CHRISTMAS ECONOMICS -
A SLEIGH RIDE

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Christmas Economics – A Sleigh Ride*

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Abstract

Do you believe that at Christmas time the gas prices, the economy and the number of suicides peak? Do you think that the value of presents you are giving to your beloved is of importance? We show in this paper that conventional wisdom about Christmas is often doubtful. Furthermore, we give an idea of how Santa Claus – and maybe you – is able to finance Christmas celebrations, why emergency departments are a place to especially avoid during this time of the year and why Christmas tree growers might care to explain the differences across species to you this year. We cannot clearly establish whether Christmas entails a welfare loss or gain, however, we give you an idea as to which institutional settings might reduce a potential welfare loss. Also, we give advice about which behaviours might get you more Christmas presents from Santa this year. Finally, we find that more research is needed to give conclusive reasons why Santa Claus actually brings presents to (nearly) everyone.

Santa Claus is now back at the frosty North Pole. After enjoying the Caribbean sun all summer long, he is now planning the Christmas celebration ahead. To do so, he is surrounded by his Christmas Economic Advisors (CEA) – Dasher and Dancer and Prancer and Vixen, Comet and Cupid – and Donner and Blitzen together with the chairman Rudolph – who are assisting and advising him in the preparation of the Christmas Economic Report. In this report Santa – a benevolent dictator aiming to bring love and joy to everyone celebrating Christmas – sets outs the planning for the next holiday season. Santa is furthermore supported by a team of elves, mainly in charge of the logistics, marketing, accounting and financing of the presents.

I whish it could be Christmas Every Day – Stock Markets before Christmas

After some troublesome years of increasing demand for presents, Santa's finances are tight. He is not sure how to finance the next Christmas season. Thus, Santa consults the CEA. Rudolph has clear-cut advice. The capital should be invested in stocks right before Christmas because economists found a *pre-holiday effect* in countries celebrating Christmas. This is characterized by abnormal returns on the day(s) preceding Christmas[1]. Investing all liquid assets in stocks will solve Santa's financial problems within days. Even more surprising, the economic literature is not even very controversial about it. The occurrence of this effect is wide spread and persistent.

"But this cannot be true," Blitzen replies, "it contradicts Fama's (1970) Efficient Market Hypothesis. If it is as simple as you say, this knowledge should be sufficient for all rational investors exploiting this effect, so that it disappears. And Jagannathan et al. (2012) show that investors are more likely to make their investment choices at the end of the year. Therefore, abnormal returns on special and predetermined occasions such as Christmas cannot exist."

Rudolph is not convinced by Blitzen's objections and refers to the paper of Lakonishok and Smidt (1988). "As early as 1988, they found that pre-holiday returns are 23 times higher than those on other days for the US besides Ariel (1990) found 10 times higher returns compared to the rest of the year. Even more, several empirical studies report that returns preceding religious holidays tend to be superior to returns of other holidays (see Cao et al. 2009 and Bley and Saad 2010). And this *pre-holiday effect* has not only been established in the US in several studies[2], but also in several other markets.

Blitzen continued: "The reasons for this effect are more controversial and several hypothesis have been tested[3] – and lots of them rejected. However, a simple and nevertheless convincing argument is put forward by Marrett and Worthington (2009). They explain the effect with investors' psychology. Before Christmas, investors are more euphoric, optimistic, and in a positive mood and buy more stocks[4]. Furthermore, according to the findings of Bley and Saad (2010) holiday effects are obviously driven by investor

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[1] This could also explain the tradition of Christmas stockings.

[2] See for example Lakonishok and Smidt (1988), Ariel (1990) and Brockman and Michayluk (1998).

[3] See Chong et al. (2005) for an overview.

[4] Møller and Rangvid (ming) show that at Christmas – other than during the rest of the year – macroeconomic growth strongly influences expected returns on risky financial assets.

cultural backgrounds and religious beliefs[5]. Thus, the positive Christmas effect is mostly found in Christian countries."

"However," Rudoph interrupts, "we should hurry up and make use of this effect as long as it persists." He goes on to suggest: "Chong et al. (2005) show that the Christmas effect is declining in the US stock market over the last three decades of the twentieth century. This decline of the effect might be explained by the relative sophistication of the US market and thus that Fama might be right in the long run. However, the stock market of New Zealand even seems to be less sophisticated at the moment and might therefore be a good investment. The *pre-holiday effect* seems to increase over time there as Cao et al. (2009) show." Santa – impressed by Rudolph's remarks – advises the elves to prepare everything for an investment in the stock market in New Zealand . His financial problems seem to be solved.

Driving Home for Christmas – Holidays and Traveling

Before Christmas celebrations start, lots of people travel home. Therefore, Santa is interested to find out about airline fares and gasoline prices during this time of the year.

Airfares seem to increase before Christmas as for example, Póvoa and Oliveira (2013) show. In line with this, Gaggero and Piga (2011) agree that on average, prices are higher around Christmas (and Easter). In addition, travelers are less likely to grab a bargain: Fares are on average less dispersed compared to the rest of the year, as airlines anticipate more customers with a higher willingness to pay. Rudolph blurts out: "And Han et al. (2009) show that on December 23rd and 24th, the topology of the airline flight network of Austrian Airlines changes from the hub-and-spoke structure to a (Christmas) star structure! Namely, the degree-degree-correlation function tends to..." The other reindeers interrupt Rudolph: "We don't think this is of any importance..."

Although Santa does not like the findings on airfares, he is not surprised. At least this is in line with his understanding of economic theory, which states that in periods of higher demand, prices increase.

In contrast to this, Rudolph can surprise Santa with the development of gasoline prices before Christmas. Against conventional wisdom, there seems to be nothing such as a holiday effect for gasoline prices. Several studies examine the gasoline market, such as Hall et al. (2007) and Davis (2009) for the US, Mitchell et al. (2000) and Valadkhani (2013) for Australia and Erutku (2007) for Canada, but there is no indication of a price increase before holidays. Rudolph tries to downplay this positive result. The data used in these papers is limited and more research is needed to conclude that no such effect exists. For example, a sector inquiry in Germany looked at prices before Easter (although not Christmas) and found a price increase that could not be explained by a demand increase.[6]

Overall, Santa is happy with the findings in the gasoline market, although he is a bit concerned about higher airfares before Christmas.

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[5]Furthermore, Stieger and Krizan (2013) show that the custom whether Christmas is celebrated on December 24 or December 25 shapes the preference for the respective number.

[6]http://goo.gl/z1KBn7.

The Twelve Days of Christmas – Prices and Seasons

After examining airfare and gasoline prices, the general price development is of interest for the CEA report. Therefore, as a next topic, Santa wants to discuss the price dynamics during the holidays.

