

Clothing Reuse: The Potential in Informal Exchange

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Abstract

Reuse organised by non-profit and commercial actors is a strategy that recently received a lot of attention. This article discusses the question: what do we know about the amount of clothes that circulate outside the pecuniary markets? And is this amount increasing or declining? The questions are answered based on quantitative material from Norway. Almost twice as many had received used clothing as those who had bought used clothing, and our material do not indicate that this are declining. At the same time 59 per cent of Norwegian adults had neither received nor bought used clothing for themselves during the past two years. For children, inheritance is very common and the younger the children are, the more they inherit. The amount of the private clothing exchange is greater than the formal market in Norway. Therefore, when the goal is a more sustainable clothing consumption we need to include the parts of consumption that are not only related to money.

Key words Reuse; Clothing consumption; Second-hand clothing; Acquisition; Informal exchange;

Introduction

The amount of clothing in our wardrobes has increased considerably during the past decades, as pointed out also by other authors in this special issue. This growth has not occurred without consequences, as it effects the way we live with and in our clothing, as well as increased environmental impacts. Second-hand clothing sales organised by non-profit and commercial actors is a reuse strategy that has received a lot of attention from the authorities as well as researchers (Klepp et al., 2015). In this article, we argue that private reuse has a wider scope and is therefore more important for environmental sustainability than the organised forms of reuse. Consumer give a lot of clothing to these organisations (Laitala and Klepp, 2015), but for reuse within Norway, the clothing received through private networks is more important. However, the knowledge about this, as well as the attention that private reuse receives, is limited.

Current production and consumption of textiles and clothing is truly unsustainable and causes great environmental damages as well as social injustice (Madsen et al., 2007; Fletcher, 2008). Several life cycle assessment (LCA) studies on clothing have demonstrated that the greatest environmental benefits can be obtained through increasing the lifespan of clothing and reuse, which reduces the consumption of virgin source materials, energy and water in addition to reducing the greenhouse gas emissions related to the production of new textiles (McGill, 2009; Farrant et al., 2010; Woolridge et al., 2006; Fisher et al., 2011). This is discussed in several recently published textile sustainability handbooks (Fletcher and Tham, 2015; Gordon and Hill, 2015; Niinimäki, 2013). Several mappings of material flows within collection and resale of used clothing have been undertaken done in connection with political initiatives on sustainability in textiles (Fisher et al., 2011; Morley et al., 2009; Palm et al., 2014; Laitala et al., 2012) and they are included in various action plans and roadmaps that suggest how to achieve lower environmental impact from clothing production and consumption. A survey of ongoing sustainable textile initiatives in the Nordic countries showed that initiatives that focus on reuse and recycling dominated (Klepp et al., 2015).

There is a deficiency in the way reusing is discussed and measured. Most of the above-mentioned reports focus only on the organised forms of clothing collection and resale that businesses and organizations promote. One that mentions informal exchange is Morley et al. (2009). They believed that the informal exchange is declining because of increased wealth and reduced clothing prices, as both of these factors can make reuse less necessary from economic point of view (ibid). However, these estimations are uncertain, as these items are not captured by statistics in the same way as formal second-hand trade is measured. An alternative hypothesis to declining private exchange is that sharing may actually be increasing due to the growing amounts of garments that are hardly used, thus increasing the potential number of clothes to give away. Additionally, increasing focus and understanding of the environmental and ethical impacts of clothing consumption may contribute to changing consumer behaviours and to more political clothing consumption with private exchange as one opportunity. Technical developments and new social platforms also give easier access to new forms of exchange. This article will discuss the question: what do we know about the amount of clothes that circulate outside the pecuniary markets? And is this amount increasing

or declining? The questions will be answered based on quantitative consumer surveys from Norway.

Forms of exchange

Polanyi (1957) has identified three major forms of exchange; market exchange, redistribution and reciprocity. Market exchange is a direct, often pecuniary form of exchange, while redistribution is a system of economic exchange with centralized collection and redistribution of goods. Reciprocity refers to the non-market exchange of goods, labour, services or other commodities, either directly with immediate exchange, or by different forms of gift exchange where a return can be delayed, as in the exchange of birthday gifts (Parry, 1986). Reciprocity differs from a true gift that is given without expecting something in return (Mauss, 1970). Characteristics of a gift is that the recipient offers thanks upon receiving it (Visser, 2008) and that the idea of reciprocity is implicit (Mauss, 1970).

