

## Towards the Solution of the Economic Problem? – On the Non-Revolutionary Relationship between Working Time and Productivity

Sebastian Schief<sup>1</sup>

*University of Fribourg*

### *Abstract*

*The increase of productivity we faced in the last hundred years was the basis for fundamental predictions on how a rising standard of living would reduce working time in the long run. Keynes predicted in 1930 that the economic problem would be solved and “mankind will be deprived of its traditional purpose” (Keynes 1931[1930]: 366). It is quite obvious that Keynes prediction is wrong when it comes to working time. This article takes a closer look at the developments of working time and productivity in Austria, Germany and Switzerland. Since the beginning of the 1970s, in all three countries under investigation, working time reduction ended. By discussing reasons for the abrupt ending of working time reduction this article proposes a theoretical model on the development of working time, wages, and productivity.*

*Keywords: working time, productivity, Keynes, capitalism, wages*

### **Introduction<sup>2</sup>**

The ongoing debate about working time and its organization is as old as the debate about work itself. An analysis of the development of working time in a longer perspective reveals three long-term trends: Firstly, the length of working time has been reduced enormously since the 1870s. Secondly, the organization of working time has diversified strongly, and thirdly, the regulation of working time has grown stronger over time, be it through collective bargaining or the rule of law. In what follows, I draw on the development and reasoning of the length of working time for full time employees. We do so because, in the center of the argument, there is Keynes' idea of an enormous reduction of working time due to productivity gains which allows people to work shorter hours without losing a certain standard of living. The purpose of the article therefore is the relationship between productivity, working time, and wages; it is not about individual reduction of working time through part time or an overall reduction of the work volume per capita of an economy. The reason being, part time as well as a redistribu-

---

<sup>1</sup> Dr. Sebastian Schief is senior lecturer in the Department of Social Sciences at the University of Fribourg/Switzerland: [sebastian.schief@unifr.ch](mailto:sebastian.schief@unifr.ch).

<sup>2</sup> I would like to thank the editor and the anonymous reviewers for their constructive comments, which helped me to improve the manuscript.



tion of working time within an economy does not change the relationship between productivity, working time, and wages.

It was John Maynard Keynes who stated in 1930 in his famous essay on “Economic possibilities for our Grandchildren” that “the standard of life in progressive countries one hundred years hence will be between four and eight times as high as it is today” (Keynes 1931 [1930]: 364). Due to that development, the *economic problem* would be solved and “mankind will be deprived of its traditional purpose” (Keynes 1931 [1930]: 366). By economic problem, Keynes points to a complete and sufficient supply of mankind with goods and services. Human beings, according to Keynes, thereby got rid of their traditional pursuit and can turn to new purposes. “Thus for the first time since his creation man will be faced with his real, his permanent problem – how to use his freedom from pressing economic cares, how to occupy leisure, which science and compound interest will have won for him, to live wisely and agreeably and well” (Keynes 1931 [1930]: 368).

Therefore, “three-hour shifts or a fifteen-hour week may put off the problem for a great while. For three hours a day is quite enough to satisfy the old Adam in most of us!” (Keynes 1930: 368) We have not reached 2030 yet, but it is quite obvious that Keynes prediction is wrong when it comes to working time.

In what follows I take a closer look at the developments of three countries with similarities and differences in the institutional framework as well as differences and similarities in the development and status quo of working time, namely Austria, Germany and Switzerland. All three countries are corporatist but have differences when it comes to labor regulation and industrial relations, especially the strength and influence of trade unions (e.g. Visser et al. 2015). The biggest similarity in terms of working time is, as we will see, the end of working time reduction since the beginning of the 1970s in all three countries under investigation. Enormous differences can be found in how productivity gains are distributed between enterprises, wages, and working time. This article analyzes both theoretically and empirically, the reasons of this development.

Firstly, I discuss the general development of working time and work organization, followed by an analysis of working time in Austria, Germany and Switzerland. This analysis shows that since the beginning of the 1970s, full employment working time was not reduced. However, this was not because productivity did not grow, as the subsequent chapter shows. So why is Keynes prediction likely going to fail? Reasons for this are discussed in the following chapter. The article ends with the presentation of an explanatory model on the development of productivity, working time and wages and discusses further empirical steps to test it.

### **The development of working time**

From a historical point of view, we are able to identify certain trends in the development of working time. These trends allow us to draw some conclusions regarding the reasons for its development. It is certainly true that comparing working time over the arch of several centuries bares major difficulties in terms of comparability. The most difficult part of it might be the definition of work and therefore the definition of working time. Since for the longest time the spatial and temporal segregation of paid work, home work and leisure time did not exist,

an estimation of working time is certainly difficult. Moreover, home work and its used time, (still) mostly done by women, is not part of the working time discussed in this context. The author is aware of this flaw but nevertheless thinks the discussion on the guiding principle of the length of working time over the wake of history is an important issue to understand the way economies work.

