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Housework and the Consumption History in pre-war Japan

Another Aspect of Consumption in Modern Japan

Masayuki Tanimoto
University of Tokyo

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Masayuki TANIMOTO
The University of Tokyo
tanimoto@e.u-tokyo.ac.jp

Abstract

This paper aims to explore the practice of housework in modern Japan from the point of view of consumption history. Gary Becker's seminal argument provides us with the basic framework in considering the relationship between consuming "goods" and "housework" in a household, which combines time and market goods to produce more basic commodities that directly enter their utility functions. Based on this framework, this paper tries to explore how housework related to consuming activities in modern Japan, by observing the practice of housework in farming households as well as investigating the role of domestic servants in non-farming households in the interwar period.

We raise two points as the concluding remarks of this paper. The first is the complementary nature of the housework to the consumption of goods in Japan's households. The positive correlation between household expenses and housework hours, explored by a quantitative analysis using the data from economic survey of farming households, suggests this, and this finding might propose the inconsistent image of housework to that of Jan de Vries, which formulated the changing pattern of consumption in Europe, as he assumes the goods-intensive nature of the consumption at the expense of housework (substitutive nature of housework to the consumption of goods) during the industrializing period in the West. This discrepancy might suggest a possible hypothesis that Japan's pattern can be formulated as labour-intensive way of growing consumption, though it requires further comparative studies on the role of housework for material lives. Secondly, we noticed the supply side of housework by measuring the contribution of family members and domestic servants. The plurality of the family members engaged in housework implies that the nature of the Japan's households is far different from that of the breadwinner household model. It also suggests the link between housework and family system, or more interestingly, the relationship between family system and consumption pattern.

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1. Introduction

What determines the utility level of people's everyday lives? There is no doubt that the consumption of goods, necessities and luxuries, is primary in considering the utility level of ordinary people. However, tangible goods are not the only objects consumed. Various kinds of 'services' also have a great influence on the level of individual utilities. Specifically, before the 'contemporary' age, services delivered inside the household made up an important part of the consumption of services. These services have mainly been provided by means of 'housework' in a broad sense. The purpose of this paper is to shed light on the practice of housework in modern Japan from the point of view of consumption history.[1]

Gary Becker's seminal argument provides us with the basic framework for considering the relationship between 'goods' and 'housework' within the household (Becker 1965). In this framework, the household is assumed to combine time and market goods to produce more basic commodities that directly enter their utility functions. These commodities are called Z-commodities and written as

$$Z_i = f_i(x_i, T_i) \qquad (1)$$

where x_i is a vector of market goods and T_i a vector of time inputs used in producing the *i* th commodity. On the other hand, the household must be under the constraint of 'time'[2]

$$T = T_w + T_c + T_r \qquad (2)$$

where T is a vector denoting total time available in a household and is divided into three major categories: T_w, T_c, and T_r. Each household allocates the time of its members among these categories: labour to acquire the money income needed to purchase goods (T_w); labour retained within the household to transform purchased goods into Z-commodities (T_c), and leisure, which includes the time to actually consume the commodities (T_r). This formulation offers an explicit way of incorporating the role of 'non-working time', which

[1] Though the analysis of discourse related to housework is not rare in the literature, there is not much research investigating actual housework from a historical perspective. Shinada (2007, ch. 3) discusses the role of actual housework, though briefly, from the 1930s.

[2] The following formulation is based on the exposition of de Vries (de Vries 2008, pp.26-27).

has usually been recognised merely as ‘leisure’ or a residual, in discussing the household economy. Specifically, the introduction of category T_c clearly indicates the indispensable role of housework in the production function of Z-commodities as shown in equation (1).

In fact, referring to this framework, Jan de Vries has provided us with a frame of reference in terms of the historical relation between consumption and housework (de Vries 2008). De Vries discusses the historical changes in the time (labour) allocation behaviour of households in early modern Europe, from the production of self-sufficient goods to the production of saleable goods and the provision of the household workforce to the external labour market. He also points out the emergence, during the nineteenth century, of the breadwinner-homemaker household, within which housework recovered its importance in the labour-allocation process. This is one of the most systematic accounts of the changing role of housework in the historical setting of the early-modern and modern periods.

However, we should consider carefully both the theoretical and factual aspects of de Vries’s account before applying it to the consumption history of Japan. As de Vries mentioned, the household’s decision to allocate its time (T_w) towards labour to acquire money income to purchase goods was ultimately based on revisions in the mix of desired Z-commodities in the direction of those produced by more goods-intensive consumption ‘technology’. In other words, it implies that the birth of the consumer society was accompanied by the reduction of housework. On the other hand, the Beckerian framework assumes that the choices available to households in the allocation of time depend on the alternative consumption technologies available to secure desired Z-commodities and the degree of substitutability between goods and time that they offer. Therefore, in theory, the exploitation of goods-intensive consumption technology was not the only way to increase the consumption level of households in modern Japan. Given the alternative availability of other consumption technologies and substitutability, other choices, such as housework-intensive technology, might be exploited in a certain historical context. This paper tries to explore this question by focussing its observations on the practice of housework in inter-war Japan.

It is also worth reconsidering the applicability of the image, in de Vries’s argument, of the representative household shifting from a multi-occupied labourer household to a breadwinner household. Making use of a figure which demonstrates the correlation between the self-employment ratio and the real per capita gross domestic product (GDP) in a sample of fifteen countries from the 1930s to ca. 1970, I have shown elsewhere (Tanimoto, forthcoming 2011) how the proportion of households engaged in self-

employed occupations differed significantly among countries.[3] In general, there existed a negative correlation between real per capita GDP and the self-employment ratio. This implies that economic growth, expressed by the rise of per capita real GDP, entails an increase in the number of 'employed workers', typically in large factories and workshops. However, we should also note that the horizontal range of the self-employment ratio was rather wide in the figure, which implies that there existed significant differences in the absolute self-employed ratios among countries having similar real per capita GDP. The locus for the U.K., whose self-employment ratio has constantly fallen below 15 per cent, forms one extreme in this figure. The U.S., Sweden, and Germany (West Germany during the post-war period) appear to follow the U.K. as a second group. The ratios were higher in the case of France and Italy, but they did not reach Japan's level. The locus for Japan represents an extreme opposite to that of the U.K., and the absolute ratio is consistently four times as high as that of the U.K. and twice as high as that of the second group.[4] Thus, the self-employment ratio not only reflects the degree of economic development, but also mirrors a specific employment pattern in each country. Japan's locus in the figure reveals the vital role of self-employed households in twentieth-century Japan, as they co-existed with households of employed workers ranging from multi-occupied labourers to breadwinner white-collar employees.[5]

This variety of household types resulted in the diverse roles of female members in Japan's households. In fact, population census data reveal that wives in farming households as well as those in urban, self-employed households showed higher participation rates than wives in the households of employed workers, even in the midst of the post-war rapid growth era.[6] It is also notable that, judging from their working hours, their work style was not necessarily the same as that of 'full-time' employed workers. According to figure 1, nearly half of female family workers in urban self-employed households allocated less than thirty-four hours per week for the activities which related to their family business. Similar situation can be seen for family

[3] The sample countries included the U.K., France, Germany, Italy, Sweden, Belgium, Czechoslovakia, Hungary, Portugal, the U.S., Mexico, Australia, Thailand and Japan.
[4] The combination of the self-employment rate and real per capita GDP of Japan and the U.K. are as follows: (Japan: 1930, 67.6 percent, $1,780 at 1990 prices; 1970, 34.9 percent, $9,448) (U.K., 1931, 13.7 percent, $5,198; 1970, 7.1 percent, $10,694). The data on real per capita GDP are obtained from Maddison (1995).
[5] For a detailed discussion on the role of self-employed workers in Japan, see Tanimoto (2006) and Tanimoto (forthcoming 2011).
[6] The labour participation rate of wives in households engaged in self-employment-based non-agricultural occupations was 60.5 percent, while that of wives in households of employed workers was 39.6 percent in 1965 (Sōrifu Tōkeikyoku 1970).

workers in farming households during the agricultural off-season. Assuming eight hours per day as full-time working hours, these female family workers should be recognized as part-time workers.[7] These facts suggest that ways of coping with domestic matters might differ among household types. This paper will utilise these existing differences as a means of defining the nature of housework in Japan.

