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CARE WORK IN CHINA: WHO DOES CARE WORK, WHAT IS ITS ECONOMIC VALUE AND HOW HAS IT BEEN AFFECTED BY COVID-19?

OCTOBER 2023

Care work in China: Who does care work, what is its economic value and how has it been affected by COVID-19?



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PREFACE

As the backbone of the economy and society, care work is essential. Yet, it often goes unrecognized. Worldwide, the bulk of unpaid care work is borne by women and girls: women perform 76.2 per cent of total hours of unpaid care work, 3.2 times as much as men. In China, women spend around 2.5 times as much time as men on unpaid care work. The heavy and unequal responsibility of care work falling to women and girls is one of the main causes of gender gaps in the economy, and then in all aspects of the society. Paid care work, as another important carrier of care work, on the other hand, is usually undervalued. For example, paid care work performed by domestic workers is largely informal and lacks legal protection, which affects the wellbeing of domestic workers as well as the provision of affordable and high-quality domestic service.

Emergencies like the COVID-19 pandemic could exacerbate the existing inequalities. A number of factors added to women's unpaid care work, including school shutdowns and heightened care needs of elderly and sick people. As women take on greater care demands at home, their jobs are also disproportionately affected by cuts and lay-offs. Such impacts risk rolling back the already fragile gains made in female labor force participation. Domestic workers were also affected severely. Nearly three-quarters of domestic workers around the world – more than 55 million people – were at significant risk of losing their jobs and income due to lockdown and lack of effective social security coverage, according to ILO estimates. Those in China were no exception, with the strict COVID restrictions that were in place.

Along with the three-child policy, there could be a growing demand for caring the elderly and children,

putting greater pressure on the entire care system. Equality between men and women is enshrined in the China's Constitution. The current Chinese Women's Development Program (2021-2030) calls for men and women to share housework, and jointly assume responsibility for elderly care and the upbringing and education of children. The National Human Rights Action Plan (2021-2025) also clearly states the goals of "Relieving women's childcare burden, developing an inclusive childcare service system, and reducing the family's burden of childbearing, parenting, and education."

Under this context, in line with the 2021-2025 United Nations Sustainable Development Cooperation Framework for China, UN Women and ILO worked together to produce *Care Work in China: Who does care work, what is its economic value and how has it been affected by Covid-19?* to better understand care work and the economy of care in China, where policy recommendations are put forward to strengthen the societal reorganization of care to help shape a more equal and inclusive society. The report is an important contribution to UN Women's work to transform the care economy by pushing for women to be recognized – and paid – for their work and to the ILO's Decent Work Country Programme that promotes redistribution of unpaid care work between women and men and equal opportunity and treatment for workers with family responsibilities. It is intended to inform the organizations' deliberations on the priority theme, providing a useful resource for all stakeholders. To achieve the future we want, we must reinforce the accountability of the State and other stakeholders to address the care issue, and explore new avenues to recognize, reduce and redistribute the care work.

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SUMMARY

Care work is of growing importance to China's economic and social development. From the *demand* side, demographic change, prolonged life expectancy and population aging, together with policy adjustments such as the relaxation of the "one-child policy", create an increased need for care provision and services. In terms of *supply*, Chinese households have become smaller, and the dependency ratio has risen (that is the share of working-age population has declined), resulting in reduced capacity of families to provide care for their members. At the same time, the emerging paid care sector remains fragile. This mismatch between demand for and supply of care services is reflected in the heavy burden of unpaid care work undertaken within the household – work which is largely undertaken by women. The COVID-19 pandemic has highlighted the close connection between paid and unpaid care work and its impact on women's employment.

To contribute to our understanding of the "care economy" in China, this paper presents a detailed analysis and discussion of the current status and recent changes in the gender allocation of unpaid care work in China, and estimates of the value of unpaid care work and its contribution to China's economy. To assess the impact of COVID-19 on the care sector, we then focus on the domestic service sector – that is, the provision of *paid* care work. Such paid care work reflects the degree of marketization of *unpaid* care work and can thus help in understanding the impact of the pandemic on the care sector.

This report uses data from China's National Bureau of Statistics (NBS) 2008 and 2018 Time Use Surveys to examine the changes that have taken place in the gender distribution of unpaid care work since the 2008 financial crisis. We find, in keeping with studies from around the world, that women's unpaid care work hours and their total working hours are substantially higher than those of men. In 2018, unpaid care work time of both women and men was higher than in 2008, with the increase being reflected mainly in

child-care, child instruction, and care for adult family members. Gender gaps in unpaid care work increased in most categories of work and were consistent across different population characteristics – for example by urban and rural residence, by education, marital status, age and personal income.

The study then estimates the value of unpaid care work in China's economy and the share of women's contribution to this value. Using a range of methods and sources of wage data, our estimates suggest that the value of unpaid care work in 2018 was equivalent to no less than 25% of GDP, with the range of estimates lying between 22.6% and 32.1%, results which are consistent with most studies from around the world. Of this, women's contribution to unpaid care work is particularly significant, being around twice that of men.

The report goes on to examine how the COVID-19 pandemic has affected the care sector, by examining the impact on paid care provision in the domestic service industry. Using big data from a leading recruitment agency, combined with interview and questionnaire data, the study finds that in the early stage of the COVID-19 pandemic, both supply and demand for care work declined. The domestic service enterprises and workers were heavily impacted, reflecting weaknesses both in the industry and in the labor conditions of paid care workers.

Based on the analysis and conclusions, we present a series of policy recommendations aimed at strengthening China's care economy, meeting the growing demand for care labor while reducing the burden of unpaid care work on women. These goals are essential because without improvements in the supply of adequate and affordable quality care services, other government objectives such as increasing population growth, the achievement of gender equality and promotion of "common prosperity" cannot be met. Key recommendations include:

- Fully recognize the value of unpaid care work by incorporating it in the preparation of “household satellite accounts”;¹
- Introduce and effectively implement policies to support the development of quality care services;
- Extend legal and social protections to paid domestic service workers, and strengthen the organization and professionalization of the domestic service sector, including through improved training for the management and provision of services;
- Ensure all enterprises take on their full responsibilities as employers, implementing the state’s policies to promote gender equality and introducing family-friendly measures in the workplace;

- Foster a social environment that alleviates the double burden women face in their paid and unpaid work and reduces gender segregation in the labor market for paid care services.

Together these recommendations should contribute to promoting the sustainable and healthy development of China’s care economy.

Key words: care economy; unpaid care work; gender; COVID-19; Time Use Survey; big data

¹ Satellite accounts are a subsidiary accounting system that extends the core framework of the System of National Accounts (SNA) to account for sectors that are not measured within the production frontier of national accounts. A household satellite account (HHSA) expands the boundary of production scope to include all household non-market production, adjusting for relevant transactions or exchange. Household satellite accounts can provide detailed data on various household production activities and are an important tool for accounting and analysis of unpaid care work (Liu, 2012; Lu, 2013).

INTRODUCTION

Care work is clearly of growing importance to China's economy. The provision of care, and more specifically the burden to households and families of unpaid care work, has become a prominent societal and policy issue in China in recent years. From the *demand side*, demographic change, including prolonged life expectancy and population aging, together with family planning policy adjustments², have increased the demand for care workers. The share of elderly in China's population is rapidly increasing. In 2015, the population aged 60 and above was about 220 million; this age group is expected to exceed 300 million by 2025 and climb to a peak of about 482 million people by 2053 (Zhai et al., 2017). To address this population imbalance, China further relaxed its family planning policies in 2022 to allow all couples to have up to three children. The need to care for the elderly and children creates a rising demand for both paid and unpaid care services, putting pressure on the entire care system.

On the *supply side*, Chinese households have become smaller and, with the reduction in the share of working-age population, their care capacity is declining. According to the “*Seventh National Census Communiqué*” released by the National Bureau of Statistics in 2021, average household size in China in 2020 was 2.62 persons, 0.48 persons less than the average of 3.10 persons in 2015. In addition, the supply of public services is inadequate and market-based care service provision is not standardized, creating huge challenges both for the quantity and quality of care work. This mismatch between demand and supply is reflected especially in the heavy burden of unpaid care within the household – a burden which falls predominantly on women (Xiao and Jian, 2020).

Care work can be divided into paid and unpaid activities. In practice, most people undertaking either unpaid or paid care work are women, while such work is undervalued and often not even recognized as work. Recognizing and valuing unpaid care work and improving the working conditions of care workers would thus be conducive to improving the situation of care workers, particularly women who have generally assumed greater unpaid care responsibilities within the family. Better conditions and remuneration may in turn enhance the quality of care given, and thus better meet the needs of those requiring care. An increase in the supply of affordable high-quality paid care work should reduce the burden on unpaid caregivers, giving individuals with care burdens more time and energy to seek their own career or personal development. However, an increase in the cost of care would reduce access to quality services for those with limited incomes if left to the market to provide, hence the need for governments to consider this as a policy issue. Furthermore, the gender division of care work is an important indicator of gender equality: since caregivers are mostly women, recognizing and rewarding care work is thus a key element in the promotion of gender equality.

China has a strong cultural tradition of defined gender roles summed up by the phrase “*Nan zhu wai, nv zhu nei*” (“men go out to work while women look after the house”). Recent economic development has challenged this division of labor, while the Chinese government has also advocated for equality between men and women. The current *Chinese Women's Development Program (2021-2030)*⁴ and the *National Human Rights Action Plan (2021-2025)*⁵ both call for the reduction of care burden that falls on women.

2 China's one-child policy which had been in place since September 1982 was abandoned in 2016 with the introduction of a universal two-child policy. In 2021 the policy was changed to allow all couples to have up to 3 children. See <http://www.nhc.gov.cn/wjw/index.shtml>.

3 See <https://baijiahao.baidu.com/s?id=1699442961451349051&wfr=spider&for=pc>.

4 From the website of the Central Government of the People's Republic of China http://www.gov.cn/zhengce/content/2021-09/27/content_5639412.htm.

5 From the website of the Central Government of the People's Republic of China http://www.gov.cn/xinwen/2021-09/09/content_5636384.htm.