In the wider public, there exists the idea of a much longer working time in pre-modern times. Several authors have shown convincingly that this is not the case (e.g. Basso 1998; Schor 1991; Matthias 1994). Analyzing the working time of the 18<sup>th</sup> century, we find several reasons that led to relatively short working hours at that time (Matthias 1994): first being a relatively bad supply of food. Malnourishment made it physically impossible for a big part of the population to work long hours. Secondly, a lot of occupations were bound to the seasons (e.g. farming) and therefore could only be done seasonally. Shor (1991) adds an argument in pointing out that the absence of electric light had enormous impact on working hours. While the sun used to be the regulator of working hours, it is later replaced through the clock. Going back one more step in time towards medieval age, working time was restricted heavily by bank holidays. The Ancien Régime of France knew 52 day-off-Sundays, 92 days of rest and 38 bank holidays. Finally, the pace of work used to be much slower. Going back even further, Lévi-Strauss (2016) pointed out that what he called *primitive* peoples of America, Africa and Australia reached a working time of no more than four hours per day. The rest of the time was dedicated to social and religious activities, rest periods and distractions.

The restrictions on working time described above make it plausible to reach the conclusion of a much shorter working time until the late 18<sup>th</sup> century compared to the following industrialization. Therefore, the idea of capitalism having liberated human beings from hard and tedious work is nothing but a myth. The opposite is true. It is worth noting that, as Keynes (1931 [1930]: 360) puts it, “...the absence of important technical inventions between the prehistoric age and comparatively modern times is truly remarkable“.

The absence of technical inventions also explains the absence of productivity gains during that period of time. Keynes dates the beginning of modern age in the 16<sup>th</sup> century, when the Spaniards brought gold and silver from the new to the old world, unfolding so-called “*compound interest*” (Keynes 1930: 361) that way.

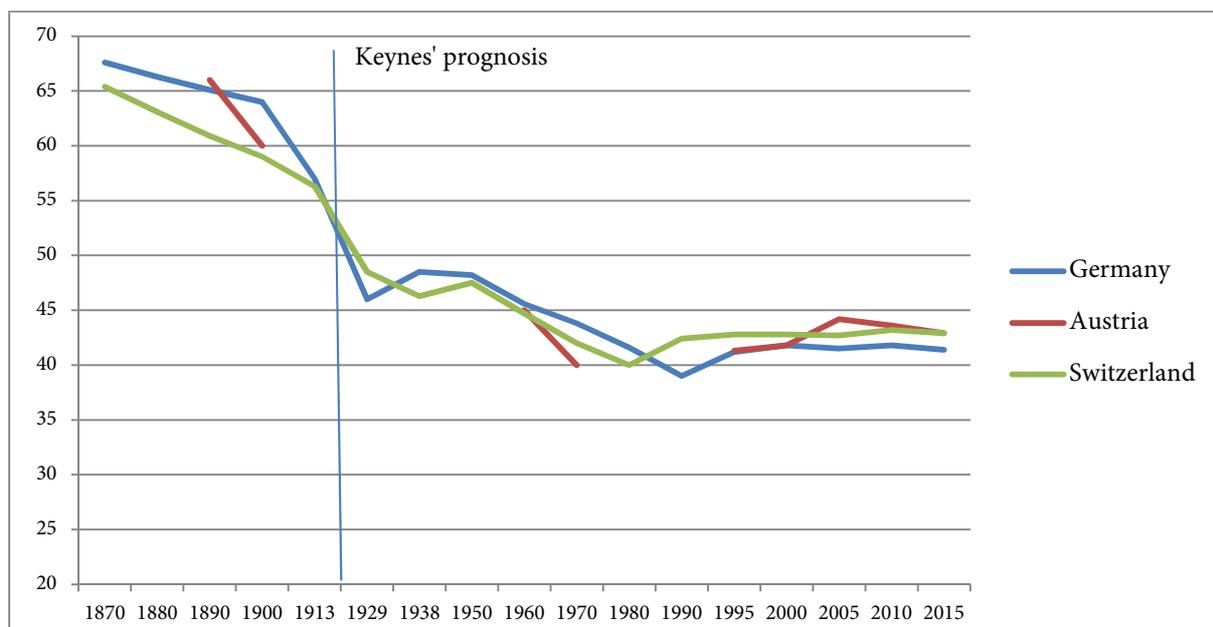
With the beginning of the 19<sup>th</sup> century technical progress developed its enormous power, using coal, steam, electricity, petrol, steel, rubber, cotton, the chemical industry, automatization, mass production and much more. The forementioned induced gain in productivity led to an enormous raise of living standard in Europe and the USA (Keynes 1931 [1930]: 362).

The development outlined by Keynes led him to an almost paradigmatic conclusion concerning the future of mankind. Human beings would be able to accomplish farming, mining and producing within a quarter of the time they used to in the 1930s. Therefore, mankind would have solved its economic problem, since the standard of living in 2030 would be four to eight times higher than in 1930. Keynes was convinced that the rise in productivity and living standard would enable us to work no more than three hours per day or 15 hours per week to make a living, since the economic problem would be solved (Keynes 1931 [1930]: 363).

## Working time in Austria, Germany and Switzerland since 1870

From today's perspective, we learned that Keynes was right when it comes to productivity gains and the rise of the living standard, but he was utterly wrong concerning the development of working time. By way of example of three corporatist countries, Austria, Germany, and Switzerland, the development of working time of full time employees is described to analyze to what extent Keynes' prediction has been right. The analysis starts sixty years before Keynes' prognosis, around the start of the industrial revolution in those countries, and ends in 2015 (Figure 1). Note that working time of full time employees is used to analyze Keynes' prediction of a reduction of full time working hours mostly due to productivity gains. A raise in part-time leads to shorter hours on average of all employees but without the distribution of productivity gains in a Keynesian sense.