Some prices fall. Donner explains to Santa that price development during Christmas is easy to predict. The demand for presents and groceries is especially high during Christmas seasons. The supply and demand model predicts that demand shifts outwards and thus equilibrium price as well as quantity demanded increase. Rudolph strongly disagrees. Donner's explanation is much too simplified and contradicts empirical evidence. Rudolph shares the findings of Warner and Barsky (1995), showing that prices for a wide variety of consumer goods – from action figures over bicycles to power tools and food processors – fall at demand peaks prior to Christmas. For groceries, MacDonald (2000) and Chevalier et al. (2003) show declining prices during the holiday period. Santa is stunned. What are the reasons for price decrease before Christmas? That seems to contradict everything he ever learned about economics. Rudolph shares his thoughts of the four possible reasons with the CEA:

- **Model of Economies of Scale in Price Search:** Warner and Barsky (1995) assume within an adapted Salop model that the cost of search and travel between stores are fixed. Thus, it pays off if consumers search more during periods of high demand, such as before Christmas. In doing so, the fixed cost of travel and search can be shared across purchases. Overall, this results in consumers being more price sensitive during high demand periods, or, as economists would put it, the demand for each retailer is more price elastic. Therefore, the optimal price the retailers charge is lower.

- **Model of Cyclical Changes in Firm Conduct:** Here, it is assumed that the ability to sustain tacit collusion – that is – firms agreeing upon a higher prices without saying so, let alone putting it in writing, changes when demand shifts. Rotemberg and Saloner (1986) assume in their model that tacit collusion is sustained as long as the gains from cheating in the current period (i.e. charging a lower price than the one agreed on) are lower than the expected costs of being punished in the future periods by the other firms. The incentives to undercut prices are therefore highest in periods of high demand, such as Christmas. The gains from cheating are high, while the losses due to punishment in future periods are low.

- **Loss Leader Advertising Model:** Lal and Matutes (1994) assume that consumers are unaware of prices charged in different stores and only learn about the prices when they arrive at the stores. This results in a hold-up problem for the customers. The retailers might expropriate the sunk travel cost of the customers through higher prices. Thus, customers being aware of this hold-up situation might refuse to go to these stores in first place. A way to solve this hold-up problem for the retailers is to credibly commit to prices through price advertisements.

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However, advertisements are not without cost, and therefore retailers can only advertise prices for some goods. Again, the consumers will then conclude that the non-advertised products are sold at higher prices (and thus higher profit margins). If the transportation costs going from store to store are high, the stores will even charge the reservation prices, i.e. the highest price the customers are willing to pay. Lal and Matutes (1994) show that, if advertising costs are high enough, only one good will be advertised, with the unadvertised good being sold at the consumers reservation price. This theoretical model is supported by the empirical findings of Chevalier et al. (2003). On average, grocery prices in the Chicago area, for example, fall during seasonal demand peaks. The authors find that items with positive demand shocks are advertised at discounted prices, which is consistent with the "loss-leader" models and less consistent with either the Rotemberg and Saloner (1986) or Warner and Barsky (1995) ideas.

- **Change in Brand-Level Demand:** Nevo and Hatzitaskos (2006) apply the same data set as Chevalier et al. (2003), although they find another explanation for the low prices before Christmas (and during lent). The authors focus more on product differentiation than Chevalier et al. (2003) and estimate brand level demand. They find that demand is more price sensitive and brand preferences change during periods of high demand. Furthermore, they show that the overall demand for a product might increase. However, they find that this increase is different across brands. In particular, Chevalier et al. (2003) show a change in the composition of brands that are consumed; during this time of the year the consumers choose cheaper rather than expenpensive brands. Furthermore, for some product categories, the authors show that brands that are losing market share reduce their prices. However, brands facing the highest increase in demand do not reduce their prices. This is in contrast to the predictions of the loss leader advertising model. Overall, the estimates of brand-level demand show statistically significant changes in brand preferences. Furthermore, price sensitivity is higher during periods of peak demand.

Some prices are sticky as Christmas candy. Cupid is not entirely convinced that Rudolph's reasoning is right. He agrees that there is empirical evidence for decreasing prices before Christmas, but maybe, prices are also rigid during this period. Using the same data set as Chevalier et al. (2003) and Nevo and Hatzitaskos (2006) Levy et al. (2010) show that price rigidity might be high during the Christmas holiday period. Levy et al. (2010) suggest that this rigidity might be driven by the opportunity cost of price adjustments. During the busy times prior to holidays, it costs the stores relatively more to change prices than during less busy periods. In particular, as store traffic is higher during this time, the shop employees are busy "restocking shelves, handling customers' questions and inquiries, running cash registers, cleaning and bagging." Data supports Levy et al.'s (2010) hypothesis that prices are more rigid during holiday periods. Both the frequency of price increases and decreases are reduced during the holiday period. However, among the price changes during this period, the authors find more decreases

than increases. They also rule out wholesale price changes as the main driver for these adjustments. The authors thus conclude that the menu cost theory offers the best explanation for the holiday period price rigidity.

Furthermore, Müller et al. (2006) focus on differences in price rigidity for private label vs. nationally branded products prior to Christmas. Finding a significant higher price rigidity for private label products relative to national brands, they rule out different promotional practices as well as other potential explanations. Müller et al. (2006) explain the increased rigidity of private label product prices partly by the increased rigidity of wholesale prices as well as the increased emphasis on social consumption during holiday periods. Due to this, the customers' value of nationally branded products is higher relative to the private label brands. Based on the same data set Müller et al. (2007) also find that new products are less likely to be introduced, and that existing products are less likely to be discontinued during holiday periods.

Santa is impressed and partly understands that there might be reasons for decreasing prices throughout the Christmas period. However, he is worried that the empirical findings are predominantly based on the data set of one supermarket chain. During the next Christmas season, Santa's idea is to send his elves to collect some data of supermarkets around the world to see whether these findings hold on a broader level.