One researcher who has worked extensively with the various economic spheres is Russell Belk (2010). He quotes Price who wrote “Sharing is the most universal form of human economic behaviour” (Price 1975). Belk uses the citation to start a discussion and to show how important sharing is, as well as to discuss how the informal sector has been left outside the political and academic focus. His analysis explains therefore much of the invisibility that we also pointed out in the focus on reuse of clothes. This might have been strengthened by the fact that the involved stakeholders are mainly authorities, especially within waste handling, as well as businesses. Therefore, there can be both consciously selected and subconscious reasons to exclude the informal sector.

Belk (2010) divides between three economic spheres: sharing, gift giving and commodity exchange. He shows how there is a tendency to overlook or to confuse sharing with commodity exchange and gift giving. The sharing of clothing can occur for example through renting, using something together, borrowing or “stealing” from others (Tinson and Nuttall, 2007; Corrigan, 1989). Sharing within the family is what Belk calls actual sharing and he points out that “most people of the world also share their homes, furnishings, food, resources and belongings with other household members” (Belk, 2010: 715). Sharing occurs in a variety of forms with change of ownership and users of clothing within the family, but whether this qualifies for "reuse" is not exactly easy to determine (Klepp and Laitala, Unpublished). Some

products have several owners. This sharing of products between different users is not really reuse, nor is it solely borrowing. Belk (2010) points out that this is a natural part of human culture that is understudied. This is likely to occur especially within families where the relationship between the owner, user and "administrator" of clothing is complex.

The formal and pecuniary markets, that Polanyi classifies as marked exchange and Belk talks about as commodity exchange, include second-hand and vintage stores (Figure 1), used markets, charity thrift-stores, flea markets. Sometimes this is in combinations with online versions of these, such as Oxfam and Fretex (Norwegian Salvation Army) and eBay, who use online sales channels, mainly for the very best and most expensive pieces of clothing. Flea markets in Norway are often organized to collect money for organizations and associations, such as school bands (Briel, 1999) and is therefore approaching Polanyi's redistribution category (Figure 2). Common for all of the above-mentioned channels is that the clothing changes ownership through a third party.

However, Polanyi's term market exchange and Belk's commodity exchange are not limited to channels that involve a third party. Private direct selling occurs as well, and several methods for finding the potential new users, such as classifieds on the Internet or in newspapers. Other methods include organizing backyard or garage sales, selling by commission through second-hand stores, renting a stand at flea markets, or selling directly to acquaintances.

Gift-giving in Belk's terms, and reciprocity or non-market exchange in the informal reuse sector, includes a variety of different forms. People hand down items to friends, family, or other acquaintances (Figure 3), participate in clothes swapping parties, inherit clothing, give away things online, use new social media, and so on (Cruz-Cárdenas et al., 2016; Clarke, 2000).



Figure 1 Clothing sold at a vintage store. Only a small portion of second-hand clothing that is collected here is sold in Norway. Photo: Fretex Norge AS.



Figure 2 Flea markets in Norway are often organized by school bands and other organizations that need to raise money. They are held during spring and fall weekends at schoolyards, like in the figure. The clothes are given as gifts and the parents do the work with collecting, sorting and selling of the goods. Photo: Kirsi Laitala



Figure 3 Private inheritance of clothing that children outgrow is very common. In the picture, clothes are collected in bags and waiting in the hallway to be given to a smaller child within the extended family or circle of friends during their next visit. Photo: Kirsi Laitala

To simplify this, we will in this article concentrate on the informal markets where clothing changes owner without the exchange of money. Our intention here is not to discuss the various forms of this phenomenon nor the distinctions between sharing and gift economy, because as Belk says, the division is not clear. Figure 4 illustrates these market spheres. We are going to discuss the lower left side of the figure and use knowledge and compare this with what we know about the right side of the model, the pecuniary market.