Figure 1: Development of working time (full time) in Austria, Germany and Switzerland since 1870



Source: Huberman/Minns 2007, Degen 2015, Das rote Wien o.J, since 1995 ELFS

Explanation: Estimating working time of full time employees over a long period like that is certainly a difficult thing. I used several different sources to give a rough impression of the working time. Before 1995, the working time draws basically on contractual working time which was either set by the law or collective bargaining. Since 1995 the average usual working hours of the European Labor Force Survey are shown. It certainly would have been more elegant to show the usual working hours over the whole period of time, but due to a lack of data this is not possible. Nevertheless, the development of working time of full time employees is properly described.

The development working time of full time employees in Austria, Germany and Switzerland between 1870 and today is best described in three phases of development: the first phase between 1870 and the 1930s, during which working time shortened massively; a second phase between the 1930s and the 1970s showing a slowed down shortening of working time, and the

third phase since the 1970s with almost no working time reductions at all, working time stagnates or even extends again.

### *Phase I: 1870 through 1930*

The working time of all three countries in this phase is between 65 and 70 hours. In this period, working time was almost unregulated, and in none of the countries did a workers' movement exist to fight against utterly long working hours. In the wake of time, the 11-hour-day was implemented within factories. In Austria, an industrial code was established in 1885 regulating the 11-hour-day. Over time, working time sank to 9 to 11 hours per day. In Switzerland, the 11-hour-day was regulated within the Swiss Industrial Code (*Eidgenössisches Fabrikgesetz*) (Degen 2015). A further step in all three countries was the implementation of an 8-hour-day, six days a week. The implementation of the eight-hour-day was a demand of the trade unions as well as the socialist parties.<sup>3</sup>

In all of the three countries under investigation it took until the first decade of the 20<sup>th</sup> century until the 8-hour-day was implemented generally. In Switzerland, the implementation of the 8 hour work day is connected to the general strike of 1918 (*Landesstreik*) (Degen 2015). Being one of the major demands of the general strike, it was achieved through violent disputes. The general 8-hour-day became part of the industrial code and other stipulations. In Germany, partly as a reaction to the October Revolution in Russia, the 8-hour-day was implemented in 1918. It was meant to be a concession to the working people in order to prevent revolutionary conditions. The working time regime of 8 hours per day was also implemented in Austria in 1918. At the end of that period, the working time reduced to 48 hours per week. This was the context of Keynes' (1930) prognosis.

### *Phase II: 1930s through 1970s*

The starting point of this period is the 48-hour-week which was eked out by the unions and the socialist party. The described period is characterized by the convergence to the 40-hour-week. In Switzerland, the demand for a 44-hour-week was raised during the 1950s by the *Landesring der Unabhängigen (Alliance of Independents)* as well as the trade unions (Degen 2015). In the following time, collective agreements in several sectors were bargained (textile, watches, mechanical engineering). The labor law of 1964 stipulates the 44-hour-week in central areas and 50 hours per week otherwise. In Austria, the working time reduction from 48 to 45 hours took place in 1959 (DasroteWien.at o.J.). Not before the late 1960 was an agreement reached to reduce working time to 40 hours per week. The aim of a 40-hour-week was finally reached in 1975. In Germany, working time reached 42 hours per week for a short time during the 1930s as a result of the major economic depression at that time. During World War II, working time was raised to 50 hours per week again (Strawe 1994). After the war, the transformation to a five day work week with 40 hours was reached in 1965 in Germany.

---

<sup>3</sup> The first sector worldwide to implement it was the stonecutters' sector in Victoria/Australia. In the USA, a first law on the 8-hour-day was established in 1868 (navy yard, Charleston). A general strike of American workers for the 8-hour-day was violently rejected (Huberman/Minns 2007).

### *Phase III: 1970s to date*

Reaching the 40-hour-week, the dynamic of working time reductions came to an end in all three countries. In Switzerland, a popular petition on the introduction of a general 40-hours-week was launched, but it was rejected by the people in 1976. Ironically, the rejection happened also because of the opposition on the topic of the trade unions. The popular petition of the Swiss Federation of the Trade Unions (SGB) which was launched in 1983 was as well rejected by the voters in 1988. The trade unions changed their minds but there still was not enough support by the people. In some sectors, collective agreements assigned a working time of 40 hours per week (typographers, mechanical engineering) (Degen 2015). All in all, the average working time of full time employees in Switzerland stagnated around 42 hours per week on average (see Figure 1).

In 1975, after establishing the 40-hour-week in Austria in few sectors, further working time reductions followed on the basis of collective agreements. On the whole, the development of working time reduction came to a halt. In contrast, working time prolonged slightly since the beginning of the 21<sup>st</sup> century fluctuating between 42 and 44 hours on average for full time employees. Also in Germany, the trade unions tried to stay on the dynamic of working time reductions through collective agreements. Collective agreements on working time reductions could be reached within the public service in 1984 (38.5 hours per week) and the printing, metal and electrical industry in 1995 (35 hours per week). In the beginning of the 21<sup>st</sup> century the *IG Metall* (*German metalworkers' union*) tried to enforce the 35-hour-week in the metal and electrical industry in the eastern part of Germany as well, but the campaign failed even though massive strikes were launched. This was the last time contractual working time reductions were initiated in Germany until today. The usual average working time of full time employees stagnates at around 41 hours on average<sup>4</sup>.

