Chapter 3
Are the Standards of Living Similar or Dissimilar? An Extended Comparison*

3.1 Introduction

Denmark and Switzerland are often described as models of economic and social success. Both countries are generally seen comparatively rich with stable and effective institutions. In this chapter we explore whether the claim of two rich, successful and stable countries does indeed hold by providing a detailed and extensive comparison based on many statistical measures which take into account different aspects of society and personal life. Thus, the reader may gain an impression in which areas standard of living are similar in, or differ between, Denmark and Switzerland.

The potential number of economic and social variables which could be compared is large. Thus, we select a limited number and try to organize them in an appropriate way. In Sect. 3.2 we start with the traditional perspective and refine it step by step. We focus on variables which are commonly used by economic experts, i.e. gross domestic product, the income distribution, and consumption expenditures. Clearly, these variables represent a basis for any sensible comparison between countries.

However, traditional comparisons based on the above-mentioned measures do not necessarily give any direct insights into real living conditions and factors that matter for everyday life. Standard key figures, such as gross domestic product per capita are fairly abstract concepts and do not necessarily reflect the multifaceted aspects of life people face in their countries. Especially in a comparison of two highly and similarly rich countries one has to look for differences in other measures. Thus, after having performed a traditional comparison we focus on real life impressions in Sect. 3.3, i.e. we analyze differences based on variables such as employment, education, and life expectancy.

Next, we transcend the potential abstractness of aggregated economic and social statistics. We try to grasp and evaluate revealed individual behavior. Even though

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living standards in both countries are high, certain individuals in both countries may not be fully satisfied. These individuals may try to escape their economic and social system in some way. One possible way of exiting an economic system is working in the shadow economy. An even more drastic way is engaging in criminal activities or alcohol abuse in order "to exit". A more decent way is traveling and migrating to another country. In Sect. 3.4 we try to analyze differences between Denmark and Switzerland regarding some of these variables.

Throughout this chapter we are also interested in Denmark's and Switzerland's positions relative to a number of other countries which provide a convenient benchmark. Benchmarking also allows us to argue whether substantial differences between Denmark and Switzerland are due to the possibility that one of the two countries is a special case. Therefore, for a number of statistical measures presented in this chapter we include an international benchmark, which will usually be the average EU-15.[1]

Finally, Sect. 3.5 summarizes our results and briefly concludes where the differences between Denmark and Switzerland are large and how both countries relate to an international context.

3.2 A Refined Traditional Comparison

3.2.1 Gross Domestic Product

Gross domestic product or GDP measures the market value of all final goods and services produced within a country in a given period. GDP is often considered an indicator of a country's standard of living and is therefore used to compare countries.

3.2.1.1 Comparing GDP Levels

Though international comparisons of GDP figures are common, differences between alternative data sources and concepts matter a lot. In Chap. 2 we discussed differences in GDP between Denmark, Switzerland and other countries as well as convergence in greater detail. To recall and focusing on current data, in 2010, GDP

[1] We chose the EU-15, firstly, because for most statistics consistent data are available for all countries and because the EU-15 covers almost all of Denmark's and Switzerland's neighbors. The EU-15 comprises the following 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, United Kingdom.

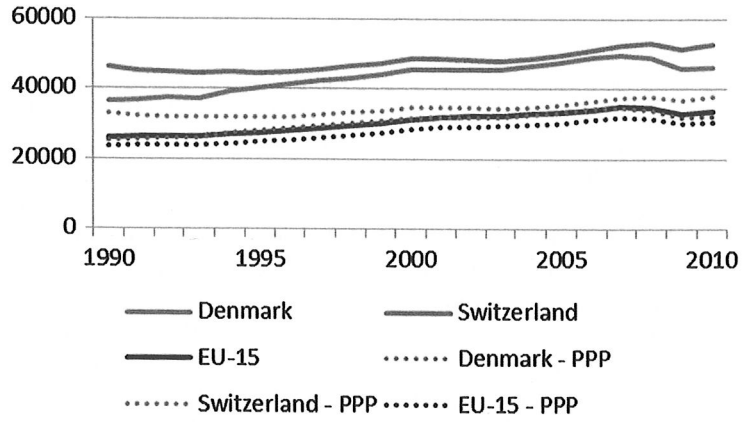

Fig. 3.1 GDP per capita at constant prices and constant exchange rates and in purchasing power parities (*Note: Solid lines* represent the countries' GDPs per capita in US Dollar of the year 2005 at constant prices and constant exchange rates. *Dotted lines* represent GDPs per capita at constant prices and constant purchasing power parities (PPP). EU-15 figures are calculated as the aggregate GDP dived by the aggregate population. *Source:* Organisation for Economic Co-operation and Development, online database OECD.Stat, various years)

per capita was 50 % higher in Denmark than in the EU-15[2] and Switzerland's per capita GDP was 80 % above the EU-15 level. These figures arise from converting all countries' GDPs to the same currency, the US Dollar, at exchange rates of the year 2010. However, using different conversion methods mitigates and partially explains the large differences.

GDP is defined as the market value of all products and services and, therefore, the volume of them is multiplied by a price. If only prices rose, so would GDP, although the volume of goods produced and the standard of living they reflect would remain unchanged. Thus, for a better comparison between countries and across time, Fig. 3.1 plots per head GDPs in US Dollars at constant prices, with 2005 as the base year and at a constant exchange rate (solid lines).

GDP per capita in both countries has risen over the period analyzed. Switzerland began at a higher level than Denmark and the EU-15 which is below both countries. However, during the 1990s Switzerland experienced a growth weakness while the Danish economy flourished such that the gap between the two countries got smaller. During the early years of the new millennium the two countries evolved almost in parallel but Switzerland remained slightly richer than Denmark. Swiss GDP per capita growth is still slightly higher than Danish growth during the end of the

[2] For comparisons of GDP we follow the standard of the OECD and define the GDP of the EU-15 as the sum of all countries' GDPs which we divide by the sum of all citizens in order to compute per capita income. We use current PPP conversions and proceed analogously for productivity figures and statistics related to components of GDP like consumption. For other statistics we give all countries within the EU-15 the same weight in order to have averages which are not dominated by the large countries.

decade. Switzerland was somewhat less affected by the financial and economic crises from 2007 to 2010 than Denmark.

In 2010 Denmark was 37 % and Switzerland 57 % above the EU-15 average (compared at constant prices and constant exchange rates), which is still a large but considerably smaller gap than in a comparison based on current prices and current exchange rates. Within OECD countries, Switzerland and Denmark are, respectively, third and fourth after Luxembourg and Norway with respect to GDP per capita. Note that other sources such as the IMF or the World Bank also report high GDP per capita for Qatar, Liechtenstein, Bermuda, San Marino, Guernsey/Jersey, Australia, and the United Arab Emirates.

One might have observed on travels to other countries that 1 Dollar buys more goods in one country than in other ones. This is the case especially when traveling from a rich country to a poorer country. Therefore, the OECD estimates so called purchasing power parities (PPPs). Using PPPs comes closer to comparing the welfare of the inhabitants in different countries in real terms because PPPs take into account differences in price levels.

GDP data based on PPP are drawn with dotted lines in Fig. 3.1. Interestingly, the development of GDP without accounting for differences in purchasing powers looks very similar to the series analyzed above. There is, however, a noteworthy and important difference. The differences between Denmark as well as Switzerland and the EU-15 average are much smaller when compared in terms of purchasing power parties. Per capita GDP in Denmark was 5 % and for Switzerland 23 % above EU-15 average in 2010 according to these figures. Taking into account purchasing power, Switzerland falls behind the USA to position 4 while Denmark plummets to position 15 amongst OECD countries. The analysis of GDP per capita according to different definitions suggests that Switzerland as well as Denmark are both rich countries. However, once we take into account high costs of living in both countries Switzerland's advance melts to a much lower level and Denmark falls slightly behind countries such as Austria, Germany, the Netherlands and Sweden.

3.2.1.2 Comparing GDP Growth

Although newspapers usually report yearly forecasts of *total* GDP growth it is not *total* GDP that matters for people's living standards. It is rather GDP per capita which reflects the living standard. Consider the following growth figures in panel (a) of Fig. 3.2. This representation nicely illustrates how tricky basic GDP growth comparisons can be.

The solid lines represent the growth of GDP in purchasing power parities. Yearly growth is always fluctuating. During the 1990s it is usually higher in Denmark than in Switzerland, but from 2000 to 2006 it is similar for both countries. With the exception of Denmark's peak in 1994 both countries exhibit generally lower growth rates than the average EU-15 countries, which reflects the convergence within the EU-15 during this period. Again, figures show that Switzerland made it comparatively well through the crisis after 2007 while growth rates in Denmark fell more