Some gifts are sold out. Another issue that puzzles Santa are the sales figures of game consoles. In the last years, game consoles have been the #1 on the wish list of boys between 6 and 66. Santa, and especially the elves, of the procurement department are concerned that game consoles are either sold-out long before Christmas or very expensive when Santa's elves order them on online auction platforms. After thinking about this, Rudolph advises Santa to not order the game consoles too long before Christmas. Andrews et al. (2011) examine eBay auctions of Playstation 3s during Christmas season 2006, finding that the number of days between the auction end date and Christmas influences the bidder's willingness to pay for a good. Quite surprisingly, they find higher final bids occurring earlier in the Christmas season. Thus, the advice for sellers would be to sell earlier in the holiday period and thus obtaining higher bids. Obviously, the opposite is true for Santa's buying behavior. However, Santa is still not convinced that he should wait. He wonders whether game consoles might be sold out by then. Comet is not very much worried about this. "This will not happen, Santa, the prices might increase, but the market price will increase so that no shortage will appear." Again, Rudolph feels the need to correct his colleague: He refers to Tabarrok (2008), who examines why there are shortages of "hot toys" such as game consoles around Christmas. Tabarrok addresses the questions why sellers do not simply increase the prices of these toys as standard economic theory would suggest. The answers to this questions are manifold in the literature. Brandenburger and Nalebuff (1996) (p. 113) for example, argue that shortages generate buzz and thus free publicity for the product. However, retailers could also create this buzz with high prices instead of shortages and make higher profits with this strategy. But, as Kahneman et al. (1986) argue, this type of "bad buzz" due to high prices would in the long run result in customers refusing to patronize firms that raised prices to eliminate a shortage. Instead, Becker (1991) argues, using the

example of restaurant pricing, that individual demand for a good might increase with aggregate demand. Then, the aggregate demand curve might be upward sloping over some range. In this case with the fixed supply, the profit-maximizing price does not necessarily equilibrate supply and demand. Tabarrok (2008) himself argues differently, though. He shows that a big shortage does not necessarily imply large losses in profits when queuing is assumed and therefore it can be reasonable and profitable.

Only 364 More Shopping Days till Christmas – "Franksgiving"

Santa is especially concerned about the length of the holiday shopping season this year. In the U.S. the season starts the day after Thanksgiving, which falls on the fourth Thursday in November in the United States and ends at Christmas. Hence, the shopping season varies from 26 to 32 days. This year, with Thanksgiving on the 27th of November, the shopping season is indeed, with only 27 shopping days, a very short season.

How does it impact the US economy? Already in 1939, the impact of the length of the shopping season has been discussed. Back then, the National Retail Dry Goods Association lobbied to have an earlier Thanksgiving than the traditional last-Thursday-of-November timing[7]. President Franklin D. Roosevelt agreed to this request and Congress passed a law in 1941, declaring Thanksgiving a federal holiday on the fourth Thursday in November. Therefore, Thanksgiving is sometimes referred to as "Franksgiving". Basker (2005), examines how the length of the Christmas sales in the United States affects the retail sales. Basker finds an increase of approximately $6.50 in per-capita retail sales per additional day over the relevant range. Therefore, this year, the retail sales will be on the lower end to the disadvantage of the still weak economy. Urbatsch (2013) tests whether the length of the period has an effect on the labor market. He finds that an earlier Thanksgiving and thus a longer season, serves as economic stimulus in the labor market. For each additional day between Thanksgiving and Christmas, Urbatsch (2013) finds that retail sales are estimated to increase by 0.07 percent. This implies several tens of thousands more jobs available for an early Thanksgiving on November 22 or similarly, fewer jobs with a late Thanksgiving this year. These are not very good news to hear for Santa for this year. "It might be worth rethinking Roosevelt's idea. We should aline the dates with Canada and celebrate Thanksgiving on the second Monday in October. Or, we can even go as far as celebrating it on the first Sunday in October like in Germany!"[8]

I Won't Be Home for Christmas – Christmas and Employment

"Is there anything more we know about Christmas and employment rather than knowing that it is better to have a longer holiday season?" Santa wants to know. Even Rudolph is a bit puzzled. There is a paper by Mulligan (2011) looking at the labor market from a macroeconomic perspective, testing whether the impact of seasonal cycles (like the demand increase at Christmas) on employment differs in recession years and non-recession

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[7]Even the last Thursday of September as the day of celebration across all states only appeared in 1870th. Before, Thanksgiving was observed on various dates throughout history and differing across states.

[8]The sale of Christmas decoration and gingerbread traditionally starts as early as end of August.

years. She finds that during the Christmas season, work hours and wages are higher than during the rest of the year. However, the demand increase at Christmas has the same impact on employment in recession years as in non-recession years. Santa is relieved to hear this: "Having Christmas always has a positive effect on employment!".

Jingle Bells – Christmas, Business Cycles, and Growth

"We know that the North Pole economy is booming at Christmas", Santa says, "but what about the rest of the world?" Rudolph sighs: "The evidence is rather mixed for short run effects." Among to the first economists to explicitly focus on the effects of seasonal fluctuations are Barsky and Miron (1989). They show that seasonal fluctuations are an important determinant of macroeconomic activity. By far, the largest contribution to a change in productivity comes from the fourth quarter and is attributable to a Christmas-induced demand expansion. Also, follow-up papers by Beaulieu and Miron (1992), Beaulieu, MacKie-Mason, and Miron (1992), and Miron (1990) find that in many countries most of the quarterly and monthly variation in macroeconomic time series can be explained by seasonal variation.

On this basis, several macroeconomists have tested for a so called 'Santa Claus Effect' in business cycles, i.e. a boom in the fourth quarter and a following trough in the first quarter. Hylleberg, Jorgensen, and Sorensen (1993) find a fourth quarter boom for GDP for seven out of 15 countries (Australia, Finland, Japan, Norway, Sweden, Taiwan, and the US, but not for Argentina, Austria, Canada, Germany, Greece, Italy, the Netherlands, and the United Kingdom). "But Santa does not even deliver presents to Taiwan", Donner interrupts. Smilingly, Rudolph replies that Santa buys a lot of presents there. Hylleberg, Jorgensen, and Sorensen (1993) shows the corresponding trough in the first quarter for 12 out 15 countries, exceptions are the Netherlands, Sweden, and Taiwan. Similarly, Ghysels (1994) finds a tendency for the trough effect already starting in December. Braun and Evans (1998) also argue that Christmas explains the increase in total factor productivity, consumption, and output. Wen (2002) establishes that seasonal shocks explain partly the dynamics of the business cycle. He finds rapid growth of output in the fourth quarter, largely driven by Christmas, and a subsequent decline output in the first quarter. But according to Giles (2005), there is no Santa Claus effect in many countries. However, his results suggest a Christmas boom in Austria, Germany, Korea, Taiwan and the US.

Santa is also interested in long term effect. Concerning economic growth, results are a bit disappointing: Amavilah (2009) shows a negative effect on economic growth for religious holidays, thus also for Christmas. But for non-religious holidays, he establishes a positive effect on growth. "But maybe further research is needed", Rudolph points out the weak explanatory power of the results.