### **Reasons for the halt of working time reductions since the 1970s**

What reasons can be found for the halt of working time reductions since the 1970s? A first insight is given by the way productivity gains are distributed between working time, wages and capital. In general, *ceteris paribus*, the growth of productivity might be used in three different ways: (1) The revenues of productivity growth go to the owners of enterprises (capital) as return on investment or are re-invested; (2) the wages rise correspondingly to the productivity growth; (3) the working time reduces correspondingly to the productivity growth. As seen above, Keynes predicted in 1930, on the basis of productivity development, that in 2030 we would work around 15 hours a week or 3 hours per day because the *economic problem* would be solved due to productivity growth (Keynes 1931 [1930]).

As we obviously know today, Keynes' prognosis will not come true as of the year 2030 for several reasons. The postulated interrelation between productivity growth through technical progress *solving the economic problem* and a – from today's point of view – radical reduction

---

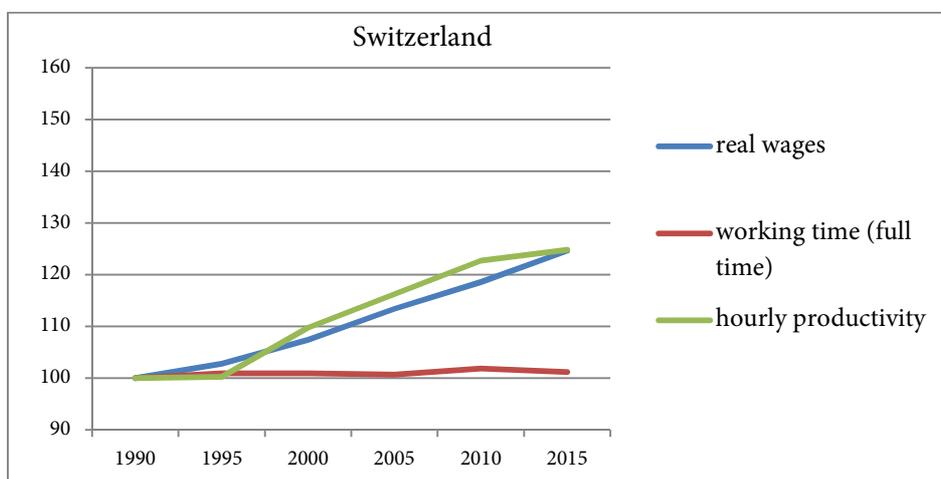
<sup>4</sup> In Austria, as well as Germany, new collective agreements foresee an option for the employees whether they opt - at least partly - for a rise in wages or a reduction of working time. It is yet open whether many employees are going to choose the possibility to reduce working time and therefore would refrain from higher wages.

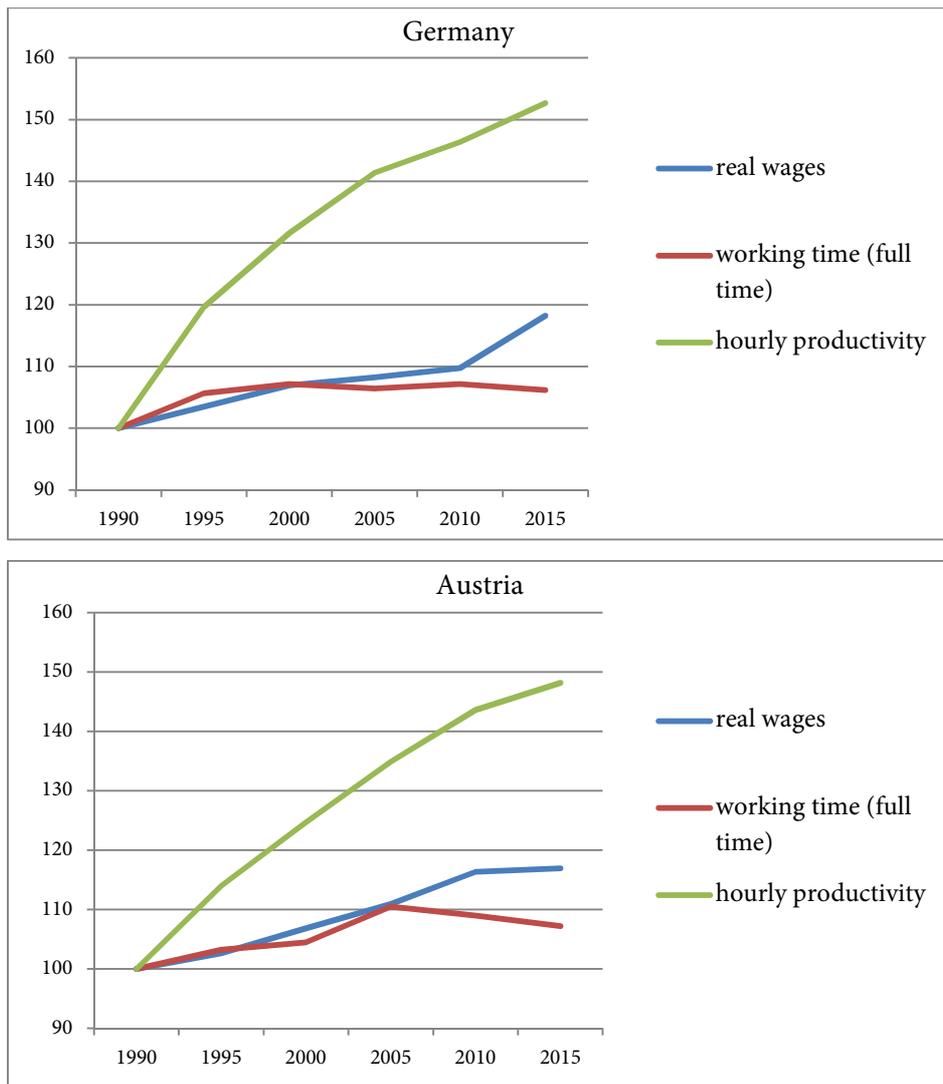
of working time is not going to be reality. As we will see, productivity growth has not been transformed into working time reduction but into either wage growth or gains of owners and re-investment respectively. We can show this development by way of example of Austria, Germany, and Switzerland. Keynes' prognosis on working time reduction through productivity gains seemed to hold true in Austria, Germany, and Switzerland until the early 1970s. Since then, working time reductions came to a halt, even though the standard of living, as Keynes foresaw it, rose: „...the standard of life in progressive countries one hundred years hence will be between four and eight times as high as it is today“ (Keynes 1931 [1930]: 362). Friedman (2015), for example, points out that the GDP per capita in the USA has indeed multiplied even more than Keynes' estimation between 1929 and 2013. According to Friedman, Keynes' prognosis is too low.