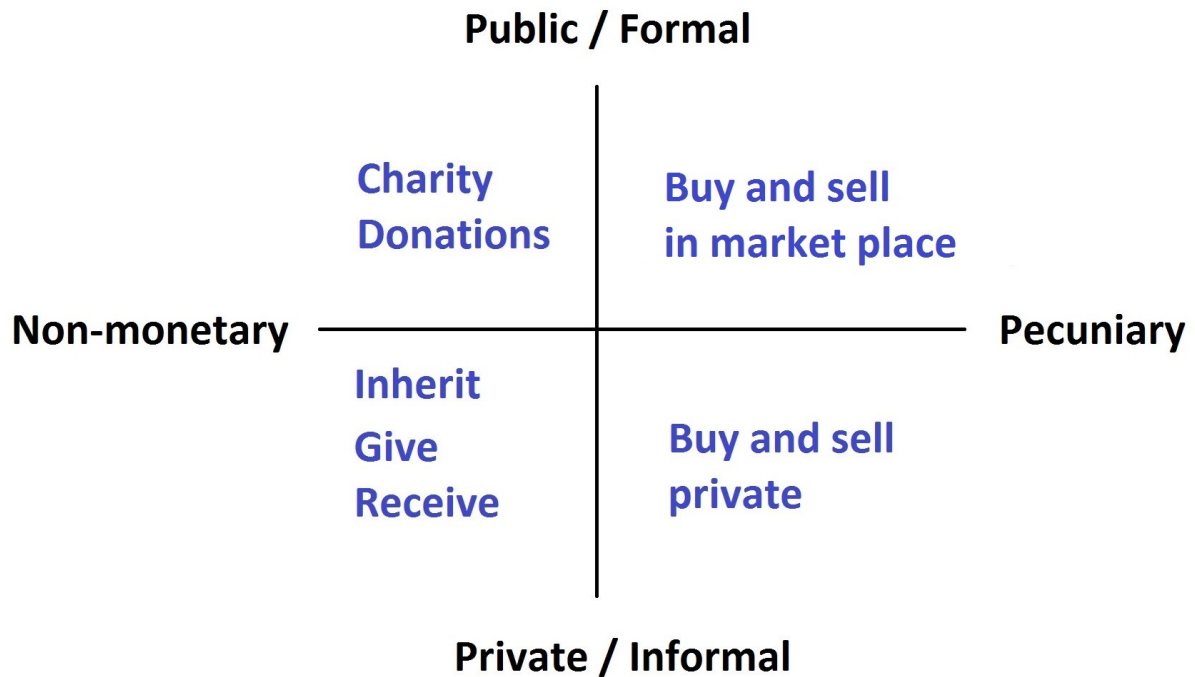


Figure 4 Possible forms for changing the ownership for reuse of clothing. The transactions may include middlemen

In historical studies of reuse, the activities within the household are included and discussed (Ulväng, 2012: 113). However, in discussions about the current situation, we see a tendency that consumption and consumers are, as in economic literature, increasingly used to replace the term “customer” even though the meaning is not the same (Lien, 2004). Consumers acquire, use and dispose of products while customers mainly only buy them. If consumers are only reduced to customers, the pro-environmental solution is limited to selecting and buying something “greener” in the market. Consumers’ role as users and producers with various alternative behaviours, gives more opportunities for pro-environmental choices. So far, the informal sectors are not sufficiently recognized, as even most of the research on political consumerism is focused on people acting as customers on the formal markets.

Earlier studies

In the UK there are relatively good studies of the consumption of clothing, but private exchange of clothing has only been tentatively estimated. The studies assume this amounts to 100 000 tons per year, compared to 350 000 tons collected for recycling and reuse by

charitable and commercial organizations (Morley et al., 2009). As mentioned, they believed that the informal exchange is declining, but the figures do not give estimation for how large portion of the clothing in the private and organised forms of exchange are actually going to be reused, and where.

To study change we need comparative material from different time periods, but we lack data on this. One rare example is a qualitative study that concentrated on wardrobe studies and circulation of clothing in Irish families from 1989, which showed that from about a quarter to a third of the items the family members used, were not self-purchased. These items were obtained through other means or other sources than the formal market. These included gifts that were either purchased in the market or family made, using other family member's cast-offs, and borrowing with or without permission (Corrigan, 1989). This was a qualitative study and we have no studies that are directly comparable. However, it is interesting in that it shows major differences between the genders in terms of giving and getting clothing, and what forms of exchange of clothing they take part in. Both gift-giving and sharing are as Belk sees it, characteristics of the interior world of the home rather than the exterior world of work and formal markets. There is an accompanying gender bias linked to the family, and the "love culture" and both gift giving and sharing is a behaviour disproportionately enacted by women in the contemporary West (Belk, 2010: 716). According to Belk, the female dimension of the activities also contributes to them being overlooked and made invisible.

