, much motivation may help to make up for shortcomings in other areas. Being an entrepreneur is still at least partly learnable. Following a training program can help with gathering the right entrepreneurial skills and abilities. De Faoite et al. (2003) mention that focussing more on enterprises and entrepreneurs in programs of colleges and universities is also a possibility. The point that one person will have a more effortless and happier life as an entrepreneur than the other still stands.

There will be differences on the individual level when looking at the relationship between becoming self-employed and happiness. All observable characteristics can be controlled for, but unobserved factors will still be there. Besides someone's characteristics, there is more on the individual level that impacts the decisions about self-employment. Block and Koellinger (2009) mention that all behaviour is a result of preferences. The chances that someone becomes self-employed increase when he or she values independence or creativity very high. Of course, if a specific individual dislikes the extra responsibility or additional risk, this will lower the chances of becoming self-employed. All observable differences on the individual level need to be included in the regression. Possible differences that are not observable need to be considered when interpreting the results.

C. Happiness

Let us think about happiness now. Is it possible that happiness is way too subjective to say something about it? Are there objective ways to measure happiness? Everyone knows a person who is somehow always happy and satisfied even when the situation seems pretty bad. A person that has everything but is still unhappy and unfulfilled is a realistic possibility as well. Can these people be considered outliers, and is there some average happiness among a population affected by self-employment? Lyubomirsky and Lepper (1999) say in their paper that the correlation between objective circumstances and happiness is weaker compared with the correlation between happiness and intuition or everyday experiences. To support this claim, they come up with the example of people who became paralysed and persons who win a lottery. Both these events do not have a long-lasting impact on happiness. These examples show that subjective and often unmeasurable factors are more important than most things that can be measured.

If happiness is not measurable, it becomes necessary to ask people what they think about their happiness in a survey. This way of self-reporting becomes the only way to estimate everyday subjective happiness. Lyubomirsky and Lepper (1999) developed what they call the 'Subjective Happiness Scale'. This scale consists of four questions that ask the respondent to say something about their happiness, compare this with others in general, compare this with a person who is always happy and compare this with a person who never seems happy. This scale got much attention, but it might still not be the perfect way to measure happiness. Does asking someone the question: "Are you a happy person?" really say something about this

person's happiness? Happiness is more like well-being. It seems to consist of more than feeling happy. These questions do not perfectly measure subjective happiness; the questions are focused on feeling happy. An important conclusion of Lyubomirsky and Lepper's paper is that happiness is highly subjective and not easily estimated. What certain events impact people's happiness is one of the most critical questions. Although measuring happiness very factual is not possible, it is still worth trying and improving the methods. Assuming that happiness is indeed highly subjective, and people act irrational, asking people about their happiness seems the best way to say something about it. The question used for the data about happiness in this paper is: "On a scale of one to ten, where do you see yourself on the ladder of life?" This question might be too abstract or complex to answer for some people, but an advantage is that it describes happiness as more than being happy.

D. Contribution to the literature

This paper contributes to the current literature in two different ways. First, it starts researching this question with a Dutch population and the Dutch labour market, which did not happen before. Secondly, it looks at a different time compared with the completed research. Each paper that shed light on the relationship between happiness and self-employment gave a new concept or lesson to keep in mind. This paper will give an even more precise answer to the stated research question by combining all this knowledge. Another contribution is that there will be a difference in this paper between the people who became self-employed somewhere during the last year and people who have been self-employed for a more extended period than a year. This split up is made to find a possible difference between the short-term and long-term effects of self-employment on happiness.

III. Data

In The Netherlands, more and more people shifted from being an employee to becoming self-employed over the last years. According to the numbers of the Dutch CBS, the number of self-employed people that do not have any employees (ZZP'ers) went from 687,525 to 1,417,495 (CBS, 2020a). So, that is an increase of 106.17 per cent. This increase happened over the period 2007 to 2019. Figure 1 in the Appendix makes it not likely that this happened all at once due to a policy change. It is a steady increase during the whole period. The question that arises is why did these people choose to become self-employed?

Some researchers of the CBS already tried to answer a similar question. In 2019 they held a survey among Dutch people who are self-employed and do not have any employees (CBS, 2019). The main motives these ZZP'ers gave to become self-employed are presented in Table 1:

Table 1 What is the reason that these people became ZZP'er?

Reason	Own work (%)	Products (%)
I was looking for a new challenge.	39.4	32.3
I wanted to decide for myself when and how much I worked.	38.1	23.3
I did not want to work for a boss (anymore).	28.7	17.2
I always wanted to become self-employed.	28.0	33.0
My job is performed by someone who is self-employed.	24.2	17.5
I wanted to be able to combine my job with other things.	20.5	12.1
I can earn more when I am self-employed.	18.1	7.6
I could not find a nice job as an employee.	10.4	5.3
I am fired, or my contract expired.	9.7	5.0
In my last job, I did not like the work environment.	7.4	4.0
I started to work in my family's company.	4.0	31.0
My employer wanted me to become self-employed.	2.5	1.1
Different	10.8	11.1

Notes: The source of these numbers is: CBS (2019) "Wat zijn de redenen om ZZP'er te worden?".

The main reason that these self-employed people gave was not “earning more money”. “A new challenge” or “Making your own decisions” are the main reasons. These reasons suggest that they chose self-employment to become happier. The fourth answer these ZZP’ers gave most is: “I always wanted to become self-employed”, which sounds like fulfilling a wish, which also increases happiness.

Table 1 also shows that “entrepreneurship out of necessity”, as discussed in the paper from Binder and Coad (2013), is not one of the main reasons to become self-employed for Dutch entrepreneurs. Although two of the less frequent answers prove that it still plays a role in The Netherlands: “I am fired, or my contract expired” and “I could not find a nice job as an employee”. As Binder and Coad (2013) said, entrepreneurship out of necessity will give different results. So, it is vital to keep in mind that not all self-employment happens because of business opportunities.

This paper uses data from the LISS (Longitudinal Internet Studies for the Social Sciences) panel administered by CentERdata (Tilburg University, The Netherlands) (Scherpenzeel & Das, 2010). The most recent wave of this dataset is gathered in June and July 2020 and published in August by Evi De Cock. She mainly took a survey to ask questions about their financial situation, income, and happiness in life. For each wave of this survey, the questions are about last year. In addition, the LISS panel’s researchers gathered data from 2008 to 2020, which means that the survey provides data about 2007 up to and including 2019. This approach has resulted in thirteen waves of data, and this paper will use all these waves in one or more regressions.