The reason why working time of full time employees did not sink can be shown for Austria, Germany, and Switzerland by looking at their development of hourly productivity, working time and wages between 1990 and 2015 (Figures 2a, b, c). In Austria and Germany, productivity rose to about 150% of the value of 1990, the growth of productivity in Switzerland is considerably slower (about 125% of the value of 1990, but Swiss productivity was already higher in 1990 than in Austria and Germany). The wage increase in Austria and Germany is particularly lower than productivity growth between 1990 and 2015. In Switzerland, wage increase and productivity growth developed almost in parallel. In each of the three countries, productivity growth has no influence on average working time of full time employees at all. On the contrary, working time in Austria and Germany rose a little bit. In none of the countries are productivity gains used to reduce working time; in Switzerland, productivity growth almost entirely is transformed into wage increase; in Austria and Germany, the major part of productivity growth transforms in return on investment of the capital owners and to a minor part into wage increase.

Why did Keynes' prognosis on the reduction of working time due to productivity gains not come true, especially since the beginning of the 1970s? Why was the growth of productivity not transferred into the reduction of full time working hours? The reasons for this are going to be shown in what follows.

*Figures 2a, 2b, 2c: Indexed development of real wages, working time (full time) and hourly productivity in Switzerland, Germany, and Austria, 1990 – 2015*





Source: Own calculations based on data of OECD, ELFS, TED

### An explanatory model

The explanatory model for the lack of working time reductions despite enormous productivity gains has several dimensions which I am going to present in the following. They include: (1) consumption, (2) living standard/wage level, (3) attitude to work, (4) the workplace as a social place, (5) leisure time as a problem, (6) fringe benefits, (7) industrial relations configuration, (8) stance of trade unions, (9) political configuration, (10) inequality, and (11) capitalism in general.

(1) The argument on consumption influencing working time is based on the work of Schor (1991). Schor states that employees in the USA are trapped in a vicious circle between work and consumption<sup>5</sup>. The race between wanting and having makes employees, when asked whether they want more consumption or more leisure time, choose the former. The decision

<sup>5</sup> There is no reason to believe the role of consumption is unique for the USA. E.g., the average living space per person in Switzerland rose from 27 square meters in 1970 to 44 square meters in 2000 (NZZ 2014).

for more consumption is based on comparisons to others, a *keeping up with the Joneses* (Schor 1991: 22). A rising standard of living – bigger houses, more and better equipped cars etc. – can only be maintained by working longer hours or at least not reducing working hours. Moreover, according to Schor, consumption has become a leisure activity, as it were a hobby *sui generis*. The configuration described led to a new standard in the United States. To *keep up with the Joneses* and the standard of living to achieve it, long working hours and double-income households became the new normal. Under those circumstances, most employees decide pro consumption and contra working time reduction.<sup>6</sup>

(2) A second argument leans toward the one above, but emphasizes the active part of producers in triggering wants that create the urge to be fulfilled by consumers. A condition of what Schor calls the *squirrel cage of consumption and work* is an ongoing production of desires men and women want to fulfill. “The campaign to create new and unlimited wants did not go unchallenged. Trade unionists and social reformers understood the long-term consequences of consumerism for most Americans: it would keep them imprisoned in capitalism’s ‘squirrel cage’” (Schor 1991: 120). If the development of wages is not equivalent to the productivity growth, the desire for a higher living standard needs to be fulfilled through long working hours. Otherwise the living standard could not be kept up. Therefore, working time reductions are illusionary and impossible.

(3) A third reason for the halt of working time reductions since the 1970s has been indicated already by Keynes in 1930: “For many ages to come the old Adam will be so strong in us that everybody will need to do some work if he is to be contented” (Keynes 1931 [1930]: 368). Keynes insinuates that work has an enormous significance for – especially male – employees beyond the generation of income. Therefore, it is difficult for employees to reduce working time without massively reducing his or her satisfaction. Satisfaction is bound to the identity generating part of work in modern societies. This identity generating part has gotten stronger in modern societies and therefore thwarts the idea of shorter working hours for the sake of gaining leisure time (e.g. Sennett 1998). This aspect is connected to the workplace as a social place.