Rockin' Around The Christmas Tree – Demand for Christmas Trees

Concerned about the very low level of natural Christmas trees being sold in the last years[9], lobbyists from the Association of Christmas Tree Growers take their complains to

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[9]http://goo.gl/P6vuj3

the the North Pole. Although Santa does not like lobbying organizations in general, he asks his CEA for support. Is there anything worrying about the Christmas tree market? Rudolph is concerned about the limited research in this field. One of the first attempts to examine the display of Christmas trees was made by Caplow from a sociologist's perspective. He comes up with a "Christmas tree rule" stating that,

> "Married couples with children of any age should put up Christmas trees in their homes. Unmarried persons with no living children should not put up Christmas trees. Unmarried parents (widowed, divorced or adoptive) may put up trees but are not required to do so." Caplow 1984

However, shortly thereafter, Hamlett et al. (1989) shows that in the US "people who are likely to display trees are Christian, practice other secular Christmas rituals, have children, and spend Christmas at home. Those who use natural trees are younger, white, have a higher income, and live in a single-family dwelling." Rudolph knows that this does not help the tree growers a lot. Without a lot of effort, the tree growers cannot change the characteristics of the consumers who buy trees. More of interest are the characteristics that Christmas trees buyers value the most. Davis (1993) finds that customers buying treey and are aware of the species they purchased, place a positive value on height, branch spacing and color, and a negative value on needle length. Overall, Davis (1993) concludes that knowledgeable customers (those knowing the species they are buying, i.e. fir, spruce, or pine) have a greater willingness to pay. Thus, "the natural Christmas tree industry would benefit from a generic educational campaign on natural Christmas tree species and their characteristics." Santa agrees that this knowledge might help the tree growers have a more profitable business, although he is still curious to know more about potential competition with artificial trees. Davis and Wohlgenant (1993) elucidate on the own-price and cross-price elasticity of natural Christmas trees with respect to artificial Christmas trees. For Christmas trees, the authors find[10] that for a one percent price increase, the quantity demanded decreases by 0.674 percent. For a one percent price increase of artificial trees, the quantity demanded for natural Christmas trees will increase by 0.118 percent (Davis and Wohlgenant (1993)). Or put differently, if the prices of artificial Christmas trees decrease, this could cause the share of artificial trees in the total Christmas tree market to continue to rise.

Santa is satisfied with what he learned. He wants to go on to the next point on his agenda. But Rudolph cannot stop himself from telling Santa about his most favorite economic knowledge about Christmas trees. "Vukina et al. (2001) examine the relationship between a tree price and a tree age (height) using a model of optimal plantation management. With Christmas tree prices in North Carolina collected in December 1997, the authors show that the rates of change in prices between adjacent age cohorts reflect a competitive equilibrium in the capital market, thus supporting the Hotelling-Faustmann paradigm!" The other reindeers already get fretful as they have no idea what Rudolph is talking about. "It is not that difficult", Rudolph tries to explain, "in equilibrium,

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[10]Data was collected for the Washington, D.C., Northern Virginia, Southern Maryland, and Philadelphia areas.

the value of the Christmas tree stock must be growing at the rate of interest. It is an interesting paper worth reading!"

Santa Claus got Stuck in my Chimney – Christmas and Weight Gain

Another issue that is of special interest to Santa is the effect that Christmas has on health. In particular, he would like to know how the holiday season affects the weight of the people celebrating Christmas. Rudolph reviewed the studies published concerning weight gain during holidays, and sighed with relief. Yanovski et al. (2000) can only find a moderate (but significant) increase in weight during the holiday period (gain of $0.37kg \pm 1.52kg$), but not during the pre-holiday period. It is only slightly concerning that people were not able to lose this weight throughout the year, so the holiday weight probably adds up, thereby contributing to the overall increase in body weight. "So is there any way to prevent the weight gain?", Santa asks. The answers from researchers are neither convincing nor do they sound enjoyable. Baker and Kirschenbaum (1998) find that weight control through self-monitoring to prevent weight gain over the holiday period does not work very well. It only works for the participants in the most consistent self-monitoring quartile. It would even take much more effort to get used to the proposal of Silverstein et al. (1996). They find that, overall, a liquid meal replacement during holidays can prevent weight gain. The elves are happy: "Yeah, Christmas punch!". Rudolph has to disappoint them: "No, Slimfast". To promote this option sounds much too revolting even for Vixen, the health economist of the CEA.

Mistletoe and Wine – Alcohol Consumption During the Holidays

Rudolph, as a native born Finnish reindeer, is curious to learn about the health effects of increased alcohol consumption during Christmas. The influence of heavy drinking and alcohol induced death is for example, discussed in Mäkelä et al. (2005). They find an increase of death incidences during Christmas among the Finish because of their higher alcohol consumption. In line with this, Poikolainen et al. (2002) show that fatal alcohol poisoning peaks during Christmas celebrations in Finland. They find that a one percent increase in the sales of spirits increases the number of fatal alcohol poisonings by 0.4 percent. Similarly, Lloyd et al. (2013) find more hospital visits due to alcohol consumption in Australia. The ambulance attendances, emergency department presentations, and hospital admissions for acute alcohol intoxication increase at Christmas time. Also for Scotland, Uitenbroek (1996) finds a stark increase in alcohol consumption in December, concluding that health policy activities in relation to alcohol abuse should take place during the December holiday season.

Furthermore, in a review article Tonelo et al. (2013) also examine the "Holiday heart syndrome", that is "the occurrence, in healthy people without heart disease known to cause arrhythmia, an acute cardiac rhythm disturbance, most frequently atrial fibrillation". They find evidence for this syndrome after binge drinking which might happen during Christmas time.

Santa is puzzled. He – a teetotaller – does not know how to tackle this problem. Somehow, he needs to internalize the negative externality of alcohol consumption to

maximize welfare. He might try to skip giving presents to people consuming too much alcohol this year. This might set the right incentives for this problem in the long run.

The Most Wonderful Time of the Year – Suicides

During the past Christmas seasons, there has been a lot of discussion on higher suicide rates at Christmas. The combination of the dark time of the year, together with the intense exposure to (or also not to) family, is often seen as a reason why suicide rates are high around Christmas. Does research support this discussion? Are there reasons why the CEA should be concerned? Not to Rudolph's knowledge. In contrast to conventional wisdom, the vast majority of studies show lower suicide rates during Christmas time.[11] Also, non-fatal deliberate self-harm in the UK is reduced for most patient groups during Christmas time as Bergen and Hawton (2007) show. "In line with the discussion we already had about alcohol, risk increases for people using alcohol excessively during festivities and people with relationship problems, though." Rudolph states. Overall, Santa is delighted to hear that his appearance does not cause an increase in suicides.