This background suggests why it is important to study and better understand care work and the economy of care in China. Unpaid care work and paid care work are to some extent substitutes for each other. However, unpaid care work is not included in the System of National Accounts (NSA), the main economic accounting system for measuring contributions to GDP. Recognizing and valuing unpaid care work would better account for progress in both social welfare and economic development. The study of unpaid care work would also make explicit the dual pressures women, especially married women, face in balancing work and family life, and help to better assess women's contributions to the family, society and the economy. At the societal level, understanding the value of unpaid care work and the price women pay for it would help to create an environment in which men and women share family responsibilities, leading to a more equitable division of labour.

In order to contribute to our understanding of the care economy in China, this report explores the following questions: What is the current situation of unpaid care work in China? What is the gender allocation of unpaid care working hours? What is the value of this unpaid care work to the economy? And how has Covid-19 impacted paid care work, that is, the domestic service industry and domestic workers? We use China's Time Use Survey data to examine what changes have taken place in the gender distribution of unpaid care work since the 2008 financial crisis. We estimate the economic value created by unpaid care work, and the share of women's contribution to this value. We also consider how the COVID-19 pandemic, which has had a major impact on all industries and sectors, has focused particular attention on the close

connection between paid and unpaid care work and its impact on female employment. The domestic service sector – that is the provision of paid care work – is an important indicator of the marketization of unpaid care work and may reveal what is happening to the care sector as a whole. We therefore explore the impact of COVID-19 on both enterprises and workers in the domestic service industry.

The paper is organized as follows. The next section reviews literature on the care economy, globally and in China, and lays out various approaches to its analysis and measurement. Based on this literature review, Section 3 introduces the research methods and data. Time Use Surveys undertaken by China's National Bureau of Statistics (NBS) in 2008 (CTUS2008) and 2018 (CTUS2018) are used to examine the current gender allocation of unpaid care work and its changes over time, and to estimate the value of unpaid care work in China. Section 4 presents the results of the analysis and estimations, before turning to the impact of the COVID-19 pandemic in Section 5. Here we use big data from the recruitment platform *58.com Inc.*, together with in-depth interviews and a questionnaire survey, to assess the impact of COVID-19 on the *supply* of paid care work, that is on domestic service enterprises and workers. The report concludes with a series of recommendations for scholars, advocates and policymakers on the need for further research on care work, how to raise awareness of the importance of care, and what measures the government and other social actors can take to promote the development of the care economy as an important contributor to economic and social development and population well-being.

APPROACHES TO RESEARCH ON THE CARE ECONOMY: A REVIEW OF THE LITERATURE

Care economics or the study of the “care economy” involves the use of the tools of economics to analyze the production, consumption and distribution of care services by and across households, markets and governments, as well as examining the distribution of care services and their optimal allocation to meet the needs of society (Liu et al., 2019). Recognition of the importance of unpaid care work to the economy is not new: in 1995, for example, Becker was cited as arguing that “It is time to recognize housework as part of the goods and services in a nation’s GDP. The long hours spent at housework suggest that production in the home is a sizable percentage of the total output of all nations...”⁶. As feminist and other scholars from a range of disciplines have shown, the care economy makes a fundamental contribution to the economy and society, particularly in the nurturing and reproduction of current and future generations. However, as a critical pillar of the economy, it has not received sufficient attention in mainstream economic research – a discipline that has traditionally focused on the male experience.

A growing body of empirical research in the fields of labor economics, women’s and gender economics and other fields of feminist enquiry has started to explore questions around the economy of care. Such work across many countries has shown that family members engaged in unpaid care work generally

have a lower employment rate and, if they are employed, receive a lower wage income: that is, they suffer from a “family care penalty” (Folbre and Song, 2020: 7; Azcona et al., 2020). Women engaged in market-based paid care work (and most of the practitioners are indeed women), have significantly lower incomes than women engaged in other jobs: thus, they experience a “paid care penalty” (Folbre and Song, 2020: 7). Other scholars have focused on issues such as the “pricing mechanism” for care work, “cost control”, “quality supervision” and “labor supply” of paid care work or workers in contexts of industrialization and marketization (Himmelweit, 2005; Budig and Misra, 2010; Mason and Kuhlthau, 1989; Daly and Lewis, 2000; Folbre and Nelson, 2000; De Klaver et al., 2013). Himmelweit (2005) assesses the market for care services and its failures, showing why government intervention is required: given inequalities in both the need for care and resources to pay for its provision, and the nature of “care” as a product that is dependent on labour time, market incentives to increase productivity and reduce costs (through lower wages) may result in poorer care. Conversely, increasing wages will increase the cost of care to families, in turn preventing many unpaid carers from entering the labour market. Thus Himmelweit concludes, the market alone will worsen existing inequalities and is likely to undermine standards of care and working conditions of care workers.

6 See <https://www.bloomberg.com/news/articles/1995-10-15/housework-the-missing-piece-of-the-economic-pie>.

Given the scarcity of care resources, the professionalization of care activities, and the commoditization of care services in many countries, economists have thus started to pay attention to policy questions, including whether and how the state should play a role in the provision of care services (Liu et al., 2019). Some governments have come to realize that the care economy is an important component of and contributor to economic development and growth, and have introduced various policies to support the development of the care economy with the goal of reducing the burden on women, and alleviating or reducing both the “unpaid care” and the “paid care” penalties. Policy objectives include recognizing the value of unpaid care work, reducing its burden, and promoting its redistribution between men and women, and between the family, state and society (Elson, 2017). In addition, the importance of providing reasonable and decent rewards to paid care workers, and of ensuring their rights and opportunities for voice and collective bargaining, have also been recognized (Addati et al., 2018).

Research on the care economy and unpaid care work in China can be divided into two main categories. The first category focuses on introducing research from other countries: this includes work on the development of the economics of care (Liu et al., 2019), the importance of care work to the economy (Shen, 2014; Folbre and Song, 2020), and methods of estimating the value of unpaid care work (Liu, 2012). The second category focuses on empirical analysis of care provision in the Chinese context, and more specifically on gender differences in the allocation of unpaid labor (Dong and An, 2015; He et al., 2018); on estimating the value of unpaid care work (Dong and An, 2015), and on the distribution of care work between the state, enterprises and households (Cook and Dong, 2011; Dong and An, 2015; Tong, 2017). Studies in this category also examine the impact of changes in the distribution of care work on the allocation of male and female labor time (Connolly et al., 2018), and the impact of socialized care provision on unpaid care work (Ji, 2020) and on unpaid care for the elderly (Yu and Jin, 2018).

Overall, existing research on China shows that unpaid care work makes an important contribution to the Chinese economy, and that unpaid and paid care work are substitutes. However, while care work is increasingly recognized as a key part of the economy, there is a lack of research and empirical analysis on the topic, in part due to data limitations, but also due to the lack of scholarly concern with the issue in Chinese academic circles. Since 2020, the prevention and control measures related to the COVID-19 pandemic have further highlighted the importance of the issue of care within China and globally. The pandemic has had a huge impact on both households and the domestic service sector which serves to replace unpaid carers in the households. The result has been a significant increase in unpaid housework globally, with statistics showing the increase in unpaid housework among women has been significantly higher than for men.

Given this context, this paper presents a detailed analysis and discussion of the current status and changes in the gender allocation of unpaid care work in China, estimates the value of unpaid care work, and assesses the impact of COVID-19 on paid care work, that is, on the domestic service industry and domestic workers. In the remainder of this section, we review the Chinese and international literature that informed our approach and analysis of these issues.

2.1

Unpaid care work, its distribution and changes over time

According to UN Women, unpaid care work refers to all unpaid services provided by individuals within a household or community for the benefit of its members, including care of persons and domestic work. Common examples include cooking, cleaning, collecting water and fuel, and looking after children, older persons, and persons with illness or disabilities. Voluntary community work that supports personal or household care, such as community kitchens or childcare, are also forms of unpaid care work. It excludes productive activities falling under “own-use production of goods” (such as the manufacturing of goods for own use) and “for profit” employment (such as contributing family work, working in a family business without receipt of a wage or salary) (Addati et al., 2018).

In the study of unpaid care work, cross-country data are often incompatible due to different standards for measuring unpaid care work, but in general the gender distribution of unpaid care work within countries is clear. Globally, studies have demonstrated that women take on more unpaid care work than men. Charmes (2019) uses data from 75 countries⁷ and found that, on average, women’s unpaid care work is 3.2 times that of men, with women’s average daily unpaid care work amounting to 272 minutes compared with 84 minutes for men. Miranda (2011) used data from 26 members of the Organization for Economic Cooperation and Development (OECD) and 3 developing countries and found that, on average, women spend 2 hours and 20 minutes more than men in unpaid care work each day. The gender distribution of unpaid care work further differs between countries, between regions within a country, by socio-economic status of households, age of family members including children, and among different components of unpaid care work.⁸

According to the results presented by Charmes (2019), in emerging economies 80% of providers of unpaid care work are women, who provide on average 276 minutes per day compared with 68 minutes per day for men. This figure is on average 65.5% in developed countries (with women working 260 minutes per day compared to 137 for men). In the United States and Canada, however, this figure is approximately 86% (263 minutes for women and 168 for men) (Charmes, 2019). Within almost all countries, women in rural areas undertake more unpaid care work than women in urban areas.

Few studies have examined gender differences among the various components of unpaid care work. Looking at trends over time, Gimenez-Nadal and Sevilla (2012) used data from seven industrialized countries including Australia, Canada, Finland, and France, and found that from 1975 to 2005, although women took on more unpaid care work over this period, men also gradually increased their unpaid care work (housework and childcare), which ranged from 8 to 15 hours per week in 1975, increasing to 11 to 17 hours per week in 2005. In terms of gender differences in care activities, mothers’ childcare time was dominated by physical childcare and supervision, accounting for 60% of their childcare activities; fathers, on the other hand, spent proportionally more time in educational and recreational activities than mothers (Miranda, 2011).