In the light of this, the next section focuses on farming households, which were the single largest type of household during the inter-war period. The main sources for the quantitative analysis are two kinds of 'Economic Survey of Farming Households' (*Nōka Keizai Chōsa*), which provide us with the housework hours of each household. The third section of the chapter discusses housework in non-agricultural households. Data surveys on domestic servants will help us to analyse housework in urban settings despite the absence of source materials as rich as the surveys of farming households. The fourth section concludes.

2. The role of housework in farming households

(1) Time allocation among household members

We can first consider the time allocation behaviour of farming households by means of the *Yojō Rōryoku Chōsa Jirei* (*Case Study of Surplus Labour*), edited by the Ministry of Agriculture and Commerce (Nōshōmushō).[8] The household in question was located in Tottori prefecture on the Japan Sea coast, and the survey was carried out in 1918. Judging from the fact that the head of the household was a member of the village assembly, this household could probably have been classed as that of an upper-class farmer in the village. However, its area of cultivation, around one *chō* (1 hectare) of paddy land for rice and around 5 *tan* (0.5 hectare) of dry field for barley, was around the average level in this village, and its labour force was limited to the lineal family, as neither collateral family members nor employed workers were working that year. Therefore, the farmer chosen here was not a polar case, but represented some common features of an owner-farming household in that period. Cultivation occupied more than 60 per cent of the household's total 'working' hours alongside other manufacturing work such as *tatami*-mat production.

Table 1 shows the working hours of individual family members. The household head, his wife and his father devoted more than three-quarters of their working hours to 'production work', such as cultivation, and to

[7] Using the oral history method, Kurashiki (2007) provides us with real descriptions of married women working in multi-occupied rural households in the 1960s.
[8] The argument in this section is based on Tanimoto (2003).

'industrial work', such as manufacturing *tatami*-mats or straw products, and cocoon breeding. These three members were apparently mainly engaged in income-earning work in a broad sense (hereafter 'producing labour'). On the other hand, the household head's mother devoted more than 80 per cent of her hours to housework. The proportion of producing labour and housework done by the household head's first daughter was 60 percent and 40 percent respectively. The second daughter, who was a student at that time, devoted around 1,000 hours to housework.

It is worth noticing that female labour played a significant role in cultivation as well as in the other sideline work defined in this survey as 'industrial work'. In this sense, it is not appropriate to say that there existed a clear division of labour between males and females in the field of producing labour. However, it is also clear that housework (except firewood making) was mainly done by females, not males. We can also observe a division of labour in the field of housework among female members. In other words, the housework demands in this household were fulfilled by multiple female members, and the total housework hours (6,854 hours) recorded in the table far exceeded the annual working hours of a single person.

This survey also provides us with information on what constitutes housework. According to the second part of Table 1, cooking accounted for the largest part of the housework, occupying on average around 6 hours per day. It is also noticeable that needlework, in third place behind child-care, accounted for 890 hours per year. In contrast, the hours devoted to cleaning and washing were rather limited. Thus, the main tasks constituting housework in farming households in those days seem to have been the preparation of food and clothing. Significantly, these tasks also conform to the original image of the production of Z-commodities, as cooking is the combination of food-stuffs and cooking work, and needlework constituted working on textiles to tailor or repair clothes. In other words, the consumption of goods in this household was closely related to the housework provided by the female members of the family.

Since this is the only case that gives us a breakdown of housework hours so far, the above discussion on the content of housework should be recognised as tentative. However comparative research based on social surveys of housework hours around the year 2000, conducted in the U.K., the Netherlands and Japan, reveals that the average cooking hours of women in Japan were relatively longer than those in the other two countries.[9] Together these results

[9] The average time spent cooking was 82, 83 and 151 minutes per day for women and 112,112 and 156 per day for each household in the Netherlands, the U.K. and Japan respectively (Shinada 2007: 88-89).

may suggest, therefore, that the long cooking hours shown in Table 1 reflect something specific to the nature of housework in Japanese households.

(2) Who carried out the housework?

The fact that the burden of housework was shared by plural female household members, clearly revealed through the case above, is worth further examination. We can confirm and generalise this finding by observing the data shown in the individual sheets of the *Nōka Keizai Chōsa* (Economic Survey of Farming Households), conducted by Kyoto Imperial University during the inter-war period.[10]

Tables 2 and 3 bring together data from the annual surveys of 45 different households conducted in 1927, 1928 and 1931. Although housework was carried out by 2.84 women and 2.30 men on average per household, few men did more than 1,000 hours of housework per year, and women performed 82.2 per cent of the total housework hours. Thus, it is clear that housework was disproportionately allocated to female members and that each household had on average more than one female member performing housework. The average number of women (1.33) engaged in more than 1000 hours of housework reveals that there was often more than one key person doing housework, and that they were additionally complemented by women engaged in housework for relatively shorter hours. As is shown in the bottom part of Table 2, the proportion of total housework hours accounted for by the person who devoted the longest time to housework was on average only around 50 percent. This observation seems to be consistent with the fact discussed above, namely that several women were carrying out the housework in each household.

Table 3 shows the attributes of household members engaged in housework. According to the simple average numbers in the first column, the household head's wife was the only one who exceeded 1000 hours of housework, and played a central role in housekeeping. However, if we take into account the number of instances of each category (out of 45) given in the third column, we can see from the second column that where the household head's mother did undertake housework the hours devoted to it reached almost the same level as those of the household head's wife. The first son's wife (*yome*) also exceeded 1000 hours, and the same was true of the head's daughter. It is also noticeable that the longest hours in the second column were less than 1600. So, if we take into account the total working hours of the

[10] These surveys are reproduced by Fuji Shuppansha in the form of a DVD. This paper has utilised only a part of them so far.

individual members in Table 1, even the household head's wife cannot be recognised as a full-time housewife, and yet the total housework hours per household shown in this table reached approximately 4000, almost equivalent to the full-time working hours of one person. Thus women in farming households combined housework with other tasks while fulfilling housework demands equivalent to those carried out by a full-time housewife.