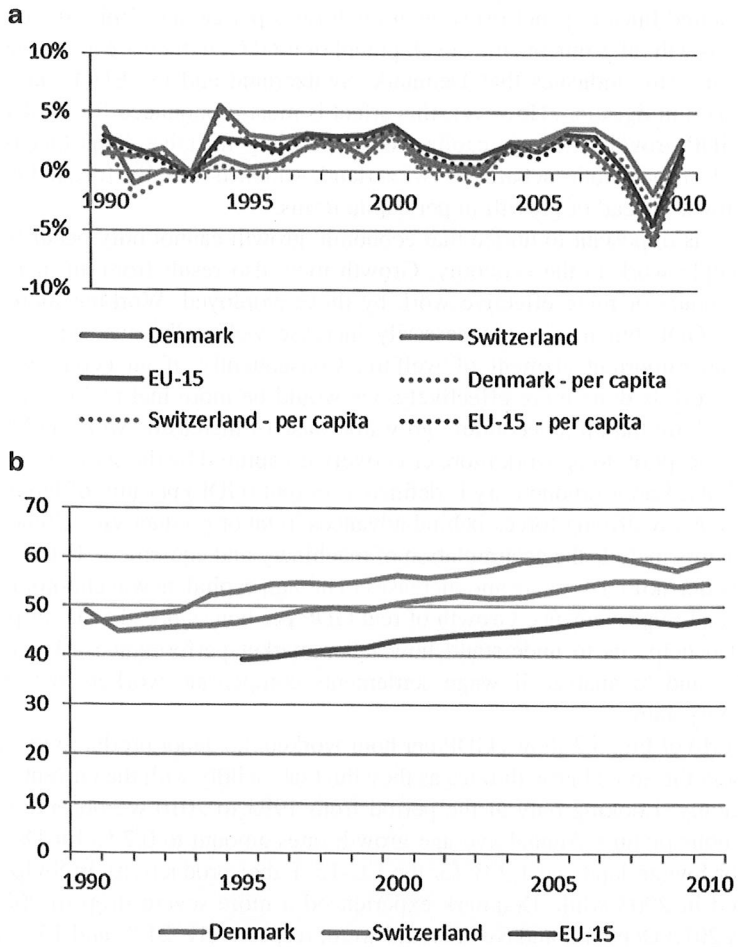

Fig. 3.2 Growth rates for GDP in total and per capita as well as the level of labor productivity. (**a**) Growth rates of total GDP (*solid lines*) and GDP per capita (*dotted lines*). (**b**) GDP per hour worked (*Note:* All figures are in US Dollar of the year 2005 at constant prices and constant purchasing power parities. *Source:* Organisation for Economic Co-operation and Development, online database OECD.Stat, various years)

than in the EU-15. However, total GDP growth is not very informative if one wants to compare growths in living standards for the average person. Total GDP may simply increase because the economy experiences an influx of migrant workers or because the native population increases. In a similar vein, Japan, for instance, has often been said to have low total GDP growth rates but people neglect the fact that Japanese population levels remained mostly constant or even declined. Thus, total GDP may decline because the population shrinks, but GDP per capita and the standards of living actually improve.

The dotted lines in panel (a) show growth rates per capita. While the development in growth rates mirrors the development of total GDP they are at a lower level throughout. This indicates that Denmark, Switzerland and the EU-15 in general experience immigration. However, this effect is most pronounced for Switzerland, where GDP growth rates per capita were repeatedly negative. This fact is often neglected in the public debate in Switzerland, which is heavily focused on total GDP growth instead of growth in per capita terms.

Now it is important to notice that economic growth cannot only occur because more people work in the economy. Growth may also result from an increase in working hours or more effective work by those employed. Working more hours increases GDP but may not necessarily increase welfare because leisure is, of course, an important element of welfare. Consequently, if an economy grows because work is done more effectively, we would be more inclined to call this a gain in welfare than if an economy grows because of increasing working hours.

The concept of doing work more effectively is captured by the statistics on labor productivity. Labor productivity is defined as output (GDP) per unit of labor input. There are many driving forces behind advances in labor productivity. Some of the major factors include the accumulation of machinery and equipment, better organization, better skilled workers and increases in human capital, new technologies, and institutional improvements. Growth of real GDP per hour worked or labor productivity also helps us to understand how labor market performance affects living standards and to analyze if wage settlements compensate workers for realized productivity gains.

Panel (b) of Fig. 3.2 shows GDP per hour worked, i.e. labor productivity. We do not present the annual growth rates as they fluctuate wildly with the current state of the economy. Looking only at the period from 1995 to 2010 we observe a quite homogenous picture. Annual average growth rates amount to 0.7 % for Denmark, 1.1 % for Switzerland and 1.2 % for the EU-15. Labor productivity in Switzerland decreased in 2003 while Denmark experienced a more severe drop in 2008 and 2009. In 2010 Denmark and Switzerland were, respectively, 24 % and 15 % ahead of the average labor productivity in the EU-15. GDP per hour worked was highest in Denmark with 59.4 US Dollar (again at constant prices and constant exchange rates and Dollars of the year 2005) while corresponding figures for Switzerland and the EU-15 were, 54.8 and 47.6 US Dollars, respectively.

3.2.1.3 Is GDP a Good Measure in International Comparisons?

GDP is used as an indicator of a country's standard of living because it measures the production in an economy. More broadly, it measures the expenditure on new products and services at market prices.

Clearly, not all products have market prices and not all products are traded in markets. Housework is certainly a valuable service for the family. However, their efforts do not enter GDP as there is no explicit price. Thus, if we consider some

major and important activities such as child-rearing as production, GDP ceases to be a reliable measure for production and for welfare. This is a general problem with GDP, but it may not pose a large problem for a comparison of GDP between developed nations such as Denmark and Switzerland as long as the extent of services not captured in GDP is comparable between the countries. There is a general trend in developed economies from non-marked provision of services to market provision of services. Therefore, current GDP levels may overstate the actual production in comparison to the past due to a shift from previously non-recorded production towards production recorded in GDP. On the other side, GDP levels are likely to be inflated equally for both countries and, hence, comparisons of growth rates across countries at the same point of time remain meaningful.

Similarly, if you work in the shadow economy your services are priced and create a value added but they cannot enter the official GDP figures. Comparisons of official GDP figures suffer from the fact that the shadow economy is quite extensive in some countries. We shall analyze differences in the relative size of the shadow economy when focusing on citizens' revealed behavior. It may already be pointed out, however, that different types of estimates indicate a substantially lower extent of black market activities in Switzerland than in Denmark. We shall discuss the extent of the shadow economy in both countries in Sect. 3.4 of this chapter.

Even more fundamental is the fact that the definition of GDP ignores externalities. Externalities are uncompensated economic goods and more often economic 'bads' such as damages done by productive activities to the environment. An indicator of welfare should not only consider goods and services which increase utility but also deduct the negative effects of higher production, congestion, etc. For instance Lüchinger (2009) showed that low air quality substantially reduces peoples' satisfaction with life and leads to high personal costs and dissatisfaction.

GDP comprises the sum of private consumption, gross investment, net exports and government spending. Economists focus especially on investment because it increases the economy's capacity to generate future consumption and thereby utility. However, investment does not yield utility and consumption at once. A similar problem arises from government spending. Government spending should increase utility. In the private market, we take it for granted that a good yields utility because otherwise people would spend their money on something else. Unfortunately, for government services there are often no direct market prices. To impute government's services into GDP, statisticians base their computations on government's production costs. As the price information is missing, we cannot be sure whether government's services are actually considered as valuable as they appear in GDP data. If government services are generally considered as increasing utility by a large amount, costs might be lower than prices paid in markets for similar services. However, this is not necessarily the case. It is often argued that markets provide goods and services more efficiently and thus at a lower price than it costs the government to produce them.

Other components may also cause difficulties if one draws on GDP as a measure of the standard of living. Exports are consumed abroad and, hence, they neither directly cause consumption nor "utility". In any case, the validity of GDP based cross-country standard of living comparisons is limited if the weight of the various components of GDP varies strongly among the countries. Consequently, in the following we will analyze private consumption and government spending to gain additional insights.

Finally, average GDP per capita does not address distributional concerns like the disparity of incomes between the rich and the poor. Income inequality matters and is a hotly discussed topic. Moreover, it is important to consider income inequality when evaluating macroeconomic policies. Atkinson et al. (2011) show that the share of total income going to top income earners has risen in many developed countries. This trend of rising income at the top percentile is currently less pronounced in Denmark and Switzerland as it is for example in the United States where real average incomes grew with 32.2 % from 1975 to 2006, more than in many European countries. However, excluding the top percentile, real incomes only grew by 17.9 % over the period in the US while in comparison incomes in European countries grew more evenly, and thus faster for 99 % of the population.

Given the various shortcomings of GDP as a measure of quality of life we will subsequently consider various other and important indicators, like measures for the income distribution, in our comparison.

3.2.2 Income Distribution

Should we mind the gap between incomes? If incomes of the poor increase, does it matter if incomes at the top are rising even faster? Does inequality matter? Many people would intuitively say "yes". Many economists are a bit more skeptical.

Although some studies find a negative correlation between income inequality and economic growth, the relationship is far from robust (see Barro 2000). Traditionally and theoretically the opposite was usually expected. In particular, it was argued that achieving a more equal income distribution through redistribution reduces economic growth because redistribution is associated with high progressive taxes, which reduce incentives to work. Moreover, recipients of higher incomes tend to save more than lower incomes, which increases growth due to investments in the long run according to traditional (neoclassical) theory. However, there are different arguments why income inequality might be harmful (see Perotti 1993). Inequality may lead to sociopolitical instability which negatively impacts on investment. Moreover, it is well established that capital markets are imperfect in the sense that credit rationing may exist also in advanced economies. Potential constraints on credit or credit rationing due to inequality make it more difficult to invest in human capital and private enterprise which both foster growth.

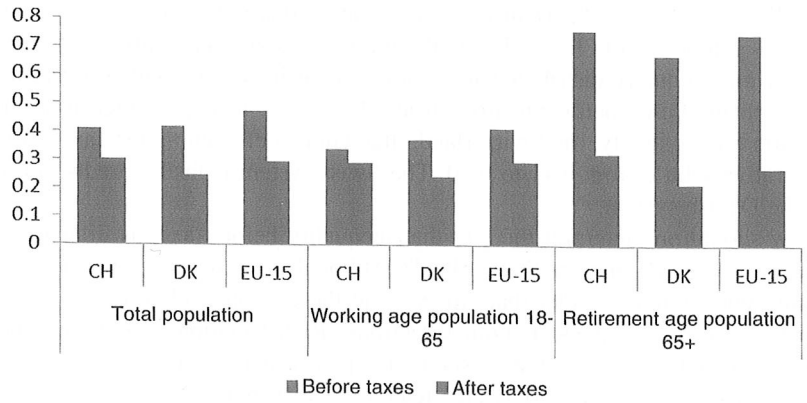

Fig. 3.3 Gini coefficients before and after taxes (late 2000s) (*Notes*: A low Gini coefficient indicates a more equal distribution, with 0 corresponding to complete equality. *Source:* Organisation for Economic Co-operation and Development, online database OECD.Stat, latest years available)

3.2.2.1 Measuring Inequality with Gini Coefficients

According to data from the European Social Survey 66 % of Danes report that they feel able to live "very comfortably" on their income.[3] This proportion is substantially smaller for Switzerland (51 %). However, if we do not only include people who report that they can live "very comfortably" but also those who can live "fairly comfortably" on their income, the gap between the two countries decreases. Ninety-four percent of people in Denmark say that they can in general live comfortably on their present income while the respective figure is 89 % in Switzerland, where dissatisfaction due to low income is slightly more pronounced.