As opposed to the limited number of studies on informal clothing circulation, many studies have focused on the amount of the population that have bought second-hand clothing. In Sweden, Ekström et al. (2012) report that 23% had bought second-hand clothing during the past year (survey among low-price shoppers where women constituted the majority). In the US, a survey among 282 adult women showed that 6% bought second-hand clothing often, 46% sometimes and 49% never (Stephens, 1985), while some later figures for college students are higher, as 80% of them had sometimes acquired second-hand clothing, and 20% did it on regular basis (Hiller Connell, 2009).

One of the few studies that includes gifts is from UK. According to Gracey and Moon, 51% of British adult population had sometimes bought clothing from charity shops, 39% from online sites for used items, 28% had bought clothing from vintage shops, and 25% had received

clothing from friends or acquaintances (Gracey and Moon, 2012). We also find extensive research with focus on consumers who acquire vintage or retro clothing than on general consumers (Brace-Govan and Binay, 2010; Cassidy and Bennett, 2012; DeLong et al., 2005; Jenss, 2005), but this is of less relevance for our discussion.

Sources

We will discuss the scope of private reuse among adults and children in Norway based on three quantitative consumer surveys from 2007, 2012, and 2014. All of the surveys had research target group of the Norwegian adult population between ages 18 and 80. The final samples are weighted to match the distribution of education, age, gender, and place of residence in the Norwegian population. The received data was analysed with IBM SPSS statistics software. Pearson Chi-Square test was used for evaluation of significance of the results. Table 1 gives an overview of the surveys and their focus areas that are discussed in this article.

Table 1 Overview of the data material in three surveys

Survey year	2007	2012	2014
Method	Phone interview	Internet survey	Internet survey
Number of respondents	2000, out of which 721 (36%) had children below the age of 18.	1019	1014, out of which 687 (68%) had children (regardless of children's age at the time of the survey)
Topics discussed	Children's inheritance of clothing and equipment.	Adults' inheritance and purchase of used clothing: how many had received or bought, and where it was acquired from?	Children's inheritance of clothing, shoes and sports equipment, and what kind of products are inherited.

Private exchange of clothes among adults in Norway

In survey 2012, we asked the respondents whether they had bought or received used clothing for themselves during the past two years. The results show that 30% of respondents had received and 17% had bought used clothing, and of these respondents, a minority (7%) had both received and bought used clothing. This indicates that almost twice as many adults take part in informal networks as informalized networks for exchange of clothing for money. However, the majority of Norwegian adults (59%) had neither received nor bought used clothing for themselves during the past two years.

The study gives the opportunity to see a difference between demographic groups (see Table 2). There was significant gender difference, as women had both received and bought used clothing more often than men ($p < .05$). In addition, younger age groups and students are more active in both buying and receiving clothing. A larger portion of respondents with low personal income received used clothing than respondents with high incomes, but there was no significant difference in buying behaviour. Level of education had less effect, but there was a non-significant indication of that those with only primary school education had bought used clothing more often than those with any higher level of education. Respondents that had neither received nor bought used clothing were more often male, older, retired or employed, had higher income, and were living with a spouse or partner.

Table 2 Results between different demographic groups with the number of respondents and level of significance (Pearson Chi-Square significance test used, where significance levels below 95% indicated by $p < .05$ were considered to be significant). Survey 2012.

Group		Has bought used clothing %	Has received used clothing %	Neither received nor bought used clothing %	N
Gender	Men	11	22	69	515
	Women	23	38	50	504
	<i>Sign.</i>	<i>.000</i>	<i>.000</i>	<i>.000</i>	
Age group	18-24	24	45	45	115
	25-39	22	36	51	274
	40-59	12	28	65	392
	60+	16	19	66	238
	<i>Sign.</i>	<i>.001</i>	<i>.000</i>	<i>.000</i>	
Employment status	Employed (full or part-time)	14	30	62	626
	Retired	15	19	68	134
	Student	26	45	42	109
	Unemployed, home-maker or on social security	24	31	56	136