In China, surveys of time use date back to the 1980s⁹. However, early time use surveys did not employ a definitive classification of all uses of time, and there was no clear definition of paid and unpaid care work. Analysis of the data mainly concentrated on the use of descriptive statistics to analyze residents’ time utilization across leisure, eating and shopping activities, or used factor analysis to analyze the impact of personal or social characteristics on personal leisure time (Li, 2017).

⁷ The Time Use Surveys across these 75 countries are not consistent in terms of their questionnaire design and survey time frames. See relevant references for further details.

⁸ See for example data compiled by UNWomen which documents such variation and changes during the peak of Covid-19: <https://data.unwomen.org/features/covid-19-pandemic-has-increased-care-burden-how-much-o>

⁹ In 1980, Professor Yalin Wang of Harbin Institute of Technology conducted a time-use survey in nine towns in Harbin and Qiqihar.

China's first nationally representative Time Use Survey was undertaken by the National Bureau of Statistics (NBS) in 2008¹⁰ (henceforth CTUS2008) covering Beijing and ten other provinces or cities, thus making possible research on unpaid care work in China. Using CTUS2008, Dong and An (2015) found that, overall, women undertook 27.3 hours per week of unpaid care work compared to just 10.6 hours per week by men. Among the urban sample, women's unpaid care work was 27.6 hours per week, compared with 12.9 hours for men, while for the rural sample, women undertook 26.9 hours per week, as against 8.1 hours for men. Li (2017) used CTUS2008 to draw similar conclusions about the gender gap in unpaid care work.

Other research on China has focused on specific components of unpaid care work. For example, Liu and de Bruin (2015), using data from the 2010 China Family Panel Survey (CFPS), found that on a typical working day, a woman spent 131.5 minutes more per day on domestic work than her husband. Qi (2005) used the 2000 China Health and Nutrition Survey (CHNS) and found that women spent 106 minutes more on housework than men per day, with men doing 25% of total housework. Yang (2014) used a sample of married people aged 18-55 years from the 1990, 2000 and 2010 China Survey on the Status of Women (CSSW) and found that women's average daily housework was 231.31 minutes, compared with the much lower average of 94.91 minutes for men.

In summary, international studies mostly explore the comparative relationship between unpaid care work, paid work and leisure time, the factors influencing unpaid care work, and national differences in unpaid care work or in a certain component of unpaid care work such as housework. Some countries, particularly high-income countries including Australia, Finland, Canada and Spain, and countries in Latin America like Mexico and Colombia, have undertaken systematic data collection of unpaid care work at the national level, in some cases over several decades. Others, including China, lack research on the subject given limited data availability and insufficient emphasis on unpaid care work by scholars or policy makers. As seen above, some Chinese studies have focused on a particular component of unpaid care work, such as housework, but little is known about the overall situation. A few studies have examined unpaid care work using CTUS2008. However, since the 2008 financial crisis, China's economy and society have undergone tremendous change, and existing research has been unable to reflect recent changes in the gender distribution of China's unpaid care work. Our paper begins to fill this gap.

¹⁰ Section 3 introduces CTUS2008 in more detail.

2.2

Methods for estimating the value of unpaid care work

In estimating the value of unpaid care work, the main estimation methods are the **input-based** and **output-based** approaches. The **input-based** approach estimates the value of labor time spent by an individual on unpaid care work. The time spent in unpaid care work and the corresponding “rate of return” for this work are used to estimate the value of an individual’s time in unpaid care work. According to the choice of “rate of return” or wage used, the input-based method can be further divided into **opportunity** cost and **replacement** cost methods.

The **opportunity** cost method assumes that individuals who engage in unpaid care work could be engaged in paid work in the labor market. It takes the market wage for their labor as the opportunity cost to estimate the value of their unpaid care work. The advantage of the opportunity cost method is that it does not need to distinguish between specific categories of unpaid care work, which simplifies the estimation. However, as the market wage rate varies by person, the opportunity cost of unpaid care work is not the same across individuals, and thus the work is valued differently depending on who does it. Furthermore, an individual with unpaid care responsibilities may face constraints in accessing the labor market. So, while this method is useful for understanding the opportunity cost to the individual, it is likely to overestimate the value of unpaid care work in the economy (Miranda, 2011).

The **replacement cost method** assumes that unpaid care work is done, not by family members, but by hiring someone to do the job, and uses the cost of hiring that person as the wage rate of unpaid care work. Replacement cost may be the salary of a specialist or generalist worker. The **specialist method** assumes that different unpaid labor tasks are provided by different professional service personnel (i.e. cooking is provided by a cook, cleaning by a cleaner, etc.), and takes the market wage rate of such personnel as the rate of return for unpaid care work. The advantage of the specialist method is that it makes a more detailed division of the occupations related to unpaid care work, thus improving the accuracy of estimates. The

disadvantage is that the labor productivity and motivation of family members and professional service personnel engaged in care work are likely to be different, for example trained professionals may have higher productivity which could lead to the overestimation of the value of unpaid care work (Giannelli et al., 2012). Alternatively, it is possible that family members have higher motivation to provide unpaid care – in which case using the wages of professionals would underestimate the value.

The **generalist** method assumes that all unpaid care work is provided by a general domestic service worker and values unpaid care work using the market wage rate of this worker. The generalist method is straightforward because it is easy to find wage rates for domestic service workers or housekeepers (Dai and Zhan, 2010). The disadvantage is that not all forms of unpaid care work can be provided by domestic service providers, making it difficult to find a market value for such work (Liu et al., 2019).¹¹

The **output-based approach** focuses on the value created by unpaid care labor. The value of such work can be obtained by multiplying the quantity of unpaid care labor products and services by the price of the corresponding products and services in the market. The output-based method of valuation is consistent with methods used in the system of national accounts (SNA), so in theory it would be more comparable to GDP. Since it accounts for the added value of various activities, it generally does not ignore the value of “simultaneous activities”. However, this method requires detailed accounting of the quantity and market price of each unpaid care labor product and service, which imposes high data requirements (Liu, 2012) and is thus rarely used in empirical research.

¹¹ In addition, a ‘hybrid’ method combining the above two methods has been proposed, where for example the salary of domestic workers is imputed to household chores and the salaries of specialist workers imputed for care tasks. This proposal was made by the Australian Bureau of Statistics in 1999 and later applied by Mexico and extended to several LAC countries. We are grateful to Soledad Salvador for pointing this out.

2.3

Measuring the value of unpaid care work

The value of unpaid care work has attracted growing international policy attention. In 1995, the OECD estimated the value of unpaid care work in eight OECD member countries using the opportunity cost, specialist and generalist methods (Caillavet et al., 1995). The study shows that, if valued, unpaid care work would account for a large proportion of GDP in each country. For example, in Australia, the unpaid care work was valued at 52% to 69% of GDP, of which women account for 65% to 66%. In Canada, unpaid care work was valued at 30.6% to 46.3% of GDP, of which women account for 57.6% to 63.4%. Using the Swiss labor force survey of 1997, Sousa-Poza et al. (1999) estimated that the value of unpaid care work accounted for 27% to 39% of GDP and the value of unpaid childcare accounted for 5% to 8% of GDP. Giannelli et al. (2012) estimated that the value of unpaid housework and childcare in Europe accounted for 17% to 31.6% of GDP based on data of the European Union Statistics on Income and Living Conditions (EU-SILC) and the Harmonized European Time Use Surveys (HETUS). Suh and Folbre (2016) estimated that the value of unpaid care work in the United States accounted for about 43% of GDP in 2010 using the data from the American Time Use Survey.

Few studies have estimated the value of unpaid care work for China. Dong and An (2015) used the opportunity cost method, income method and replacement method and estimated the value of China's unpaid care work as 25.1% to 32.2% of GDP. Li (2017), taking into account sample selection bias in the opportunity cost method, used propensity score matching (PSM) to obtain the paid market wage rate of surveyed residents participating in the labor market, and then used the Heckman two-step model and Mincer wage equation to estimate the reservation wages of residents not participating in the labor market. His estimate of the value of unpaid care work was around 45% of GDP. Using CTUS2008, Wang and Zhang (2015) constructed a linear substitution model based on the input approach to estimate the value of unpaid domestic work and care¹² in Gansu province, which they found to account for 34.6% of provincial GDP. Liao (2018) used the 2011 China Health and Nutrition Survey (CHNS) data and NBS wage data to estimate the value of housework with the opportunity cost, generalist and specialist methods. He found that the value of housework accounted for about 30.0% of GDP.¹³ Wu (2018) designed a household input-output questionnaire to estimate the value of unpaid care work in Zhejiang Province and found that the value of unpaid care work done by women accounted for 16.5% of provincial GDP, compared to only 5.8% by men.

12 This refers to the two items of “non-SNA production activities” included in the 2008 China Time Use Survey: housework and family care.

13 Housework in CHNS includes items such as preparing food, washing and ironing clothes, buying food, cleaning the house, caring for children and caring for the elderly (Liao, 2018).

TABLE 1

Estimates of the value of unpaid care work: Summary of literature

Author	Country, Region or Province	Year	Methods used	Estimated value of unpaid care as % GDP
Sousa-Poza et al. (1999)	Switzerland	1997	Replacement cost and opportunity cost methods	32.0%-47.0%
Caillavet et al. (1995)	Australia	1992	Opportunity cost, specialist and generalist methods	52.0%-69.0%
Caillavet et al. (1995)	Canada	1992	Opportunity cost, specialist and generalist methods	30.6%-46.3%
Suh and Folbre (2016)	USA	2010	Specialized replacement cost	43.0%
Giannelli et al. (2012)	Europe	2006	Opportunity cost and market replacement method	17.0%-31.6%
Dong and An (2015)	China	2008	Opportunity cost, income and replacement methods	25.1%-32.2%
Li (2017)	China	2008	Opportunity cost method	45.0%
Wang and Zhang (2015)	China - Gansu	2008	Linear substitution model	34.6%
Liao (2018)	China	2011	Opportunity cost, specialist and generalist methods	30.0%
Wu (2018)	China - Zhejiang	2015	Output method	22%-30.3%

The above review of the literature demonstrates that the economic value of unpaid care work accounts for a considerable proportion of GDP in all countries surveyed. Moreover, most studies which examine gender differences in the value of unpaid care labor have found the value of women's unpaid care work to be

substantially higher than that of men. However, due to inconsistencies in the design of time-use questionnaires and different definitions of the labor force, the value of unpaid care work is not totally comparable across countries, while many countries lack data on changes in the value of unpaid care work overtime.