In Fig. 3.3 we use the most common measure to compare inequality between countries, the Gini coefficient.

The Gini coefficient is a measure of distributional inequality. It is bounded between 0 and 1. A value of 0 expresses total equality while a value of 1 indicates maximal inequality. It is important to consider which measure of income the Gini coefficient should be applied to. Unequal distribution of market incomes, i.e. income before taxes, may lead to pressure for redistribution with distortionary and progressive taxes and consequently entail negative consequences for growth. On the other side it is income after taxes that matters for individuals. Therefore, we look at both measures, i.e. income inequality before and after taxes.

Looking at the whole population we observe that income inequality before taxes is always higher than after taxes. Before tax Gini-coefficients are generally higher in Denmark than in Switzerland. However, the difference between pre- and after tax

[3] Figures represent averages over the first four rounds of the European Social Survey which were carried out between 2002 and 2008.

inequality reveals that the Danish welfare state redistributes income to a large extent, as can be seen in Fig. 3.3. For all comparisons presented, after-tax income is much more equally distributed in Denmark than in Switzerland. For the total population the Gini coefficient drops from above 0.42 to 0.25, which is a large reduction in inequality. In Switzerland, the Gini coefficient after taxes drops comparatively little from 0.41 to 0.30. The Swiss system is far less redistributive than the Danish system.

How should one interpret the fact that inequality before taxes is dramatically higher in Denmark than in Switzerland? Although a comprehensive answer is difficult, one should consider that citizens and the economy adapt to the welfare system and causality goes in both directions. Redistribution is not only high because inequality before taxes is high. Inequality before taxes may also rise because citizens and the economy anticipate the redistribution.

Differences in income inequality become even clearer when comparing the working age population with the population in retirement. In general, inequality before taxes in both countries is far higher for the retired population than for the working population. As progressive taxes kick in, inequality for the population in retirement age is largely reduced in both countries. However, in Denmark inequality for this group is lower than for the working population while this is not the case in Switzerland, where income inequality after taxes is approximately the same for the working age population and the retirement age population.

In comparison with the EU-15 average Denmark as well as Switzerland turn out to be somewhat special. Denmark's pretax inequality is generally very similar to the EU-15 average but then redistribution heavily reduces inequality. For Switzerland the opposite is true. Incomes before taxes are distributed more evenly but since less distribution takes place the after-tax distribution is very similar to the EU-15 average.

3.2.2.2 Income Inter-Decile Ratios

Gini coefficients represent a convenient and often applied way to compare overall income inequality between countries. However, for certain questions regarding differences between income groups, so-called inter-decile ratios of disposable income are more adequate for comparisons. The 10 % of people with the highest incomes are the 90th percentile of the income distribution, i.e. 90 % of people have a lower income. The 10 % of people with the lowest incomes are the 10th percentile of the income distribution. OECD data from the late 2000s show that in Denmark the income of the 90th percentile is approximately 2.8 times higher than the income of the 10th percentile. The corresponding ratio amounts to approximately 3.7 in Switzerland, which is above the EU-15 average of approximately 3.5. Thus, the highest incomes in Switzerland exceed the lowest incomes by more than in Denmark, which also indicates that the income distribution is more skewed in Switzerland.

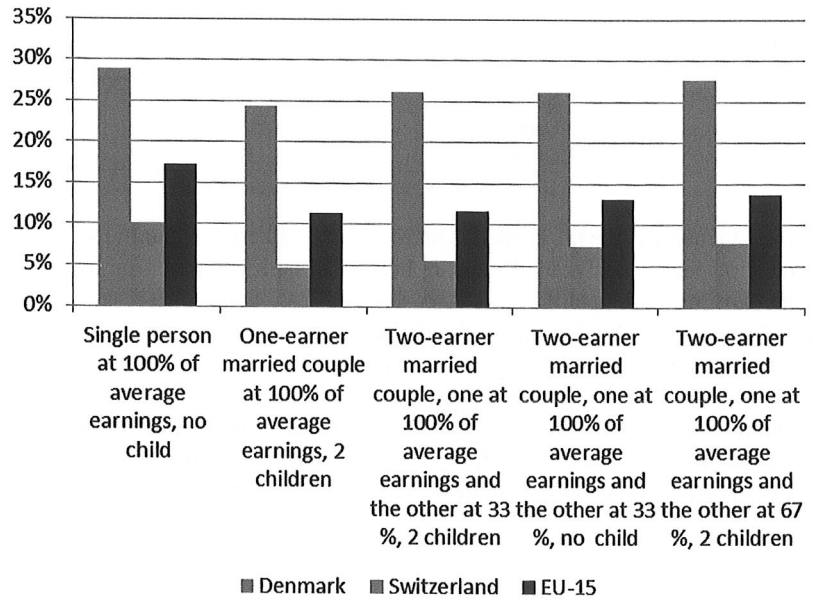

Fig. 3.4 Tax burden in % of average income in 2009 (*Source*: Organisation for Economic Co-operation and Development, online database OECD.Stat 2009)

The 90th percentile to 10th percentile ratio gives a picture of the relationship between the lowest and the highest sections of the income distribution. Interdecile ratios can also be calculated for other income categories, for instance incomes of the 50th percentile (median incomes) to incomes of the 10th percentile. Here we observe that the difference between Denmark and Switzerland shrinks. Median incomes are approximately 1.7 times higher than incomes in the lowest 10th percentile in Denmark and approximately 1.9 higher in Switzerland, which is slightly below the EU-15 average. This indicates that the Swiss income distribution mainly differs from the Danish distribution due to the presence of comparatively very rich persons in Switzerland.

3.2.2.3 Individual Tax Burden in Denmark and Switzerland

Income inequality after taxes mainly depends on the applied tax rate. Denmark has a very low income inequality after taxes but very high redistributive taxes. Switzerland, on the other hand, is generally perceived to have relatively low taxes (and also a somewhat higher income inequality). Figure 3.4 presents the average tax burden in percent for a number range of different persons (constructed examples) in the two countries.

The widespread opinion that Switzerland is a tax heaven compared to Denmark is confirmed. However, we have to be careful as the data at hand do not include mandatory payments for social security in Switzerland, in particular for health

Table 3.1 The richest of the rich (2010)

	Residence	
	CH	DK
Swiss citizens	9	0
Danish citizens	0	2
Others	18	0

Source: Forbes, Worlds Billionaires 2010

insurance. Generally, the tax burden is far lower in Switzerland than in Denmark for all groups of people analyzed. Taxes are highest in both countries for singles with average earnings and no children.

The figures on tax burden mirror the findings from the comparison of before and after tax Gini coefficients. While Denmark engages heavily in redistribution, the tax burden is relatively low in Switzerland. However, taxes are only one side of the coin, while governmental services are the other side. Public expenditures affect different incomes differently and, thus, they have to be taken into account in order to assess the true redistributive character of the state.

3.2.2.4 Taxes, Inequality and the Rich

Switzerland is often perceived as a paradise for earners of very high incomes. Although taxes are of course higher for high incomes than for low incomes in Switzerland, the relative burden compared to other countries is far smaller (but see also Chap. 11). This also explains why many of the world's richest people live in Switzerland, as shown in Table 3.1.

As an illustrative example we may consider the 1,000 richest people around the world according to the Forbes List focusing on people affiliated with Denmark and Switzerland by citizenship or place of residence. Note that the Forbes List changes considerably with each update. Nevertheless, results indicate that out of the 1,000 richest people on earth, 27 live in Switzerland while only two live in Denmark. Moreover, the richest people in Denmark are also citizens of Denmark. The richest people in Switzerland are Swedish. Out of the 27 richest families in Switzerland only one third are actually Swiss citizens while two thirds are from abroad. The list confirms that very rich people are rather more strongly present in Switzerland than in Denmark. However, this is not necessarily only due to taxes but also to other differences that matter in life. In particular, Switzerland is generally more attractive to people who want to work and earn their livings. It is also attractive to those who have already earned their livelihood.

3.2.3 Consumption Patterns in Denmark and Switzerland

The first section focused on income differences between people living in Denmark and Switzerland while we then analyzed the income distributions in both countries.

More important than how much Danes and Swiss earn in terms of GDP is the question how they use their money. On what do they spend their earned income?

3.2.3.1 Expenditure Categories of GDP

GDP measures production. It is the sum of private consumption, gross investment, government spending, and net exports. Figure 3.5a compares the shares of GDP spent for the respective categories.

The largest share is households' final consumption, which amounts to, respectively, 48 % and 56 % of the Danish and Swiss GDP. Gross capital formation, or investments, is very similar in both countries with a share of, respectively, 18 % and 19 % in Denmark and Switzerland.

From a macroeconomic point of view gross capital formation corresponds to savings in the economy. In a closed economy investment equals savings by definition. In an open economy investments can also be made by becoming a net debtor. Both countries exhibit higher exports than imports for the period analyzed, consequently they are net exporters. Denmark's net exports amount to 4 % and those of Switzerland to 11 % of their domestic production.

In Denmark, the second largest component is government's consumption with 30 % of GDP. The difference to Switzerland is particularly striking regarding this category. Government's consumption ranks only third in Switzerland with 12 % of GDP. This once more shows the comparatively low economic importance of the government in Switzerland. Besides private and public consumption and a third consumption category ("other consumption"), which includes amongst other things consumption by nonprofit organizations, expenditures of GDP in this category are of minor importance with respect to the total sum of GDP.

Households' final consumption makes up 48 % of GDP in Denmark while it accounts for 56 % of GDP in Switzerland. This difference in households' final consumption expenditures of 9 %age points can be partially explained by differences in the social security system. In particular, private expenditure for health accounts for a far larger fraction of private consumption in Switzerland than in Denmark.

