

Economic and Policy Implications of Reducing VAT Rates in the Hotel Sector in Denmark

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Abstract

To shed light on the possible economic and policy implications of implementing a reduced VAT rate in hotels in Denmark, this paper applies a regional economic model and is based on a three- scenario analysis. Tourism price elasticity is adopted from the previous research and a cost-benefit analysis is also used as a reference. The results show that reducing VAT at hotels will benefit regional economies, especially in the urban regions where hotel tourists are particularly concentrated. Reducing VAT at hotels will help to improve the competitiveness of the destination, encourage tourism investment, and improve the quality of hotel service.

Keywords: tourism taxation; VAT rates in hotels; tourism economic impact; cost-benefit analysis

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Introduction

Tourism taxation is one source of government revenue. International tourists are rarely voters in the destination countries. Thus, they have no influence on the tax rates that they may be charged in the destination countries. Tourism taxation, mostly in the form of value-added tax (VAT) on the consumption of products or services, is an indirect tax that tourists pay for what they consume at tourist destinations. The higher VAT rates at hotels and restaurants charged by the government in the case of international tourists (seen as a part of taxes on “exported products”), the lower the international competitiveness of hotel and restaurant industries will be. Apart from international tourists, domestic tourists who have already paid their personal income taxes as direct taxes to the government also have to pay VAT on their hotel bill when they stay at hotels. Tourism taxation can be seen as both inefficient and inequitable. It reduces the competitiveness of tourism industries and their optimal welfare maximizing levels. Evaluation of the effects of tourism taxation should be conducted with several considerations in mind; for example, corresponding economic effects from tourism creation due to reduced VAT rates, cost-benefit analysis on the changes of tourism revenue, as well as the effects of a long-term improvement of the investment in and competitiveness of tourism industries.

From a policy point of view, it is meaningful to provide an evaluation of the economic effects of adjusting VAT rates on different products and services with the aim of improving competitiveness in certain industries. Most EU countries have regulated, reduced VAT rates for different products, such as foodstuffs, pharmaceutical products, books and magazines, and hotel, restaurant, and cultural services. For example, Sweden imposes a 25% VAT rate on most consumer products; however, Sweden regulates its special VAT rates on hotel services at 12%, and 6% on newspapers, periodicals, and some other cultural services. On 1 January 2015, Iceland lowered its standard VAT rates from 25.5% to 24%, at the same time lifting its reduced VAT rates from 7% to 12% (11% on letting out hotel rooms). Figure 1 shows standard VAT rates and reduced VAT rates in the five Nordic countries, the Netherlands, and Germany, where Denmark clearly has the highest VAT rates. With the exception of Denmark, all these countries have adopted reduced VAT rates on food or hotel, restaurant, or transport services. Actually, most European countries granted reduced rates on hotels or restaurants to make their tourism destinations more attractive and competitive (see the “List of VAT rates in the 28 EU

countries” in Appendix 1. Denmark is also the only country among the EU member countries that uses the uniform VAT rate (25%) on all products and services.

There is no doubt that uniform VAT rates are easier to collect and administrate, and revenue from tourism taxation makes a significant contribution to government tax revenue. Part of the tax revenue might be used for maintaining and repairing certain infrastructure and transport systems; it has indeed contributed to regional economic development. On the other hand, economic evaluation is necessary for countries (e.g. Denmark) which have kept the uniform VAT rates, while the other European countries have chosen the reduced VAT rates on tourism products and services.

The purpose of this paper is to shed light on the economic effects of implementing a reduced VAT rate on hotel services in Denmark. Based on the work done by previous researchers with regard to tourism taxation evaluation, the paper places its focus on the policy point of view: Does VAT represent a suitable regulating instrument for tourism industries? The paper focuses on three cases that formulate the scenario analysis. The first scenario is a reduction of hotel VAT for Danish business hotel tourists, since this has already been implemented in Denmark since 2015. The second scenario is a reduction of hotel VAT for Danish leisure hotel tourists, and the third scenario is for foreign hotel tourists. The setting for the new VAT is a 50% deduction, which is at a level comparable with Sweden.

The analysis is based on price elasticity of tourism products from the previous analysis of VAT (Jensen & Wanhill, 2002; Manente and Zanette, 2010). This analysis does not make a new analysis of tourists’ reactions to the price changes due to the reduced VAT rate on hotels; rather, it takes previous results on price elasticity as an assumption and input into the Danish interregional model. The methods for the analysis include 1) a regional modelling approach to calculate the changes in income, employment, and the main government taxes due to the reduction of VAT rate on hotels; 2) a cost-benefit analysis showing the cost for government revenue as a result of the reduced VAT rate on hotels and the benefits from the increase in tourists’ bed nights in hotels due to the lower room prices increasing demand.

The paper is organized in seven sections. The second section provides an overview of the literature on tourism taxation and its impact on destinations’ economies. The third section shows a number of indicators and data for the Danish hotel sector and tourism expenditures on hotels and other

products. The fourth section presents the methodologies for evaluation, mainly presenting the Danish interregional macro model that is applied in this analysis. The fifth section shows and explains the results from the model calculation. The sixth section applies cost-benefit analysis to give an overall evaluation of the reduced VAT rate on hotel services. The final section is the discussion and conclusion.