Last Christmas – Other Causes of Death During the Holidays

However, Rudolph has some bad news. The homicide risk does increase in the US during Christmas as Bridges (2004) shows, though. During the rest of the year, the homicide rate is 27 daily deaths per 100,000 inhabitants in the US. It increases to 31.7 at Christmas. This is also in line with Lester's (1979) and Cheatwood's (1988) findings of more homicides in December.[12]

The situation is even more concerning because the number of deaths due to natural causes also increases. For several years now, researchers found that the number of people dying of cardiovascular diseases spikes around Christmas (Phillips et al. 2004 and Kloner 2004). "Could this be explained by the positive excitement of the celebrations?", Santa asks. This is unlikely, as Phillips et al. (2010) show. They measure the Christmas increase of death based on US death certificates. They find that mortality from natural causes spikes in dead-on-arrival and emergency department settings. Overall, they find more deaths on Christmas and New Year than on any other day of the year. The authors establish this for the five most common disease groups[13] and not only cardiovascular diseases. The two weeks starting with Christmas are associated with an excess of 1,693 deaths per year in the US. The reasons for this Christmas spike might be manifold. Psychological stress was often discussed, however, this higher psychological stress might not explain the increases in mortality from a wide range of diseases and for a wide range of demographic groups. The increase in travel might explain some of the deaths, but 92.6 percent of people in the data set die in their home counties. Another hypothesis might be that it might be possible that the death can be postponed to reach symbolic occasions. However, one would have to find a compensatory drop in deaths before

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[11] For an excellent literature review of empirical papers see Carley (2004).

[12] This is contradicted by Tennenbaum and Fink (1994) finding the highest rate in September.

[13] I.e., diseases of the circulatory system; neoplasms; diseases of the respiratory system; endocrine, nutritional, and metabolic diseases; and diseases of the digestive system.

Christmas and New Year which cannot be found in the data set. So the overcrowded emergency departments during the holidays seems be the most likely explanation. This could explain why a wide range of diseases and people are affected. This is in line with the findings of the paper as emergency department crowding has increased over time as well as the size of the Christmas effect. Furthermore, the data shows particularly large holidays spikes for patients with conditions requiring immediate attention.

"So, is this an US phenomenon?" Santa asks. "The evidence is mixed", Rudolph replies. "Despite all the complaints about the NHS, there seems to be no such effect in Newcastle and North Tyneside according to Milne (2005). However, Keatinge and Donaldson (2005) find spikes in respiratory disease in South-East England during Christmas. So it is not only the US health system. However, a first indication how to improve emergency departments during Christmas is given by Salazar et al. (2002) and Zheng et al. (2007)".

Santa is devastated about these news. He asks himself whether he should quit his job and end the Christmas celebrations to reduce the number of deaths. Rudolph is not convinced that this might help. If the people do not celebrate Christmas anymore, they will find another event to celebrate, and the same effect will occur during that time of the year.

I saw Mummy Kissing Santa Claus – Holidays and Conceiving

"But is there a countervailing power to the increased number of deaths?" asks Santa. Rudolph has good news: The number of children conceived also peaks during Christmas and thus so do birth rates in September in several countries (Cesario 2002, Pasamanick et al. 1959, Seiver 1985). Is is actually hard to say with these studies, whether it is just Christmas, the dark time of the year or the temperature. "These are really good news, the only thing I am a bit worried about is the combination of high alcohol consumption and increased number of children conceived", Santa replies.

A Christmas Carol – Christmas and Movies

Santa is especially excited about the next blockbuster being released prior to Christmas. He is looking forward to watching it after all the work is done. However, what he does not understand is that so many blockbusters are released before Christmas. Again, he is lacking the economic understanding of the movie release dates. He asks whether the strong box-office performance of Christmas is the result of higher demand, better movies, or both? As this question is directly answered by Einav (2007), Rudolph refers to his research. He shows that seasonality of both, the underlying demand for movies – explaining about two thirds of the variation in sales – and the number and quality of available movies explain the distribution of movie revenues. Building on his previous work, Einav (2010) develops an empirical model and applies it to study the release date timing game played by distributors of movies. His suggestions are clear within the limitation of his modelling framework. The distributors of movies could do better if they shift some holidays releases by one or two weeks.

However, Santa is also interested in the home video industry. As the elves cannot

leave the North pole due high airfares around Christmas to reach movie theatres, the elves have to be content with home videos. As for movie releases, Chiou (2008) shows an increase in sales for home videos during the holiday season. Furthermore, she examines the relationship between theatrical and home video markets. The choice of a theatrical date has an implication for the movie theater-to-video window and thus the video release date. In general, there is a relative attractiveness to releasing a movie on Labor Day (September) compared to Memorial Day (May). However, if the movie is already released on Memorial day, this has an implication for the home video market as the likelihood of being released during holiday season is high. A release during Labor day makes it more likely that the home videos are released only after New Year. It will therefore depend on whether the "holiday effect" in the home video market outweighs the "Labor Day effect" in the movie theatrical market. Chiou (2008) shows that the net effect of delaying the movie theatre release until labor day is mostly negative and thus the holiday effects outweighs the Labor day effect. Danaher and Smith (2014) demonstrate that in countries with high levels of piracy the spikes in the digital movie sales during Christmas season are lower. The elves are a bit embarrassed.

The First Joel – Dead Weight Loss of Christmas

Of special interest to the CEA is whether the gift-giving is welfare enhancing or not. For about 20 years now, economists debate whether giving Christmas presents is a waste of resources. Several empirical studies investigate this issue. Santa wants to be updated on this discussion. Before Rudolph could start, Prancer asks what this discussion is all about. "In his seminal paper Joel Waldfogel (1993)" Rudolph explains, "finds that gift-giving is a waste of resources. When asking people whether they would buy the gifts they received, lots of the receivers would either not choose to buy their own gifts, or at least not spend the price the gift actually costs. For instance, your grandma gives you a jumper worth $100 which you value less, let's say $30. The so called welfare loss would be $70 as your grandma spent $70 more than the jumper is worth to you. We might even think about the extreme case where you will not even wear the jumper at all, so it is worth $0 to you and the welfare loss is $100 in this case. Therefore, the deadweight loss is actually a sign that the gift-givers are not very good at predicting what gifts the receivers will appreciate."

This first paper started a lively debate amongst economists whether and to what extend in-kind gifts actually entail a dead weight loss[14]. The central issue in this debate is whether recipients value the gifts less than, as much as, or more than the givers pay for them. Waldfogel (1993) initially conducted two surveys regarding Christmas presents with his students. First, he asked how much money the recipient would have been willing to pay (WTP) for all the presents received. In a second survey, asks for the recipient's willingness to accept (WTA), that is the amount of money that makes the student indifferent between receiving the Christmas presents or cash value of the present. The true valuation of a good is normally bounded by theses two extremes, the

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[14]See List and Shogren (1998), Ruffle and Tykocinski (2000), Solnick and Hemenway (1996), Solnick and Hemenway (1998), Solnick and Hemenway (2000), Waldfogel (1996) and Waldfogel (1998).