3.2.3.2 Final Consumption Spending of Households

Consumption, more precisely households' final consumption, constitutes the most visible part of expenditures because it is part of our daily life and reflects the daily choices we make. Note that price levels are generally higher in Switzerland than in Denmark. Thus, total amounts of money spent for different final consumption goods and services may draw a misleading picture. Moreover, GDP per capita is also higher in Switzerland. To perform a more meaningful comparison we analyze the average consumption spending in percent of GDP and not in percent of total consumption in panel (b) of Fig. 3.5.

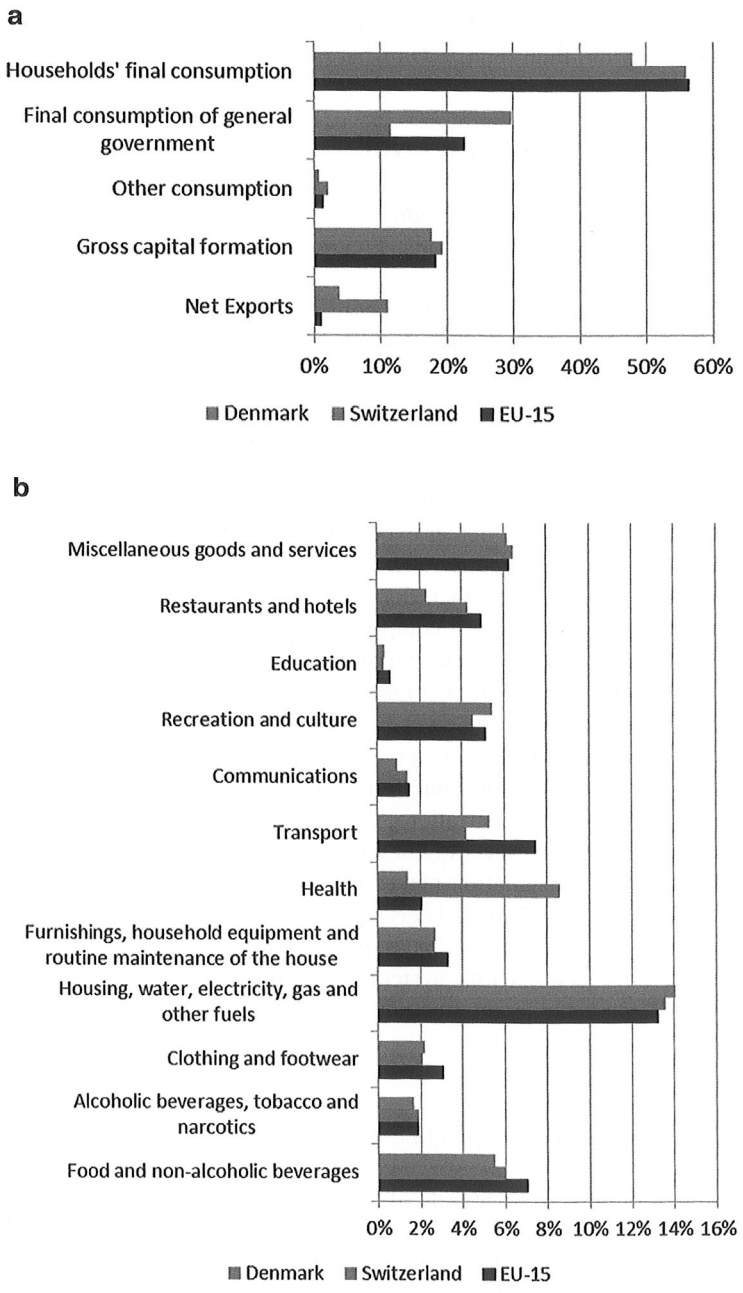

Fig. 3.5 Components of GDP and households' final consumption. (**a**) Components of GDP in 2009. (**b**) Households' final consumption as a share of GDP in 2009 (*Source*: European Commission, online database Eurostat 2009)

Expenditures on housing in general form the largest single expenditure category in both countries. We also observe that expenditures on clothing and footwear, furniture and household equipment, as well as on housing, are remarkably similar between Denmark and Switzerland. Although expenditures for food and nonalcoholic beverages as well as for alcoholic beverages and tobacco seem small in terms of percentage points, Swiss spend 9 % more of their GDP on food and nonalcoholic beverages and 15 % more on alcoholic beverages than Danes. The same applies for communication expenditures, where Swiss spend comparatively more than the Danes.

Consumption expenditures give an impression on how people organize their daily lives and their leisure time. While Danes spend 5.4 % of GDP on recreation and culture, Swiss spend only 4.5 % on this category. This could partly be explained by the fact that Danes work less hours per year than Swiss and therefore have more time left for recreational activities. Danes spend 5.3 % and Swiss only 4.2 % of GDP on transportation. On the other side, Swiss spend 4.3 % of GDP on restaurants and hotels. This is 86 % more than Danes spend in the same category.

However, restaurants and hotels do not represent the most striking difference. More important are differences in final consumption concerning health. Households' expenditure on health sum up to 8.6 % of Swiss GDP, which is fivefold the amount spent in Denmark. Danes have to pay much less money on health out of their own pockets than the Swiss. Health expenditure is the second largest single expenditure category in Switzerland. In Denmark, health is more extensively financed through the system of taxes and contributions than in Switzerland. Swiss pay health insurance fees on a monthly base and in addition, costs are substantially shared between health insurances and patients. While the privately paid health expenditures are dominant in Switzerland, the Danish government spends 7.8 % of GDP on health compared to only 1.78 % in Switzerland. The high share of household spending on health also distinguishes Switzerland from the EU-15 average. Denmark only exceeds the EU-15 with respect to housing, water, electricity, gas, and fuels.

3.3 Comparisons Based on Real Life Impressions

GDP and its components have been widely criticized from the very start of their emergence in statistics as not being fully appropriate for a comparison of the standard of living across countries. We have hinted at the shortcomings of GDP as an indicator for welfare before. Clearly, part of the criticism also applies to consumption as the main component of GDP. To provide a more detailed comparison between Denmark and Switzerland based on other and more direct indicators we proceed to a comparison focusing on real life impressions i.e. we analyze differences based on variables such as employment, education, and life expectancy.

3.3.1 Work Life and Unemployment

Over a long time period economic growth, low inflation and low unemployment were considered as important goals of economic policy. For most governments low unemployment rates are central aspects of their economic policy and it is even a general aim to achieve full employment. There is a considerable theoretical and empirical debate in economics and social sciences regarding the causes and consequences of unemployment.

3.3.1.1 Unemployment in Denmark and Switzerland

For a long time both countries have been blessed with relatively low unemployment rates compared to many of their neighbors. The International Labor Organization (ILO) defines unemployment as a state in which people are without jobs and have been actively looking for work within the past 4 weeks. This definition excludes so-called voluntary unemployment where people are not searching for a job because they have, for example, too high wage expectations. The OECD applies the same unemployment definition.

The unemployment rate is the common measure of the prevalence of unemployment in an economy. It is defined as the share of unemployed individuals fulfilling the above ILO definition relative to the whole labor force. The labor force is composed of all individuals currently working and those unemployed.[4] Figure 3.6 compares the unemployment rates of Denmark and Switzerland starting in 1990.

Panel (a) of Fig. 3.6 shows the overall unemployment rate for the two countries.[5] We observe that unemployment was always lower in Switzerland than in Denmark. Swiss unemployment increased from 1990 to 1993 from almost zero to slightly below 4 %. The Danish unemployment rate during the same period was far higher and increased from approximately 7 % to almost 10 %. However, from 1993 to 2006 Danish unemployment fell while unemployment in Switzerland fluctuated between 2 % and 4 %. Note that from 1998 onwards the Danish unemployment rate develops similarly to the Swiss unemployment rate until 2006, but at a slightly higher level. Before the financial crisis unemployment was almost the same in both countries, but Switzerland got through the crisis better than Denmark.

Economists distinguish different types of unemployment. Frictional unemployment is mainly short-term unemployment usually occurring because it takes some time until persons find new jobs after being dismissed from work. Structural

[4] When comparing unemployment rates one has to keep in mind that in the statistics people who are actually unemployed may be counted not as "unemployed" but as "disabled". However, the difference between Denmark and Switzerland with respect to people identifying themselves as disabled is rather small according the data from the European Social Survey.

[5] We use current and common harmonized data from the OECD to assure that differences in the two systems play a minor role for direct comparisons.

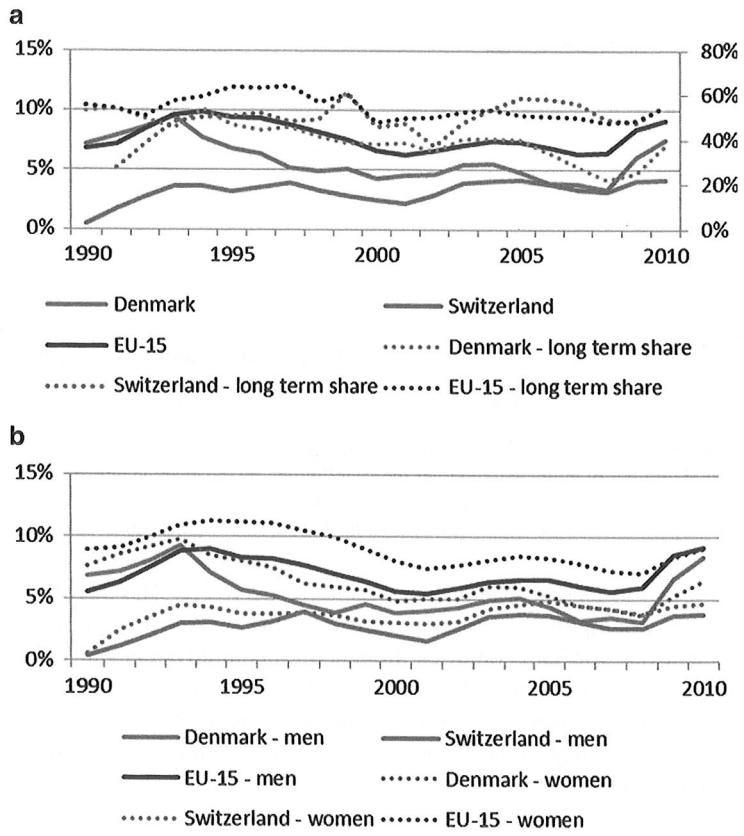

Fig. 3.6 Unemployment rate. (**a**) Harmonized unemployment rate and share of long term unemployment. (**b**) Harmonized unemployment rate by gender (*Note*: Unemployment rates in panel (**a**) refer to the left axis. The long term share is defined as the share of those unemployed longer than 6 month and refers to the right axis. Overall unemployment data is missing for Austria until 1992 and for Germany in 1990 (*Source*: Organisation for Economic Co-operation and Development, online database OECD.Stat, various years)

unemployment is often long-term and caused by the economic conditions in a country (additional facts are explained in Chap. 8). Long-term unemployment, which we define as those being unemployed for longer than 6 months, is more prevalent in Switzerland than in Denmark. In the period from 1990 to 2010 on average 49 % of unemployed Swiss were unemployed longer than 6 months while the same fraction amounted to 41 % in Denmark. Looking at this share, Switzerland seems more similar to the average EU-15 country with a long-term unemployment share of 54 %. However, one has to keep in mind that the total number of unemployed is much lower in Switzerland. Although Denmark's unemployment rate approached the unemployment rate of the average EU-15 country again after 2010, the pattern of unemployment is still different in Denmark, as the share of long-term unemployed is low. Panel (b) of Fig. 3.6 shows unemployment rates for