Literature Review

The EU Commission produced a survey of the effects of reducing VAT rates in hotels and restaurants and presented its concluding remarks to the European Parliament and the Council in 2007, which were:

the application of reduced VAT rates to locally supplied services poses no real detriment to the smooth functioning of the internal market and may, under certain conditions, have positive effects in terms of job creation and of combating the informal economy. It is therefore appropriate to allow Member States the possibility of applying reduced VAT rates to the labor-intensive services covered by the temporary provisions applicable until the end of 2010 as well as to restaurant and catering services (Economic Policy Division, 2009, page 1).

Research conducted by Copenhagen Economics claims that there is a theoretical, but not empirical, argument for extending reduced VAT rates to sectors employing many low-skilled workers in order to boost low-skill demand, e.g. hotels, restaurants, and locally supplied services. The theoretical argument is that reducing VAT rates drives down prices and boosts demand. The increase in demand depends on the consumer response to lower prices and also the level of competition within the sector.

If consumers react only weakly to lower prices (if consumption is price in-elastic), production and employment will not increase significantly. This is typically the case for basic goods, for example food, as consumers prefer to preserve their level of food consumption and use the saved expenses to increase other types of less basic, more luxury expenses. In contrast, if consumers react strongly to new prices (if consumption is price elastic), production and employment may increase significantly. This is the case for less basic, high value goods as for example package holidays, books, and electronic equipment (Copenhagen Economics, 2007, page 9).

The research based on tourism demand models has shown that tourism demand reacts positively to reduced prices in the destination (see Song, Witt, & Jensen, 2003). In other words, tourism demand for hotel products is price elastic, normally showing an increased trend when the prices are lower than previously.

VAT is not refundable for tourists from EU countries and is generally only refundable on commodities purchased by tourists from outside the EU. Unlike the normal exports of commodities, which receive a VAT credit, “VAT becomes a price parameter from international tourism flows within and without Europe regions, allowing countries to compete on the basis of lowering VAT rates” (Jensen & Wanhill, 2002). The evaluation of the economic effects of VAT cuts should provide a full-range evaluation, meaning that it takes account of both the cost of VAT cuts and the benefits for government revenues from the changes. In a similar way, Manente and Zanette (2010) show that Italy can benefit from lowering VAT rates in term of income earning and employment, in the case of reducing VAT on hotels and restaurants from 10% to 5%. They pointed out that the main obstacle for the realization of reducing VAT rates is the substantial amount of VAT in absolute terms; for example, in the 2005 fiscal year, the VAT tax levy from the operators of the ‘hotels and restaurants’ industry was 4.3 billion EUR. By comparing the VAT rates in the EU countries, Dombrovski and Hodzic (2010) also found that higher VAT rates have a strong impact on tourism and prices of tourist products and services.

The case from Barbados shows that the economic effects after increasing the VAT rate in the accommodation sector are profound. The higher VAT rate in the hotel sector implied that VAT has pushed Barbados further out of line with regional competition (Griffith, 2000). Danish hotels and restaurants face hard competition with other European countries when Denmark uses the standard VAT rate on hotels and restaurants while other countries implement reduced rates. The absolute amount of VAT collected from hotels alone is approximately 2.5 billion DKK, which accounts for approximately 1.4% of the total VAT paid by all industries. Tourism organization in Denmark (HORESTA) has argued with government for many years for a reduced rate on hotels and restaurant. The government has firstly given a 50% reduction on businesses who pay the hotel bill, later (since January 2015), the reduction on hotel VAT for businesses is 100%; however, private persons still have to pay the 25% VAT rate for hotel services.

Trends in the hotel industry and hotel tourist demand

The hotel sector is composed of a number of micro and small-sized businesses in Denmark. There are approximately 13,500 hotels and accommodation establishments in Denmark, including hotels, youth hostels, camping sites, holiday apartments, etc. Of these, 76% are micro businesses, with less than 10 employees. Small-sized businesses (between 10–49 employees) account for 21%; therefore, the micro and small-sized businesses account for 97% of the total number of hotel and accommodation establishments in Denmark.

Table 1 shows the trend of production value, gross-value added (GVA), and employment in the hotel sector in Denmark. Production and GVA values are in 2010 fixed prices, since the fixed prices can show the real growth without price effects. It shows that production value in the hotel sector was 13,136 million DKK in 2006 and decreased to 13,071 million DKK in 2014, having an average yearly growth rate of 1.1%. The hotel sector accounted for approximately 0.4% of total production in Denmark. The GVA value in the hotel sector was 5,211 million DKK in 2006 and decreased to 5,011 million DKK in 2014, with an average yearly growth rate of 0.2%. The share of GVA of the hotel sector is around 0.33%, reflecting the low GVA in the hotel sector compared with other sectors. The employment measured by the full-time equivalent (FTE) jobs has also dropped. The hotel sector provided with 20,500 jobs in 2006, but it had only employed 18,500 people in 2014. The growth rate in employment during 2006–2014 actually changed by –0.5%. The share of the hotel sector measured by employment has decreased from 0.73% in 2006 to 0.67% in 2014. The trends in the hotel sector reflect the economic trends in all of Denmark and Europe when the economic crisis had an impact on the every economy in Europe and the world during 2009–2010 (see Figure 2). Tourism is characterized by being highly seasonal, with a lot of hotels and accommodation establishments only operating in the summer period. Employment mirrors this seasonal feature. Employment in the hotel sector is also characterized by a larger proportion of women being employed, as well as having a foreign background and being under 35 years of age. These types of jobs in the hotel sector are typically with low wages and salaries.