2.4

The impact of Covid-19 on unpaid care work

Recent studies from around the world have found that the Covid-19 pandemic has reduced the availability of paid care that supports or replaces household work, such as couriers, food delivery, domestic services and childcare facilities, thereby increasing the burden of unpaid care work for the household (Brückner et al., 2021; Seck et al., 2021; Azcona et al., 2020). With lockdown policies in response to the pandemic, female workers are also more likely to suffer unemployment as they tend to be concentrated in more flexible, precarious, and low-paying jobs, including in the domestic service sector (Foley and Cooper, 2021). In addition, isolation measures to combat the pandemic generated a surge in work within the home. As children took classes remotely, and family members worked and ate at home, there was a huge increase in housework such as cleaning, cooking, shopping and supporting children in their learning. Of the increase

in unpaid care work, women (especially women with children) generally bear a larger share than men (Yaish et al., 2021; Chauhan, 2021; Huls et al., 2022; Xue and McMunn 2021¹⁴). These studies suggest that the pandemic and associated policies have not only increased unemployment among women engaged in paid care work, but also indirectly increased the burden of unpaid care work by reducing the supply of paid care (domestic workers or other service providers). In China, given the challenge of obtaining data on the direct impacts of the pandemic on unpaid care work, only a few news reports are available on the impact on small and medium sized enterprises, including those providing domestic services, and their workers. To date, no thorough academic study has explored the indirect impacts of the pandemic on unpaid care by analyzing its impact on the paid care sector.

2.5

International and Chinese policies and practices on care work

In a review of relevant international policy and experience on care labor, the ILO has summarized policy approaches to unpaid care under the framework of the “5Rs”: Recognize, Reduce, Redistribute, Reward and Representation. **Recognize** refers to dismantling gender stereotypes about unpaid care work, challenging the perception that this work is a natural obligation of women, recognizing the value of unpaid care work and reflecting its importance in policy design and implementation, including through support for paid care work. **Reduce** refers to the reduction of the time investment in unpaid care work through public infrastructure and services. **Redistribute** refers to the redistribution of unpaid care work between men and women, and between the family, state and society. **Reward** involves ensuring a reasonable wage and decent work for paid care workers. **Representation** refers to the right and opportunity for a social voice and collective bargaining for care workers (Addati et al., 2018).

In China, prior to reform and liberalization which began in the late 1970s, care work was shared between the family, state and enterprises. In the process of economic liberalization, most of this care responsibility was returned to the family. Following state sector enterprise reforms, for example, enterprises no longer ran nurseries to provide childcare services, and most of the responsibility for childcare was again undertaken by women within the family. With the further development of the economy, the government has begun to pay more attention to the problem of unpaid care work. As noted earlier, the *Outline for Women's Development in China (2021-2030)* promotes equal sharing of housework between men and women, with husbands and wives urged to cooperate in household chores, and jointly undertake family responsibilities

¹⁴ See also UN Women Research Highlight: “The COVID-19 pandemic has increased the care burden, but by how much?” December, 2020 <https://data.unwomen.org/features/covid-19-pandemic-has-increased-care-burden-how-much-o>

such as caring for children and the elderly, educating children, and undertaking housework, so as to narrow the time gap on unpaid housework between the sexes. This document also encourages employers to implement systems such as family leave, paid leave for employees, paternity leave for spouses, and flexible leave and flexible work systems that create a “fertility-friendly” (*shengyu youhao*) working environment, and support male and female employees in jointly fulfilling family responsibilities. Likewise, a decision of the CPC Central Committee and the State Council of July 2021 focused on optimizing family planning policy and promoting long-term balanced population development, including the development of a “universal care service system”. Employers are encouraged to take responsibility for formulating “fertility friendly” measures conducive to enabling employees to balance work and family and take care of infants and young children, including through flexible holidays and work arrangements.¹⁵ At a municipal level, the “Beijing Population and Family Planning Regulations” state that subsidies will be given to institutions that provide inclusive child care services, with the Beijing government supporting kindergartens, government agencies, enterprises, institutions and communities to provide child care services, and encouraging the establishment of child care institutions by the non-government sector.

In order to promote the development of the domestic service industry, in 2019 the General Office of the State Council issued “Opinions on Promoting the Quality and Expansion of the Domestic Service Industry”, and in 2022, the National Development and Reform Commission and the Ministry of Commerce jointly issued “Key Points for Promoting the Quality and Expansion of the Domestic Service Industry in 2022”. However, problems still exist in the actual operation of the domestic service industry, for example, standards are not sufficiently clear or detailed; many standards have been set for service provision, but there are few standards for service evaluation, and those that exist are vague. In addition, as standards are slow to be updated, and do not keep up with changing realities, they are difficult to implement (Li and Zhang, 2020). Some Chinese companies have also begun to try and reduce the burden of care for their employees, in line with the above-mentioned policies. However, insufficient investment from government and enterprises means that the supply of high-quality public kindergartens is inadequate, the gender ratio of teachers is unbalanced, and the management mechanism is weak. As a result, although both state and enterprises have formulated policies or measures to reduce the burden of unpaid care, outstanding problems remain in practice.

¹⁵ See http://www.gov.cn/zhengce/2021-07/20/content_5626190.htm

RESEARCH METHODS AND INTRODUCTION TO THE DATA

3.1

Research methods

3.1.1 Literature review

A literature review is a way to obtain a thorough understanding of a research area through the retrieval, identification, sorting and analysis of literature (Du, 2013). For this study, we reviewed the authoritative literature on care work and the care economy in the fields of economics and gender or feminist economics starting from Becker's (1965) classic judgment on unpaid care work. The authors also looked at recent reports on care work by international organizations such as UN Women, the ILO and OECD. These studies and research reports provide the theoretical basis and logical support for the analysis, results and recommendations presented in this report. Our review of the literature covered the care economy, time in unpaid care work and its gender distribution and changes over time, and methods of estimating the economic value of unpaid care work and the range of results obtained. Based on the review and summary of existing research, we analyzed shortcomings and identified gaps and opportunities for further research. The literature was drawn from various journal databases including EconLit, Springer and China HowNet, as well as online materials such as relevant sector research reports.

3.1.2 In-depth interviews

The interview method is an important tool in qualitative research for obtaining first-hand information about the subject of research through individual and group interviews, with the inductive method used to

analyze the interview data and deepen the understanding of the research questions (Yang, 2001).

In October 2020, the research team identified several domestic service enterprises located in Beijing and Wuhan, and conducted in-depth interviews with senior managers and managers of front-line domestic service workers (13 respondents in total in 4 enterprises) to understand the organizational structure, gender composition, and employment conditions of domestic service enterprises. We also interviewed domestic workers in these enterprises, through which we gained a more in-depth understanding of their personal characteristics, work experience and the degree of impact of the pandemic. Of the workers, the main interview respondents were female domestic workers who tend to be older and more vulnerable in the job market.

3.1.3 Statistical analysis

Statistical analysis refers to the collection, sorting and processing of data using statistical methods, mining its potential and drawing feasible recommendations or suggestions for policy or management decisions (Liu and Guo, 2021). The research team used descriptive statistical analysis and cross-tabulations to present the data in two-dimensional tables, reflecting the relationship between variables, for example between residents' time allocation and sex. The presentation of the analysis is supplemented by graphs that visually represent the relationship between the variables of concern in the research.

3.2

Introduction to the data used in this report

3.2.1 China's Time Use Survey data, 2008 and 2018

The Time Use Survey of Chinese residents is a nationally representative Time Use Survey designed by the National Bureau of Statistics (NBS) of China with reference to both the relevant standards of the United Nations and the European Union Statistics Office, and the actual situation in China. It is internationally comparable in terms of survey method, survey time frame, and questionnaire design, and thus provides a solid data foundation for the current study. The NBS Time Use Survey has been conducted twice, in 2008 and 2018, and covers 9 provinces (Hebei, Heilongjiang, Zhejiang, Anhui, Henan, Guangdong, Sichuan, Yunnan and Gansu) as well as the municipality of Beijing.¹⁶ Survey households were selected using the national unified household income, expenditure and living standards survey sample frame, which takes the province as the sample population, and adopts a stratified multi-stage sampling approach. In 2008, a total of 16,661 households were surveyed. The respondents were residents aged 15-74 years in the survey households, making a total of 37 142 people surveyed. In 2018, 20 226 households were surveyed with a total of 48 580 people aged 15 and above. Both surveys used a diary form to investigate residents' time use. The diary log table is divided into two parts: one part covering working days (Monday to Friday) and one for rest days (Saturday and Sunday)¹⁷, which records the residents' time utilization from 4:00 a.m. to 4:00 a.m. the next day. The unpaid care work in

the report includes five components: housework¹⁸, accompanying and caring for children, child instruction and tutoring, care of adult family members and other activities.¹⁹

3.2.2 Other survey data sources

In order to estimate the contribution of care work to China's economy, additional data on GDP, employment and wages is required. This study uses the statistical data collected by the NBS and published on its National Data Website. This database contains monthly, quarterly, and annual data, as well as regional data, census data, and international data. This report primarily uses annual data on GDP, population, employment, and wages.

In addition, we draw on data from the multi-year China Household Income Project (CHIP). Each round of data collection is conducted at the beginning of the year and collects information on annual income and consumption for the previous year. This study uses the CHIP data for 2008 and 2018. CHIP2008 includes 8000 rural households, 5000 urban households and 5000 migrant households. CHIP2018 includes both urban (including migrants) and rural questionnaires. The wage data produced by CHIP is widely used by Chinese officials and academics.

16 Shanghai was also included in the 2018 survey. In order to ensure the comparability of the two surveys in 2008 and 2018, Shanghai is excluded from the summary data used in this report.

17 The unpaid daily care work time given in the report is the result of a 5 / 7 weighting for working days and 2 / 7 for rest days, which represent the average level across any day of the week.