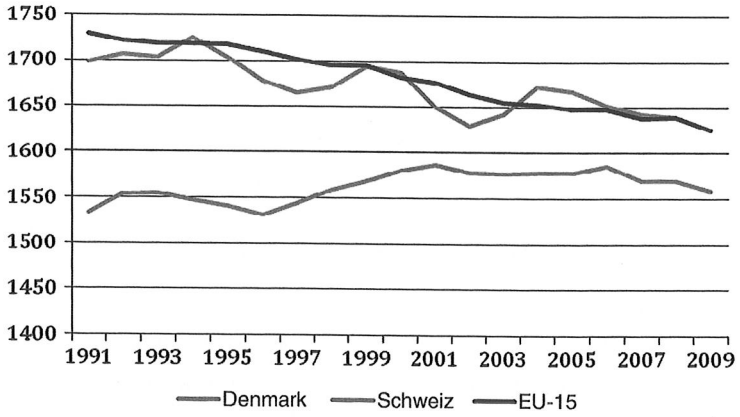

Fig. 3.7 Annual hours worked (*Note:* Figures for Austria are missing before 1995. The concept used is the total number of hours worked over the year divided by the average number of people in employment. Part-time workers are covered as well as full-time workers. *Source*: Organisation for Economic Co-operation and Development, online database OECD.Stat, various years)

men and women in Denmark and Switzerland, respectively. The development in gender specific unemployment rates is similar to the overall development in the unemployment rate for both countries. In general, unemployment rates are higher for females than for males in both countries. However, in times when economic conditions weaken, women's unemployment rates are more stable. Thus, total unemployment rates may exceed women's rates as was, for instance, the case in Denmark starting in 2009.

3.3.1.2 Hours Actually Worked

Switzerland is richer than Denmark in terms of GDP per capita and salaries. However, Swiss people are commonly said to work more hours than other people. Figure 3.7 compares the two countries with respect to the number of annual hours worked.

Between 1990 and 1993 Swiss people worked on average over 1,700 h annually while Danish people worked approximately 1,550 h annually, thus 150 h or almost three working weeks less than the Swiss. This gap has narrowed slightly over time. From 1994 onwards the number of annual hours worked has declined in Switzerland while it has risen slightly in Denmark. Nowadays, Danes work on average slightly more than 1,550 h annually but Swiss people still work 100 h more, i.e. approximately 1,650 h. We also see that Switzerland is very close to the EU-15 average while Denmark is somewhat below.[6]

[6] Interestingly, Greece reports about 2,100 h worked annually and is consequently the leading country within the EU-15.

3.3.2 Education

Education and human capital are said to be the most important resources especially in small, developed countries without any other significant natural resources, like Denmark and Switzerland. However, education is not only valued as a means to achieve a higher gross domestic product and higher salaries, but also because many people believe that education and in particular higher education has an intrinsic value.

3.3.2.1 Education Expenditure

One of the easiest ways to compare education among two countries, but also a very first and preliminary step, is to focus on education expenditure as a fraction of GDP.

Public spending on education as a fraction of GDP has increased in both countries over the last decades. As GDP has also increased over the same period the total amount spent for education has risen steeply.

Spending on education as a fraction of GDP is higher in Denmark than in Switzerland. In 2008 Denmark spent 7.8 % of its GDP on education, which is the highest share within the EU-15. Switzerland spent 5.4 % of its GDP on education, which is close to the 5.6 % spent in the average EU-15 country. However, the figures do only include public expenditure. Especially for Switzerland one should take into account that firms also contribute to the education due to the system of apprenticeship.

3.3.2.2 Achievements in Education

Achievements in education are far more difficult to compare than simple inputs into education such as spending as a percentage of GDP. Another, but still crude measure of education is the number of expected schooling years during a person's whole life. The figure for 2010 answers the question of what the expected education of a hypothetical person was if he or she would acquire in each year of his/her hypothetical life, say at the age of 13, 14 and so on, as much education as an average person with the corresponding age, say a 13, 14 years old, etc., received in 2010.[7] The number of years of education was always higher in Denmark than in Switzerland and the distance has remained approximately the same over time. While Danes can expect an average lifetime education of approximately 16.9 years the comparable number is significantly smaller in Switzerland (15.6 years) and is even below the average EU-15 country.

[7] Note that these figures assume a constant education pattern for the future as they are based on data from one year only.

Although the difference in the number of schooling years seems to be small there are important differences with respect to the highest level of education attained in both countries. Interestingly, the fraction of Swiss with a low level of education has decreased from approximately 24.9 % in 2000 to 20.8 % of the population in 2010 while the fraction of Danes with a low level of education has increased from 26.5 and amounts to 30.5 % of the population in 2010. The fraction of people with an upper secondary and post-secondary non-tertiary education is 40.7 % in Denmark and 49.3 % in Switzerland in the year 2010. Approximately 27.5 % of the Danes and 30 % of the Swiss have some form of higher education. The figure also shows the rising trend of tertiary education. Denmark's educational patterns resemble the EU-15 average while in Switzerland the share of first and second stage of tertiary education and especially the share of upper secondary and post-secondary non-tertiary education is clearly higher.

In 2000 the OECD started a study aiming at internationally comparing pupil performance on reading, mathematics, and science. The scores presented in Table 3.2 draw a clear picture with Switzerland ahead of Denmark and the EU-15 average. Scores are closest for reading where the Swiss average amounts to 501, the Danish to 495 and the EU-15 average score amounts to 464 points. The Swiss score is particularly driven by the good results of girls while the boys' score is similar to the score of boys in Denmark. Boys have a higher score in Denmark and Switzerland in mathematics and science. The Swiss score in mathematics amounts to 534 while the Danish score is at 503 points. In science Swiss pupils reach a score of 517 while Danish pupils score 499 points, which is slightly below the EU-15 average.

Altogether, this very brief glance at education draws an interesting picture. Switzerland's public expenditure on education and the expected number of schooling years are below the EU-15 average while Denmark is above. On the other side, the share of people with higher secondary and tertiary education and the Pisa scores are comparatively high in Switzerland, while the Danish figures are very close to the EU-15 average.

3.3.3 Life Expectancy and Human Development Index

Common indicators used to perform comparisons of the quality of life across countries are life expectancy and a composite indicator developed by the United Nations called the Human Development Index.

3.3.3.1 Life Expectancy

Quality of life is often related to health and the health status of a population can be approximated by average life expectancy. In the statistical sense life expectancy is

Table 3.2 Education

		Denmark	Switzerland	EU-15
Public expenditure on education (% of GDP, year 2008)		7.8	5.4	5.6
Expected number of schooling years (year 2010)		16.9	15.6	16.2
Highest level of education attained (year 2010)				
Pre-primary, primary and lower secondary education		31.8	20.8	33.7
Upper secondary and post-secondary non-tertiary education		40.7	49.3	40.9
First and second stage of tertiary education		27.5	30.0	25.4
Pisa overall scores (year 2009)				
Reading				
	All students	495	501	494
	Boys	480	481	475
	Girls	509	520	513
Mathematics				
	All students	503	534	498
	Boys	511	544	505
	Girls	495	524	491
Science				
	All students	499	517	502
	Boys	505	520	503
	Girls	494	512	502

Source: The PISA 2009 profiles by country, OECD; United Nations Development Program, online database UNPD, various years
Notes: The values for the PISA overall scores range between 300 and 600

the number of years remaining at a given age. We compare life expectancy at birth for Denmark and Switzerland and look at differences in life expectancy between women and men in the two countries. Figure 3.8 shows life expectancy at birth for women with solid lines while men are depicted with a dotted line.

Life expectancy at birth gives the average number of years of life for a newly born. In Denmark and in Switzerland life expectancy at birth has steadily increased over time. Females as well as males exhibit higher life expectancy in Switzerland than in Denmark. The gap between the two countries in life expectancy has remained constant and stable over time. Swiss newborns of either gender can expect to live more than 3 years longer than Danish newborns. This is a comparatively large difference for highly developed nations, and the difference seems to be driven by factors particular to Denmark, because other developed countries are closer to the Swiss benchmark than to the Danish one. In general, females in western countries can expect to live significantly longer than males. Females' life expectancy at birth has increased from approximately 81 years to over 84 years in Switzerland and from 78 years to almost 81 years in Denmark since 1990. For men we observe a similar and even steeper trend but still at a lower level. In the same period, life expectancy of newborn boys increased from 74 in Switzerland to almost 80 years while it increased from 72 to slightly above 76 in Denmark.