Table 2 shows tourist consumption by hotel tourists in major cities and the rest of Denmark. Tourist consumption from the three types of hotel tourists shows that foreign tourists (scenario 3) are

mainly concentrated in the large cities, which accounts for 67.8% of total foreign hotel tourism consumption. Both domestic business and leisure tourism consumption in the urban municipalities accounted for 37% of the total, while the remaining destinations accounted for 63%. Hotel tourism is no doubt the urban phenomenon in which tourists focus on the cities.

Table 3 shows the share of hotel tourists compared with the tourists staying in summer cottages in the urban municipalities and island or peripheral municipalities. It is obvious that urban destinations are dominated by hotel tourists, while the island or peripheral destinations are dominated by cottage tourists who enjoy Danish nature as well as family- and child-friendly attractions.

Methodologies in evaluating VAT effects on the regional economies

There are different methods for evaluating VAT effects on economies, including modelling approaches, econometrical analysis, and cost-benefit analysis. Here, we apply a modelling approach and a cost-benefit analysis. The workings and results from the modelling approach will be presented in the fifth section, and a cost-benefit analysis in the sixth section.

The Danish interregional macroeconomic model (called the LINE model) is applied in the analysis. The LINE model is a regional input-output model with social accounting matrices (SAM) and the price due-circuit model as its modelling framework. The model is constructed based on the basic economic theories; for example, it has three main actors: producers, households, and government. The producers produce and deliver products and services to other producers, government, and households, while households deliver labour force (as a production factor) to producers, and government delivers public services to households. At the same time, government has to keep a certain welfare in the country through income taxes, cooperative taxes, and product taxes including VAT.

As an inter-regional model, the LINE model has distinguished geographical regions as “place of production”, “place of residence”, and “place of demand”. The SAM framework contains production sectors (J), factors such as age, gender, and education (F), household types (H), and products and services (V) at the same time as the LINE model system has a flexible degree of aggregation for sectors, factor, household types, and products and services.

Due to the features of the inter-regional macroeconomic model, the LINE model has several linkages that actually formulate sub-models within the general model. For example, a labour market sub-model can produce an analysis of labour supply and demand on the basis of the very detailed register data for labour force and labour market through commuting matrices. Other linkages are shopping, trade, and tourism flows (see Madsen & Zhang, 2010; Zhang, 2014).

The tourism sub-model in the LINE model is constructed based on the detailed tourist bed-night data from Statistics Denmark and tourism survey data from VisitDenmark (see VisitDenmark, 2016). The tourism destination is connected with “place of demand”, while tourism consumption by domestic business tourists is connected with “place of production”, and tourism consumption by domestic leisure tourists is connected with “place of residence”. Tourism consumption by foreign tourists (both business and private) is actually a Danish export of tourism services; however, as the consumption is carried out in the place of demand, it is also a part of private consumption at the destination region.

The analysis procedure is provided in the illustration (figure 3 in the appendix). The first step is the exercise of reducing VAT rates in hotels from 25% to 12.5%. Based on the assumptions from the previous research, a reduced VAT rate in hotel services leads to lower prices in hotel rooms and increases hotel competitiveness in both domestic and international markets. This will boost the demand for hotels with 10% of tourism demand at hotels (not including camping, holiday apartments, and summer cottages). The second step is model calculation, i.e. the extra demand for hotels at tourism destinations will spread over to other economic sectors through hotel purchases (indirect effects) and increases in private consumption (induced effects), and eventually increases will spread to all other sectors due to both direct and derived effects during the model simulation.

The simulation exercise is based on the equilibrium framework of the model, i.e. that the regional supply equals to regional demand in all products and services. The macroeconomic equilibrium is determined by the economy’s capacity or need for financing with regard to investment and export (as exogenous variables), while demand from household, i.e. private consumption, and government expenditure and intermediate consumption is endogenously determined by the economy’s capacity. The model also assumes that domestic markets of goods and factors are perfectly competitive, and that capital and labour are perfectly mobile among sectors and regions. The model analysis is based on a

short-term solution because, in the long-term, the changes in technology or level of productivity will even out the short demand change and will reach a new equilibrium.