(3) The determinants of housework hours—a quantitative analysis

The discussion thus far reveals that the supply of housework was related to the existence of female members in the household. We now need to observe the demand side of housework, and consider how demand and supply determined the level of housekeeping in farming households. In this section, we will approach these questions by analysing the data sets in the *Nōka Keizai Chōsa* (Economic Survey of Farming Households) conducted by the Ministry of Agriculture and Commerce from the mid-1920s to the early 1930s. Unlike the similar surveys conducted by Kyoto Imperial University that were utilised in the previous section, the individual sheets of this survey are not easy to access, though the annually published reports of the survey contain large tables showing a part of the data for individual households. Using these data sets, we will analyse the determinants of housework hours in order to consider the role of housework in the context of consumption.

Table 4 gives the descriptive statistics calculated during the surveys of 1929 and 1930. The statistics are aggregated by type of household defined by tenure status: owner, owner-tenant and tenant. According to the table, all the measures show significant differences by type of household. Nearly all of the average numbers for both years are largest for owner households and smallest for tenant households. This suggests that owner-farmer households devoted the longest hours to housework and spent the largest amount of money. In so far as tenure status may correlate with income level, it seems that the degree of affluence positively influenced the housework hours and the size of expenses. However, if we take note of the variation in the number of members among household types, it is also plausible that family size itself caused the difference, as large families may be expected to require longer housework hours and incur larger expenses. In addition, we have to consider the diversity among households within the same category. The coefficient of variation shown in the bottom part of the table, which reached a maximum of over 0.5 in the highest case, suggests that the features of the household cannot be summarised by tenure status alone.

To confirm the possible influence of each factor on housework hours, we therefore need to conduct a multiple regression analysis. The annual

housework hours per household is set as the dependent variable, and is regressed on various explanatory variables such as family size, household expenses, income, working hours and so on. Dummy variables for the year (1929 dummy) and for tenure status (tenant dummy and owner-tenant dummy) are put into the equation to absorb the specific effect of these factors. The dependent variable is converted into a logarithm, so that some of the coefficients, whose explanatory variables are converted into logarithms as well, can be interpreted as the elasticity of each variable. Table 5 shows a summary of the results.

We can first consider two variables that can be expected to be relevant to the demand side of housework: income and expenses. The prevalence of production for subsistence use amongst farming households means that records made in money terms can be problematic. However, the income and expenses data in this survey can be trusted for our purposes, as they systematically evaluated the monetary value of subsistence production using the appropriate market prices at the time.

Model (1) and model (2) in Table 5 show that income and expenses positively correlate with housework hours respectively, as each coefficient of income and expenses shows plus sign and statistical significance at one percent level. Noticing the coefficient of each model, however, we can recognize that the value of coefficient of expenses is much higher than that of income. This implies that the influence of expenses on the housework hours exceeds that of income. On the other hand, model (3) clearly shows that the income as well as family members other than little child under the age of eight determine the value of expenses of each household. These findings imply that it is the household expenses that directly influence the length of housework hours, while the effect of income on the length of housework hours is rather indirect, functioning as one of the determinant of household expenses. Although there exists a general understanding that high income allows household to spare relatively long hours for housework, this is not what is suggested by these results. According to the value of the coefficient, 1 per cent increase in expenses causes a 0.39 per cent increase in housework hours. If expenses are treated as a proxy for the acquisition of goods, it may be suggested that there was a complementary rather than substitutive relation between consuming goods and doing housework.

Secondly, we can consider the explanatory variables relevant to the number of family members. The number of male family members aged eight and over, shown in the fourth line, can be seen as a proxy variable indicating

the size of the demand for housework[11]. Making use of model (2) based on the discussion above, we can see that the coefficient of this explanatory variable shows the smallest value among the three relevant variables shown in line two to four, and is statistically insignificant. This implies that, if we control for the other factors embodied in the various explanatory variables, housework hours did not necessarily rise along with the increase in family size, even though the descriptive statistics shown in Table 4 appeared to suggest the influence of family size. This result is readily comprehensible if we recall that cooking for two people may require the same number of hours as cooking for four people. However, the implication of this result is not trivial. Since it indicates that the per capita cooking time for four people is smaller than that for two people, it implies that economies of scale certainly functioned within the household in terms of housework, or at least cooking. This significant feature of housework, the economy of scale, can be regarded as an essential factor in any understanding of the relation between household size and housework, and will be discussed below.

In contrast, the coefficient of the number of female family members aged 15 and over, shown in the third line, shows a plus sign and is statistically significant. An increase in the supply of labour within the household thus seems to result in longer housework hours per household. The value of coefficient is the largest of the relevant three variables, indicating that the increase of one person result in the increase of housework hours by 15.2 percent. This finding allows us to assume the existence of strategic labour allocation behaviour in the household between 'productive' labour and housework, with the female members being the main actors in this strategy. On the other hand, the existence of small children might increase the demand for housework, as a child needs to be taken care of. This supposition can be confirmed by noting that the coefficient of the number of family members under the age of eight is also positive and statistically significant. Interestingly, the coefficient of this variable is insignificant in model (3). This finding suggests that child care did not require extra expenses, while it reveals the time consuming nature of the child care work.. In other words, the existence of strong positive correlation between expenses and housework hours suggests the significance of certain kinds of housework other than child care in those days. .

Thus, the analysis in this section reveals that the demand for housework was influenced by the amount of household expenditure, which in turn

[11] Precisely speaking, it includes female household member aged between 8 and 15. The reason why we exclude female family member aged over 15 here can be understood through the discussion in the next paragraph.

corresponded to a level of consumption of goods. On the other hand, the number of female workers determined the level of housework supplied. In sum, the length of housework hours per household depended on the level of consumption of goods and the endowment of family labour in each household. This suggests that goods and housework were complementarily related in the context of consumption.

3. Housework in urban households

(1) Time-use survey

In contrast to farming households, there are few materials available to help us analyse the housework hours of non-farming households in the pre-war period. The first time-use survey by NHK (Nihon Hōsō Kyōkai 1941) is almost the only source providing systematic information on housework hours. The survey aggregated women according to the occupation in which the household head was engaged, and collected information on how they used their time. The results are shown in the four graphs in Figure 2. Three occupations correspond to non-farming households: salaried worker, factory worker and retailer. The women in the two former household types (shown in Figures 2-(1) and 2-(2)) were almost full-time housewives, spending 600 to 700 minutes per day in 'housework' and 'needlework'. By contrast, women in the retailer households (shown in Figure 2-(3)) devoted around 300 minutes of their time to paid work, most likely in the family business as family workers. The profile in Figure 2-(3) seems to be much closer to that of figure 2-(4), which denotes farming households, than those of Figures 2-(1) or 2-(2).

Can we then conclude that the households of urban salaried or wage workers devoted more time to housework than farming households? Can we regard the household of the retailer, engaged in one of the most representative occupations of non-agricultural, self-employed workers, as a miniature version of a farming household in terms of housework issues? Before jumping to such conclusions, we have to scrutinise several points.

In particular, the sample bias of this survey in terms of household type needs to be reconsidered. First, the breadwinner household taken to correspond to the type described in Figures 2-(1) and 2-(2) may be over-weighted. Not only was the number of salaried workers rather limited in those days, but also factory workers were often multi-occupied, and had their earnings supplemented by the earnings of female family members, so it is not realistic to assume that Figure 2-(2) represents the majority of factory workers' households. On the other hand, data on the industrial status of workers in the population censuses demonstrate that 'workers on own account' (*gyōshu*), which can be a proxy for the self-employed, occupied a significant

part of the gainfully-occupied work-force (Tanimoto 2002, 2003). There were many other sectors of manufacturing and commerce besides retailing containing a large number of self-employed workers. In that sense, the fact that NHK targeted only retailers and not those employed in other occupations biased the profile of households as they existed in those days.