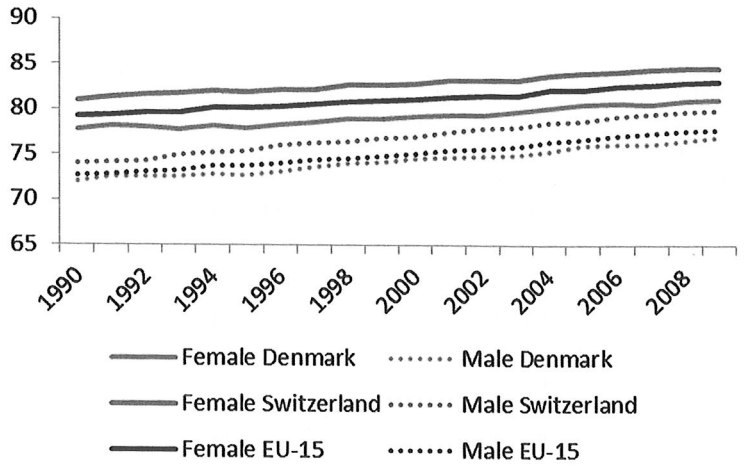

Fig. 3.8 Life expectancy at birth (*Source*: Organisation for Economic Co-operation and Development, online database OECD.Stat, various years)

3.3.3.2 Human Development Index

An often cited measure for international comparisons in particular among more and less developed countries is the Human Development Index, HDI. It is a composite statistic for the quality of life in different countries and includes weights for life expectancy, literacy, education and income. The index is often used to measure the impact of economic policies on the quality of life.

At the beginning of the HDI time-series in 1980 Switzerland ranked fourth after Australia, USA and Canada while Denmark was in position 9. Switzerland now scores 0.903 points on the scale from 0 to 1 and Denmark 0.895 in 2011 which corresponds to positions 11 and 16 in the ranking. The EU-15 average score amounts to 0.881 in 2011 while it was 0.736 in 1980. Generally, people agree that measures such as the HDI, though not giving a completely accurate picture of human development, still indicate general tendencies in the overall quality of life. However, for a comparison of countries it is important not only to consider the outcome reflected in the human development but also the institutions which allow positive development.

3.4 Comparisons Based on Citizens' Behavior

For the analysis of real life impressions we picked a number of important areas in society. However, these comparisons are mainly based on outcomes. When confronting two different systems it is also of interest to focus on the behavior and the opinions of citizens which lead to these different outcomes. Discontent

citizens may opt to exit the system in some way, for example by traveling to another country, by engaging in the shadow economy or similar activities. Alternatively, citizens may voice their opinion in their respective countries.

3.4.1 Shadow Economy

Denmark and Switzerland are both characterized by well-working institutions, transparency in business and public administration as well as low corruption. However, citizens in both countries still engage in the shadow economy and illegal activities.

A broad range of legal and illegal activities – for instance underground activities, drug dealing, and burglary – may be considered as part of the shadow economy. Following Schneider et al. (2010) and other scholars we focus, however, on a narrower definition. In our comparison of the shadow economy in Denmark and Switzerland, we consider shadow economy as "all market-based legal production of goods and services that is deliberately concealed from public authorities [...] to avoid payment of income, value added or other taxes, social security contributions, to avoid having to meet certain legal labor market standards, such as minimum wages [and] to avoid complying with certain administrative procedures" (Schneider et al. 2010: 5).

Consequently, the shadow economy does not constitute an entirely uncoupled economy parallel to the official economy. Many businesses, like small family retail shops or individuals, can operate in the official economy but conceal certain activities from public authorities.

The above definition suggests some immediate causes for activities in the shadow economy. Higher taxes and social security burdens and more costly regulations for running business generally increase the incentives for such activities, as these factors pose costs to the individuals in an economy. Feld and Tyran (2002) pose the general question "why people pay taxes instead of evading them"? After all, tax compliance could be much lower if people only weighted potential cost of being taxed against the probability of being caught for tax avoidance. Many scholars have conjectured that people are also motivated by some kind of "tax morale". This morale is probably driven by many factors.

It is a challenging task to estimate the extent of the shadow economy. One aim of individuals in the shadow economy is to "remain in the shadow" and cover themselves from the authorities. Estimates are sometimes based on questionnaires where individuals are asked directly whether they pursue any undeclared activates. Clearly, anonymity is guaranteed to respondents but there will nevertheless be a bias of respondents. Other methods try to estimate the size of the shadow economy based on the currency held and labor market participation. The first is an indicator for shadow economy activity because such activities are usually financed by currency in circulation and not via banking accounts. Thus, the estimated excess of currency in circulation over money required for registered transactions is an

indicator for the size of the shadow economy. In contrast, higher labor market participation is considered an indicator for a smaller shadow economy because people engaging in the shadow economy are suspected to report smaller official labor market participation.

Table 3.3 is taken from Schneider et al. 2010.[8] The estimates are derived by the so called MIMIC (multiple indicators multiple causes) method. MIMIC is an advanced statistical method which takes into account, first, that we do not directly observe the extend of the shadow economy but, second, there are several good indictors for the shadow economy like currency circulation, labor market participation and many others and, third, there are many causes like the above mentioned tax burden.

The table is led by Switzerland, which has a shadow economy amounting to 8.1 % of the official GDP in 2007. There are only three other countries, namely the USA, Luxembourg and Austria with a shadow economy of less than 10 % of GDP. Denmark's shadow economy has decreased between 1999 and 2007 to 16.9 % of the official GDP, which is still more than twice as large as in Switzerland and places Denmark on the 22nd place. This is four places worse than its neighbor Germany but still eight places better than Norway with 18 % in 2007.

The shadow economy operates quietly and concealed primarily aiming to circumvent taxation and governmental regulations. Although black economy activities can be harmful to the society there may be other forms of negative behavior which have a stronger impact on citizens' daily lives. In the next section we focus on crime in general.

3.4.2 Crime

Denmark and Switzerland distinguish themselves by a low unemployment rate; the educational systems support pupils with learning disabilities, and redistributive mechanisms are in place to guarantee the citizens good starting conditions for their lives. Nevertheless, some individuals see better choices for them outside the realm of legality.

Figure 3.9 shows crimes recorded by the police. Crimes recorded by the police capture all offences against the penal code or criminal code but generally exclude misdemeanors.

Denmark exhibits 87 recorded crimes per thousand residents in 2008, whereas the same figure amounts to 42 in Switzerland. The time series indicates that recorded crimes decreased over time in both countries. However, Danish recorded

[8] The data presented here is based on the common and comparable figures generally used. However, disagreement concerning the estimates exists. In particular, the Rockwool Research Center on Grey Economy quantifies the extent of the Danish shadow economy to be in the range of 2.6–3.8 % of GDP (Pedersen 2003).

Table 3.3 The extent of the shadow economy

No.	Country	Years			Country average (1999–2007)
		1999	2003	2007	
1	Switzerland	8.8	8.8	8.1	8.5
2	United States	8.8	8.7	8.4	8.6
3	Luxembourg	10.0	9.8	9.4	9.7
4	Austria	10.0	9.8	9.5	9.7
5	Japan	11.4	11.2	10.3	11.0
6	New Zealand	13.0	12.2	12.0	12.4
7	Macao, China	13.3	12.5	11.1	12.4
8	United Kingdom	12.8	12.5	12.2	12.5
9	China	13.2	12.8	11.9	12.7
10	Singapore	13.3	13.1	12.2	12.9
11	Netherlands	13.3	13.3	13.0	13.2
12	Australia	14.4	13.9	13.5	14.0
13	France	15.7	15.0	14.7	15.0
14	Vietnam	15.8	15.2	14.4	15.1
15	Iceland	16.0	15.9	15.0	15.6
16	Canada	16.3	15.7	15.3	15.7
17	Ireland	16.1	16.0	15.4	15.8
18	Germany	16.4	16.3	15.3	16.0
19	Hong Kong, China	17.0	16.4	14.7	16.0
20	Mongolia	18.4	17.7	16.4	17.6
21	Finland	18.4	17.7	17.0	17.7
22	Denmark	18.4	18.0	16.9	17.7
23	Bahrain	18.6	17.8		17.9
24	Saudi Arabia	18.7	18.3	16.8	18.1
25	Slovak Republic	18.9	18.3	16.8	18.1
26	Iran, Islamic Rep.	19.1	18.2	17.3	18.3
27	Czech Republic	19.3	18.7	17.0	18.4
28	Oman	19.1	18.4	–	18.4
29	Jordan	19.4	18.7	17.2	18.5
30	Norway	19.2	19.0	18.0	18.7

Source: Table 3.3.6. Ranking of 151 countries according to the size of the shadow economy from Schneider et al. 2010

crime rates are still twice as high as in Switzerland and even increased in 2007 and 2008. Denmark is also above the EU-15 average, which stood at 72 in 2008.

Are these crime figures reflected in the resources the government devotes to fighting crime? To answer this question we looked at the number of police officers which includes criminal police, traffic police and border police and so on but excludes civilian staff, tax police, cadets and the like. The ratio of police officers to population is similar between the two countries. In 2008 it amounts to 2.13 officers per thousand residents in Switzerland while it is 1.95 in Denmark, which is low compared to the EU-15 average of above 3.

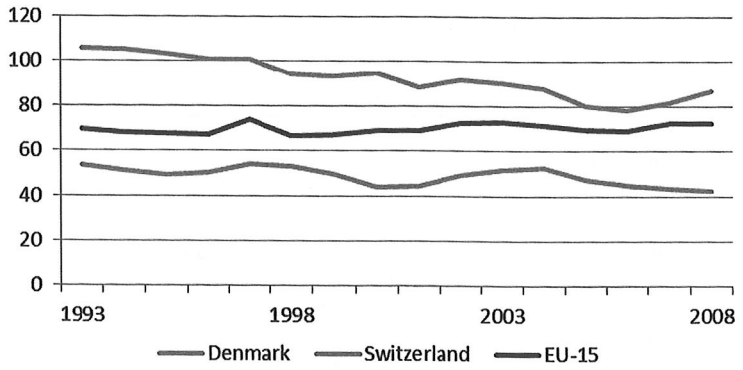

Fig. 3.9 Crimes recorded by the police and crimes according to victimization surveys (All recorded offences per 1,000 residents. *Sources*: Eurostat)

The number of prisoners per thousand residents in Denmark amounted to 0.65 as against 0.75 in Switzerland in 2008 while the EU-15 average was at one prisoner per thousand residents.