18 In CTUS2008, housework (*"Unpaid housework for own household and family members' final use"*) refers to unpaid housework such as preparing meals, beverages and related cleaning activities, cleaning of own dwelling and surroundings, hand/machine-washing and folding clothes, purchasing of goods and services, pet care, do-it-yourself decoration, maintenance and repair, household management arrangement and management, other activities

and related transportation activities, including a total of 9 medium-sized activities and 19 small-scale activities.

19 See the website of the National Bureau of Statistics for further information including the contents of the diary log table for CTUS2008 <https://data.stats.gov.cn/ifnormal.htm?u=/images/timefind/index.html&h=1070>; for the summary data of CTUS2018, see "Where has time gone? Research report on the China time use survey 2018", Department of Social Science, Technology and Cultural Statistics, National Bureau of Statistics. Beijing: China Statistics Press, 2019.

In this report, 'other activities' includes purchasing goods or services, public welfare activities, etc. The category of 'purchasing goods or services' in the 2008 raw data also includes 'going to specialized institutions for specific services', which further includes categories such as medical treatment for oneself that do not count as unpaid care work. Due to database limitations, these data cannot be taken out, but since its value is small, it has almost no impact on the results.

3.2.3 Big data from the recruitment platform 58.com Inc.

58.com Inc. operates China's largest online marketplace for classified ads as measured by monthly unique visitors on its website (www.58.com) and mobile application. As of March 31, 2019, the company's online services covered 338 cities, 491 counties, and over 12 000 towns and villages in China. This "big data" has advantages for analyzing China's blue-collar recruitment market and can provide us with strong evidence of the impact of the COVID-19 pandemic on domestic service industries such as housekeeping.

3.2.4 Questionnaire survey data

Building on the in-depth interviews noted above, the research team developed and conducted a questionnaire survey of domestic service enterprises and domestic workers in Beijing,²⁰ with the purpose of supplementing and verifying the information obtained from the in-depth interviews. The content of the questionnaire included questions for enterprises under the following categories: organizational characteristics of the enterprise, recruitment, order volume, revenue, methods of responding to the pandemic and policies benefiting domestic service enterprises. For domestic service workers, questions included personal characteristics, work experience, wages, employment relationship and whether they worked during the pandemic.

20 3 enterprises and 93 workers completed the questionnaires.

RESEARCH FINDINGS AND ANALYSIS

This section presents the results of the analysis based on the methods and data presented above. In section 4.1 we present information on the overall time spent on unpaid care work and its change over time, broken down by sex, and further explore how this varies by other characteristics (rural-urban population, education, age and marital status). In 4.2 we estimate the value of unpaid care work in China, and finally (4.3) we explore the influence of COVID-19 on the paid domestic service industry and domestic service workers as a way to assess indirectly the impact on unpaid care work.

4.1

The current situation and changes in the gender allocation of unpaid care work in China

Based on data from the China Time Use surveys of 2008 and 2018, we analyze the current situation and changes in the gender distribution of unpaid care work time. Figure 1 and Annex Table 1²¹ show the average time allocated to paid work, unpaid care work and “non-work” activities²² by men and women in 2008 and 2018. From Figure 1, we can see that the time utilization of Chinese residents has the following general characteristics:

First, **women spend substantially more time on unpaid care work than men.** Compared with 2008, the gender gap in time spent on *paid* work time has widened, from an average gap of 82.1 minutes more per day for men in 2008 to about 102.3 minutes in 2018.

This widening of the gender gap in *paid* work time is likely to imply a widening of the income gap between men and women: that is, men’s earnings should have grown relative to women’s over the decade. However, the gender gap in *unpaid* care work time²³ decreases marginally (140.4 compared with 140.3 minutes).²⁴ Although the gender gap in unpaid care work time has not continued to widen over this decade, women still spend nearly 2.3 hours more time on unpaid care work per day than men, suggesting that the unequal gender division of labor within the family has scarcely improved.

21 The figures in this section are based on data presented in the tables attached as an Appendix at the end of the report. The data are calculated from the CTUS2008 and CTUS2018. The tables provide richer information than is captured in the figures, including the allocation of unpaid care time among different components of housework, childcare, child instruction, adult care and other activities.

22 “Non-work” activities are non-production (*feishengchan*) activities that are not included within the production frontier of the National System of Accounts. They include education and training (*xuexi peixun*), leisure (*ziyou shijian*) and personal activities (*geren huodong*).

23 The gender gap for unpaid care work refers to women’s work time minus men’s work time.

24 The calculation results of this report show that from 2008 to 2018, the gender gap in unpaid care work has not significantly narrowed (a reduction of 0.1 minute), while the gender gap in unpaid care work time calculated by the *Interpretation of the 2018 national Time Use Survey Bulletin* (hereinafter referred to as the *Interpretation of the Bulletin*) has narrowed by 4 minutes. The possible reason for this difference is that the time of each activity in the *Interpretation of the Bulletin* includes the corresponding traffic time. The traffic time may reflect the family’s living location, the means of transportation and other economic conditions or factors. The practice of classifying traffic time as part of the time of various activities is subjective, and the conclusions of the *Interpretation of the Bulletin* are not directly adopted in this report.

Another indicator of these changes is the ratio of time spent by men and women on each type of work (paid and unpaid). These ratios show that the total workload remains almost unchanged while the relative time spent on unpaid care work by women has decreased, although it remains very high (from 2.8 to 2.5) while the ratio of paid work has increased slightly for men (1.4 to 1.5). Another indicator of interest is the distribution of paid and unpaid care work time for each sex. In this case, the results are very similar to other countries: women distribute their time almost equally between paid and unpaid care work, increasing their unpaid care work time in 2018 (from 48.6% to 52.0%); by contrast men's time is distributed 8:2 between paid and unpaid care work, with unpaid care work time increasing to 22.7% in 2018.

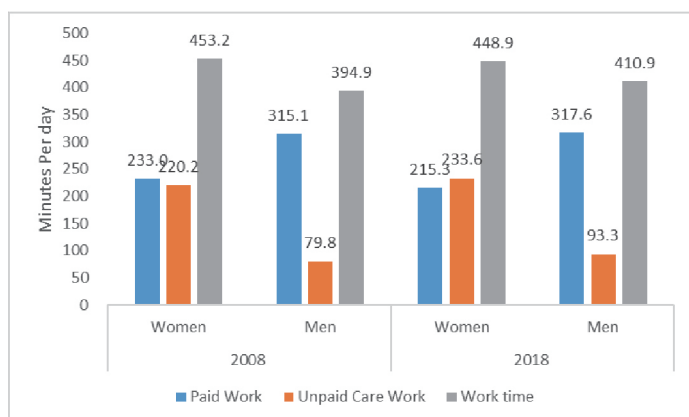
Second, **women's total working time are greater than men's, but their earnings are lower.** In both 2008 and 2018, men's time on paid work was greater than women's, while women's unpaid care work time was greater than men's, but the total working time of women (combining both paid and unpaid care work time) is greater than for men. In 2008, women worked on average 58.3 minutes more than men every day, falling to 38.0 additional minutes in 2018. In other words, women in total spend more time working than men, because they do around 2.3 hours more *unpaid* care work each day. This difference, along with other factors including discrimination, labour market segregation and unequal pay, contributes to their earnings ²⁵ being significantly lower.

Third, **the gender gap in housework has slightly narrowed while that for childcare and child instruction has increased.** Looking at gender differences across components of unpaid care work time (see Figure 2 and Appendix Table 1), the gender gap in household time spent on activities such as laundry and cooking has narrowed (from 110.6 minutes in 2008 to 82.3 minutes in 2018), while the gender gap in accompanying and caring for children and in child instruction or tutoring has widened (from 16.4 minutes and 4.4 minutes respectively in 2008 to 38.1 minutes and 6.0 minutes in 2018, see Figure 2). The gender gap in unpaid care activities classified as "other" increases from 9.0 minutes in 2008 to 10.4 minutes in 2018. This narrowing of the gender gap in time spent on housework may in part be related to the use and popularization of technology such as washing machines, dishwashers, sweeping robots and other household appliances, and may also reflect the increased participation of men in housework.

Fourth, **women spend more time on physically exhausting or less rewarding household tasks.** A longitudinal comparison with other components of unpaid care work found that, although the gender gap in time spent on housework such as laundry and cooking narrowed from 2008 to 2018, housework remained the component of unpaid care work with the largest gender gap (48.0 minutes for men and 158.6 minutes for women in 2008, see Figure 2). By contrast, the gender gap is small in "other" unpaid care activities (such as public welfare activities). These latter activities are sometimes considered to be either less burdensome, or to benefit from communication with others. The drudgery of housework, which consumes more time and energy of women, may have a detrimental emotional or intangible impact on those doing the work, which may also spill over into other areas of life, including their performance and returns in the paid labor market.