Regional economic consequences of reducing VAT rate in the hotel sector

The illustration in Figure 4 in the appendix shows the working process of the reduced VAT rate in the hotel sector on the Danish economies. The direct effect of a reduced VAT rate in the hotel sector is an increase in the demand for hotel rooms, both from international tourists and domestic tourists. The direct economic effects for hotels are the increases in their turnover, gross value added (GVA), and employment in the hotel sector. The hotels will also increase their purchases from other sectors; for example, furniture, food, laundry and cleaning, etc. The extra income and employment from hotels (i.e. direct effects) and from other relevant sectors (i.e. indirect effects) will give an extra increase in employees' income (salaries and wages), which causes an increase in household demand for other products and services (i.e. induced effects).

Assumptions

Two years ago, the Danish government already introduced a number of regulations on VAT rates on hotels by granting business tourists a 50% deduction of the company's VAT taxes on hotel bills, and now the deduction of VAT is 100%. The recent debates regarding hotel VAT reduction can be summarized in two alternatives: 1) all companies can get their VAT payments on hotel bills fully compensated; 2) Denmark simply adopts the rule of other European countries of a reduced VAT rate on hotels, namely half of the normal VAT rate, i.e. 12.5%. The 50% deduction in VAT rates will have the same effect as a 10% reduction in hotel prices. The price elasticity for hotel tourism is approximately -1%, as estimated by both Jensen and Wanhill (2002) and Manente and Zanette (2010). It is assumed that a 10% reduction in hotel prices will give an increase of 10% in the volume of tourists who stay in hotels, if other things being unchanged. Thus, the setting for scenario experiments becomes a 10% increase by different types of tourists staying at hotels. The following three scenarios are made based on the above and practical situations of hotel VAT rates in Denmark:

Scenario 1: the number of domestic business tourists who stay in hotels is increased by 10%.

Scenario 2: the number of domestic leisure tourists who stay in hotels is increased by 10%.

Scenario 3: the number of foreign tourists (both business and leisure) who stay in hotels is increased by 10%.

The first scenario has already been implemented in Denmark. The trend of tremendous growth that hotels have experienced in recent years has made it totally clear what the causes for the development are. The second and third scenario are assumptions for which the economic effects will be shown and compared in order to see the implications of this policy instrument.

Changes in number of tourists and revenue at hotels with 10% increase

In accordance with the economic theory, the direct reaction to lower price is an increase in the number of nights and tourism revenue from hotel guests. Table 4 shows that a 10% change at hotels by the three types of tourists leads to an increase in bed nights at hotels by 363,000, 377,000, and 612,000, totalling 1,351,000 extra hotel bed nights in Denmark. The total tourism revenue created by these extra hotel tourists is estimated to be a total of 2,191 million DKK. The average daily spending per tourist per day is also shown in Table 4, where it can be seen that the domestic business tourists spend more than other types of tourists. Table 5 gives an overview of the distribution of the increase in bed nights of a 10% increase in hotel tourists. Most bed night are located in the four urban municipalities, compared with the rest of municipalities (islands, rural, and peripheral areas). It is shown that more than half of the bed nights are spent in the Capital Region, while the Region South Denmark takes second place, accounting for 18% of total bed nights.

Economic consequences in Denmark

The Danish interregional macroeconomic model LINE is applied in the scenario analysis. For each of the scenarios, the model must operate twice in order to obtain the direct and total effects of the changes in bed nights. The key economic variables, such as GVA, employment, income taxes, and VAT, are presented in the tables. It shows the direct and total (including the direct, indirect, and induced) effects by region. The direct effect indicates how these variables change directly as a result of the extra 10% increase in tourist nights in hotels. The indirect and induced effects show the results when the model continues to operate after the direct effects at hotels have been calculated. The direct effects spread over to other economic sectors through intermediate consumption, and increases in private

consumption due to the increase in the household incomes, and every round of model operation will generate additional increases, with the model continuing until the additional changes are so small that they can be neglected. The total effects are sum of all these rounds of model calculation, representing direct, indirect and induced effects.

The results from the three scenarios are presented in Table 6, which shows both direct and total (direct plus derived effects) income, employment, personal income taxes, and other tax effects. The 10% increase in hotel bed nights will directly create 701 million DKK in GVA and 2,269 full-time equivalent jobs. The total income creation measured by GVA is nearly 1.4 billion DKK and 3,366 jobs, and total personal income taxes is 397 million DKK, and total value-added taxes is 453 million DKK. From Table 6, it can be seen that foreign tourism has the highest economic consequences, and is followed by the Danish business hotel tourism.

Table 7 presents the income and employment creation in the regions. It is clearly seen that the large cities, such as Copenhagen, experienced the largest effects compared with the rural and coastal regions. The income generated in the four urban cities is 632 million DKK, accounting for 45% of the total, and employment creation in the four urban cities is 1,522 jobs, also accounting for 45% of the total employment creation. In the other word, the remaining 94 municipalities account for 55% of income and employment generation. Urban regions are net gainers of the VAT reduction, especially in relation to business tourism.

Cost-benefit analysis

Cost-benefit analysis is a systematic approach to estimating the strengths and weaknesses of alternatives that satisfy transactions, activities, or functional requirements for a business. It is a technique that is used to determine options that provide the best approach for adoption and practice in term of benefits in labour, time, cost savings, etc. Cost-benefit analysis is also defined as a systematic process for calculating and comparing benefits and costs of a project, decision, or government policy.