WTA and WTP[15]. estimates that in-kind gifts lose 10-33 percent of their value compared to cash. On average, his students value the gifts they receive at 13 percent less than their estimated costs. Another interesting finding is that, overall, only 11.5 percent of the presents were cash presents. Or to put it differently, about 88 percent were in-kind presents resulting in welfare losses. However, also shows, that the share of cash presents were highest for presents in categories with the most deadweight losses of in-kind gifts. So the givers seem to understand that they cannot find the best present for the recipient. Cash gifts are most common for grandparents (43 percent) where the dead weight loss of the presents was the highest with about 37 percent. This is in contrast to presents from friends where the number of cash presents is low with 6 percent, and the deadweight loss is also low at less than 2 percent. In a follow-up study, Waldfogel (2002) used only a WTA question. He finds differences on the valuation of in-kind gifts across different price ranges. Waldfogel is even able to show a welfare gain for the most expensive gifts (those estimated by recipients to cost more than $500) of 117 percent. However, also in this study, the average across all in-kind gifts categories resulted in a deadweight loss of 5.6 percent. In a slightly different study, Waldfogel (2005) supports his previous findings and shows evidence that consumers' own purchases generate between 10 percent and 18 percent more value per dollar spent than items received as gifts.

Solnick and Hemenway (1996) replicate Waldfogel's survey asking students and staff of the same university as well as general public for their willingness to accept. That is, they ask how much money would have made the recipient "equally happy" – after discounting sentimental value – taking into account three presents they received. They find that Christmas gifts actually produce a 214 percent welfare gain. The criticism of Waldfogel (1996) was twofold. First, the authors only asked for the WTA and therefore the upper bound of valuation. And even though the respondents were asked to exclude sentimental value in the instruction, the respondents might have failed to do so. Second, the authors might have encouraged the respondents to focus on the gift they value the highest by artificially restricting the question to three gifts. Ruffle and Tykocinski (2000) try to find the difference in the papers to explain the divergent findings. They show that the different wording in the questions of the valuation might explain the different valuations. That is, the amount of money that would make the recipient "equally happy" – asked for by Solnick and Hemenway (1996) – was significantly higher than the amount stated for the question of "indifference" – asked by Waldfogel. List and Shogren (1998) undertook an experimental auction to find the valuation of gifts. They conducted an auction where the receivers of the gifts indicated at which price they are willing to sell their individual gifts. The authors established that on average subjects value the gifts 130 percent above the estimated costs – substantially lower than the Solnick and Hemenway (1996), but still much higher than Waldfogel's estimate.

Principe and Eisenhauer (2009) focus on the actual price of the present rather than the recipients' estimated costs of the gifts. While the prior studies used the recipients' estimates of the costs of gifts as a benchmark, Principe and Eisenhauer (2009) obtain more objective information on market prices. Marketing research seems to indicate that

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[15]For a discussion of this difference, the so called endowment effect see Bauer and Schmidt (2012).

the estimate of costs and the actual costs seem to result in very different numbers. Asking about WTP as well as the WTA[16] they find an average deadweight loss of more than 7 percent of the market prices of in-kind gifts and found losses across all gift categories. Furthermore, the authors also could not find any statistically significant difference between the recipient's estimate of cost and the actual cost of the gift in 20 out of 21 of the in-kind gift categories. Bauer and Schmidt (2012) focus on the differences between WTP and WTA for Christmas presents German students received. In line with Waldfogel they report a deadweight loss of 12 percent below market price based on WTP. However, applying the WTA, the valuations that students report is on average 9 percent above the respective market prices, implying an efficiency gain of Christmas presents.

So, the discussion amongst Christmas economists has certainly not reached its conclusion, yet. Even including the following series of replies and comments (see Solnick and Hemenway (1998), Solnick and Hemenway (2000) and Waldfogel (1998)), there has been no consensus in empirical research on whether gift-giving creates or destroys welfare- at least presents do not necessarily make people happier. Kasser and Sheldon (2002) report lower well-being when materialistic aspects of modern Christmas celebrations such spending money and receiving gifts predominate.

Santa is disappointed that all his gift-giving might potentially result in a great waste of resources. "But this is not a problem specific to Christmas," Rudolph reassures Santa, "there might be a similar effect for other holidays with gift-giving." Waknis and Gaikwad (2006) find an efficiency loss of gift-giving also for Diwali, a festival of lights, celebrated in India in November. In a survey among students, they ask for the WTP for the gifts the students received on Diwali. They estimate an average welfare loss of 15 percent. The efficiency loss was lower for accessories and electronic goods as well as a closer relation or lower age difference between the person giving the gift and the recipient or both, "...electronic goods", Santa mumbles, while taking a note.

All I Want for Christmas – Gift cards

How can Santa solve the potential problem of welfare loss of in-kind gifts? Dancer recommends cash: "As long as in-kind gifts cannot be returned without costs, economists often see cash as the better alternative to in-kind gifts[17]. With cash, the recipient is able to buy the good according to his preferences and thus not generating a welfare loss." Rudolph is not sure about this advice: "Should Santa just give everyone some bucks? Christmas preparations would only start mid December and all of our elves would be obsolete. They would have to be laid-off and go to a special training program to help the Easter Bunny." Rudolph pauses, "Cash is often seen as too impersonal (Caplow 1982 and Waldfogel 1993) and Santa would not show that he has given thought and put in sufficient effort to find the right present (Webley et al. 1983, Camerer 1988, and Burgoyne and

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[16]WTP question: "Ignoring sentimental value, how much money (maximum) would you have been willing to pay for this product or service?" WTA question: "Ignoring sentimental value, how much money (minimum) you would have been willing to accept in exchange?"

[17]Mercier Ythier (2006) shows the equivalence of in-kind and cash transfers in a frictionless economy.