Fifth, **women also spend most time on emotional and affective labor.** Over the 2008-2018 timeframe, time spent on unpaid care work by men and women increased (see Figure 1): from 79.8 minutes for men and 220.2 minutes for women in 2008 to 93.3 minutes for men and 233.6 minutes for women in 2018. This increase is mainly reflected in accompanying and caring for children, child instruction, and caring for adult

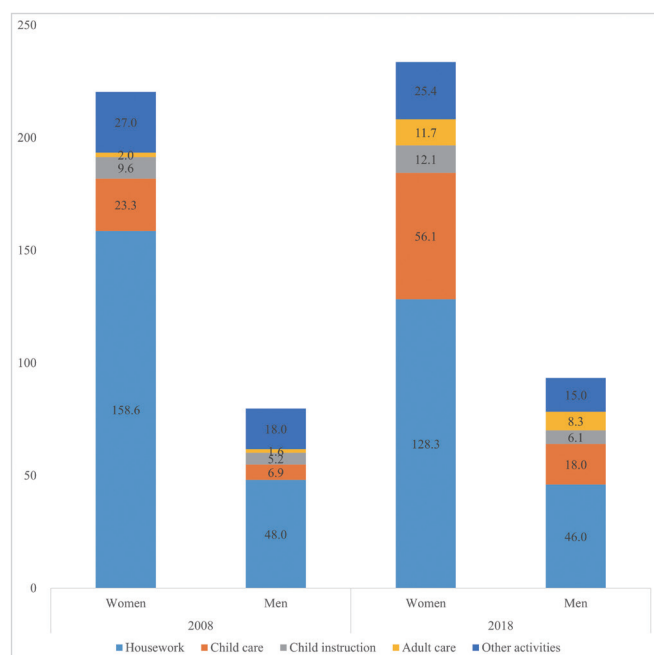
FIGURE 1
Time allocation of Chinese residents in 2008 and 2018



²⁵ According to CHIP (2018), on average men earn 29.5 yuan per hour while women earn 24.2 yuan per hour.

family members (see Figure 2): in 2008 men spent 6.9, 5.2 and 1.6 minutes respectively on these activities, increasing by 11.1 minutes, 0.9 minutes and 6.7 minutes by 2018. Women spent 23.3, 9.6 and 2.0 minutes respectively in 2018, increasing by 32.8 minutes, 2.5 minutes and 9.7 minutes by 2018. This increase may in part be related to the increase in the number of children that families need to care for since the relaxation of the “one-child” policy (see footnote 2) (Yan, 2020), and could also be a result of the greater emphasis placed by society on childcare and education. The widening of this gender gap shows that women spend more time caring for children and other family members – the kind of care work that requires a high emotional investment. The social value of such affective or emotional labor is very high, but its economic value is greatly underestimated or basically ignored. This finding may also have significance for understanding the possible changes that will follow the implementation of the “three-child policy”.

FIGURE 2
Time allocation of components of unpaid care work in 2008 and 2018



In addition to the overall gender differences in unpaid care work, the change by gender in unpaid care work time between 2008 and 2018 varies according to other factors – such as between urban and rural areas, and by education, marital status, age and income.

4.1.1 Urban-rural differences in unpaid care work time

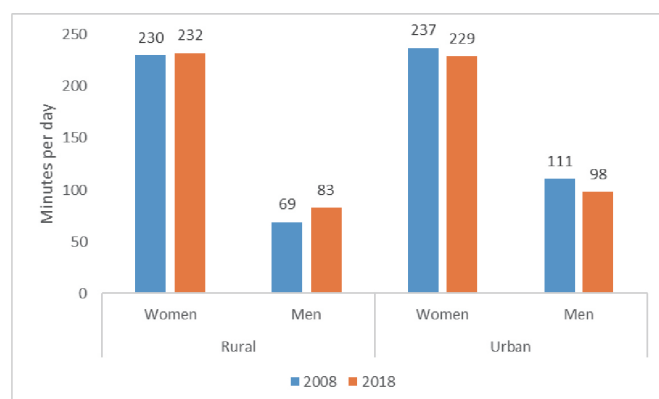
There is no international consensus on urban-rural differences in the gender distribution of unpaid care work time. On the one hand, the standards for defining urban and rural divisions, such as size and the administrative division of cities, are not consistent across countries. On the other hand, the degree of economic development varies across countries so, for example, there are clear differences in patterns of time use between agricultural and industrial countries.

Figure 3 illustrates total unpaid care time by gender across urban and rural areas. The data show that unpaid care work time of urban women in 2008 was slightly higher than that of rural women (237 and 230 minutes per day respectively) but the reverse was true in 2018 (232 for rural as against 229 for urban women). It can be seen from Appendix Table 2 that the higher unpaid care work time of urban women is mainly due to more time spent on child instruction and other activities compared with rural women in 2008. However, by 2018, rural women’s time in child instruction and other activities had increased more than that of urban women, leading to a reversal in unpaid care work time overall. The unpaid care work time of rural men was lower than that of urban men in both years (69 and 83 minutes for rural men in 2008 and 2018, and 111 and 98 minutes in 2018)²⁶. In terms of the components of unpaid care work time, the activities that account for the greatest gender difference in time use across urban and rural areas are, first, housework, followed by childcare (see Appendix Table 2).

Looking at the gender gap in unpaid care work, this was larger in rural areas than in urban areas in both 2008 and 2018. In rural areas women worked 161 minutes per day more than men in 2008 and 149 additional minutes in 2018, while in urban areas the

²⁶ National Bureau of Statistics, Compilation of CTUS2008 http://www.stats.gov.cn/zt_18555/ztsj/2008sjly/, 2009-10-29/2021-08-03: “Where has time gone? Research report on the China time use survey 2018”. Department of Social Science, Technology and Cultural Statistics, National Bureau of Statistics. Beijing: China Statistics Press, December 2019, p175.

FIGURE 3
Unpaid care work time of rural and urban residents in 2008 and 2018



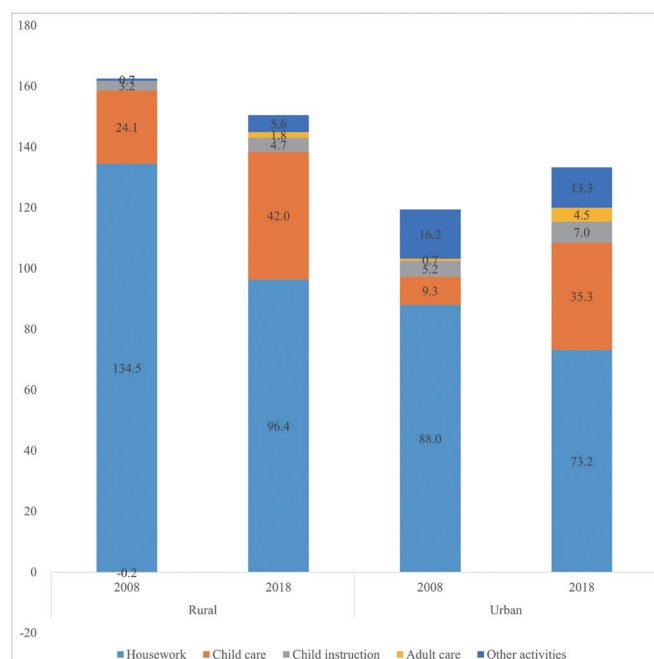
gaps were 126 and 131 minutes respectively. Over time, the gender gap in unpaid care work time in rural areas has narrowed, mainly because the difference in time spent on housework has narrowed. However, in urban areas the gender gap has widened, mainly due to the increase in time spent on childcare. As can be seen from **Appendix Table 2**, the total time spent on childcare by both men and women increased between 2008 and 2018 in both rural and urban areas; but the increase in urban areas was larger, contributing to the larger total time difference by gender seen in **Figure 4**. Possible explanations for this may include larger family size with the introduction of the two-child policy from 2016 or a heavier educational burden, with the increase in responsibilities for taking care of children in urban families predominantly falling on women's shoulders.

4.1.2 Unpaid care work by level of education

Education is likely to affect an individual's gender awareness and his or her economic contribution to the family, which may also affect his or her decision-making power within the family. Analysis using the 2018 data shows that among the 25-55 age group,²⁷ as years of education increases, the gender gap in unpaid care work narrows (see **Figure 5**).

²⁷ The 25-55 age group is sometimes referred to in Chinese as the "golden age". The 55-year age cut-off is used for analysis as it is the official retirement age for women.

FIGURE 4
Changes in the gender gap in components of unpaid work by rural and urban residence

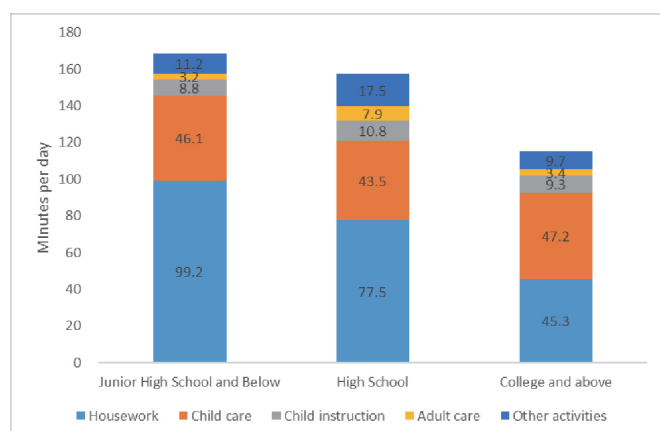


Note: The vertical axis is the difference between female and male minutes worked per day

Overall, women's unpaid care work time decreases with the improvement in their education, while conversely men's unpaid care work time increases.²⁸ **Figure 6** shows that for men the total time spent on unpaid care work is 77.1 minutes at lower levels of education, 84.2 minutes for high school graduates and 96.8 minutes for college graduates. For women the figures are 245.5 minutes, 241.3 minutes and 211.6 minutes respectively. Although the differences remain stark, these changes illustrate the positive role of education in reducing the gender gap in unpaid care work.

²⁸ Data from Compilation of time use survey data in 2008 of the National Bureau of Statistics and "Where has time gone? Research Report of China time use survey 2018" shows that men's unpaid care work time first decreases and then increases with the improvement of education, which may be due to the different ways of grouping education by the research group and the National Bureau of Statistics. The research group divides education into three categories: junior middle school and below, high school, college and above, while the National Bureau of Statistics divides education into seven categories: not attended school, primary school, junior middle school, high school, college, undergraduate and graduate.