3.4.2.1 Perceived Threat of Crime

The relative number of police officers as well as of prison inmates is higher in Switzerland than in Denmark. Usually, it is difficult to infer from such figures whether people feel safe or not. More police officers can produce more safety, but more police officers are required where it is unsafe. Moreover, people react to the threat of crime. For instance, they avoid places they perceive to be dangerous. Therefore, we present survey data in Fig. 3.10 which indicate whether people feel safe and how people feel about crime.

The data are taken from the European Social Survey conducted in 2008, where 1,600 Danes and 1,800 Swiss were interviewed about many aspects of their life and their attitudes towards the state. Only about 1 % of Danes and Swiss worry all or most of the time about becoming a victim of a violent crime as can be seen from Fig. 3.10 panel (a). Nine percent of the Danes worry about this issue some of the time, 37 % occasionally and the majority of 53 % indicates that they never worry about becoming a victim of violent crime. The Swiss distribution is somewhat more extreme in the sense that even though 57 % never worry about becoming a victim the share of people worrying some of the time about becoming a victim is also higher than in Denmark (11 %).

Danes worry a little bit more about their homes being burgled than Swiss. While 55 % of the Swiss never worry about burglars only 41 % of the Danes do never worry about the threat of burglary.

Asked about how safe they feel walking alone in the local area after dark, 47 % of the Danes feel very safe and 37 % just safe while 44 % of all Swiss respondents feel very safe and 41 % feel safe.

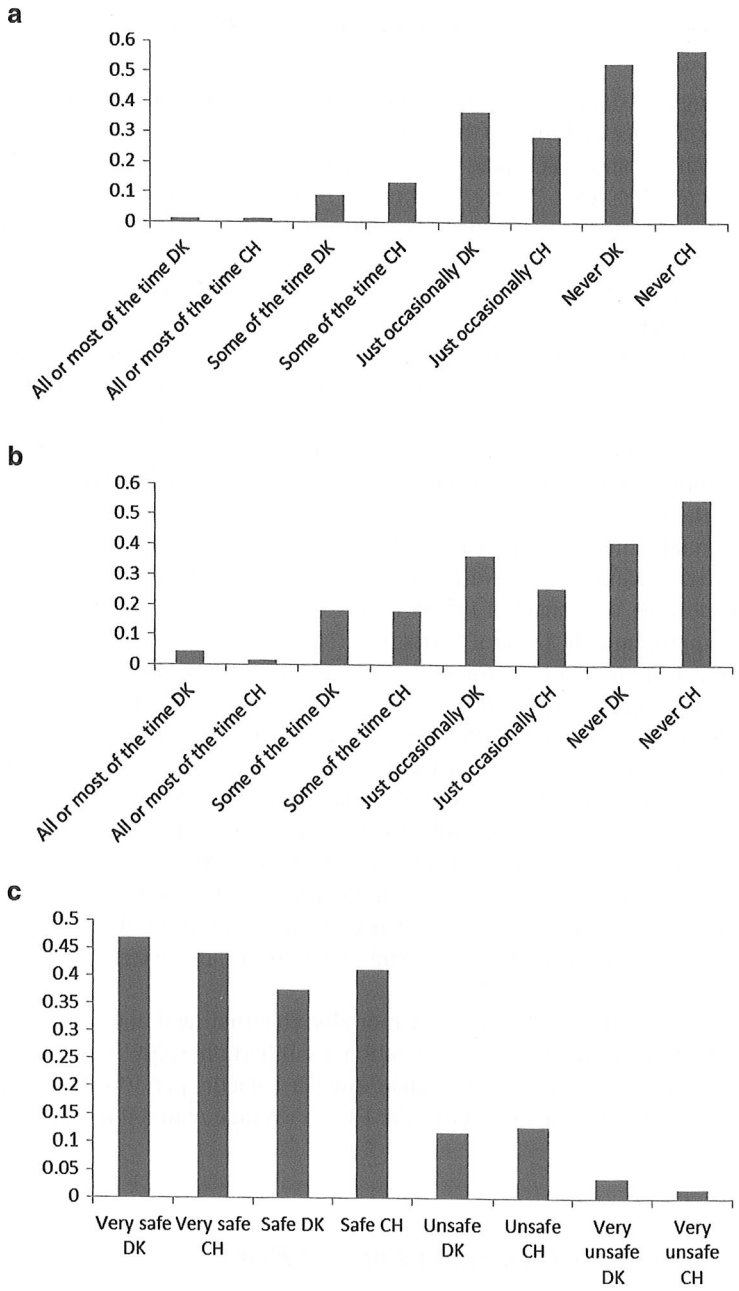

Fig. 3.10 Perceived threat of crime (2008). (**a**) How often worry about becoming a victim of violent crime. (**b**) How often worry about your home being burgled. (**c**) Feeling of safety of walking alone in local area after dark (*Source*: European Social Survey, online database, fourth round 2008)

3.4.3 Alcohol Consumption and Addictive Behavior

Working in the shadow economy and engaging in criminal activities may be considered as special forms of behavior and exit. A far more common and to a certain extent also more accepted form of exit is excessive alcohol consumption and other addictive behavior. Panel (a) of Fig. 3.11 shows alcohol consumption in liters per capita for Denmark and Switzerland and also the types of alcohol consumed in panel (b).

We generally observe that the number of liters alcohol consumed per capita is currently similar between the two countries. However, the development paths have been different. While Swiss consumed about one liter of alcohol more than Danes per year in 1990 they have decreased their alcohol consumption over time. It should be noted that the Danish figures from before 2000 are hard to interpret as the introduction of a more accurate measurement method led to a significant increase in the consumption data. Starting in the second half of the 1990s the Swiss path seems to follow the EU-15.

Interestingly, the current pattern of alcohol consumption is different between the two countries. Danes are beer-drinkers while Swiss tend to drink relatively more wine. Almost 50 % of alcohol the Swiss consume is in the form of wine. Spirits make up approximately 18 % of Swiss and 16 % of Danish alcohol consumption.

Figure 3.12 points to potential consequences of excessive alcohol consumption which are far more pronounced in Denmark than in Switzerland.

The figure reports the death rates due to mental and behavioral disorders attributable to the use of alcohol (dotted lines). We observe that this rate was always higher in Denmark than in Switzerland. More importantly, it has increased in the last 15 years in Denmark while it has remained almost stable in Switzerland. In 2007, alcohol as a cause of death amounted to respectively 2.3 and 2.6 per 100,000 inhabitants in Switzerland and in the EU-15. The same figure amounts to 13.5 in Denmark. Thus, Danes do not necessarily drink more than Swiss do on average, but it seems that when they drink, it can be a rather excessive experience for some.

There is certainly a wide range of mortally abnormal and addictive behavior. Figure 3.12 plots death rates due to intentional self harm in solid lines. We observe that the figure is highest in Switzerland with 15.1 deaths per 100,000, while the Danish figure of 9.4 is slightly above the EU-15 average with 8.9 in 2007.

3.4.4 Suicides: A Permanent Form of Exit

A broadly discussed and very controversial form of exit from society is suicide. As a matter of fact, citizens in both countries are generally very happy. Nevertheless, this "average" result does not exclude the possibility that some individuals in

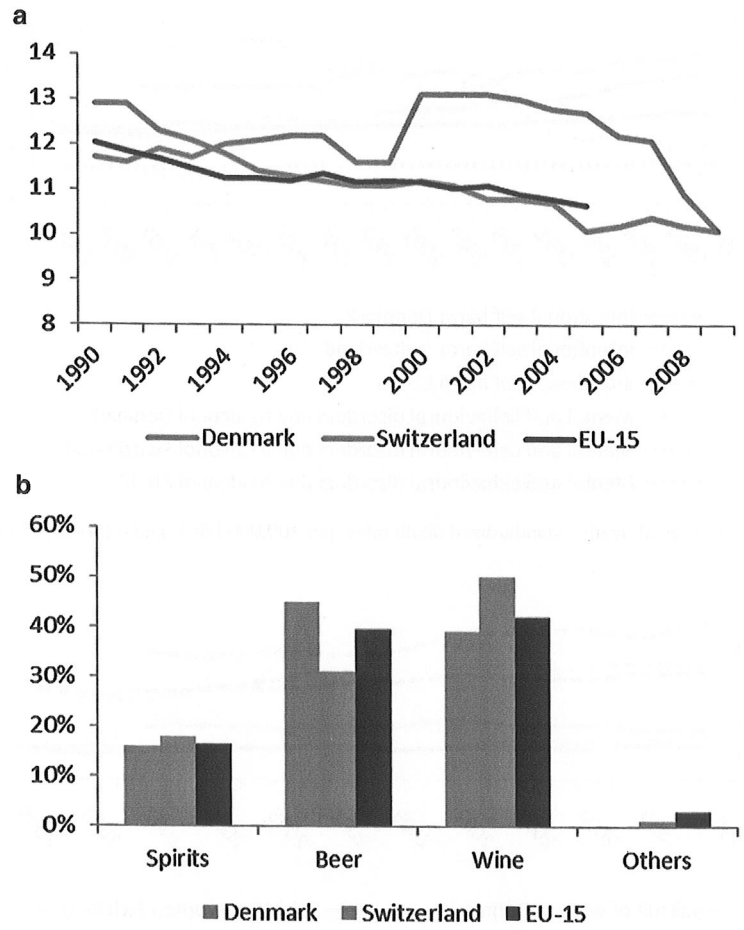

Fig. 3.11 Alcohol consumption. (**a**) Alcohol consumption in liters per capita. (**b**) Alcohol consumption by beverage type (*Notes:* The kink in the Danish series in panel (**a**) in 2000 is due to the use of a more accurate indicator for the consumption of alcohol. *Source*: OECD, WHO)

society feel very unhappy, for instance for health or social reasons, and decide to commit suicide. Figure 3.13 compares standardized death rates per 100 000 inhabitants due to suicide in Denmark and Switzerland.

Suicides are and have been more common in Switzerland than in Denmark. In 2007 15.1 people per 100,000 inhabitants committed suicide, while the comparable number was 9.4 people per 100,000 in Denmark and the EU-15 average amounts to 9.8. There is a clear pattern for gender. Suicides are more prevalent among men than among women. In 2007 the rate was particularly high for Swiss men (21.8 per 100,000 inhabitants).