Table 8 shows that the total VAT on hotels, i.e. the business and leisure tourists through their consumption of hotel rooms, have paid approximately 2.5 billion DKK in total to the State. Hotel VAT accounts for approximately 1.4% of total VAT revenue in Denmark. In comparison with the share of

hotel production (shown in Table 1), hotels account for 0.4% of the total production in Denmark, so the contribution of VAT from hotels in comparison with production shares is much higher than the other sectors. If the VAT on hotel consumption is reduced from 25% to 12.5%, VAT income will be reduced and the government will only receive half the hotel VAT revenue in comparison to previous years. On the other hand, the increase in the number of tourists due to the reduced rates at hotel VAT will produce more effects on tourism revenue, national income, and personal income tax and VAT income. In total, it is estimated that the total GVA income will be increased by 1.4 billion DKK, and the personal income tax and VAT income will increase by 800 million DKK. In addition to this, it will also create 3,366 full-time jobs.

Discussion and Conclusion

In recent years, even though the demand for Danish hotels is seen to face a growing trend, the Danish hotel industry has difficulty in competing with other European countries in terms of number of bed nights and revenues. It is true that the general price level in tourism including both products and services in Denmark, is higher than in most other European countries. Unfortunately, on top of that, room prices at hotels in Denmark have to add a higher VAT rate (25%) than other European countries. This will further deteriorate the competitiveness of the tourism industry in Denmark in the international tourism markets.

This analysis has also used cost-benefit analysis to check the cost and benefit for the government to carry out the policy of allowing lower VAT rates on hotels. The model experiment shows that the reduction in VAT on hotels benefits the large cities the most; however, if all the hotel tourists receive a reduction in VAT, the demand will also increase in the peripheral and coastal regions. Income and employment will surely increase due to the lower VAT rates. The extra increase in income and employment will nearly compensate the cost of government tax revenue, and the tourism industry will gain an improvement in its competitiveness in the world market.

Business tourism makes up the large share of hotel tourism consumption. It accounts for approximately 46% of total hotel guest consumption, since business hotel tourists normally have the highest daily spending compared with all the other types of tourists.

VAT reductions have the greatest effect through foreign hotel guests in the urban cities, where Copenhagen is the highest both in term of foreign tourists and domestic business tourists. This is also the main driver of growing trend in hotel tourism in the cities. It is suggested that following this trend, it will lead to growth of hotel guests in other destinations when the hotels receive a deduction in VAT rates.

There is no significant difference between the distribution of the effects of VAT reduction between urban and other destinations contributed by domestic business and leisure tourists. In both cases, the contribution to additional income and employment in urban destinations is approximately 35% of the total, with the remaining 65% going to additional income and employment in other destinations. If leisure hotel tourists also receive a reduction in hotel room service, the potential effects will spread to the other destinations too.

The cost-benefit analysis shows that the net result is positive for all scenarios. Thus, the policy instrument of differentiated and reduced VAT rates for hotel stays can generate additional employment and income without the loss of government revenue from taxes.

Annual public investment in tourism development and promotion in Denmark is approximately 15–19 billion DKK, accounting for 5.5% of the total investment in Denmark.

For a comprehensive analysis of the regional impacts and differences in VAT reductions as a policy instrument, it would be necessary to include other forms of accommodation with a VAT reduction, such as camping sites and hostels.

The analysis shows that the reduction of VAT improves the competitiveness of hotels. As summer cottage rental is free from VAT, this type of accommodation currently already has a competitive advantage in terms of price.

It is interesting to discuss and argue that leisure tourists who stay in both hotels and other forms of accommodation receive a deduction in VAT rates, especially for those tourists who visiting rural and coastal regions in Denmark. This paper argues that if the strategic objective is to improve and spur growth in rural leisure tourism and rural tourism destination development, VAT reduction on hotels might be the most suitable regulating instrument. The increased tourism turnover may have increased

investment in development of the product as a consequence, which, in turn may lead to improvements in hotel competitiveness, capacity, and quality in rural leisure tourism.

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Table 1. Trends in hotel sector in Denmark, 2006-2014

	2006	2008	2010	2012	2014
Production hotel (mil. kr.) (Share of hotels)	13,136 (0.41%)	14,066 (0.42%)	12,459 (0.40%)	12,384 (0.39%)	13,071 (0.40%)
GVA value hotel (mil. kr.) (Share of hotels)	5,211 (0.33%)	5,455 (0.34%)	4,985 (0.32%)	4,943 (0.31%)	5,011 (0.32%)
Employment (FTE jobs) (Share of hotels)	20,447 (0.73%)	20,849 (0.72%)	18,217 (0.66%)	17,578 (0.64%)	18,582 (0.67%)

Data source: Statistics Denmark, and SAM-K and LINE model at CRT.

Notes: Production and GVA value is in 2010 fixed prices.