More importantly, we have to be aware that the data shown in Figure 2 were aggregated on an individual basis, rather than a household basis. It is true that the working hours of women in farming households (Figure 2-(4)), who combined agricultural work with housework and needlework on an individual basis, coincide well with the findings outlined in the previous section. However, one important point made in that section was that housework was typically carried out by several members of the household, and not by a single person. Therefore, though the average individual housework hours amounted to fewer than 2000 hours per year, the sum of housework hours per household was equivalent to, if not greater than, the amount of hours done by a single full-time housewife. Thus, a naïve acceptance of the individual-based NHK survey might mislead us in terms of understanding the quantity of housework actually carried out in the household.

(2) Domestic servants

Under these circumstances, information on domestic servants, who may be assumed to have played a significant role in housekeeping, offers clues as to how to approach the demand and supply of housework within the household unit.[12] In fact, the number of female domestic servants in inter-war Japan reached more than 700,000, and domestic service was the largest occupation among female employees, with numbers exceeding even those of textile factory workers.[13] Table 6 gives the aggregate number of domestic servants in 1920 according to the industry and employment status of their employer. Though the numbers of households categorised in this way are not available, the number of married men aged from 15 to 59 can be utilised as an approximation.

Firstly, we can observe that the number of domestic servants per 100 gainfully occupied and married men aged 15 to 59, which we will hereafter call the 'employment rate', differs significantly by employment status. 'Workers on own account' show the highest employment rate of domestic servants, closely followed by 'salaried workers'. By contrast, the

[12] Nomoto (2001) gives a concise overview of the relationship between domestic servants and housewives in pre-war Japan.

[13] For the interaction between textile workers and domestic servants within the female labour market, see Odaka (1995).

domestic servant employment rate of 'wage workers' was far lower. If we consider the absolute number of households in each status, we find that it was the households of self-employed workers that employed the highest number of domestic servants.

Secondly, it is noteworthy that differences in the industries in which employers worked also matter in terms of the employment rate of domestic servants. The importance of the 'new middle class' can be observed from the large number of domestic servants employed by 'public service and freelance professionals'. On the other hand, agriculture shows the second smallest employment rate of domestic servants both in the upper and lower halves of this table, corresponding to the whole country and Tokyo City respectively. This implies that the high employment rate of domestic servants by self-employed households occurred in non-agricultural, urban households, and not in farming households.

These findings are consistent with the fact that domestic servant employment rates in Tokyo City were around four times higher than the averages for the whole of Japan, suggesting that employing 'domestic servants' was more of an urban phenomenon involving two major types of employer: the 'new middle class', including salaried and professional workers, and the 'old middle class', composed of self-employed households engaged in non-agricultural industries. Particularly if we consider the findings of the industrial survey conducted in Tokyo in the early 1930s (Tokyo Shiyakusho 1934), the domestic servant employment rate of 17 (16.99) percent in the 'workers on own account' of manufacturing sector, which can be a proxy of a proportion to the total number of manufacturing workshop, shown in Table 6 allows us to assume that a certain number of workshops with capital of less than 5000 yen employed domestic servants.[14] Workshops of this size were, on average, based on family labour supplemented by an apprentice and an adult worker at the most.

We can draw two conclusions from these findings for our understanding of the demand and supply of housework within the household. Taking into consideration the relatively small numbers and superior position of salaried workers in pre-war Japan, it is natural to assume that the level of income operated as a decisive factor in determining the employment rate of domestic servants. Specifically, the big difference between salaried workers and wage

[14] This survey classifies 82,508 manufacturing workshops operating in Tokyo City in 1932 into 10 categories according to the value of their capital. Since the number of workshops whose using capital exceeded 5000 yen occupied 12.3 % to the total, which is smaller than 17% mentioned in the text, a certain proportion of domestic servants were supposed to be employed by workshops smaller than those using capital of 5000 yen or more.

workers – both groups of employees working under strict constraints in terms of place and times of work – suggests the importance of the ability to afford domestic servants. In other words, though the multi-occupied households of wage-workers potentially demanded a person who could make up for the shortage of family members doing housework, they could not afford to employ one. In fact, a report on the living conditions of married female textile workers in a weaving factory reveals that their limited time for housework resulted in less time spent cooking and unsanitary, untidy conditions in their homes (Rōdōshō Fujin Shōnen Kyoku 1955: 19-20). It is also noticeable that the high employment rate of domestic servants in the breadwinner households of the 'new middle class' did not necessarily result in the withdrawal of family members from housework. It is often reported that housework in the breadwinner households was executed as full-time work by the housewife, with the assistance of a young girl employed as a domestic servant[15]. The employment of a domestic servant seems to have resulted in an increase in the supply of housework per household, and it may show households' preference for a better standard of living achieved by increasing the total housework hours.

On the other hand, it is possible that the high employment rate in the households of 'workers on own account' reflects labour demand for work other than housework in the household. As we noticed in Figure 2-(3), female members in retailing households allocated a part of their working time to their family business, just as the females in farming households shared agricultural work with the males. What, then, is the reason for the sharp contrast in employment rates, high and low, between the urban and rural self-employment-based households? A clue is provided in Table 7. According to this table, the average family size of owners of small- and medium-sized factories or commercial workshops was slightly larger than that of salaried and wage workers, but significantly smaller, by 1.25 persons, than that of families occupied in agriculture and forestry. The difference can largely be explained by the composition of the family, that is to say, whether or not the household included both lineal and collateral relatives of the household head. As discussed in previous sections, female family members, especially the household head's mother, played a significant role in doing the housework in farming households. Rural families occupied in agriculture and forestry included a high proportion (48.2 per cent) in which the household head's relatives contributed to the family labour. By contrast, urban self-employment-based households often lacked family labour resources, as only

[15] For the detail of actual activities of servants, see Shimizu 2004: ch.1.

20.5 per cent of the 'owners of small and medium scale enterprises' included both lineal and collateral relatives in their households. In other words, the lack of female members to share the burden of housework necessitated the recruitment of additional labour for housework, and a certain proportion of the urban self-employment-based households brought in domestic servants from outside. This interpretation is consistent with the differences in the age distribution of domestic servants according to the industry of the household head shown in Table 8. The high proportion of domestic servants under 15 in the agricultural sector indicates that the labour demand in this sector was largely for babysitting (*komori*), while other sectors demanded domestic servants old enough to be able to cope with various kinds of housework. In contrast to the case of the 'new middle class', in which domestic servants were additional to family labour, we could say that these self-employment-based households were compensating for the lack of labour supply within the family. From the viewpoint of consumption history, this suggests that the higher employment rate of domestic servants by 'workers on own account' might reflect their desire to maintain a certain standard of living which the multi-occupied workers discussed above might have given up trying to achieve.

(3) Brief comparisons by country and period

It is also interesting that the number of domestic servants differed by country and by period, as shown in Figure 3.[16] The figure brings together data for two types of comparison: regional comparison between Japan and the U.K. (England and Wales) and a comparison between Tokyo and London. In each case the two are compared across the pre-war and post-war periods. The expected diversity caused by differences in the 'development stage of the economy' is controlled by setting the per capita real GDP as the horizontal axis.