	<i>Sign.</i>	<i>.002</i>	<i>.000</i>	<i>.000</i>	
Personal income	Below 200.000 NOK	23	43	47	177
	200.000 - 299.999 NOK	19	29	57	180
	300.000-399.999 NOK	14	31	59	235
	400.000 - 599.999 NOK	15	25	65	265
	600.000 NOK or more	13	23	68	79
	<i>Sign.</i>	<i>.056</i>	<i>.001</i>	<i>.001</i>	
Highest education	Elementary education (7- or 10-year primary school)	21	29	56	135
	Secondary education (general, vocational or other)	17	29	60	452
	Vocational training / certificate	15	32	58	165
	University with up to 4 years duration	16	29	61	123
	University with more than 4 years duration	16	32	59	144
	<i>Sign.</i>	<i>.592</i>	<i>.957</i>	<i>.871</i>	
Housing form	I live with a spouse / partner	16	24	65	363
	I live with a spouse / partner and children	14	33	60	303
	I live with my children	16	36	54	50
	I live with my parents	17	33	50	66
	I live alone	20	30	58	176
	I share the residence with other adults (shared housing)	34	38	42	38
	Other	25	45	35	20
	<i>Sign.</i>	<i>.043</i>	<i>.056</i>	<i>.009</i>	

Respondents who said they had received or bought used clothing were asked further questions concerning the sources for these acquisitions. They could indicate all sources that they had used during the past two years. Respondents who received clothing through informal exchange indicated that their main sources were family (67%) and friends (46%).

Respondents above the age of 60 received the least clothing from friends and family. The level of income did not show significant linear differences between the used sources, but the results indicated a marginally significant trend that a larger portion of the respondents that had annual income below 300 000 NOK had received clothing from family and bought clothes at second-hand stores ($p < .10$).

Respondents who had bought clothing, acquired this most often from second-hand stores (41%) and through the internet (26%). Respondents who both received and bought were more active in the use of various channels and indicated that their main sources were second hand stores (78%), friends (68%), family (67%), and flea markets (27%). There were significant differences between the genders, as women in general got used clothing from a greater

number of sources than men. In particular, a larger portion of women bought clothing from second-hand stores and flea markets than men, and they also more often received clothing from friends. For men, the dominant source of used clothing was family.

Inheritance of children's clothing in Norway

We have data concerning children's inheritance of clothing from two surveys that are undertaken seven years apart. The figures from the 2014 survey include all households with children regardless of children's age at the time of the survey. This included 68% of the sample (N = 687). In the earlier survey from 2007 the question was only stated to the respondents that had children under the age of 18. This accounted for 36% of the respondents (N = 721). In 2007, the question was "Do your children inherit clothes and accessories from family or friends' children?", while in 2014 we asked "Do your children inherit or did they inherit clothing, shoes or sports equipment from family or others while growing up (up to the age of 15)?" Results from these two surveys are therefore not directly comparable.

Figure 5 shows that in both studies, there is a correlation between the age of the children and how many inherit used clothing or equipment. The percentage starts to decrease after the children have turned seven.

The two surveys show a difference compared to how many inherited. In 2007, 51% of respondents who had children said that the children had inherited, while in 2014 the figure was 77%. If one only looks at the respondents with children currently under the age of 15 in the study from 2014, the figure indicates that 87% children inherit clothing or equipment (N = 214). Whether this increase is due to the way the questions were stated, or an actual increase, is of course difficult to say. Both questions include the complete childhood up to the age of 15 and more than just clothes, although this is worded slightly differently.

We can thus safely conclude that inheriting among children is common today and that the figures do not show that this is becoming less common.