These thirteen waves are put together with a dataset called “background variables”, which is also collected by the LISS panel (Scherpenzeel & Das, 2010). The background variables provide extra information on everyone that took part in the survey. The merged dataset consists of 141,723 observations from which 3,922 were self-employed at some point during 2007 up to and including 2019. Everyone willing to give their age falls in the age group 20 up to and including 65. Other ages are dropped to try and make it a fair comparison. The expectation is that everyone aged 20 to 65 has the same number of responsibilities in life that can impact their happiness. This paper compares all people with age varying from 20 till 65 with self-employed people who fall in the same age category. Self-employment means either being a freelancer, self-employed in a one-person business, company owner or participating

(as a partner) in a partnership. The researchers who designed this survey made a difference between people who became self-employed last year, and people who have been self-employed for a more extended period. This paper will also look into the differences between these two groups later on.

It is not very easy to find an accurate and correct way to measure happiness. In this survey, an excellent question is used to measure overall satisfaction in life: "If you imagine a 'ladder of life, where the first step represents the worst possible life, and the tenth (top) step the best possible life, on what step would you place yourself?" However, there might still be some issues because someone with a positive attitude will give themselves a higher note than a more pessimistic person in the same situation. Lyubomirsky and Lepper (1999) mentioned in their paper that self-reporting is the best way to measure subjective happiness, so they also conclude that data about happiness gathered with a survey is the best approach.

This paper examines the period 2007 up to and including 2019. It will be essential to know the characteristics of the Dutch labour market for these years. The financial crisis came to a climax in 2008, so the financial crisis mainly impacts the beginning years of this period. One result of this financial crisis is an increase in unemployment in The Netherlands (CBS, 2020b). There might be some Dutch people that were pushed into self-employment out of necessity during this financial crisis. Self-employment out of necessity means that employees lose their job and are not able to get a new one. Therefore, they decide to become self-employed to escape unemployment (Maritz, 2004). Figure 2 in the Appendix shows that the unemployment rates increased in the years after the crisis. Unemployment will increase next period's necessity entrepreneurship rates (Cowling & Bygrave, 2002). Another characteristic of the Dutch labour market is the rapid increase in self-employed people (CBS, 2020a). The amount of self-employed without employees from 2007 up to 2019 can be found in Figure 1 in the Appendix. Besides a possible increase in overall happiness, are there other incentives that might have caused the increase of self-employment in The Netherlands?

There are fiscal policies that threaten self-employed different than employees in The Netherlands. Examples are: “zelfstandigenaftrek”, “startersaftrek”, and “kleineondernemersregeling” (KOR). For example, if an entrepreneur invested at least 1,225 hours in the business during the last year, the entrepreneur is eligible for the zelfstandigenaftrek. As a result, the entrepreneur will not have to pay taxes over the first €7,280 (this number is correct for the years 2018 and 2019) of profit (Belastingdienst, 2020b). Startersaftrek is an extra amount of profit for which the entrepreneur does not have to pay taxes, but this extra benefit is only valid during the first three years of the business (Belastingdienst, 2020a). Furthermore, if the one year's business turnover is below €20,000, the entrepreneur also gets the benefits of KOR. The KOR means that the entrepreneur does not have to raise the product's prices with taxes. However, this also means that the entrepreneur cannot ask back any taxes paid when investing or disbursing (Belastingdienst, 2020c).

These fiscal benefits can be an incentive to get self-employed if the situation for employees is less beneficial (Liebregts, 2016). It is hard to say what would have happened to the number of self-employed without the fiscal benefits. It is also possible that no one would have become self-employed without these fiscal rules. Taking care of pension and insurance results in more risk and responsibilities for the self-employed compared with employees (Aerts, 2005). This Dutch fiscal policy could also function as compensation for this risk and extra responsibilities. It will be exciting to watch what happens with the total amount of self-employed when these fiscal benefits get smaller or disappear totally. However, as long as the situation stays the same, it is hard to measure how these rules impact decisions about self-employment. For now, this paper assumes that these policies are fair compensation for the trouble with pension and insurances that self-employed face in comparison with employees.

IV. Methodology

The main goal of this paper is to find the relationship between switching to self-employment and happiness. The first regression focuses on the differences between employees that become self-employed and self-employed that were unemployed in the year before self-employment. The second regression focuses on the differences between the groups that became self-employed during the last year and the group of self-employed that have been self-employed for a more extended period. The results of the first regression are shown in Tables 2, 3 and 4 of the Appendix. In Tables 2 and 3, the regression uses each time different control variables. Table 4 shows the regression with all control variables included.

The second category of regressions, where self-employment is split out into newly self-employed and longer self-employed, is shown in Tables 5, 6 and 7 of the Appendix. Again in Tables 5 and 6 only with some control variables and in Table 7 with all control variables. The newly self-employed have been self-employed for a year or shorter. Longer self-employed means that a person has been self-employed longer than a year.

The first regression uses panel data based on all thirteen waves of data collection about the personal economic situation and income. Besides these waves are the background variables, with extra information about the population included in this panel dataset. The regression function also makes use of time fixed effects and individual fixed effects. The subscript t stands for each year in the period 2007 up to and including 2019. The subscript i differs per individual. α_i captures all time-invariant variation for each individual and γ_t stands for the time fixed effect of year t :

Table 2 in the Appendix

$$\begin{aligned} \text{Happiness}_{it} = & \alpha_i + \text{Employee to Self-employed}_{it} \times \beta_1 + \text{Unemployed to Self-employed}_{it} \times \beta_2 + \\ & \text{Age}_{it} \times \beta_3 + \text{Wages}_{it} \times \beta_4 + \text{Household head}_{it} \times \beta_5 + \text{Parent}_{it} \times \beta_6 + \text{Wedded partner}_{it} \times \beta_7 + \\ & \text{Unwedded partner}_{it} \times \beta_8 + \gamma_t + \varepsilon_{it}. \end{aligned}$$

Table 3 in the Appendix

$$\begin{aligned} \text{Happiness}_{it} = & \alpha_i + \text{Employee to Self-employed}_{it} \times \beta 1 + \text{Unemployed to Self-employed}_{it} \times \beta 2 + \\ & \text{Age}_{it} \times \beta 3 + \text{Wages}_{it} \times \beta 4 + \text{Satisfaction about Dutch economic situation}_{it} \times \beta 5 + \text{Satisfaction} \\ & \text{about personal financial situation}_{it} \times \beta 6 + \text{Legacies and gifts}_{it} \times \beta 7 + \text{alimony paid}_{it} \times \beta 8 + \\ & \text{alimony received}_{it} \times \beta 9 + \gamma_t + \epsilon_{it}. \end{aligned}$$