We can clearly identify three separate groups in the figure: pre-war Japan (Tokyo); nineteenth—twentieth century England and Wales (London); and post-war Japan (Tokyo). Roughly speaking, all groups show a common tendency for increases in per capita GDP to exert a negative effect on the number of domestic servants. However, if we look at the absolute number of servants relative to population shown in Table 9, we see that there were significant differences among the three. In 1920 England and Wales had three

[16] The sources for this figure are the population censuses of each country. Higgs (1983) has noted that the number of domestic servants in the England and Wales censuses is somewhat problematic, especially in the mid—late nineteenth century, so the data shown in this figure should be seen as a first step towards the comparative study of domestic servants in Britain and Japan.

times as many domestic servants relative to population as Japan, and London 1.5 times as many as Tokyo. Even larger disparities could probably be observed if we extrapolated from the numbers for England and Wales and London to the left of the table.

So, what could have caused the difference? Although this awaits further analysis, it seems likely that housework was disproportionately allocated to family members in Japan. This assumption seems to be consistent with the fact that the number of domestic servants was rather small in farming households in which lineal family members remained within the household. This line of discussion may reveal the relation between the supply of housework and the family system from a comparative point of view.

The amount of housework is a separate but relevant point to be scrutinised. At first glance, a large number of domestic servants seems to suggest an ample supply of housework to the household. However, if servants were employed so as to enable family members to withdraw from housework,[17] the relatively large number of domestic servants was not necessarily equivalent to an abundant supply of housework. An empirical comparison of actual housework is needed to answer these questions.

In addition, it is also noticeable that the absolute number of domestic servants in Japan declined significantly after World War II. It is not appropriate to attribute this to the rising income level in the post-war period, as the 'development stage of the economy' is controlled by the estimated real per capita GDP in the figure. Structural changes in housework therefore need to be analysed, to provide clues to understanding the relation between housework and consumption in post-war Japan.[18]

4. Concluding remarks

Lastly, we return to the two major findings of this paper. The first is the complementary relationship between housework and the consumption of goods in Japanese households. This is suggested by the positive correlation between household expenses and housework hours, and offers an image of housework inconsistent with the interpretation of de Vries, who assumes a change over

[17] Kawamura (2010) summarises the recent literature on housework in nineteenth- and early twentieth-century Britain, and suggests that work done by domestic servants tended to replace the housework formerly carried out by family members. Confirmation of this interesting statement requires more detailed research.

[18] The chapters by Andrew Gordon and Helen Macnaughtan in this volume both address this question through analysis of the introduction of new technology into post-war households. They show how the new technology embodied in the sewing machine and the rice-cooker impacted on the practice of housework in the specific fields of needlework and cooking.

time from goods-intensive consumption to service-intensive (housework-intensive) consumption. In contrast, it seems that the consumption of goods in Japan was more closely related to housework even before the emergence of the breadwinner household. This discrepancy might suggest the possible hypothesis that this pattern can be formulated as a labour-intensive path of consumption growth, though this would have to be tested through further comparative studies of the role of housework in people's material lives.[19] Second, we considered the supply side of housework by measuring the contribution of both family members and domestic servants. The plurality of family members engaged in housework in Japan implies the existence of a kind of household remote from the breadwinner household model. It also suggests a link between housework and the family system, or more interestingly, a relation between the family system and consumption. To sum up, the paper showed the determinants of housework among diverse households and tried to suggest that housework was one of the major fields through which the consumption behaviour of ordinary people in modern Japan can be evaluated.

This paper has not considered how housework affected the actual level, style and pattern of consumption. The informative descriptions by Furushima Toshio tell us how closely housework can be related to the pattern of consuming goods (Furushima 1996). Not only did an increase in housework enable a certain consumption style – cooking rice for three meals per day, for example – but equally the forced saving of housework in urban self-employment-based households might have created a consumption pattern dependent on outside catering and eating out, resulting in the creation of a certain urban eating culture. The incorporation of information and data on actual housework represents a further indispensable task to complement the quantitative approach undertaken in this paper.

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[19] The role of housework in improving material lives in the West also merits discussion. Cowan (1983) indicates the role of cooking in farmers' households in eighteenth and nineteenth century North America, and Bourke (1994) insists on the positive value of home-made necessities for working class households in nineteenth century England. In the light of information on actual housework carried out in the nineteenth century, the validity of de Vries' formulation for the West mentioned here should also be scrutinised.

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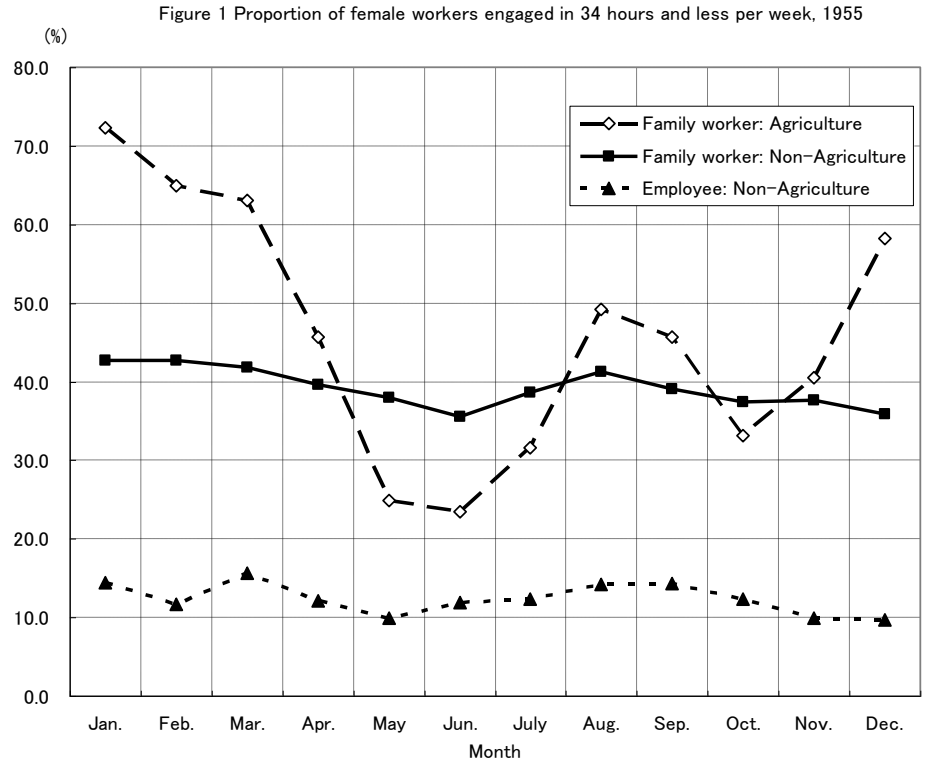
Figure 1 Proportion of female workers engaged in 34 hours or less per week according to industrial status



Source) Sōrifu Tōkeikyoku ed. *Rōdōryoku Chōsahōkoku* (1955)