Table 2 Tourist consumption in the three types of hotel tourism by regions

Destinations (kr. and %)	Scenario 1	Scenario 2	Scenario 3
Copenhagen	1,714 (20.3)	1,651 (27.6)	7,596 (60.2)
Aarhus	734 (8.7)	277 (4.6)	445 (3.5)
Aalborg	357 (4.2)	162 (2.7)	355 (2.8)
Odense	316 (3.7)	131 (2.2)	149 (1.2)
4 urban destinations	3,121 (37)	2,222 (37.1)	8,545 (67.8)
Rest of destinations	5,325 (63)	3,761 (62.9)	4,063 (32.2)
SUM:	8,446 (100)	5,983 (100)	12,608(100)

Data source: SAM-K and LINE model. Data year is 2014.

Table 3. Shares of tourists by urban, island and peripheral destination: hotels vs summer cottages (%)

Urban	Hotels	Cottages	Island	Hotels	Cottages	Island/peripheral	Hotels	Cottages
Copenhagen	92	2	Fanø	0	81	Bornholm	15	57
Århus	75	5	Læsø	1	80	Langeland	0	61
Aalborg	51	25	Samsø	11	57	Guldborgsund	3	79
Odense	82	1	Ærø	18	19	Jammerbugt	5	52

Source: TØBBE and RTSA, Visit Denmark and CRT.

Notes: The shares calculated based on TØBBE-RTSA in number of hotel (or summer cottages) bed nights compared with all the commercial forms of accommodations in 2014.

Table 4. Changes in number of bed night and tourist revenue by three scenarios

	Scenario 1	Scenario 2	Scenario 3	SUM
Number of bed nights (1000)	362	377	612	1,351
Tourist revenue (mil. kr.)	655	480	1,056	2,191
Tourist spending per bed night (kr.)	1,809	1,272	1,724	4,805

Source: model calculation based on LINE-Tourism model at CRT.

Table 5. Comparison in the changes in tourists and revenue: urban vs peripheral destinations

Destinations	Scenario 1	Scenario 2	Scenario 3	SUM
<i>Number of bed night (1000)</i>				
Copenhagen	76	98	371	545
Aarhus	13	11	9	33
Aalborg	29	15	19	63
Odense	16	12	20	48
4 urban destinations	135	136	419	690
Rest of destinations	227	241	193	661
SUM:	362	377	612	1,351
<i>Tourist revenue (mil. kr.)</i>				
Copenhagen	112	128	625	865
Aarhus	21	13	16	50
Aalborg	36	19	33	88
Odense	22	12	31	65
4 urban destinations	191	172	705	1,068
Rest of destinations	463	308	351	1,122
SUM:	655	480	1,056	2,191

Source: model calculation based on LINE-Tourism model at CRT.

Table 6. Impact on income, employment and government tax revenue

	Scenario 1	Scenario 2	Scenario 3	SUM
Income - direct	220	144	337	701
Income - total	449	284	665	1,398
Employment - direct	747	484	1,038	2,269
Employment - total	1,108	705	1,553	3,366
Person income taxes	132	82	183	397
Value-added tax	148	97	208	453

Source: model calculation based on LINE-Tourism model at CRT.

Notes: * Income is gross-value added value, and person income taxes and VAT in current price by million Danish kr. Employment is by full-time equivalent jobs.

Table 7. Comparison of income and employment impacts in cities vs peripheral destinations

Destinations	Scenario 1	Scenario 2	Scenario 3	SUM
Total income (mil Dkr.)				
Copenhagen	76	59	366	501
Aarhus	16	9	11	36
Aalborg	25	14	18	57
Odense	15	8	18	41
4 urban destinations	131	89	412	632
Rest of destinations	317	194	253	764
SUM:	448	284	665	1,397
Total employment (jobs)				
Copenhagen	170	142	858	1,170
Aarhus	40	24	28	92
Aalborg	68	34	49	141
Odense	40	21	48	109
4 urban destinations	319	220	983	1,522
Rest of destinations	789	485	571	1,845
SUM:	1.108	706	1.554	3,368

Table 8. Cost-benefit analysis (CBA)

	2006	2008	2010	2012
VAT on hotels by businesses ¹ (Share of hotel VAT in total)	1,064 (2.8%)	1,260 (3.0%)	1,049 (2.3%)	1,048 (2.2%)
VAT on hotels by private persons ² (Share of hotel VAT in total)	1,492 (1.6%)	1,603 (1.6%)	1,421 (1.4%)	1,456 (1.4%)
Total VAT on hotel	2,557	2,863	2,470	2,504

Data source: Statistics Denmark: National accounts 2006-2012.

Note: ¹ Value-added taxes paid by all industries as their intermediate consumption, in current price, million Danish kr.

² Value-added taxes paid by hotel customers including both domestic and foreign tourists as private consumption, in current price, million Danish kr.