FIGURE 5
Gender gap in components of unpaid care work by education (population age 25-55)



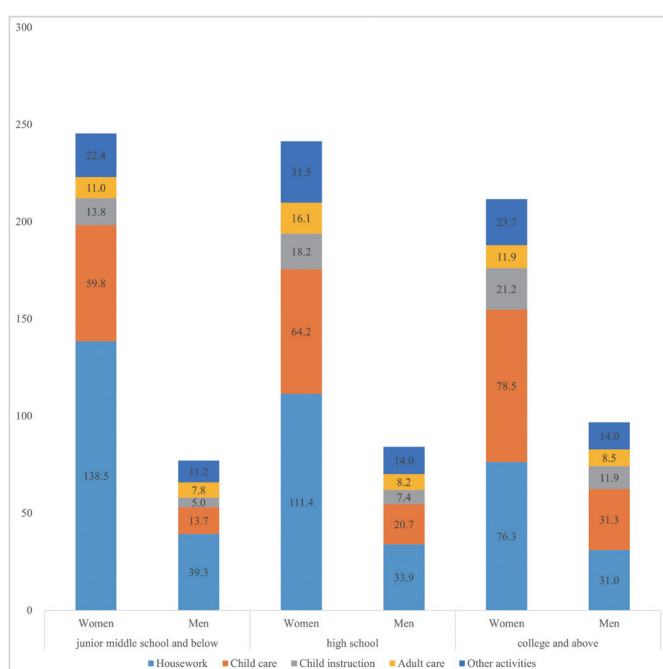
Looking at the different components of unpaid care work, the time spent by men and women on housework such as laundry, cooking and cleaning decreases as educational attainment rises. However, women spend far more time on housework than men regardless of education level. In other components of

unpaid care work, the gender difference by education is small. The biggest gender gap is concentrated in the “junior middle school and below” group, where women spend 2.5 times more hours on housework than men. This suggests that higher levels of education (generally also correlated with higher income or socioeconomic status) contributes to a reduction in the time women spend on *housework* – generally considered the area of unpaid work with the lowest emotional return. Higher education is also associated with an increase in the time spent on such work by men. The reduction of these gender differences is conducive to promoting women’s career development and gender equality in general. In addition, with the improvement of education, both men and women spend more time on childcare and child instruction, suggesting that, with the improvement of education, both men and women pay more attention to accompanying and educating their children. Regardless of the level of education, however, women spend more time than men on childcare and child instruction. (See **Appendix Table 3** for further details).

4.1.3 Unpaid care work time by marital status

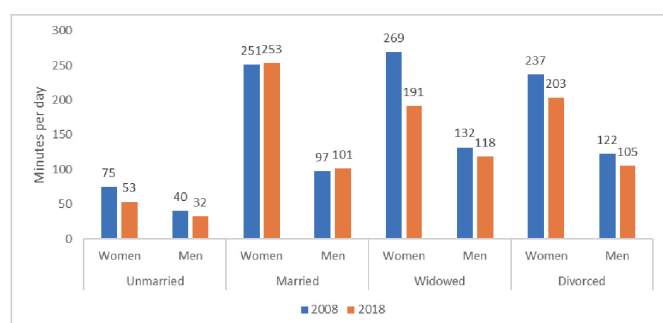
Women bear most of the increased burden of unpaid care work after marriage. Studies by Li (2017), Dong & An (2015), and Charmes (2019) among others have shown that marital status and the presence of children in the household, as well as care of the elderly, are important factors affecting time spent on unpaid care work. **Figure 7** shows the unpaid care work time of men and women by marital status in 2008 and 2018.²⁹ Comparing the data across years, we see that regardless of marital status, women’s unpaid care work time is higher. Unmarried women engage in more unpaid care work than men, but the gender gap is not very large, at 35 minutes per day in 2008, reducing to 21 minutes in 2018. However, among the married population, the gender gap widens significantly. Women’s unpaid care work time after marriage is much higher than men’s, with a gender gap of 154 minutes per day in 2008 and 152 minutes in 2018.

FIGURE 6
Time allocation of components of unpaid care work by education, population age 25-55, 2018



²⁹ National Bureau of Statistics: Compilation of time use survey data, 2008. See http://www.stats.gov.cn/zt_18555/ztsj/2008sjly/

FIGURE 7
Unpaid care work time by marital status, 2008 and 2018

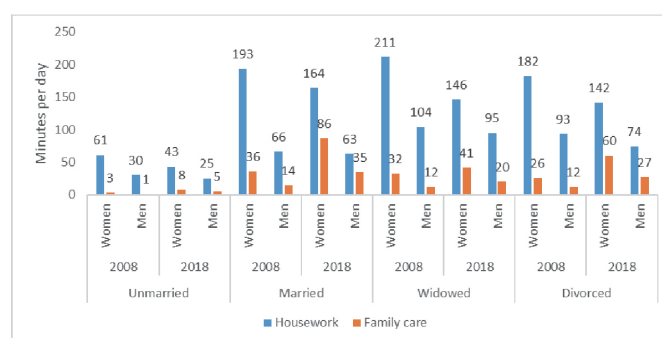


By comparing the married and unmarried groups, we see that in 2008, married women spend 132 more minutes per day on housework than unmarried women, while the time spend by men after marriage increases by only 36 minutes. In 2018, the difference between married and unmarried women was 121 minutes, while for men it was 38 minutes. Thus, we can see that most of the increase in unpaid care work (both housework and care) after marriage is borne by women.

Among the widowed and divorced population, the gender gap in unpaid care work time decreases. Women still undertake more unpaid care work, but the time spent by widowed and divorced men increased compared to men with spouses (by 35 minutes for widowed and 25 minutes for divorced men in 2008; and by 17 and 4 minutes respectively in 2018). This increase is mainly reflected in *housework* which increases by 38 and 27 minutes respectively in 2008; and by 32 and 11 minutes in 2018) (see **Figure 8**). Widowed and divorced women spend less time on unpaid care work than married women (62 and 50 minutes less respectively in 2018), and time spent on both housework and care declined (the exception being widowed women who spent more time on housework in 2008). These results suggest that married men benefit from women's care and responsibility for housework. Once widowed or divorced, men spend more time on housework, while the situation for women is reversed. The loss of a spouse reduces women's unpaid care work time whether spent on housework or care. Of course, these women still undertake more unpaid care work than men, which may be related to the fact that more widowed

and divorced women assume the responsibility of parenting and care. For example, young children after divorce are usually raised by women, and widowed women may have more responsibility for caring for both the older and younger generations than widowed men.

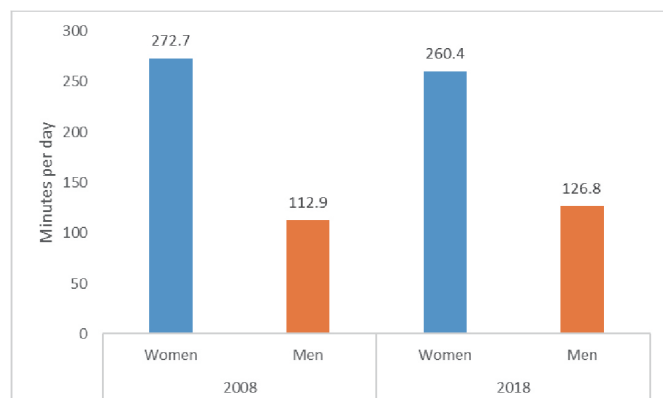
FIGURE 8
Time allocation of the main components of unpaid care work by marital status, 2008 and 2018



4.1.4 Unpaid care work among older adults (over 55)

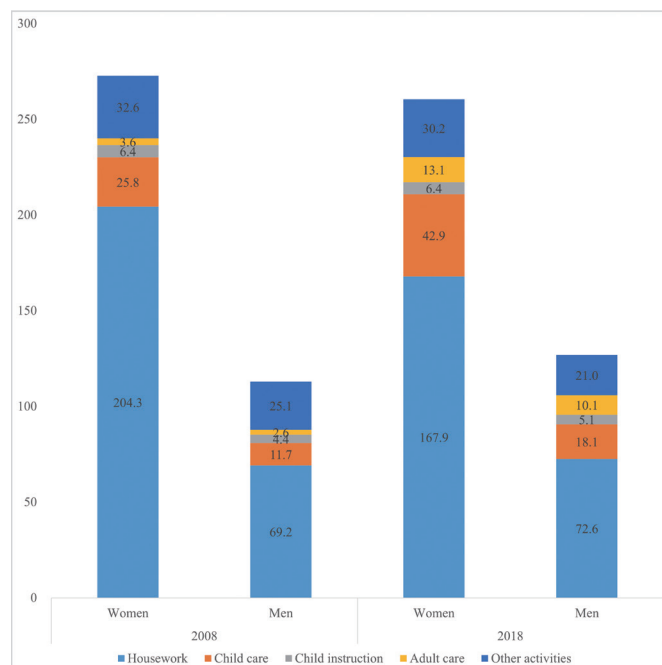
Caring for and raising grandchildren is typically a role played by older people in contemporary China. However, gender disparities in unpaid care work time among older adults are significant. From 2008 to 2018, women over 55 spent significantly more time on unpaid care work than older men. In 2008, this gender gap is almost 159.8 minutes per day while in 2018 the difference is 133.6 minutes. Over time, older women's unpaid care work time has decreased while that of older men has increased (see **Figure 9**). Although the gender gap has narrowed by 26.2 minutes over the decade, it remains large.

FIGURE 9
Time allocation of unpaid care work by adults over 55, 2008 and 2018



Looking at the different components of unpaid care work among the population aged over 55, the gender gap in housework clearly narrows, from about 135.1 minutes in 2008 to about 95.3 minutes in 2018. Specifically, older women do about 36.4 minutes less housework per day while older men spend about 3.4 minutes more on housework than 10 years ago, which suggests that older women have mainly benefited from the overall reduction of housework over the decade. This may be due to the use of household appliances and outsourced housework services, rather than because older men undertake more housework. Conversely, the gender gap in childcare time has widened over the decade. Older women spend 17.1 minutes more than 10 years ago, while for older men the increase is 6.4 minutes, suggesting that the time burden of caring for grandchildren is heavier, and that most of this burden falls on the shoulders of older women (see Figure 10). This may be explained with reference to literature on the intergenerational transmission of unpaid care work among women (Tao, 2011).

FIGURE 10
Time allocation of components of unpaid care work among the population over 55, 2008 and 2018



4.1.5 Unpaid care work by income

Figure 11 shows the unpaid care work time of men and women classified by monthly income.³⁰ Comparing 2008 and 2018, we find different patterns by gender and year with regard to income. In 2008 as men's monthly income increases, their unpaid care work time first increases and then decreases; by contrast, the unpaid care work time of women gradually decreases as income increases until their monthly income exceeds 10 000 yuan. Notably, women's unpaid care work time in all income groups is much higher than men's, a finding which does not change in 2018. However, in 2018, the main difference is that women's unpaid care work time decreases continuously with the increase in income. In addition, the 2018 data also shows that as monthly income increases, the gender gap in unpaid care work time narrows.