Table 4 in the Appendix

$$\begin{aligned} \text{Happiness}_{it} = & \alpha_i + \text{Employee to Self-employed}_{it} \times \beta 1 + \text{Unemployed to Self-employed}_{it} \times \beta 2 + \\ & \text{Age}_{it} \times \beta 3 + \text{Wages}_{it} \times \beta 4 + \text{Household head}_{it} \times \beta 5 + \text{Parent}_{it} \times \beta 6 + \text{Wedded partner}_{it} \times \beta 7 + \\ & \text{Unwedded partner}_{it} \times \beta 8 + \text{Satisfaction about Dutch economic situation}_{it} \times \beta 9 + \text{Satisfaction} \\ & \text{about personal financial situation}_{it} \times \beta 10 + \text{Legacies and gifts}_{it} \times \beta 11 + \text{alimony paid}_{it} \times \beta 12 + \\ & \text{alimony received}_{it} \times \beta 13 + \gamma_t + \epsilon_{it}. \end{aligned}$$

The main goal of these first three regressions is to find the effect of becoming self-employment on happiness. These regressions also try to find the difference between the effect of “necessity entrepreneurship” on happiness and “entrepreneurship because of a business opportunity” on happiness. The respondents are divided into these categories with the variables “Employee to Self-employed” (business opportunity) and “Unemployed to Self-employed” (Entrepreneurship out of necessity). To find the relationship between self-employment and happiness as sound as possible, it includes other control variables that impact both happiness and being self-employed or not. These factors are, for example, age and wages, but also position in the family and satisfaction about the personal financial situation. The variables “Legacies and gifts”, “alimony paid”, and “alimony received” are included as control variables because they impact both happiness and someone’s financial situation. The results show that one’s satisfaction with his or her personal financial situation has a substantial impact on happiness, so it seems likely that this will also eventually influence decisions about self-employment.

A. The concerns and benefits of individual fixed effects

Some drawbacks or concerns occur when a model with individual fixed effects is used (Van Kippersluis, 2021a). Measurement error problems can become an issue if one looks at within-individual changes. There is no easy solution to prevent these measurement errors from happening, so it needs to be remembered when looking at the results that this might be

a problem that influences the results. All time-invariant variation should be captured in the variable α , and all control variables should catch the time-varying factors that impact both happiness and decisions about self-employment. A problem that occurs when not all time-invariant variables that affect happiness and self-employment are included is called Omitted Variable Bias (OVB). It is nearly impossible to prevent OVB from happening because there is always a chance that an unobservable characteristic that influences happiness and self-employment was not included.

Individual fixed effects essentially start comparing an individual with him- or herself by taking the difference between two years. The target is ending up with the variation in treatment and the result of this variation in treatment for the dependent variable. So, considering all other things that changed over time is one thing, but a second complication is that this variation in treatment can have some explanation. Why did someone all of a sudden decide to become self-employed? Did this happen randomly, or is there some kind of event or shock that results in this decision? If treatment does not happen randomly for each person, then the reason for treatment needs to be found. Finding this reason for each individual is unrealistic in reality; it is simply unknown if there are reasons behind switching from being an employee to being self-employed. The assumption that treatment happens randomly is not very likely to hold. The chances are high that there is some reason or cause for someone to switch towards self-employment. The fact that this assumption will not hold also leaves room for time-varying components that affect both happiness and being self-employed, which might not be included in the regression yet. The conclusion is again that Omitted Variable Bias can occur.

Using individual fixed effects is still a method that also has its advantages. First, this method makes it possible to compare a person with him- or herself. When one wants to look at the effect of a specific treatment, a counterfactual is always necessary to create a comparison and find treatment results. The problem is that there are always other differences, besides treatment, between the treated and the control group, which are partly unobserved and unknown. This problem is minimised when an individual is compared with himself before and after treatment (Van Kippersluis, 2021a). The second advantage of individual fixed effects is that all time-invariant variables are implicitly captured when including individual fixed effects. So, it is unnecessary to include these time-invariant variables as control variables.

B. Assumptions of a multiple linear regression

Individual fixed effects come with a couple of assumptions but running the multiple linear regression or controlling for the observables also introduces some ideas. Multiple linear regression will give perfect and reliable results when all differences between the treatment and the control group are only observable characteristics. The assumption is that if individuals are similar in observed characteristics, they are also similar in unobserved characteristics. This supposition is called the Conditional Independence Assumption (CIA) (Van Kippersluis, 2021b).

The following practical question is which kind of variables needs one to include to ensure that the CIA will hold? Variables are split up into groups. For each group of variables will be decided how they impact the treatment variable, which is being self-employed or not, and how they affect the dependent variable, which is happiness. (Van Kippersluis, 2021b) The first category is confounders. Confounders influence both the treatment and dependent variable and hence need to be included as controls in the regression. All non-confounders impact only happiness and are not relevant when interested in a relationship between the treatment and the dependent variable. There is no harm in including non-confounders in regressions, but the only gain is that more of the variation of the dependent variable happiness is explained. The variation in the dependent variable is not that important. The only goal here is to come as close as possible to finding a causal relationship.

A third category is the colliders. Colliders do not influence the treatment and dependent variable but are influenced by them. This relationship makes colliders not relevant for the effect of self-employment on happiness. The fourth and last category is called mechanisms. Mechanisms stand between self-employment and happiness. So, self-employment affects happiness through the mechanism. Job satisfaction is an excellent example of a mechanism. Suppose that becoming self-employed has a positive effect on happiness. In this scenario, one who becomes self-employed first gets higher satisfaction levels about the job and overall career, creating more happiness in general afterwards. So, in two steps, switching to self-employment firstly creates more job satisfaction, and the second step is more happiness overall.

It is not optimal to include mechanisms as controls in the regression because this takes away part of the causal effect of the treatment variable on the dependent variable. The second reason that this is not a good idea is more abstract. Including mechanisms would also result in a within-group comparison, which is biased because it is not random how the subjects ended up in these groups. (Van Kippersluis, 2020b) Mechanisms can be different for each group or population. Before one extrapolates the results to another population or setting, it must be clear that the mechanisms work the same way as in this Dutch setting.