Illustration

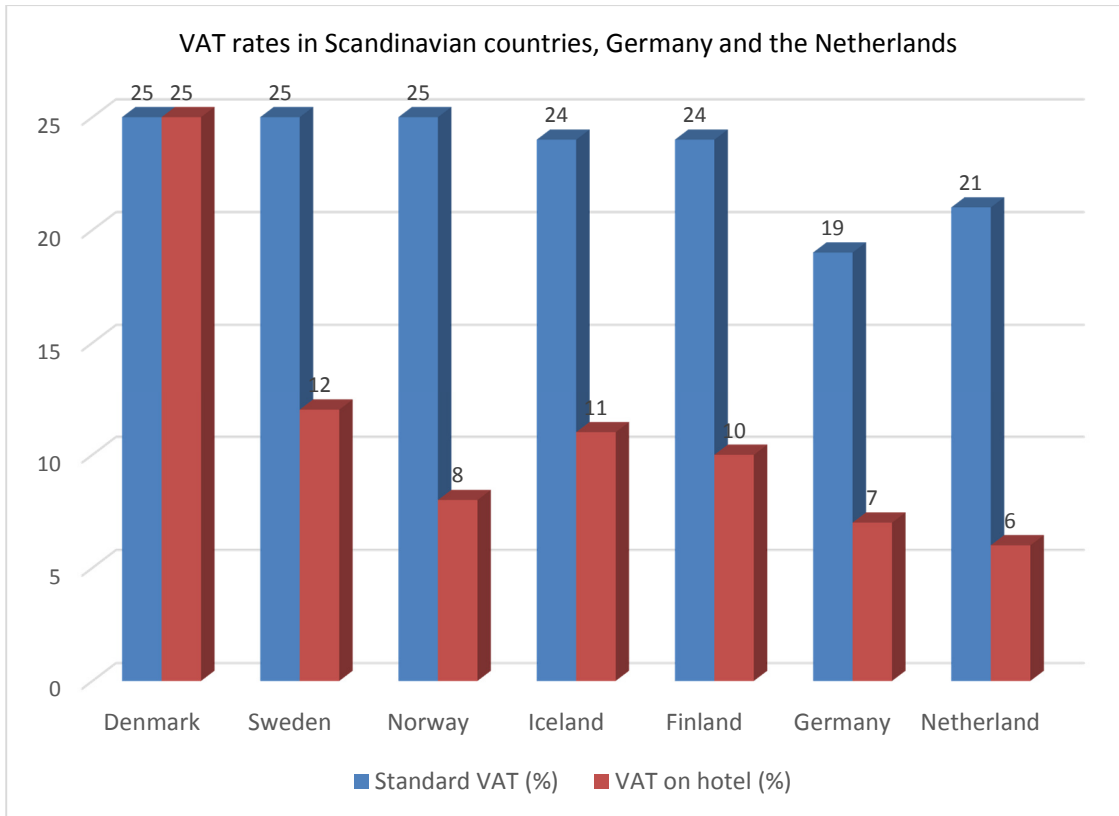


Figure 1 VAT rates in Scandinavian countries, the Netherlands and Germany

Source: “VAT rates applied in the member states of the European Union”, European Commission, January 2014. Data for Norway is from "Guide to Value Added Tax in Norway", the Norwegian Tax Administration at www.skattetaten.no; for Iceland is from “International VAT Association (IVA)”.