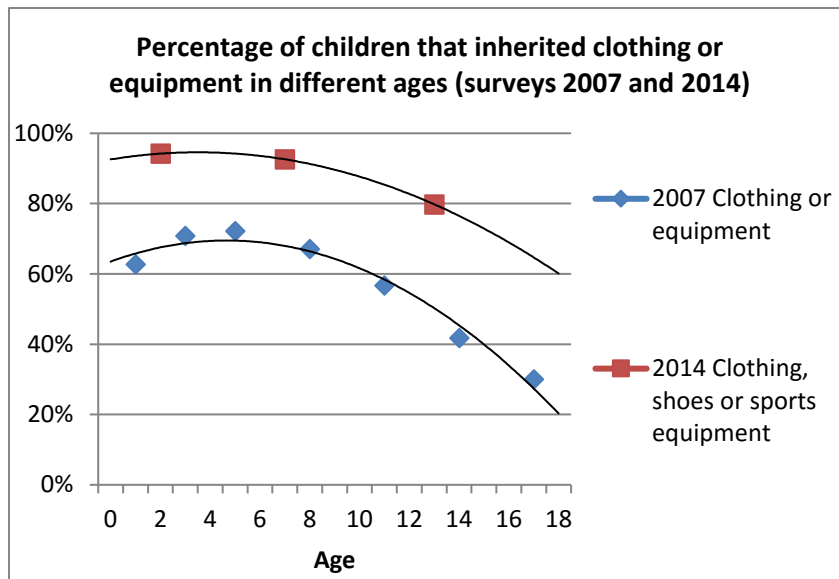


Figure 5 Correlation between the age of the children and how many inherit used clothing or equipment (2007: N= 687, 2014: N= 721)

The survey also included a question about what it was the children received or inherited. They inherited most sports- and outerwear, but also formal wear. Baby apparel is also one of the categories that comes high up on the list.

The amount of clothing that circulates privately

We do not know how large the amounts of clothing that are circulated privately are, but we can assume that there is a correlation between how common an activity this is and the amount of clothing. We know that the private exchange includes rare special garments such as christening dresses (Christie, 1990), but also the major clothing categories such as sports, daily clothing, formal outfits and so forth (Laitala and Klepp, 2014). In studies of woollen clothing, inheritance comes high up on the list, especially homemade garments (Klepp and Laitala, 2016).

We have better knowledge about the scope of the formal pecuniary markets with purchase and sales of used clothes than the corresponding figures for informal markets. This is especially valid within the scope of the collected amounts measured in weight, and changes in the various fractions such as amounts collected by organisations and how much is imported and exported from the country. The scope can also be measured in terms of number of

participants, and we have more knowledge about this also within the private markets. We see that purchasing and receiving used clothing are not opposed to each other, but that those who are active in reuse can acquire clothing both from the private exchanges as well as from the formal markets. This strengthens the assumption that private reuse is not a limited phenomenon with many participants, but it covers larger parts of the wardrobe than buying and selling of second-hand clothing.

In line with this, it is also easy to understand that it is more common to exchange children's clothing than clothing for adults (Morley et al., 2009; Laitala and Klepp, 2014). Children's clothing is largely perceived as something that belongs to the mother's domain (Berggren Torell, 2007; Rose, 2013). Another product group that is considered to be commonly exchanged is maternity wear that is only owned for a short period, until it is possible for the women to use their "own" clothing again (Gregson and Beale, 2004).

Discussion and conclusion

A majority (59 per cent) of Norwegian adults had neither received nor bought used clothing for themselves during the past two years. Every third respondent had received used clothing, i.e., almost twice as many as those who had bought used clothing. This indicates that the scope of the private clothing exchange is greater than the formal market for sales of used clothing among adults in Norway. For children, inheritance is very common and the younger children inherit more than the children above the age of seven. Pre-owned clothing was most often bought at second-hand stores and through the internet, while informal exchange occurred most often within the family and amongst friends. Women and younger respondents were more active in the reuse of clothing. Within the informal channels, family is more a frequent source of used clothing than friends are.

The article is based on a claim that the private exchange of clothing is in decline. The belief in such a decline may be one of the reasons for why this phenomenon is so little studied despite growing interest in reuse and recycling. We did not have sufficient material in order to study changes over time. However, we believe that the material is good enough to reject the claim of the private reuse being in decline. Several factors show a possible increase. The first is the comparison of the figures related to inheritance of children's wear measured with seven years apart. It indicates rather an increase than a decrease in the scope (although the questions were

stated differently and direct comparison is therefore not possible). Equally important is the study of adults. Circulation of used clothing outside the market is most common among young people and most unusual among the oldest. If we interpret this as a generational difference, the phenomenon will increase. Interpreted as an age difference, however, one can imagine that the young reduce the sharing as they grow older. We have no material on how often the elders shared when they were young, but believe more in understanding the dissimilarity as a generation difference. The reason for this is that attention surrounding reuse, as well as the amount of clothing in circulation, is rapidly increasing and therefore there is more to give away and therefore also to receive.

Further studies are necessary to gain more knowledge about change in relation to the total amounts and the relationship between the formal and informal sector. It is an advantage if these studies include the traditional forms (e.g. inheritance among siblings) and newer forms (e.g. between friends on social media) of exchange. These studies should also be representative for all age groups, including children. In addition, in such a comparison it is important to get more knowledge of the amount of clothing, whether it actually gets used and replaces purchase of new items, and not just who participates in the activity. A related topic where we lack knowledge is the various forms of recycling or down-cycling in the informal sector.