Table 1 Allocation of labour within a farming household Tottori prefecture, 1918

Table 1

(1) Allocation of labour within a farming household in Tottori Prefecture, 1918

Position in the family	Age	Total	Agriculture and industry			Housework	Others
			Total	Agricultural work	Others		
		(Working hours per year)					
Household head	44	3,156	2,564	1,618	946	437	155
Wife	40	3,278	2,456	1,006	1,450	822	
Father	71	1,982	1,672	1,140	532	275	35
Mother	67	3,921	803	265	538	3,118	
Daughter	18	3,399	2,082	1,160	922	1,317	
Daughter	15	1,020	135	80	55	885	
Son	9						
Son	2						190
Total		16,756	9,712	5,269	4,443	6,854	380

(2) Breakdown of housework

	Cooking	Child care	Needlework	Making firewood	Weaving	Cleaning	Heating bath	Washing	Others
Household head				270		25			142
Wife	80		100	140	180	25		240	57
Father				90		90			95
Mother	1,820	719				144	270		165
Daughter	292		790		200	25			10
Daughter		885							
Son									
Son									
Total	2,192	1,604	890	500	380	309	270	240	469

Source)Nōshōmushō ed. *Yojōrouryoku Chōsajirei* (Kokusansha, 1921)

Table 2 Housework in farming households

Data source	
# of farming households	44
Kyoto	33
Osaka	8
Nara	3
1927.3-1928.2	27
1928.3-1929.2	15
1931.3-1932.2	2

Housework per household (average)		
Housework hours	3,982	(hour)
Proportion of female labour	82.5	(%)
# of persons engaged		
Female	2.84	(person)
Male	2.30	(person)
# of persons engaged in over 1,000 hours		
Female	1.34	(person)
Male	0.07	(person)
The proportion of total housework hours accounted for by the person who devoted the longest time to housework		
Average	52.4	(%)
Maximum	95.9	(%)
Minimum	15.4	(%)

Source) Kyoto Teikoku Daigaku ed. *Nouka Keizaichōsabo,* 1927-1933 reproduced by Fuji Shuppansha as DVD.

Table 3 Attributes of family members engaged in housework

	Average hours	Average hours when appeared	# of appearance
Female			
Wife	1,461	1,531	42
Mother	950	1,393	30
Wife of first son	201	1,265	7
Daughter	418	1,022	18
Other lineal relatives	15	322	2
Collateral relatives	254	933	12
Male			
Household head	260	266	43
Father	123	319	17
Son	157	300	23
Other lineal relatives	0.11	3	2
Collateral relatives	5	43	5
Employee	30	95	14

Source) Same as Table 2.

Table 4 Descriptive statistics of farming households in Economic Survey of Farming Households, 1929 and 1930

	1929				1930			
Tenure status	Total	Owner	Owner-tenant	Tenant	Total	Owner	Owner-tenant	Tenant
# of farming households	217	87	72	58	219	87	76	56
(Average)								
# of family menbers	7.32	7.72	7.14	6.95	7.30	7.63	7.18	6.93
# of family members engaged in works	4.24	4.54	4.04	4.03	4.11	4.32	3.96	3.98
Annual household expenses : yen	1,073.9	1,267.7	999.2	875.9	802.3	919.5	768.0	667.0
Annual household income : yen	1,155.3	1,368.1	1,124.5	874.3	723.4	837.2	698.8	579.7
Annual housework hours	4,380.2	4,768.5	4,136.3	4,100.7	3,968.6	4,398.6	3,697.9	3,668.1
(Coefficient of variation)								
Annual household expenses : yen	0.40	0.36	0.39	0.33	0.39	0.35	0.43	0.30
Annual household income : yen	0.44	0.41	0.43	0.32	0.43	0.35	0.47	0.40
Annual housework hours	0.53	0.50	0.56	0.56	0.46	0.48	0.46	0.38

Source) Nōrinshō ed. *Nōka Keizai Chōsa, Showa 4 and Showa 5*

Table 5 The determinant of housework hours
(The result of multiple regression analysis, OLS)

Dependent variable :	Housework hour per household(ln)		Household expenses (ln)
Model	(1)	(2)	(3)
Year	1929・1930	1929・1930	1929・1930
The y-intercept	5.826 ***	5.064 ***	2.804 ***
	14.658	11.325	13.398
# of family members under 8	0.079 ***	0.068 ***	0.019
	3.500	3.099	1.620
# of female family members 15 and over	0.169 ***	0.152 ***	0.060 ***
	6.658	5.955	4.498
# of family members other than above	0.036 **	0.021	0.045 ***
	2.113	1.207	5.074
Income per household (ln)	0.268 ***		0.544 ***
	4.359		16.802
Expenses per household (ln)		0.393 ***	
		5.592	
1929 dummy	−0.069	−0.053	0.035
	−1.272	−1.145	1.220
Tenant dummy	0.016	0.259	−0.077 **
	0.254	0.433	−2.377
Owner-tenant dummy	−0.077	−0.053	−0.083 ***
	−1.421	−0.992	−2.893
R2 (adjusted)	0.220	0.241	0.637
# of samples	436	436	436

Source) Nōrinshō ed. *Nōka Keizai Chōsa, Showa 4 and Showa 5*

Note) Coefficient in upper line and t-value in bottom line.

*** significant at one percent level, ** significant at five percent level

Figure 2 Average of working hours of a woman per day (1941)

Figure 2-(1) Average working hours of a woman per day
Whole country / Household of salaried worker, 1941.November