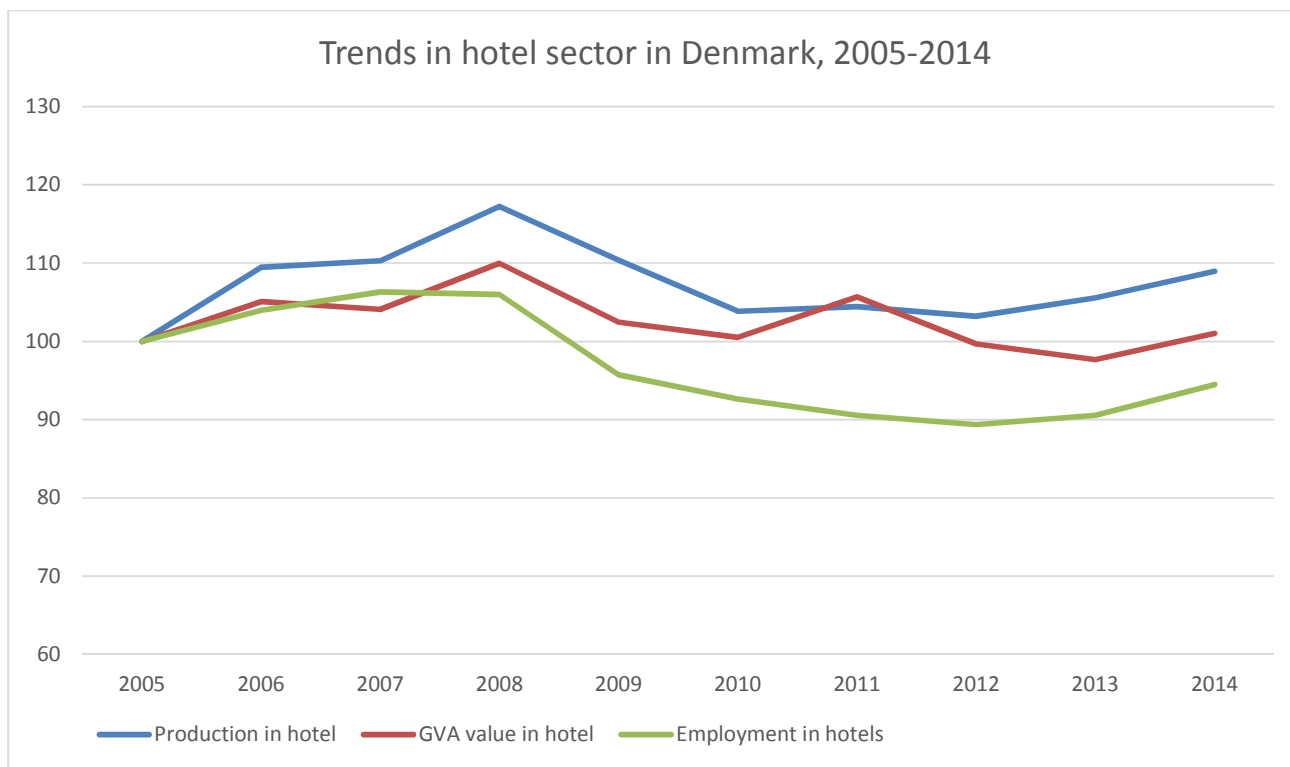


Figure 2 Trends in hotel sector in Denmark, 2005-2014

Notes: the production and gross-value added is in fixed 2010 prices (development trend is shown by index when 2005=100)

Table A1. List of VAT rates in the 28 EU countries

Member States	Code	Standard Rate	Reduced rates	Reduced rates at hotels*
Austria	AT	20	10	10
Belgium	BE	21	6 / 12	6
Bulgaria	BG	20	9	9
Czech Republic	CZ	21	15	15
Cyprus	CY	19	5 / 9	9
Denmark	DK	25	none	none
Germany	DE	19	7	7
Estonia	EE	20	9	9
Greece	EL	23	6,5	6,5
Spain	ES	21	5.5 / 10	10
Finland	FI	24	10/14	10
France	FR	20	10	10
Croatia	HR	25	5 / 13	13
Ireland	IE	23	9 / 13.5	9
Italy	IT	22	10	10
Latvia	LV	21	12	12
Lithuania	LT	21	5 / 9	none
Luxembourg	LU	15	6 / 12	3
Hungary	HU	27	5 / 18	18
Malta	MT	18	5 / 7	7
Netherland	NL	21	6	6
Poland	PL	23	5 / 8	8
Portugal	PT	23	6 / 13	6
Romania	RO	24	5 / 9	9
Slovenia	SI	22	9.5	9,5
Slovakia	SK	20	10	none
Sweden	SE	25	6 / 12	12
United Kingdom	UK	20	5	none

Source: "VAT rates applied in the member states of the European Union", European Commission, January 2014.

Note: * Reduced rates at hotels is check out from different sources.

Figure 3 Diagram illustrating the analysis process and working of reduced VAT rate on hotels

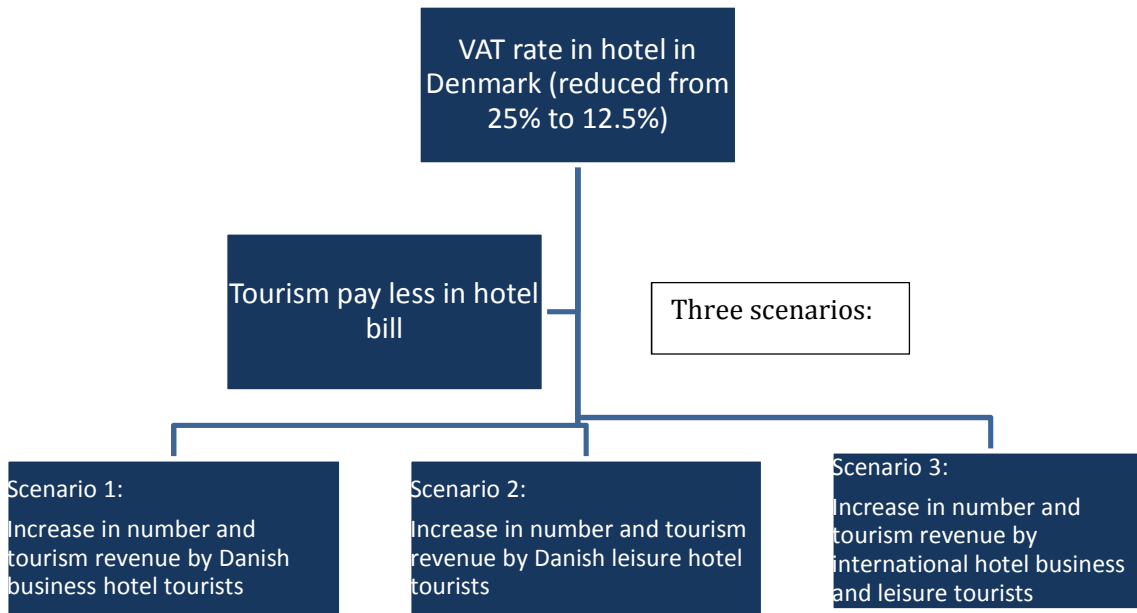


Figure 4 Diagram (continued) in economic part of the analysis