C. Conditional Independence Assumption

Going back to the CIA, is it very likely that happiness is only affected by observable factors? No, it is very explainable that there are also variables that impact happiness and self-employment, which are not observable. Good examples of these unobserved characteristics are motivation or one's overall view on life. Two steps need to be done perfectly to make sure that the CIA will hold. First, all relevant variables need to be specified. Often, no theory or paper helps with this, and figuring this out alone might result in some relevant variables being forgotten. The second step before the controls can be included in the regression is measuring these variables, which will likely come with some difficulties. For example, how can one measure variables like health or motivation correctly and objectively? As long as these steps are not performed flawlessly, the CIA will not hold, and the relationship between happiness and self-employment cannot be interpreted causally.

Besides a multivariable regression with individual and time fixed effects, there are some other options to research panel data that could have been picked. The first example is an event study. The most significant advantage of an event study is that the results are apparent when shown in a graph. However, an event study also comes with a big assumption: everyone should eventually get treatment. In this scenario, not everyone chooses self-employment. Hence, an event study is not applicable here. Of course, all observations which do not get treatment could be dropped from the dataset. However, is it still possible to get a reliable result this way? No, a problem that occurs here is called 'self-selection' into self-employment. One only considers the people that actively choose to become self-employed. To get the whole picture, the people who do not choose to become self-employed also need to be in the comparison.

Two other methods to analyse panel data are random effects instead of fixed effects and Granger causality. However, they both do not help answer the research question: “What is the effect of becoming self-employed on happiness?”

D. Second set of regressions

The second set of regressions will be run to find a possible difference between the short-term and the long-term effect of self-employment on happiness. The regression is performed three times as well, with each time different control variables to increase the robustness of the results. For the regressions in Tables 5 and 6, only some control variables are included. Table 7 shows the regression results with all control variables included.

The dataset used for these regressions consists of background variables and data about the personal economic situation and income for 2019. This data consists of a total of 3,901 observations, of which 343 are self-employed. In this dataset are again only people from the age group 20 up to and including 65. The people with a job will be divided into these three categories:

1. Paid worker: These are people with a job but who are not considered to be a ZZP'er.
2. Newly self-employed: The people that became a ZZP'er during the year 2019.
3. Longer self-employed: The people that have been a ZZP'er for longer than a year.

This comparison results in the following multiple linear regression functions where the subscript i differs per individual and time is always 2019:

Table 5 in The Appendix

$$\text{Happiness}_i = \text{Constant} + \text{Newly self-employed}_i \times \beta_1 + \text{Longer self-employed}_i \times \beta_2 + \text{Gender}_i \times \beta_3 + \text{Age}_i \times \beta_4 + \text{Net Income}_i \times \beta_5 + \text{Civil Status}_i \times \beta_6 + \text{Country of Origin}_i \times \beta_7 + \text{Position within household}_i \times \beta_8 + \text{Highest education}_i \times \beta_9 + \varepsilon_i$$

Table 6 in The Appendix

$$\text{Happiness}_i = \text{Constant} + \text{Newly self-employed}_i \times \beta 1 + \text{Longer self-employed}_i \times \beta 2 + \text{Gender}_i \times \beta 3 + \text{Age}_i \times \beta 4 + \text{Net Income}_i \times \beta 5 + \text{Children}_i \times \beta 6 + \text{Domestic situation}_i \times \beta 7 + \text{Urban character of place of residence} \times \beta 8 + \varepsilon_i$$

Table 7 in The Appendix

$$\text{Happiness}_i = \text{Constant} + \text{Newly self-employed}_i \times \beta 1 + \text{Longer self-employed}_i \times \beta 2 + \text{Gender}_i \times \beta 3 + \text{Age}_i \times \beta 4 + \text{Net Income}_i \times \beta 5 + \text{Children}_i \times \beta 6 + \text{Domestic situation}_i \times \beta 7 + \text{Urban character of place of residence}_i \times \beta 8 + \text{Civil Status}_i \times \beta 9 + \text{Country of Origin}_i \times \beta 10 + \text{Position within household}_i \times \beta 11 + \text{Highest education}_i \times \beta 12 + \varepsilon_i$$

The effect of becoming self-employed on happiness may be different during the first year compared with later on. The effect on happiness could be more prominent in the first year because it is the first time someone starts working without a boss and the first time someone enjoys this freedom and independence. In the second year and later on, these benefits start feeling normal, and the impact on happiness might decrease because of that. This idea is illustrated with some made-up numbers in Figure 3 in the Appendix. The person started to be self-employed in 2015. At first, the effect on happiness overshoots and later on during the career, it stabilises.

A second possibility is that the impact on happiness is low or even harmful in the first year, and it gets positive afterwards. For example, it could be that a person's first year in self-employment is not a big success. He or she does not have enough clients, or taking care of pension and insurance might result in extra stress. When this second scenario is confirmed, a negative coefficient for 'newly self-employed' and a positive coefficient for 'longer self-employed' will be found. This second scenario is graphically shown in Figure 4 in the Appendix. The person switches to self-employment in the year 2015. Some trouble results in a negative effect on happiness at first, but it positively affects happiness later on. It is also possible that both scenarios will not play out. However, these examples make it at least likely that self-employment's short-term effect on happiness can be different from the long-term effect.

V. Results

A. Main results

Looking at the results of the first regression in Tables 2, 3 and 4 of the Appendix, the coefficients for “Employee to Self-employed” and “Unemployed to Self-employed” are not significant in the first two Tables. In Table 4, when all controls are included, the effect of “Employee to Self-employed” on happiness is -0.467 and significant on a five per cent significance level. The effect of “Unemployed to self-employed” on happiness is 0.716 and significant on a one per cent significance level. Happiness varies on a scale from 1 to 10, and the average happiness in this sample is 7.23. A coefficient of 0.716 means that the expected increase in happiness when someone switches from unemployment to self-employed is 0.716. These numbers show that becoming self-employed has a positive effect on happiness for the unemployed and an adverse effect for those who were first employed. These numbers are a generalised result, so it would be wrong to conclude that becoming self-employed is a bad idea for all employees and a good idea for all the unemployed.

The second regression, shown in Tables 5, 6 and 7 of the Appendix, gives some more interesting numbers. In the second regression, there is a difference between the people that became self-employed last year and the people that have been self-employed for a more extended period. For the variable “newly self-employed”, the coefficient varies from -0.024 in Table 5 to -0.061 in Table 7 but is insignificant in all regressions. The effect of self-employment on happiness could be negative during the first year of self-employment, but the effect could still be zero as well. The result with the highest significance for the variable “Longer self-employed” is shown in Table 6. In this regression, the coefficient is 0.204 and significant on a five per cent level. These results show that the impact of self-employment on happiness is unclear during the first year of self-employment but becomes positive when someone has been self-employed for a period longer than a year.