(4) Workplaces and their social environment are not just places of generating income and identity, but also places of social gathering and human interaction (e.g. Sennett 1998). Therefore, *ceteris paribus* (c.p.), those who work less hours restrict their abilities to have social relationships or have to create new social contacts somewhere else respectively. This is perhaps not an easy task to fulfill.

(5) Historically and implicitly, still today, leisure time is not necessarily connoted positively. Leisure time has not been interpreted as time of recreation or for personnel use to do whatever one wants but as a time of idleness (shown for example in the proverb *The devil always finds work for idle hands*), squandering, violence and even crime. Enterprises “equated increased leisure...with crime, vice, the waste of man’s natural capacity, corruption, radicalism, debt, decay, degeneration, and decline” (Roediger/Foner 1989: 141). It is obvious to associate

---

<sup>6</sup> There are several analyses on the number of hours people would like to work indicating that employees would prefer to work shorter hours (e.g. Bielinski et al. 2002; Sopp/Wagner 2016; Tobsch et al. 2018). As Tobsch et al. (2018) have shown, those results are not only relating to the way the questions are asked but the material consequences people have to face in order to reduce working time. If reduced working time leads to less income, people tend to reject it.

Weber's protestant ethic and the spirit of capitalism (Weber 2001 [1920]) to the idea of leisure time as a problem, since Weber shows how the value of human action is deeply connected to its usefulness:

*In fact, the summum bonum of this ethic, the earning of more and more money, combined with the strict avoidance of all spontaneous enjoyment of life, is above all completely devoid of any eudaemonistic, not to say hedonistic, admixture. It is thought of so purely as an end in itself, that from the point of view of the happiness of, or utility to, the single individual, it appears entirely transcendental and absolutely irrational. Man is dominated by the making of money, by acquisition as the ultimate purpose of his life. Economic acquisition is no longer subordinated to man as the means for the satisfaction of his material needs. (Weber 2001 [1920]: 18)*

The *elevation of work over leisure*, as Rodgers (1978) puts it, certainly is contradictory to working time reductions since it would question the value of work in general.

(6) A rather profane but important reason why Keynes' prognosis did not become reality is the way fringe benefits are organized. Oftentimes, fringe benefits give an advantage to longer working hours since the fixed costs are high. If so, the distribution of a certain work volume on more workers through working time reduction leads to rising fringe benefits compared to a working time organization with fewer employees working longer hours. Therefore, the structure of fringe benefits stands against working time reduction.<sup>7</sup> If fringe benefits are mostly organized per capita, they develop a pull effect in the direction of long working hours because it pays off for the employer to add to the relatively high fixed costs relatively low variable costs like wage or overtime premiums instead of hiring more people with shorter working hours (e.g. Schor 1991: 66-68). Those non-wage labor costs hinder, when organized unfavorably, working time reductions.

(7) Whether working time reductions are happening or not is obviously a question of the constellation of industrial relations as well. From a historical point of view, working time reductions always have been a disputed topic between trade unions and employers. For reasons explained within this section, employers have an incentive to implement long working hours (see (6), (10), and (11)). Therefore, in most cases, working time reductions need to be eked out by trade unions against employers through collective bargaining. The example of the 35-hours-week in the metal and electronics industry of Germany might be useful here. As described above, collective agreements on working time reductions could be reached within the metal and electrical industry in 1995 (35 hours per week) due to a very powerful IG Metall. In the beginning of the 21<sup>st</sup> century the IG Metall tried to also enforce the 35-hour-week in the metal and electrical industry in the eastern part of Germany, but the campaign failed even though massive strikes were launched. During 1995 and the early 2000s the bargaining power of the IG Metall weakened dramatically which led to that massive loss (Lehndorff et al. 2010). The strength of other trade unions in Austria, Germany and Switzerland in comparison to that of the IG Metall is even lower and therefore makes it even more difficult to enforce working time reductions, especially in the service sector.

---

<sup>7</sup> This also holds true for the dissemination of part time, which is not discussed here.

(8) It is not only the power of unions within industrial relations but the stance trade unions take concerning working time reductions. Having to decide between shorter working hours or raising wages, unions, for the longest times, oftentimes opted for raising wages.<sup>8</sup> This is not only because of what I described as (1) consumption, (2) living standard/wage level, and (3) attitude to work but also a necessity due to (10) inequality explained below. If raising levels of consumption can only be financed by employees working longer hours, trade unions might hesitate to fight for shorter working hours against the (short-term) interests of their members.

(9) Besides disputes within industrial relations, working time reductions might also be a matter of political constellation. Working time reductions are not only organized individually and through collective bargaining but also by law. If a government is willing to shorten working hours by law, a majority in parliament presupposed, a whole country might be pushed into shorter working hours legislatively. The most prominent example of statutory working time reduction is the implementation of the 35-hour-week in France. The *Loi Aubry* was introduced by a socialist government and a socialist president, and passed by a socialist majority within the French parliament. Over time, conservative majorities loosened the law weakening the effect massively (Lehndorff et al. 2010). For the three countries discussed, only Switzerland tried to reduce the work week to 40 hours legislatively, but the referendum was rejected twice by the people.