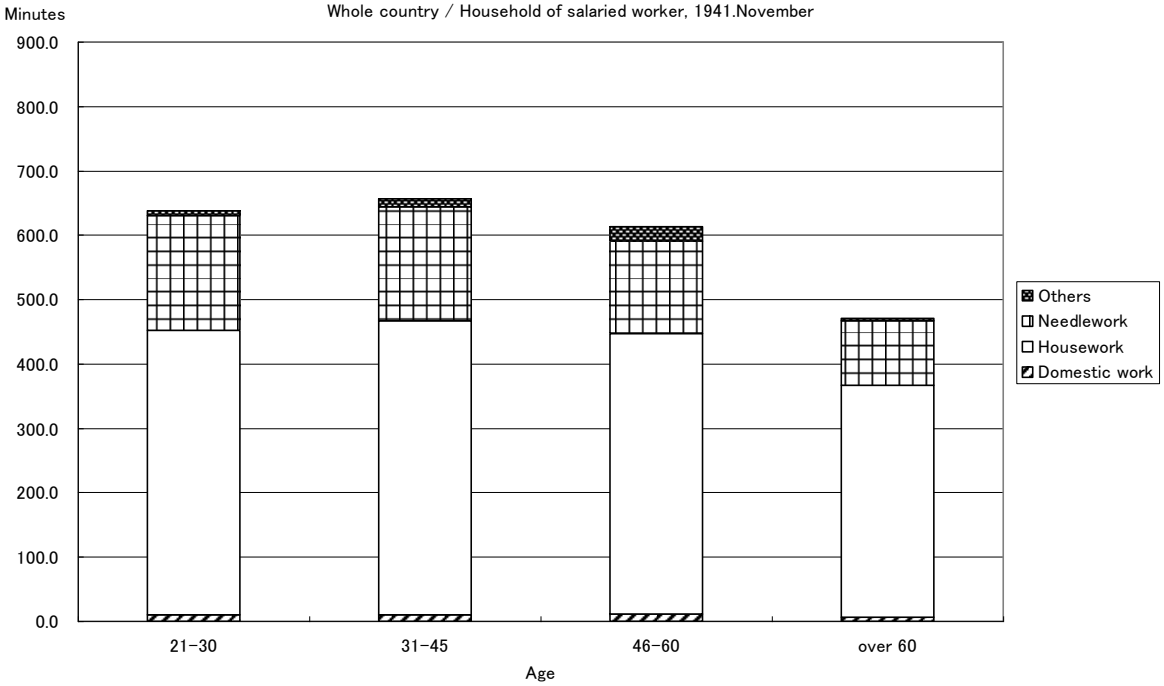


Figure 2-(2) Household of factory worker, 1941.November

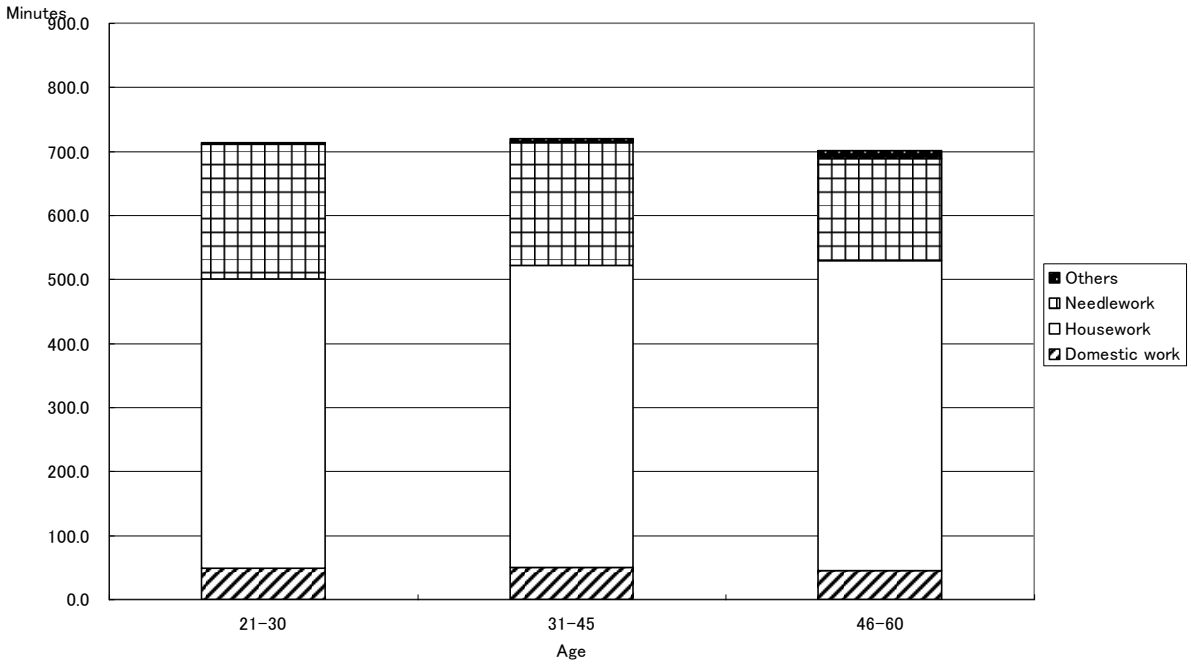


Figure 2-2

Figure 2-(3) Whole country / Household of retailer, 1941.November

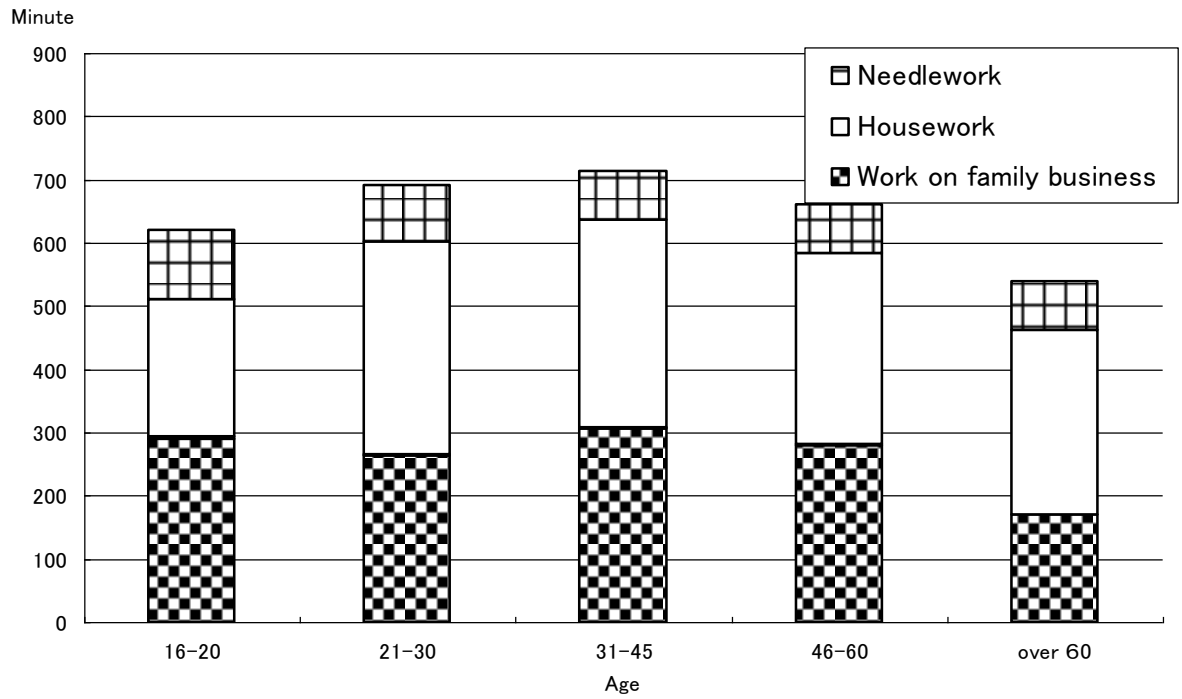


Figure 2-(4) Whole country / Farming household, 1941.November

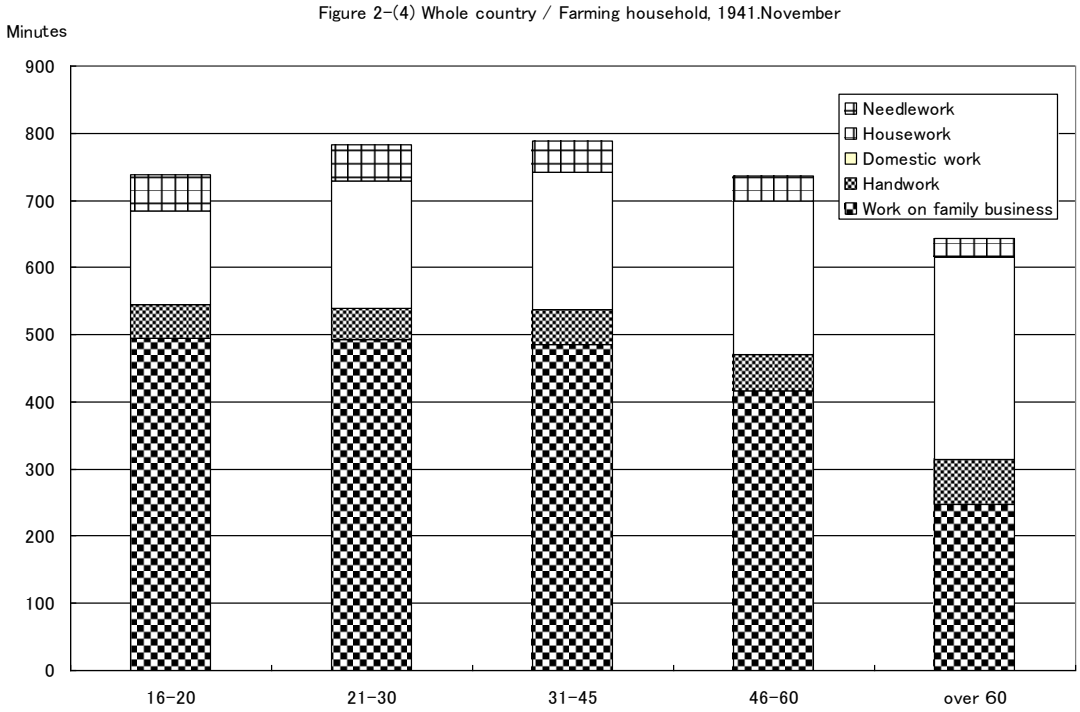


Table 6
# of domestic servants per 100 households (approximation)

1920	Total	Workers on own account	Salaried workers	Wage workers
Tokyo City	**20.85**	**29.73**	**27.91**	**0.76**
(Total number)	75,874	55,272	19,788	814
(Breakdown by industry)				
Agriculture	8.47	10.61	57.80	0.44
Manufacturing	10.40	**16.99**	**22.57**	***0.62***
Commerce	26.37	**28.34**	28.34	***1.92***
Transportation	5.81	9.87	15.69	0.51
Public service and free-lance profession	33.51	**47.74**	**32.50**	1.13
Whole country	**4.18**	**8.39**	**7.90**	**0.20**
(Total number)	634,882	556,367	63,180	15,335
(Breakdown by industry)				
Agriculture	3.63	4.61	6.34	0.12
Manufacturing	5.51	**11.11**	8.04	***0.60***
Commerce	13.75	**15.20**	**12.72**	***1.51***
Transportation	3.05	5.73	5.58	0.56
Public service and free-lance profession	15.72	**37.43**	6.89	2.21

Source)*Kokuseichōsa,* 1920, *Tokyo-shi Shiseitōkeigenpyō*, 1920

Note) Number of gainfully occupied and married men aged 15-59 is used for the proxy of number of household.
Gainfully occupied men is classified by industrial status and industry.

Table 7 Family composition by industrial status, Tokyo City, 1934

	# of family member
	Unit: Person
Total	6.22
Salaried worker and free-lanced profession	6.20