It needs to be said that the regressions did not use the same amount of observations. The amount of observations used for a regression varies from 1,543 to 20,256. This difference among the regressions exists because Stata drops observations if a value is missing for one or more of the included variables. Including more observations in a regression means that the results will end up being more reliable. The regression with 1,543 observations only includes people who received alimony, paid alimony, or received a legacy or gift during the last year. It is a smaller group compared with the other samples. However, this group should still be big enough to get reliable results.

B. Main results and the literature

Binder and Coad (2013) also found a positive correlation between becoming self-employed and overall life satisfaction using a British population. However, they make a distinction in their paper that switching from being an employee to self-employment will give a more considerable increase in happiness compared with an unemployed who becomes self-employed. Binder and Coad's results do not match with what is found in this paper. This paper shows that the unemployed will experience a more significant increase in happiness than the employees when switching to self-employment. Binder and Coad studied a different time and a different population, which might have caused the differences in results between their paper and this paper.

Binder and Coad (2013) shortly mention that the long-term effect (up to two years later) of self-employment on happiness might differ from the short-term effect. This paper confirms the idea that the long-term effect is different from the short-term effect. The regression results show that the effect of self-employment on happiness is unclear and possible zero at first. However, after one year, the effect is positive and significant at a 5% significance level.

Anderson (2008) studied a Swedish population between 1991 and 2001. She found a positive correlation between self-employment and life satisfaction as well. She also found some evidence that the self-employed are less likely to experience their job as mentally straining. This finding supports the idea that when someone is more satisfied with his job, life satisfaction will increase as well. Anderson's conclusions are in line with what is found in this paper.

C. Other results Tables 2, 3 and 4

There are some other results in Tables 2, 3 and 4; the numbers show that being a household head, parent, wedded partner, or unwedded partner does not positively or negatively impact happiness. The results for these variables are insignificant in both Table 2 and 4. For the variable age, a small negative effect that is significant on a ten per cent level is found in Tables 2 and 3. However, in Table 4, the coefficient for age becomes positive and significant on a five per cent level. With the results of these regressions, it remains unclear what the effect is of age on happiness. The coefficient of the variable 'Wages' is also not significant, but the sign is positive in all the Tables. Tables 2 and 4 also give the year dummies, which control for time effects. These time effects are pretty different per regression, so it is challenging to develop exact reasons or trends that caused these negative time effects.

The control variables of Tables 3 and 4 show that satisfaction about the personal financial situation and satisfaction about the Dutch economic situation plays a key role when discussing happiness. Both types of satisfaction explain a significant part of the variation in happiness. However, it remains unclear if these types of satisfaction also affect decisions about self-employment. Hessels et al. (2018) show a positive relationship between life satisfaction and self-employment. Bradley and Roberts (2004) found that job satisfaction and self-employment are also positively correlated. The literature does not provide evidence yet that satisfaction about the economic situation and personal financial situation also impacts decisions about self-employment. The regression results of Table 8 in the Appendix do not show strong support for a relationship between satisfaction about personal finance or the economic situation and self-employment. This paper still decided to include satisfaction about the personal financial situation and the economic situation as controls because it is still possible that they will influence self-employment looking at the facts provided by the literature about life and job satisfaction.

In Tables 3 and 4 of the Appendix are 'Legacies and gifts', 'Alimony paid' and 'Alimony received' also included as control variables. These variables are mainly included because they provide more information about someone's financial situation than only including the variable 'Wages'. The results reveal that 'Legacies and gifts' and 'Alimony received' have an insignificant effect on happiness. 'Alimony paid' has a negative effect on happiness and is significant first on a five and then on a ten per cent significance level.

D. Other results Tables 5, 6 and 7

Tables 5 and 7 show that compared with married, all other options of Civil Status impact happiness negatively and are significant on a one per cent significance level. The results of the section Country of Origin suggest that not having a Dutch background always hurts happiness on average. These results about background are most significant as well. Education always has a significant positive effect on happiness. Where enjoying a higher level of education also means a higher positive effect on happiness. These are all generalised effects based on the researched sample, making it possible that one experiences a different effect on happiness than these results predict.

The regressions in Tables 5, 6 and 7 of the Appendix have the same goal: finding the difference between new and longer self-employed. The distinction between these three regressions can one find in the control variables. Table 5 controlled for education, country of origin and position in the household. Table 6 introduces some more categories of control variables: the number of children, domestic situation, and urban character of the place of residence. In Table 7 of the Appendix, all control variables are included in one regression. The impact of having children on happiness remains unclear; the effect is sometimes negative and sometimes positive and significant. The urban character of the place of residence is divided into four categories, and these categories are included in Tables 6 and 7's regressions. The effect of these variables on happiness is always positive but not always significant.

E. Variation in the dependent variable

The (overall) R^2 of the performed regressions varies from 0 to 0.3178. This means that only a tiny part of the variation in happiness is explained by self-employment and all other control variables used in these regressions. It is essential to mention that the aim is not to get a high R^2 but to estimate a causal relationship, which is still possible when the R^2 is low. There are two possible reasons why only a tiny part of happiness' variation is explained. First of all, there could be other variables that further explain happiness, which are not yet included in these regressions. There could also be other factors that can predict someone's happiness that are not easy to catch in variables—certain events that happen in one's personal life, which are not easy to predict. If happiness is impacted by events that are not predictable, it becomes harder to estimate a person's happiness level correctly.

The question about happiness in the survey might introduce a problem. Is it expected that people with the same values for all the control variables also give precisely the same answer to this question? If both individuals are perfectly rational and only look at their life factually, the answer would be “yes”. Happiness could be way more predictable if all individuals behave according to some kind of rational standard. The problem is that this is not what happens in reality. When we again look at two individuals with precisely the same results at all control variables. Then person A might have a very optimistic view on life and give him- or herself a very high place on the ladder of happiness. At the same time, person B is not very satisfied with his current position and ends up with a way lower place on the ladder of happiness. Looking at the “law of large numbers”, this does not have to be a problem. When the researcher compares enough people, outliers are filtered out and do not heavily impact the results. So, these differences do not heavily influence the relationship between self-employment and happiness. The conclusion of this low R^2 is that the variation in the variable happiness is not explainable because it might be based on irrational behaviour and unpredictable events in the personal sphere.