(10) A more fundamental, empirically supported argument is made by Friedman (2017). He also starts out with the question as to why Keynes' prognosis did not come true and points to a macroeconomic, societal component which simply has not been taken into consideration by Keynes. Keynes assumed – in a naive way from today's perspective – that productivity gains would be distributed in a fair manner. The gains would reach all members of society in the same way. Friedman and others convincingly show that this is not the case since not only productivity but also inequality rose massively. Therefore, the median income did not rise at all the way it would have been expected by Keynes taking into consideration the productivity gains (c.p.). “With declining real wages (looked at another way, widening inequality), the median family income stopped rising at just about the same time that the work stopped getting shorter“ (Friedman 2017: 236). The moment the wages do not raise in parallel to the productivity gains, the effect of working time reduction is obsolete. The developments of Austria and Germany shown above support the argument.

(11) The last and very general argument is brought by e.g. Basso (1998). Contrary to Keynes' assumption, it is inherent to capitalism to have as long working hours as possible to create surplus. Therefore, the idea of shorter working hours due to productivity gains is, according to Basso, illusionary.

*Abstracting from every other element, we see in the struggle between capital and labor an indisputable historical shift from the time of the working day to the time of the working week, with capital's recent attempt to define working hours exclusively in terms of the working year. This phenomenon, together with the flexibilization and restructuring (if not lengthening) of working hours over the fifteen years from 1975 to 1989, reflect an organic*

---

<sup>8</sup> See e.g. the stance of the SGB in Switzerland on popular petition on the introduction of a general 40-hours-week in 1976 (Degen 2015).

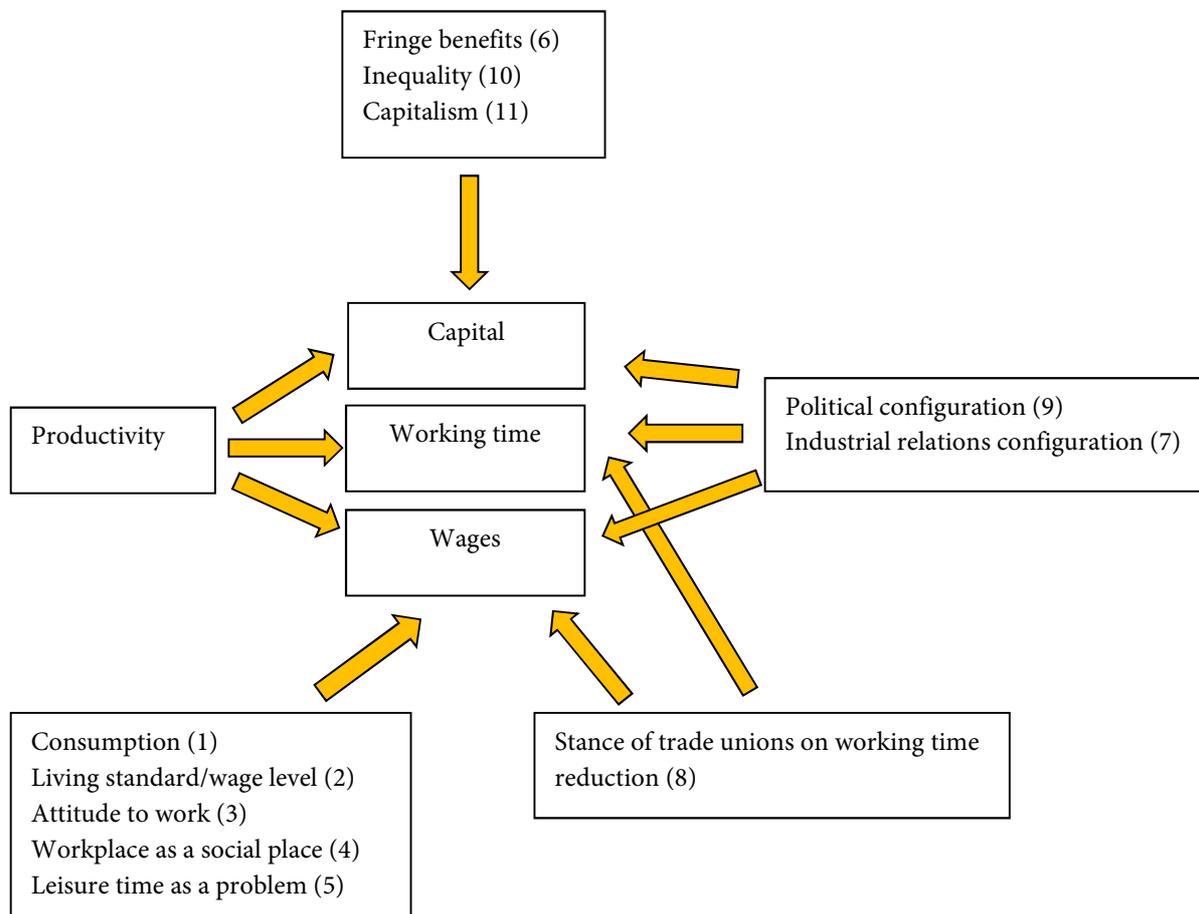
*aversion of the capitalism most 'advanced' towards the 'age of leisure and of abundance' to the reduction of nominal (to say nothing of real) working hours. (Basso 1998: 55-56)*

Following the argument, the accumulation of capital simply is opposed to working time reduction. We might add a second immanent capitalist argument by Schor (1991): the transformation of productivity gains into wage and therefore consumption is preferred by the capital because it results in a bigger demand of goods. This would not hold true for a reduction of working time.