Owner of small and medium scale enterprises	6.35
Agriculture, forestry, fishery	***7.60***
Factory	6.39
Commerce	6.24
Wage worker	6.09

	Proportion by family types		
	Married couple or one with children	Ditto and husband's relatives	Others
Total	76.4	17.6	6.1
Salaried worker and free-lanced profession	72.7	19.4	7.9
Owner of small and medium scale enterprises	73.3	20.5	6.2
Agriculture, forestry, fishery	***46.6***	***48.2***	5.2
Factory	73.8	19.7	6.4
Commerce	75.2	18.7	6.2
Wage worker	***82.9***	***12.5***	4.6

Source) Tokyo Shiyakusho ed. *Kazoku Tōkei* (1935)

Table 8 Domestic servants by industry and age,1920

Occupation of households' head employing domestic servants	Number of domestic servants	Proportion of female (%)	Age (female %)		
			0-14	15-59	60-
Total	634,882	90.2	37.4	58.4	4.2
Agriculture	164,369	85.5	72.2	24.0	3.8
Industry	106,994	93.4	30.2	66.0	3.8
Commerce	170,998	95.4	25.7	71.3	3.0
Public service and freelance profession	92,917	86.0	24.2	68.8	7.0

Source) Population Census, 1920

Table 9

Number of domestic servants per 1,000 persons

(person)

	1851	1901	1921/1920	1930
Japan			11.34	12.12
England and Wales	46.24	38.15	32.00	
Tokyo			28.92	28.92
London	76.19	52.27	40.81	

Source) Population censuses in Japan and England/Wale

Figure 3

Figure 3-(1) Number of domestic servants by GDP, Japan, England and Wales
(Japan: 1920-1965, England and Wales: 1851-1961)
Source) Population censusus in Japan and England/Wales, Maddison (1995)

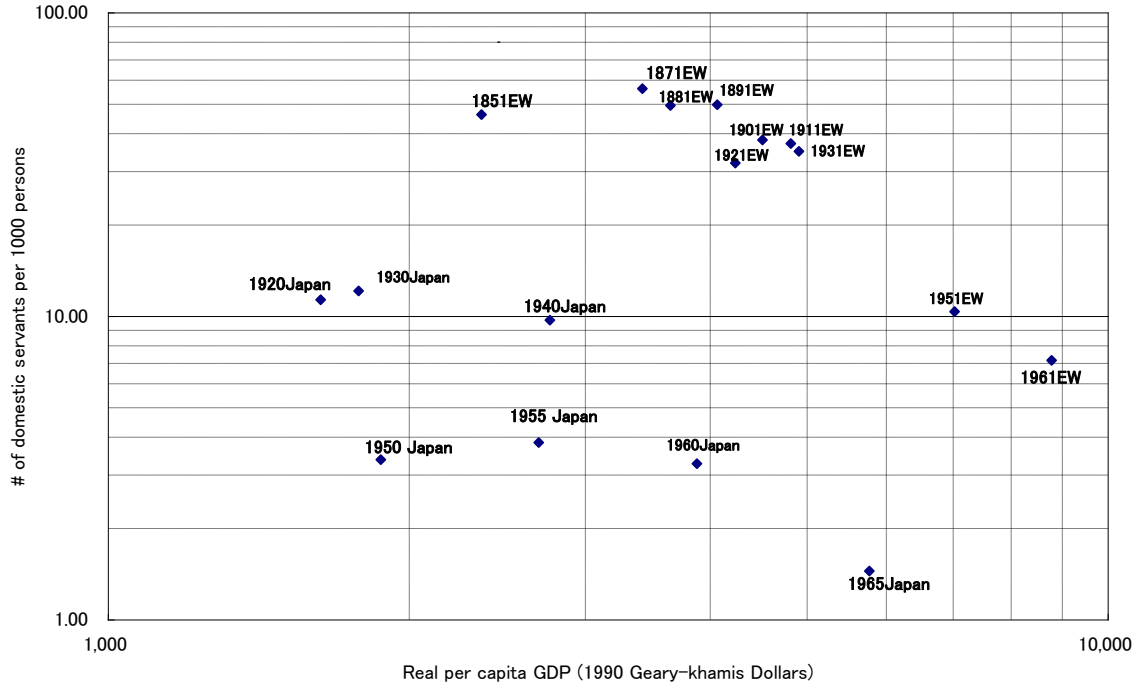


Figure 3-(2) Number of domestic servants by GDP, Tokyo and London
(Tokyo: 1908-1965, London: 1851-1921)