F. The causal relationship between happiness and self-employment

The literature review already showed many possible problems and things that need to be considered before discussing a causal relationship between happiness and becoming self-employed. The first problem that might occur when comparing these groups is selection into self-employment. When someone who stayed as an employee and someone who became self-employed are compared, there needs to be an explanation of why one chose to become self-employed and the other did not. For example, the one who chose to become self-employed might be more motivated or have better chances in the labour market. Because of these differences, which are not observed, number one stayed as an employee while number two became self-employed. This phenomenon, called 'self-selection', makes it impossible to create a perfect and correct comparison.

Besides these points, there is more that prevents a causal relationship between self-employment and happiness. First, the effect of the Dutch tax policy needs to be precise. This paper assumes that this is just compensation for the risk and extra troubles of being self-employed compared to employees, but no proof supports this idea. It might still be the case that these financial rules give a too big or too small incentive to switch to self-employment. People could become self-employed to apply for these tax rules and not because it increases their overall happiness. In that case, the effect of self-employment on happiness might be misjudged at the moment.

Measuring a causal relationship also means that all factors that impact becoming self-employed and happiness need to be included in the regressions. The regressions in this paper used many control variables to take away at least the most prominent factors that impact both happiness and decisions about self-employment. Everything that happens in day-to-day life somehow impacts happiness levels and the decisions about self-employment one make. The fact that close to everything impacts a person's happiness makes it not very likely that all Omitted Variable Bias is gone when using these control variables. For example, motivation or differences in attitude towards risk might impact both happiness and decisions about self-employment. These concepts were not included as controls in the multivariable regressions. Omitted Variable Bias also prevents the relationship between self-employment and happiness from being interpreted causally. The reader cannot interpret these results causally, but that does not make them useless. A perfect situation without any Omitted Variable Bias or other problems might never be reached, but that does not mean that the results cannot be used. The results can still be helpful if factors that change these results or other scenario's that might play out are not forgotten.

VI. Conclusion and discussion

The main question of this paper is: "What is the effect of becoming self-employed on happiness?" According to the regression results, the short-term effect of becoming self-employed is negative. What needs to be said is that this effect is not significant and could easily be zero as well. However, the long-term effect of becoming self-employed is positive and significant on a five per cent level. So, after one year of self-employment, being self-employed starts positively affecting a person's happiness levels.

The second conclusion of this research is that there is a noticeable difference between the people that switched from employee to self-employment and the unemployed that became self-employed. Table 4 of the Appendix shows that becoming self-employed has a significant and positive effect for the unemployed and a significant and negative effect for employees. Year dummies also often showed significant results, so it seems crucial to include them in the regressions.

The Dutch tax policy regarding self-employment might have impacted the results. It is uncertain if the current tax rules give a monetary incentive to employees to switch towards self-employment. If this monetary incentive exists, people decided to become self-employed for other reasons than increased life satisfaction. People who switched to self-employment might see a more significant increase in happiness than presented in this paper because the results in this paper are also influenced by people who switched towards self-employment because of the monetary incentive. On the other hand, it is not sure that this monetary incentive exists in The Netherlands, so the results of this paper could be a correct estimation as well.

Based on these conclusions, what new knowledge is received, and how can this knowledge be used in the real world? Some people need to overcome a short-term negative effect to eventually get a positive effect of self-employment on happiness after the first year. It might be helpful to support these newly self-employed to conquer these initial difficulties. An excellent way to do this might be some training program or mentoring. Someone's reasons for choosing self-employment over being an employee or being unemployed are essential. The results showed that "entrepreneurship out of necessity" and "entrepreneurship out of opportunity" will give different results, which means that the effect on happiness is different

for each category of entrepreneurship. So, when these newly self-employed are getting some training, it can be interesting to ask for their initial motives to switch towards self-employment.

When looking at the differences between employees and unemployed that choose self-employment, it might be an excellent idea that more people that are yet unemployed choose self-employment. The government could play a role in this by promoting self-employment among the unemployed. "Self-employment out of necessity" might not be such a bad idea after all.

An aspect that needs further research is the impact of the Dutch tax policy on the decisions about self-employment. The impact of the Dutch tax regulations is in this paper's regressions captured in the year dummies, but it is still unclear how this Dutch policy impacts the decision process of someone who wants to switch towards self-employment. Does a monetary incentive to switch towards self-employment exist, and how does this incentive impact the relationship between self-employment and happiness? A change in these tax regulations would be an opportunity to run an event study. This event study will show the effect of tax regulations on the decision-making process about self-employment more precisely.

For now, the expectation is that becoming self-employed has a negligible effect on happiness at first. The highest chance is that this effect will be negative, but a positive effect is still possible. This effect might be negative at first because of some starting problems or just getting used to a new situation. After one year, the effect of being self-employed on happiness starts to be positive. This relationship might occur because a person is now used to the situation and starts enjoying the benefits of being self-employed more and more. Becoming self-employed has a different effect on happiness for the unemployed compared with employees. The unemployed might benefit most from switching towards self-employment, where the effect on happiness for employees who switch to self-employment might even be negative. It needs to be said that this is a general expectation, so the results will still differ significantly per individual. Happiness remains challenging to measure, so the relationship between happiness and becoming self-employed will still massively differ from person to person.

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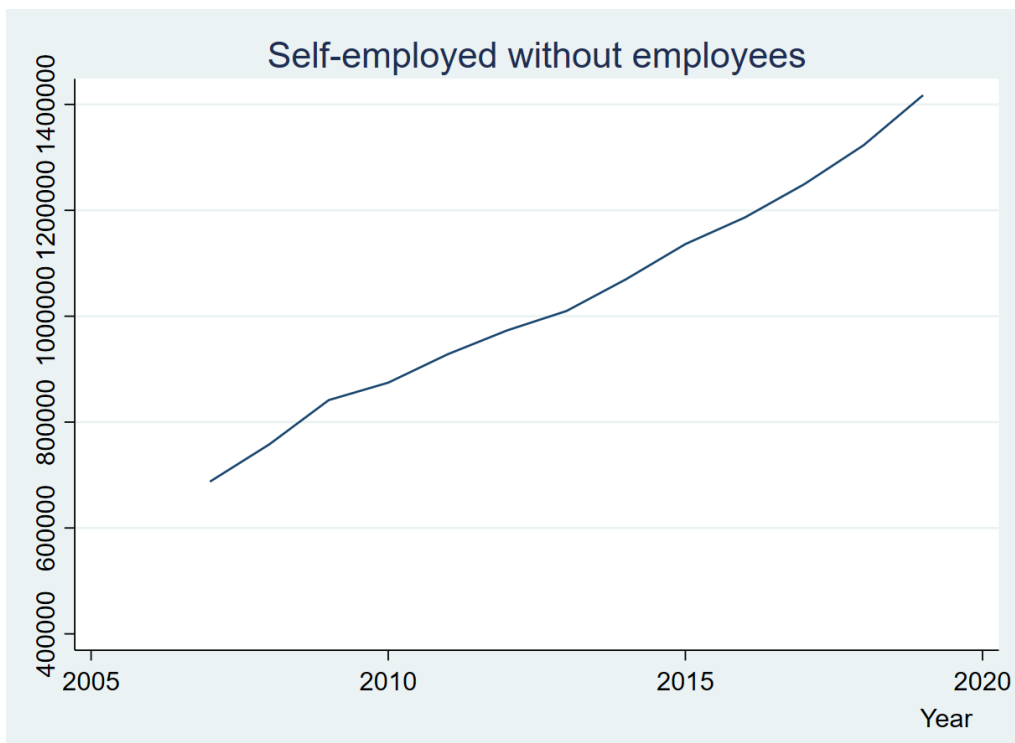
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VIII. Appendix