Routh 1991). Non-monetary gifts seem to be important, as the receiver wants the donor spending time thinking and searching for an appropriate gift. To some extent gift cards might solve this problem. They are somehow a middle course between non-monetary gifts and cash. Thus, a gift card might be a compromise as it is more personal than cash and might incur a lower or no welfare loss. Offenberg (2007) mirrors Waldfogel's idea to estimate the dead weight loss of gift cards using reselling values of gift cards on eBay in the US market. She also finds that gift cards result in a welfare loss of 15-20 percent. In particular, she finds that gift cards for home improvement and discount stores have the smallest welfare loss while gift cards for jewelry and apparel stores have the largest loss. Principe and Eisenhauer (2009) not only focus on in-kind gifts and find an average deadweight loss of more than 7 percent as presented above. They also compare in-kind gifts with gift cards and confirm Offenberg's (2007) result by showing that gift cards incur more than 14 percent deadweight loss. With a similar idea, but different approach, Felso and Soetevent (2014) examine whether gift-recipients in the Netherlands perceive gift certificates, cash gifts and non-gift income to be interchangeable. The authors show that the majority (83 percent) of recipients spend the open-loop gift cards in the same way as cash. Overall, the negative welfare effects of open-loop gift cards among users are limited, for the majority of customers consumption is unaffected. Those customers changing their consumption behavior seem to value the possibility to separate gift certificate income from other income sources."

"But, in general, gift cards are only partly helpful. Then why, are they promoted so much?" Santa asks. Rudolph nose turns red, because he knows the answer. Data shows that about 10 percent of the gift cards are not redeemed. So gift cards are a very profitable strategy for the businesses. Furthermore, they are not affected by shoplifting and they can be used as an accounting device to shift profits across periods.

"So what do we learn from this?" Santa asks. "Well, gift cards are no solution to the potential welfare loss", Rudolph replies, "maybe you should stick to Flynn and Adams's (2009) finding this year". They identify an asymmetry between gift-givers' and gift-recipients' beliefs about the link between gift price and feelings of appreciation. Even if a lot of people have sufficient experience as gift-givers and gift-receivers, they seem to misinterpret the influence of expensive gifts. This might be good news for gift-givers. The study shows that there is no correlation between how much the giver spent on a gift and the actual feelings of appreciation of the receiver. One suggestion from this study might be to simply buy smaller presents and therefore reduce possible welfare losses. However, this might upset the receiver if the motivation to save money is too obvious. Instead of focusing on saving money, the giver should work harder "to identify meaningful, rather than magnificent, presents" as the signaling value of a more expensive gift is lost on most recipients.

"What are the authors names, Flynn and Adams?" Santa asks, "Are they Scots? So humble gifts might be a solution. That will also help to finance Christmas in the next years. Any other suggestions, Rudolph?" "I think so", Rudolph says. "Even though I could not find any papers about it, we should stick to the wish lists! You should only bring presents to people with a wish list. The receivers will appreciate that you

thought about what to give them. Furthermore, this will solve potential dead weight loss problems. However, this might increase your financial problems if the presents on the wish list are not humble." "Okay, this year the elves will have to put in more effort to find all the wish lists worldwide. I will then preferably give presents to people with wish lists this year. And for those without, I will try to find the cheapest present."

Santa Baby – Why do we give in-kind gifts?
One of the last questions Santa is curious about is the debate amongst economists why Christmas is associated with gift giving at all. It seems that lots of economists are puzzled with this question.

From a sociologist's view, Caplow (1982) finds in his study in the city of Middletown that the main reasons for gift giving is pleasing persons whose goodwill is wanted but cannot be taken for granted. This can either be presents in "insecurity of the spousal relationship" where the relationship should be strengthened through gift-giving, or this can be the very asymmetric gift-giving from parents to their children where children recompense in the form of "affection, deference, and willingness to communicate". In his follow-up paper Caplow (1984) found that 4 out of 5 presents went to kins and that women were much more active as gift givers than men and did nearly all of the gift wrapping. However, Caplow (1984) also found a gift-giving rule. Within this rule, a Christmas gift should:

- demonstrate the giver's familiarity with the receiver's preferences

- surprise the receiver, either by expressing more affection – measured by aesthetic or practical value of the gift – than the receiver might reasonably anticipate or more knowledge than the giver might reasonably be expected to have

- be scaled in economic value to the emotional value of the relationship

This rule therefore mainly rules out cash presents. "Did he find out why I bring presents to the people of Middletown?", Santa wants to know. Rudolph shakes his head. "Not only sociologists but also economists busy themselves to find out why people give in-kind presents to each other. One of the early examples is Camerer (1988). In his game theoretical model he shows that gifts can be seen as signals of a person's intention about future investment in the relationship. Gift giving is bilateral in his model and thus gifts with a low user value, i.e. inefficient gifts, prevent people from entering relationships just to collect gifts. Thus, especially, inefficient gifts can be seen as a more credible signal than less inefficient gifts. With a similar idea Carmichael and MacLeod (1997) use an evolutionary framework to show how, at the beginning of a relationship, a present promotes trust necessary for long-term cooperation. However, Camerer admits that 'the signaling view does not explain many gift giving practices, especially in families', (S194-S195) and also Carmichael and MacLeod's model is not well suited to explain gift giving during Christmas as this is a reoccurring event and most presents are given within families and not to be trust signals in new relationships. But Prendergast and

Stole's explanation of inefficient non-monetary gifts as signal also applies for existing relationships. They argue that gifts may signal the giver's quality of information about the recipient's preferences. Ellingsen and Johannesson also take Christmas presents as a signal. They bring forward the argument that gifts are made to appear generous to other people. "And again, they cannot explain why I bring Christmas presents to the people! I neither want to please them, nor do I want to signal anything", Santa states.

Some economists see altruism as the reason for the gift-giving within families. Becker (1974) explains that altruism might be transferred within a family. The head of the household – the person who transfers general purchasing power to all other members because he cares about their welfare – is altruistic. Bergstrom (1995), however, explains altruism among family members as an effort to promote one's genes.[18] But all of this is not Christmas present specific, it just explains why people might act altruistic in general.

Another idea comes from Ruffle (1999), who introduces emotions in the gift-giving process. In a psychological game theoretical model beliefs are modeled in the players' payoff functions. The author distinguishes between the gifts people would like to receive or believe they receive and the actual gifts. The comparison of these two different things results in emotions such as surprise, disappointment, embarrassment and pride. However, the author finds – after allowing for a definition of welfare which incorporates emotions and fairness – that all equilibria of the model make the giver worse off. Nevertheless, the author explains that employers might use presents to strengthen long-term relationships with their employees, thereby developing positive worker sentiments, particularly by offering unanticipated rewards and bonuses. Another advice from the paper is: "On gift-giving occasions when a giver does not know a recipient's preferences, she may be well-advised to stick to an appropriate conventional gift like chocolates, flowers, wine, or money to minimize the welfare loss.[19]"

Kaplan and Ruffle (2009) view Christmas giving through the eyes of economists. They argue that gift-giving might be optimal because it reduces the search cost of the recipient when the giver is better informed and therefore 'her' search costs for the gift are lower than those of the recipient. The case of a reduction in search cost is especially applicable to explain gift-giving in close relationship situations (in which also altruism might play a role).