As there is a very limited amount of previous studies, there are several unclear factors surrounding the categorization and definition of the various forms of acquisition. As the Corrigan (1989) study shows, the boundaries between borrowing, stealing and receiving a gift are sliding and is not only about how the garment is given but also dependent on between whom the exchange takes place. Gift giving is usually understood as reciprocity exchange, but we don't know to what degree the informal clothing exchanges are reciprocal. The exchanges may occur at swapping events where clothing is exchanged for clothing, but another conceivable option is that clothing is given away and the donator gets a cleaner conscience in return, instead of new clothing. The return gift in this case may be finding a good new home for the garment, avoiding waste, or getting more space in the wardrobe for new clothing items. The different types of opportunities for informal exchange should be studied further, including the motivations and justifications to gain a better understanding of the phenomenon and the different categories.

Policy Implications and further research

Knowledge about private reuse is limited. However, we have found out enough to say that the informal sector is important, and probably more important than the pecuniary markets, at least if we are talking about reuse in Norway. We know least about the amount, but the proportion of the population participating in the different market spheres suggests that there is a correlation between them and the amount of clothes that change owners and users.

The current environmental incentives are market oriented (Hobson, 2013), and therefore shape and scope of the private exchange should be investigated further to find suitable instruments for supporting this sector. We do not know whether the same incentives are suitable for the different exchange systems. A possible increase in the magnitude of clothing exchanged in the formal markets may come at the expense of, or in addition to, the informal exchanges. If our assumptions that the informal economy is larger and more established, we will be faced with different questions if the aim is to increase the amount of clothes that are reused. For the informal economy, this would most likely concern maintaining the existing practices, as opposed to introducing or expanding a marginal phenomenon to something universal. The relationship between historical studies of reuse and current environmental policy oriented studies becomes therefore an important matter.

The properties of the clothing affect the reuse potential. For example, within children's clothing the gender specific products reduce the potential for the clothing to be reused within the family, as the younger siblings may be of the opposite sex. This is not that specific a hindrance within the formal markets with a larger pool of potential new users. In general, clothing properties that effect reuse potential independent of the channels, include the technical quality of clothing, the size labelling, as well as the cleanliness. Future research should concentrate on which properties on clothing effect on the reuse potential within different sectors.

The Norwegian Environmental Agency has published a guide to environmentally preferable consumption of textiles and clothing. Their advice for consumers is to purchase organic or eco-labelled clothing, or clothing of high quality (Norwegian Environment Agency, 2013). These policy instruments are however insufficient. It is very difficult to know which clothing

is of high quality, as there is no labelling with this information, nor is it directly connected to price or other available information (Laitala and Klepp, 2013). In addition, there are very few eco-labelled garments available on the Norwegian market (Austgulen, 2013). Additional regulatory, economic, communication based, or voluntary policy instruments could be used in order to achieve more sustainable clothing consumption (Heiskanen et al., 2009; Wolff and Schönherr, 2011).

Economic incentives could be used to facilitate the different forms of reuse and recycling in addition to affecting the turnover of new clothing. Collection, sorting and transportation costs related to the redistribution of pre-owned clothing within the Western counties are relatively high compared to the cheap pricing of new clothing. Alternative incentives include pollution charges or taxes, or subsidies for preferable products.

Voluntary instruments could be used to support the infrastructure of private exchange that could enable consumers that do not have suitable recipients within their circle of acquaintances to connect each other.

In the article, we have limited the discussion to reuse, but also material recycling has considerable political attention. However, the systems for reuse are much better developed and already functioning within the formal markets, while the road to well-functioning and economically viable systems for recycling still needs to be developed. We believe that the activities in this area should also be studied outside the formal markets. It is possible this could be easier to promote than the commercial solutions that require major changes in the products or a demanding technological development (Cobbing and Vicaire, 2016).

These results provide new insights on consumers' second-hand clothing acquisition behaviour and motivations in formal and informal sectors. The implications are relevant for different types of stakeholders, including store managers, charity organizations, environmental NGOs, policy makers, and consumers. The article also shows that by limiting our understanding of consumers to only customers we miss important insights about consumption. When the goal is a more sustainable clothing consumption we need to include the parts of consumption that are not only related to money.

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