Figure 1 Number of self-employed people without employees in The Netherlands



Notes: This graph is based on numbers of CBS (2020a) "Dossier ZZP".

Figure 2 Percentage of people that are unemployed in The Netherlands



Notes: This graph is based on numbers of CBS (2020b) "Werklozen".

Figure 3: Impact of becoming self-employed on happiness; scenario 1



Notes: This graph is based on made-up numbers.

Figure 4: Impact of becoming self-employed on happiness; scenario 2



Notes: This graph is based on made-up numbers.

Table 2: Individual fixed effects regression

Happiness	<i>Coefficient</i>	<i>Year dummies</i>	<i>Coefficient</i>
Employee to self-employed	-0.066 (0.061)	2009	-0.072 (0.030)
Unemployed to self-employed	-0.056 (0.134)	2010	-0.088*** (0.032)
Age	-0.005* (0.002)	2011	-0.023 (0.033)
Wages	0.00000008 (0.0000001)	2012	-0.117*** (0.038)
Household head	0.089 (0.060)	2013	-0.122*** (0.040)
Parent	0.260 (0.252)	2014	-0.067* (0.040)
Wedded partner	0.115 (0.077)	2015	-0.067 (0.042)
Unwedded partner	0.027 (0.084)	2016	0.019 (0.046)
Constant	7.546*** (0.111)	2017	0.036 (0.048)
R^2 within	0.0086	2018	0.099** (0.049)
R^2 between	0.0013	2019	0.101* (0.052)
R^2 overall	0.0000	<i>Observations</i>	19,334

Notes: The standard errors are stated between brackets. The number of stars stated is based on the p-values of the two-sided t-tests.

***= Significance on 1 percent level.

**= Significance on 5 percent level.

*= Significance on 10 percent level.

Table 3: Individual fixed effects regression with different control variables

	(1)	(2)	(3)
<u>Happiness</u>	<i>Coefficient</i>	<i>Coefficient</i>	<i>Coefficient</i>
Employee to self-employed	-0.065 (0.061)	-0.065 (0.059)	-0.467** (0.202)
Unemployed to self-employed	-0.056 (0.134)	-0.110 (0.132)	0.740*** (0.206)
Age	-0.005* (0.003)	-0.004 (0.003)	0.035*** (0.013)
Wages	0.00000009 (0.0000001)	0.00000002 (0.00000007)	0.000001 (0.0000008)
Satisfaction about the Dutch economic situation.		0.032*** (0.007)	0.030 (0.025)
Satisfaction about the personal financial situation.		0.235*** (0.011)	0.360*** (0.081)
Legacies and gifts			-0.00000000001 (0.00000000001)
Alimony paid			-0.169* (0.098)
Alimony received			0.211 (0.181)
Constant	7.608***	5.792***	3.571***
<i>Observations</i>	19,334	19,334	1,543
<i>R² within</i>	0.0082	0.1065	0.2365
<i>R² between</i>	0.0038	0.3479	0.1915
<i>R² overall</i>	0.0006	0.3178	0.2159

Notes: The standard errors are stated between brackets. The number of stars is based on the p-values of the two-sided t-tests:

***= significance on 1 per cent level.

**= significance on 5 per cent level.

*= significance on 10 per cent level.

Table 4: Complete individual fixed effects regression with all controls and year dummies

Happiness	<i>Coefficient</i>		<i>Coefficient</i>
Employee to self-employed	-0.467** (0.204)	2009	-0.132 (0.116)
Unemployed to self-employed	0.716*** (0.219)	2010	-0.330*** (0.125)
Household head	0.077 (0.214)	2011	-0.224 (0.144)
Wedded partner	-0.362 (0.350)	2012	-0.291* (0.156)
Unwedded partner	-0.286 (0.275)	2013	-0.259* (0.155)
Age	0.033** (0.016)	2014	-0.347** (0.162)
Wages	0.0000008 (0.0000009)	2015	-0.346** (0.168)
Satisfaction about the Dutch economic situation.	0.033 (0.025)	2016	-0.477** (0.188)
Satisfaction about the personal financial situation.	0.362*** (0.081)	2017	-0.536** (0.208)
Legacies and gifts	-0.00000000001 (0.00000000001)	2018	-0.539*** (0.207)
Alimony paid	-0.202** (0.093)	2019	-0.659*** (0.242)
Alimony received	0.210 (0.180)	<i>R² within</i>	<i>0.2404</i>
Constant	3.654***	<i>R² between</i>	<i>0.1668</i>
<i>Observations</i>	<i>1,543</i>	<i>R² overall</i>	<i>0.1912</i>

Notes: The standard errors are stated between brackets. The number of stars is based on the p-values of the two-sided t-tests:

***= significance on 1 per cent level.

**= significance on 5 per cent level.

*= significance on 10 per cent level.