Santa nodes to this. He is very familiar with this thinking about all the socks and ties he received from his wife.... It would have taken him ages to find the socks department in an department store.

An answer why parents give presents to children is presented in Tremblay and Tremblay (1995). In their model, they allow for altruistic, paternalistic, or warm glow motives for giving. This in turn, results in the paternalistic givers who care about what the receiver consumes in giving presents to their children.[20].

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[18] See Bergstrom (2002) for a broader overview of this literature.

[19] Convential gifts like ties or bedroom slippers, however, could rather maximize the welfare loss. Attention should be paid to the second derivative of the welfare function.

[20] The role of children whishes is considered in Buijzen and Valkenburg (2000). They show that children's gender and age, as well as the level of exposure to the netwok thati aired the most commercial, were significant predictors of their requests for advertised products.

Fremling and Posner (2000), on the other hand, argue that gifts might increase social status and are thus less altruistic. They especially focus on situations were individuals use for example, presents in market settings – and not necessarily in personal, non-market settings. An example could be a Christmas present for the postal carrier. The authors, inserting a status argument in the utility function, show that giving gifts might just be an efficient way to increase social status. Being known as a generous person enhances your status in the market game, which will put you in a better position to advance your material self-interest in the future.

Santa does not want to know more about these models to explain why one gives Christmas presents. He is the one bringing the majority of presents and yet, none of these models provide sufficient explanations as to why he brings the presents! Unfortunately, Economists have not considered this question so far. Instead, they have considered whether the sale of Christmas cards (Atukeren 2008) or the FED's increase in money supply (Carlstrom and Gamber 1990) causes Christmas. But neither of the two did cause Christmas!

Do They Know It's Christmas? – Charitable Giving

"But we are not the only ones doing good" Rudolph says. "People are more inclined to be generous around Christmas." For example, church donations are higher at Christmas. Using data from a Catholic church in a major Midwestern city, Cairns and Slonim (2011) examine substitution effects across charitable donations, specifically the effect of 2nd collections on 1st collections. They find that churchgoers donate roughly 12,000 USD more at Christmas (compared to a "typical" donation of 35,000 USD). However, they show that also the crowding out of 1st collection donation by 2nd collection donations is highest at Christmas. Dasher, a Roman-Catholic reindeer, knows that 2nd collections are occurring more often at Christmas time. Rudolph conciliates that substitution effects do not necessarily occur for all forms of altruism. Greenberg (2014) has tested whether generosity around Christmas crowds out or complements tipping behavior. By using data on consumer tipping behavior from a busy restaurant, he finds that during the holiday season tipping rates are higher.

Santa seems pleased and attributes this effect to his gift-giving. Rudolph can confirm this assumption. Falk (2007) reports evidence from a field experiment where solicitation letters – some without a gift and some with a gift – were sent to potential donors. The frequency of donations was significantly higher for those who received a gift. This suggests the economic importance of gift exchange. Santa suggests that children should maybe send Santa a small gift with their wish list.

O Holy Night – Christmas and other Religions

"If Christmas has these positive effects, why can't everyone celebrate Christmas then?" Santa asks. Rudolph replies that this might not be necessary, as Christmas already has an impact on the celebrations of other religious holidays with gift giving: Abramitzky, Einav, and Rigbi (2010) suggest that the presence of Christmas might drive the extent of Hanukkah celebrations among Jews in the US. Jews with young children are more likely

to celebrate Hanukkah and more is spent for Hanukkah in counties with lower shares of Jews. [21].

I Wouldn't Trade Christmas – The CEA report

"So what is the take-home message from this meeting? What do we need to include in our CEA report and which policy changes do we need to implement?" Santa asks.

Rudolph summarizes the main findings (briefly – he wants to submit the paper before Christmas[22]):

1. Santa should invest his funds in the New Zealand stock market to pay for higher airfares. His expenses on gasoline should not be a problem.

2. As some prices might fall before Christmas, groceries and consumer goods might be cheaper. Some hot toys might be sold out before Christmas, but it might not necessarily be the best to buy toys too much in advance on eBay.

3. A longer holiday season will benefit the economy in terms of retail revenues and employment. So from next year on, Santa will announce that Thanksgiving will be on the first Sunday of October.

4. Christmas celebrations are in general good for employment, but an effect on economic growth should not be expected.

5. Demand for natural Christmas tree is problematic, but a good advertising campaign on the differences between fir, spruce and pine will support the Christmas tree growers.

6. Weight gain is not as problematic as thought. However, alcohol seems to be a problem in parts of the world, so Santa will not bring Christmas presents to people consuming too much alcohol this year. While suicides rates are actually lower during Christmas, other causes of death will increase (homicides, deaths in emergency departments). Conceiving will increase at Christmas with an increase in birth rates in September.

7. Lots of blockbuster movies are released during the Christmas season. However, movie-makers could do better to not all release all the good movies at the same time.

8. Dead weight loss is still a puzzle for Santa as well as economists. It seems to be that Christmas might entail a dead weight loss. Gift cards do not seem to be a way to solve the problem. Instead, what could helps would be either wish lists or humble presents to reduce a potential welfare loss.

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[21] O'Connor (2009) documents that also the King's Christmas pudding has spread with food globalization.

[22] Magnone (2013) show that submissions to scientific journals are significantly lower at Christmas.

9. People are more generous around Christmas. Gifts seems to be a motivating factor that increases gift-giving, so children should include a gift for Santa (and maybe a carrot for the reindeers).

10. The question as to why Santa brings presents still remains unsolved. More research is needed in this field.

Rudolph says: "Fine, we are done, let's close the meeting." "Ho ho ho", Santa replies, "let's get the party started..."

Appendix - The Supplementary Christmas Report of the Elves

The elves experts for present logistics, marketing, accounting and finance also want to highlight some lessons learned about Christmas.

1. Birmingham has successfully transferred the European custom of Christmas market (Bloomfield 2010)

2. Christmas makes a difference, even for green consumers (Farbotko and Head 2013).

3. Being a green consumer makes a difference, especially at Christmas (Kasser and Sheldon 2002).

4. Finding the right gift is difficult, especially in stores (Laroche et al. 2004, Otnes et al. 1993, Otnes et al. 1994).

5. But consumer might perceive this differently, if stores play Christmas music and smell like Christmas (Spangenberg et al. 2005).

6. Women are more involved in Christmas shopping (Fischer and Arnold 1990), therefore (?) men are happier at Christmas (Kasser and Sheldon 2002).

7. Consumers' feeling of time pressure increases as Christmas approaches (Miyazaki 1993).

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