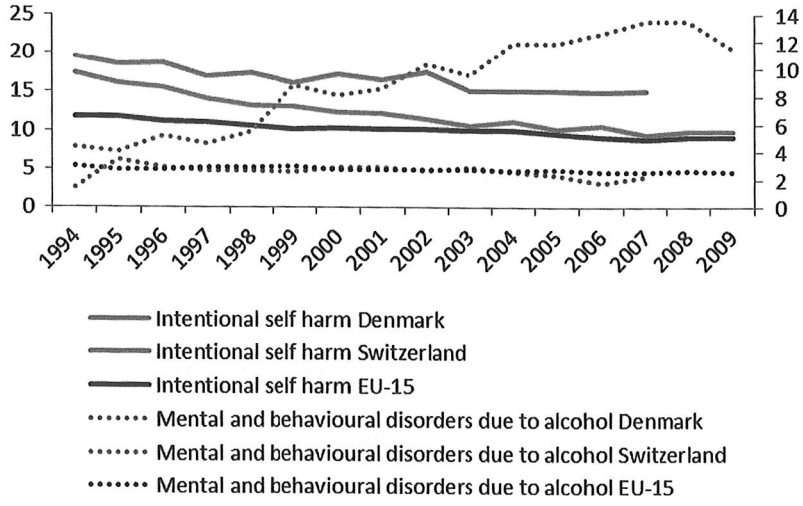

Fig. 3.12 Causes of death – standardized death rates (per 100,000 inhabitants) (*Source*: Eurostat)

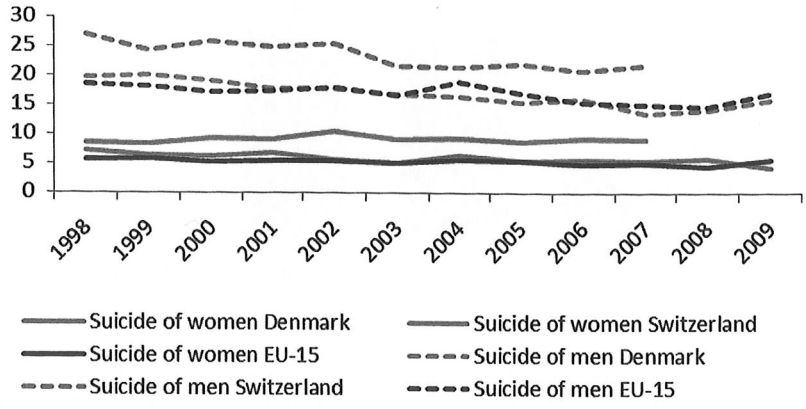

Fig. 3.13 Death due to suicide per 100,000 inhabitants (*Source*: Eurostat)

3.4.5 Tourism: A Form of Temporary Exit

As illustrated in the previous sections it is difficult to measure what matters for a good life. Therefore we have offered a broad picture of different facets which may characterize a good society. When people decide to visit a country they have already made such an assessment of criteria important to them. Figure 3.14 shows who spends travel time in Denmark and Switzerland. Travelers spending their time in the own country are plotted with solid lines, foreign guests are plotted with dotted lines. Like before, we include the average EU-15 country. Since all countries are of different sizes standardization is required. Therefore, we divide the number of

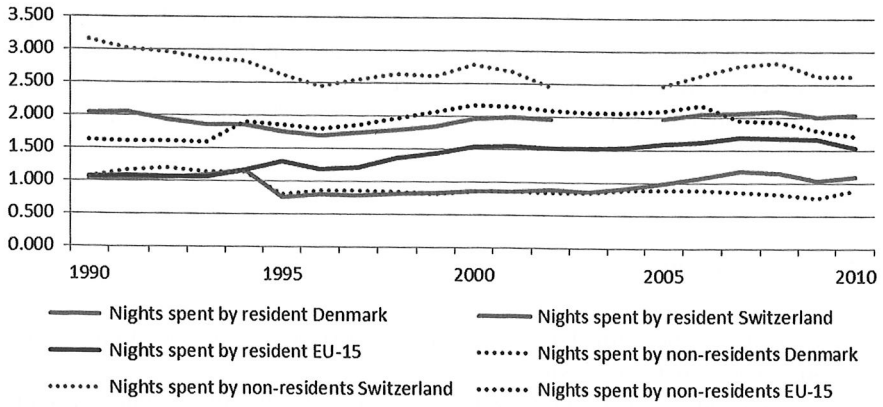

Fig. 3.14 Total nights spent in tourist accommodation establishments by residents and nonresidents per capita (*Note:* The graph plots total nights spent in tourist accommodation establishments by residents and nonresidents dived by population size. *Source*: Eurostat, various years)

nights spent by population size. Of course, one could argue for a different scaling, for example to divide tourist figures by geographical area. The graphs depict the development from 1990 to 2010. The corresponding data for 2003 and 2004 are not available for Switzerland.

The number of nights spent by residents has increased by, respectively, 17 % and 16 % from 1990 to 2010 in Denmark and Switzerland. Danes spent about 6 million nights in Danish hotels and similar establishments in 2010, while Swiss spent 15.8 million nights in Swiss hotels. In terms of residents' nights in tourist accommodation establishments per capita this yields 1.1 nights in Denmark and 2 nights in Switzerland.

The number of nights spent in tourist accommodation establishments by nonresidents in Denmark have decreased by 10 % within 20 years and nonresidents account for fewer nights spent in Danish hotels in 2009 than Danes do. On the other side, nonresidents' nights spent in Switzerland were quite constant between 1990 and 2010 and still account for 56 % of all nights spent in Swiss hotels and similar establishments. In terms nonresidents' nights in tourist accommodation establishments per capita we nevertheless see a clear decline in Switzerland from 3.1 to 2.6 nights. But we have to keep in mind that Switzerland experienced a strong growth of population in the same time.

Following the idea to capture "temporary exits" it would also be interesting to see which fraction of Swiss and Danes has chosen to spend their holiday abroad. Unfortunately, there are no consistent data series available for outgoing tourism from Denmark and Switzerland. This would be particularly interesting to see as Danes nights spent in Danish hotels are half the size of the corresponding Swiss figures. Without further data we cannot be sure whether Danes just spend leisure times at home or maybe in their secondary residences within the country. However, we can learn from the figures presented that many travelers temporarily exiting

their countries decide to visit Switzerland. Switzerland is above the EU-15 average with respect residents' and nonresidents' nights spent in tourist accommodation establishments. Though, the statistics is led by their neighbor country with 6.96 nonresidents nights spent in Austrian tourist accommodation establishments per inhabitant in 2010.

3.5 Conclusion

This chapter has performed an extended comparison of socioeconomic characteristics in Denmark and Switzerland.

We first looked at traditional variables to compare the two countries. With regard to GDP data Switzerland is clearly ahead of Denmark. In terms of purchasing power Denmark loses its top position with respect to other European Countries. Both countries exhibit a smaller growth rate in GDP than the average EU-15 country. Moreover, Denmark is clearly ahead of Switzerland with respect to labor productivity. The high price level which melts off a great portion of the Danish and Swiss GDP as well as Switzerland's labor productivity are pieces of the puzzle we revisit later in the book.

It is not only important to have a high GDP; it also matters how it is distributed. The comparison of inequality before and after taxes showed that Denmark is indeed very effective in equalizing incomes while income inequality in Switzerland is comparable to other European countries. However, Denmark's achievements in equalization come at the cost of a high tax burden. We will enrich the description of the states' redistributive activities later in the book.

Looking at rankings of the institutions which are the base of economic prosperity. Switzerland has always been in the top field of competitive countries. However, many countries such as Singapore, Sweden, USA, Germany, and the Netherlands have always been very competitive, too, or have strongly caught up in the last years. The same is true for Denmark. For instance, Denmark heavily improved investment and financial freedom and has traditionally been a country with very low corruption.

Analyzing education we have the peculiar situation that public expenditure on education as well as the expected number of schooling is lower in Switzerland. Nevertheless, the share of people with tertiary and higher secondary education, as well as the Pisa scores for pupils, are higher in Switzerland than in Denmark. When it comes to education it seems that Switzerland is more effective in converting inputs into outcomes than is Denmark. With respect to life expectancy we found a remarkably high difference for two developed countries. On average Danes live almost 3 years shorter than Swiss.

Finally, we also analyzed individual behavior. It turns out that people living in Denmark engage more in the shadow economy and crime than those living in Switzerland. With respect to the number of police officers and the size of the prison population Denmark and Switzerland are very similar. The same may be concluded

from survey data on perceived crime. Alcohol is a more prevalent reason of death in Denmark than in Switzerland. However, Switzerland experiences many more suicides than Denmark.

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The Good Society

A Comparative Study of Denmark and Switzerland

Springer

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Preface

This book is a result of cooperation between economists and political scientists from Switzerland and Denmark. In some respects the two countries have much in common, but in matters of economic and political institutions they are very different. Still we describe both countries as "good societies" characterized by wealth and happiness. This has made a comparative study of the two countries very relevant as well as challenging and fascinating for the researchers.

The book project originated from the Danish association, The Good Society, which is an association set up by interested private sponsors. This association generously financed the project.

The Institute for Political Studies, Cepos, in Copenhagen, has been responsible for the administration of the project.

The responsibility for the book's contents and the points of view expressed as well as the responsibility for any errors of fact or interpretation lies naturally exclusively with the authors. The book has been realized in a close cooperation between the researchers, and all the researchers have contributed to all parts of the book. However, the main authors responsible for each chapter are:

Henrik Christoffersen: Chaps. 1 and 12
Michelle Beyeler: Chaps. 6, 7 and 8
Reiner Eichenberger, with help from Marco Portmann and David Stadelmann: Chaps. 3, 4 and 11
Peter Nannestad: Chaps. 1, 5, 6, 7, 9 and 10
Martin Paldam: Chaps. 1, 2, 5, 9 and 10

Finally, it should be mentioned that the first author has done most of the editing.

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