Table 5: Difference between Newly and Longer Self-employed

<u>Happiness</u>	<i>Coefficient</i>		<i>Coefficient</i>
Newly Self-employed	-0.024 (0.214)	<u>Position within household</u>	
Longer Self-employed	0.115 (0.078)	Wedded partner	0.065 (0.074)
Gender	0.022 (0.056)	Unwedded partner	0.437*** (0.086)
Age	0.008*** (0.002)	Parent (in law)	1.548*** (0.207)
Net income	0.00002 (0.00002)	Child living at home	0.108 (0.113)
Constant	6.267*** (0.306)	Housemate	0.122 (0.219)
<u>Civil Status</u>		<u>Highest education</u>	
Separated	-1.711*** (0.279)	Intermediate secondary education	0.404 (0.135)
Divorced	-0.447*** (0.085)	Higher secondary education	0.865*** (0.002)
Widow or widower	-1.065*** (0.248)	Intermediate vocational education	0.603** (0.267)
Never married	-0.513*** (0.068)	Higher vocational education	0.899*** (0.266)
<u>Country of origin</u>		University	1.133*** (0.267)
First-generation foreign, Western background	-0.766*** (0.132)	Other	-0.057 (0.389)
First generation foreign, non-Western background	-0.890*** (0.126)		
Sec. generation foreign, Western background	-0.240** (0.103)	<i>Observations</i>	3,276
Sec. generation foreign non-Western background	-0.466*** (0.126)	<i>R</i> ²	0.132

Notes: The standard errors are stated between brackets. The number of stars is based on the p-values of the two-sided t-tests: ***= significance on 1 per cent level.

**= significance on 5 per cent level. *= significance on 10 per cent level.

Table 6: Difference between Newly and Longer Self-employed with different control variables

<u>Happiness</u>	<i>Coefficient</i>		<i>Coefficient</i>
Newly Self-employed	-0.036 (0.192)	<u>Domestic situation</u>	
Longer Self-employed	0.204** (0.080)	(Un)married co-habitation, without child(ren)	0.699*** (0.071)
Gender	0.064 (0.053)	(Un)married co-habitation, With child(ren)	0.921* (0.541)
Age	0.007*** (0.002)	Other	0.334 (0.196)
Net income	0.00003 (0.00003)	<u>Urban character of place of residence</u>	
Constant	6.06*** (0.152)	Very urban	0.107 (0.080)
<u>Children</u>		Moderately urban	0.216*** (0.080)
One child	-0.323 (0.540)	Slightly urban	0.262*** (0.078)
Two children	-0.335 (0.539)	Not urban	0.225*** (0.081)
Three children	-0.214 (0.541)		
Four children	-0.796 (0.580)	<i>Observations</i>	3,406
Five children	-0.800 (0.769)	<i>R</i> ²	0.064

Notes: The standard errors are stated between brackets. The number of stars is based on the p-values of the two-sided t-tests: ***= significance on 1 per cent level. **= significance on 5 per cent level. *= significance on 10 per cent level.

The urban character of the place of residence: Surrounding address density per km²:

- extremely urban: 2500 or more
- very urban: 1500 to 2500
- moderately urban: 1000 to 1500
- slightly: 500 to 1000
- not urban: less than 500

Table 7: Difference between Newly and Longer Self-employed with all control variables

<u>Happiness</u>	<i>Coefficient</i>		<i>Coefficient</i>
Newly Self-employed	-0.061 (0.179)	<u>Domestic situation</u>	
Longer Self-employed	0.177* (0.071)	(Un)married co-habitation, without child(ren)	0.360*** (0.075)
Gender	0.044 (0.047)	(Un)married co-habitation, With child(ren)	0.145 (0.107)
Age	0.010*** (0.002)	Other	0.027 (0.127)
Net income	0.000003 (0.000005)	<u>Urban character of the place of residence</u>	
Constant	5.890***	Very urban	0.044 (0.061)
<u>Children</u>		Moderately urban	0.037 (0.063)
One child	0.194** (0.105)	Slightly urban	0.088 (0.062)
Two children	0.191** (0.113)	Not urban	0.077 (0.063)
Three children	0.310** (0.121)	<u>Position within household</u>	
Four children	-0.380 (0.235)	Wedded partner	-0.011 (0.059)
Five children	-0.759 (0.586)	Unwedded partner	0.134 (0.092)
Six children	0.550 (0.632)	Parent (in-law)	1.077*** (0.302)
<u>Civil Status</u>		Child living at home	-0.0002 (0.227)
Separated	-1.163*** (0.312)	Housemate	0.148 (0.227)
Divorced	-0.200** (0.085)	<u>Highest education</u>	
Widow or widower	-0.105 (0.101)	Intermediate secondary education	0.328** (0.148)

Never married	-0.254*** (0.075)	Higher secondary education	0.685*** (0.158)
<i>Country of origin</i>		Intermediate vocational education	0.506*** (0.148)
First-generation foreign, Western background	-0.639*** (0.109)	Higher vocational education	0.795*** (0.146)
First generation foreign, non-Western background	-0.762*** (0.112)	University	1.009*** (0.149)
Sec. generation foreign, Western background	-0.092 (0.079)	Other	0.136 (0.241)
Sec. generation foreign non-Western background	-0.373*** (0.131)	<i>Observations</i>	4,978
		<i>R</i> ²	0.1192

Notes: The standard errors are stated between brackets. The number of stars is based on the p-values of the two-sided t-tests: ***= significance on 1 per cent level. **= significance on 5 per cent level. *= significance on 10 per cent level.

The urban character of the place of residence: Surrounding address density per km²:

- extremely urban: 2500 or more
- very urban: 1500 to 2500
- moderately urban: 1000 to 1500
- slightly: 500 to 1000
- not urban: less than 500

Table 8: Impact of satisfaction on self-employment

<u>Self-employment</u>	<i>Coefficient</i>	<i>Year dummies</i>	<i>Coefficient</i>
Satisfaction about the Dutch economic situation.	-0.00002 (0.001)	2008	0.001 (0.004)
Satisfaction about the personal financial situation.	0.001 (0.002)	2009	0.002 (0.006)
Age	-0.0007 (0.002)	2010	0.004 (0.007)
Wages	-0.00000002 (0.00000001)	2011	0.004 (0.008)
Household head	0.006 (0.015)	2012	0.0003 (0.010)
Parent	0.004 (0.014)	2013	0.006 (0.011)
Wedded partner	0.001 (0.015)	2014	0.009 (0.012)
Unwedded partner	0.004 (0.018)	2015	-0.0005 (0.012)
Constant	0.056 (0.064)	2016	0.009 (0.016)
		2017	0.008 (0.017)
<i>Observations</i>	<i>20,256</i>	2018	-0.0006 (0.018)
<i>R² within</i>	<i>0.0010</i>	2019	0.003 (0.020)
<i>R² between</i>	<i>0.0000</i>		
<i>R² overall</i>	<i>0.0000</i>		

Notes: The standard errors are stated between brackets. The number of stars stated is based on the p-values of the two-sided t-tests.

***= Significance on 1 percent level.

**= Significance on 5 percent level.

*= Significance on 10 percent level.