### **Conclusion: towards an explanatory model for the determinants of the development of working time, wages, and capital as a function of productivity**

Based on the above described reasons for the development of working time we might now be able to outline a theoretical model for further research. It goes without saying that all the reasons described above do not exclude each other but there are multiple reasons for the development of working time. Moreover, the reasons described are settled on different levels and therefore can influence each other (macro, meso, micro level). A first and basic model is presented in Figure 3. Note that the model aims to estimate the influence of the reasons described above on the distribution of productivity gains between capital, working time, and wages.

*Figure 3: An explanatory model for the determinants of the development of working time, wages, and capital as a function of productivity*



On the one hand, I identify consumption (1), living standard/wage level (2), attitude to work (3), workplace as a social place (4), and leisure time as a problem (5) as triggering the distribution in direction of wages. On the other hand, fringe benefits (6), inequality (10), and capitalism (11) work in favor of capital. Since the stance of trade unions on working time reduction (8) could be either in favor of the reduction or in favor of higher wages, it depends on the organization, the geographical region, and the historical point in time whether it leans in favor of wages or working time reductions. When it comes to the political constellation (9) and the industrial relations constellation (7) the direction of influence is even less clear.

The newly developed explanatory model for the development of working time might be used for further research to analyze the development of working time through configurations of reasons described above. Empirical analyses should be useful to further improve the model to better understand the fundament of working time in modern societies.

## Bibliography

- Basso, Pietro (1998). *Modern Times, Ancient Hours. Working Lives in the Twenty-first Century*. London: Verso.
- Bielinski, Harald, Gerhard Bosch, and Alexandra Wagner (2002). *Wie die Europäer arbeiten wollen. Erwerbs- und Arbeitszeitwünsche in 16 Ländern*. Frankfurt: Campus.
- Das roteWien.at. (o.J.). Achtsturentag. Internet-Site. <http://www.dasrotewien.at/seite/achtsturentag>. Last access 08.12.2017.
- Degen, Bernhard (2015). Arbeitszeit. In: Historisches Lexikon der Schweiz. Internet-Site. <http://www.hls-dhs-dss.ch/textes/d/D13910.php>. Last access 09.09.2016
- Friedman, Benjamin M. (2017). Work and consumption in an era of unbalanced technological advance. *Journal of Evolutionary Economics*, 27(2), 221-237.
- Huberman, Michael and Chris Minns (2007). The times they are not changin': Days and hours of work in Old and New Worlds, 1870-2000. *Explorations in Economic History*, 44, 538-567.
- Visser, Jelle, Susan Hayter, and Rosina Gammarano (2015). Trends in collective bargaining coverage: stability, erosion or decline? *ILO issue brief no. 1*, 2015.
- Keynes, John Maynard (1931). Economic Possibilities for Our Grandchildren. In: Keynes, John Maynard. *Essays in Persuasion*. New York: Harcourt, Brace, 358-373.
- Lehndorff, Steffen, Alexandra Wagner, and Christine Franz (2010). *Working time developments in Europe*, Brussels: GUE/NGL, 2010. Internet-Site. [http://www.iaq.uni-due.de/aktuell/veroeff/2010/lehndorff01\\_en.pdf](http://www.iaq.uni-due.de/aktuell/veroeff/2010/lehndorff01_en.pdf). Last access 17.05.2018.
- Lévi-Strauss, Claude (2016). *We are all cannibals and other essays*. New York: Columbia University Press.
- Matthias, Peter (1994). Time for Work, Time for Play: Relations Between Work and Leisure in the Early Modern Period. *Vierteljahresschrift für Sozial- und Wirtschaftsgeschichte* 81(3), 305-323.
- Neue Zürcher Zeitung (2014). Immer grössere Wohnungen. Neue Zürcher Zeitung 18.07.2014. Internet-site. <https://www.nzz.ch/spezial/wohlstand/sommerserie-interaktive-datenvisualisierung-wohlstand-wohnflaeche-1.18344702>. Last access 17.05.2018.

- Rodgers, Daniel R. (1978). *The Work Ethic in Industrial America, 1850–1920*. Chicago: University of Chicago Press.
- Roediger, David R., and Philip S. Foner (1989). *Our Own Time: A History of American Labor and the Working Class*. London: Verso.
- Schor, Juliet B. (1991). *The Overworked American. The Unexpected Decline of Leisure*. New York: Basic Books.
- Sennett, Richard (1998). *The Corrosion of Character: The Personal Consequences of Work in the New Capitalism*. New York: Norton.
- Strawe, Christoph (1994). Arbeitszeit, Sozialzeit, Freizeit. Ein Beitrag zur Überwindung der Arbeitslosigkeit 12/1994. Internet-Site. <http://www.dreigliederung.de/essays/1994-12-001.html>. Last access 09.09.2016.
- Tobsch, Verena, Wenzel Matiaske, Elke Holst, Tanja Schmidt, and Hartmut Seifert (2018). Mehr oder weniger arbeiten? Es kommt darauf an, wie man fragt. Methodische Aspekte der Präferenzmessung gewünschter Arbeitszeiten. SOEPpapers on Multidisciplinary Panel Data Research, 960. Berlin, March 2018.
- Weber, Max. (2001). *Protestant Ethic and the Spirit of Capitalism*. London: Routledge.