³⁰ National Bureau of Statistics Compilation of time use survey data, 2008 http://www.stats.gov.cn/zt_18555/ztsj/2008sjly/, 2009-10-29/2021-0803; and "Where has time gone? Research report of China's time use survey, 2018", Department of Social Science, Technology and Cultural Statistics of the National Bureau of Statistics. Beijing: China Statistics Press, December 2019, p346-348.

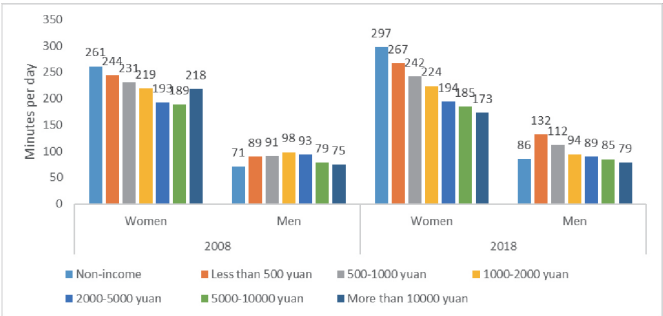
Furthermore, the gap in unpaid care work time between the highest income earning women and non-earning women has widened. In 2008, non-earning unpaid care workers spent 43 minutes more time on such activities than the highest earning women, a gap which widened to 124 minutes in 2018. This may be related to factors such as the purchase of housework services on the market by high-income women. At the same time, the largest gap in unpaid care work time is between non-earning men and women which is 190 minutes in 2008 and 211 minutes in 2018. This may be because most women without any income are full-time mothers or housewives, who are primarily responsible for housework and care work in the family. Men without income may be involuntarily unemployed, take no responsibility for care or be unwilling to undertake domestic work.

4.2 The value of unpaid care work

The previous section demonstrated that women undoubtedly do most of the *unpaid care work* in the household – including housework, childcare and tutoring, care of the elderly or other activities – and that this holds true across different groups by, for example, education, age and income. Now we turn to the question of how such unpaid activity should be valued as a contribution to the economy.

As mentioned in the literature review, there are a range of methods for estimating unpaid care work by measuring either the labor *input* or the *output*. The input method can be further divided into the *opportunity cost*, *specialist* and *generalist* methods. This report uses these three methods to estimate the value

FIGURE 11
Unpaid care work by income, 2008 and 2018



of unpaid care work in China in 2008 and 2018 and compares the results. For this, wage data is needed for calculating the value of unpaid care work: we use NBS data on the average wage of urban private sector employees in 2009³¹ and 2018, as well as data from the CHIP household survey for 2008 and 2018.

In order to estimate the aggregate value of unpaid care work in terms of GDP, we use data on the average unpaid care work hours per person per year estimated from CTUS, multiplied by the population age over 15 and then calculate the result as a share of GDP. The relevant data on unpaid care work hours, the number of people over 15 years old, and GDP are shown in Table 2.

31 Due to the lack of data on the average wage of urban private sector employees in 2008, the 2009 data were used instead.

TABLE 2

Unpaid care work hours, population over 15 years old, and GDP

	2008			2018		
	Total	Male	Female	Total	Male	Female
Unpaid care work (average hours per person per year)	922.2	485.5	1339.6	1005.6	567.6	1421.1
Population over 15 years old (million)	1076.4	537.9	538.5	1160.2	591.0	569.2
GDP (billion yuan)	31 924.5			91 928.1		

Note on data sources: Data on unpaid care work hours are converted from the data included in Appendix (Table 1) at the end of the report; information on population over 15 years old is from the *China Statistical Yearbook 2009* and *China Statistical Yearbook 2019*; information on GDP is from the National Bureau of Statistics database.

4.2.1 Opportunity cost method

The opportunity cost method assumes that residents engaged in unpaid care work could be engaged in paid work, and the wage rate that an individual would command in the labor market is used to calculate the value of their time in unpaid care work. We use the average wage of urban private sector employees from the NBS database to estimate the average rate of return for unpaid care work. Since per capita unpaid care labor time is counted in hours per year, we convert the wage rate used to estimate unpaid care labor into an hourly wage rate. According to the “Notice on the annual average monthly working hours and wage conversion of employees” (Ministry of Labor and Social Security [2008] No.3), the salary includes 21.75

days per month and 8 hours per day, so the average hourly wage equals the annual average wage divided by (12 months x 21.75 days x 8 hours). For the CHIP data for 2008 and 2018, we use the urban and migrant population samples as the sample population of urban employees, filter all waged individuals, and delete the top 1.0% and the bottom 1.0% of the wage data in this sample to eliminate outliers. We use this sample to calculate the monthly average wage and monthly average working hours of the urban population. The hourly wage rate is then equal to the monthly average wage divided by monthly average working hours. The wage rates are shown in Table 3.

TABLE 3

Wage rate calculations for the opportunity cost method

Data sources	Category	Average wage rate (yuan per hour)	
		2008	2018
National Bureau of Statistics ³²	Total	8.7	23.7
CHIP ³³	Total	10.6	27.2
	Male	11.6	29.5
	Female	9.2	24.2

³² This is the average wage data of urban private sector employees in 2009 and 2018 from the National Bureau of Statistics database. The calculation in subsequent tables is the same.

³³ This is the average wage data of urban employees from the CHIP 2008 and 2018 surveys. The calculation in subsequent tables is the same.

The calculation formula is as follows:

- *The value of unpaid care work* = Average hours of unpaid care work per person × population over 15 years old × average hourly wage rate of urban employees
- *The value of unpaid care work as a proportion of GDP* = the value of unpaid care work/GDP

Using the wage calculated using NBS data (Table 2), we apply the formulas to estimate the value of unpaid care work. Taking the value of unpaid care work in 2008 as an example, the calculation process is as follows:

The value of unpaid care work = 922.2(hours) × 1 076.4(million people) × 8.7(yuan) /1000= 8 636.1 (billion yuan)

The value of unpaid care work as a proportion of GDP = 8 636.1 (billion yuan) / 31924.5(billion yuan) =27.1%

Using this calculation process, the value of unpaid care work estimated using the **opportunity cost** method and its share in GDP are shown in Table 4.

TABLE 4
The value of unpaid care work (opportunity cost method)

Data sources	Category	2008		2018	
		The value of unpaid care work (billion yuan)	% of GDP	The value of unpaid care work (billion yuan)	% of GDP
National Bureau of Statistics	Total	8 636.1	27.1	27 648.3	30.1
CHIP	Total	9 665.9	30.3	29 470.9	32.1
	Male	3 029.3	9.5	9 895.8	10.8
	Female	6 636.6	20.8	19 575.1	21.3

Using the above data and method, we estimate the total value of unpaid care work to the economy in 2008 to be equivalent to 27.1% and 30.3% of GDP (using NBS and CHIP2008 data respectively). In 2018 the estimated values were 30.1% and 32.1% respectively with a large difference between the contributions of men and women. This method may overestimate the value of unpaid care work, as the urban wage rates are applied to rural or unemployed unpaid care workers, and to the retired population, and no adjustment is made to reflect likely variation in average hours of work among different age cohorts. Therefore results using this method are highest among the three.³⁴

³⁴ To account for sample selection bias, the Heckman two-step method can be used to estimate the reservation wages of groups not participating in the labor market. In view of the difficulty of obtaining micro data, this analysis is omitted in this report.

4.2.2 Specialist method

For the specialist method, we follow Liao (2018) and select wage rates in comparable industries to unpaid care work (including the hotel and catering sector, domestic household and other services, health and social security and social welfare sectors) as the replacement wage. Housework includes activities such as preparing food, cooking meals, cleaning the home,

washing and tidying clothes and repairing items. The wage rate of housework can be replaced by wage rates in the hotel and catering industry, and domestic household and other services. The wage rates for activities such as accompanying and caring for children, escorting and tutoring children to study, and accompanying and caring for adult family members are replaced by wage rates in the health and social security and social welfare sectors (see Table 5).

TABLE 5

Market replacement wage rates for different components of unpaid care work

Activities	Corresponding market replacement industry
Housework	Hotel and catering industry, domestic household and other services
Childcare	Health and social security and social welfare
Child instruction	
Adult care	
Other activities ³⁵	

For the estimation, we use the population over the age of 15 and GDP (see Table 2), the hours spent on unpaid care work activities, shown in Table 6, and the hourly wage rates for each industry as replacement wages for unpaid care labor, as shown in Table 7. ³⁶

TABLE 6

Average hours per person/year spent on unpaid care work activities, 2008 and 2018

Activities	2008 (hours per year)			2018 (hours per year)		
	Total	Male	Female	Total	Male	Female
Housework	635.7	292.0	964.8	536.6	279.8	780.5
Childcare	93.1	42.0	141.7	228.7	109.5	341.3
Child instruction	45.6	31.6	58.4	56.0	37.1	73.6
Adult care	11.0	9.7	12.2	60.8	50.5	71.2
Other activities	137.5	109.5	164.3	123.5	91.3	154.5

³⁵ "Other" includes activities such as free domestic help provided to other families, community services and public welfare activities.

³⁶ We include analysis using male and female wage rates in calculating a range of estimates of the value of unpaid care, but recognize that valuing unpaid care work using these gender-differentiated rates will reproduce labour market discrimination that contributes to the wage gap.

TABLE 7

Wage rate of the corresponding industry used for the specialist method

Data sources	Category	2008		2018	
		The average wage of hotel and catering industry, services to household and other services industry (yuan per hour)	Wage of health and social security and social welfare industry (yuan per hour)	The average wage of hotel and catering industry, services to household and other services industry (yuan per hour)	Wage of health and social security and social welfare industry (yuan per hour)
NBS	Total	7.5	8.9	19.3	25.1
CHIP	Total	7.8	13.4	18.8	28.6
	Male	8.7	12.9	20.3	29.5
	Female	7.6	14.0	17.5	28.1

The calculation formula is as follows:

The value of unpaid care work = Σ (hours spent in various unpaid care activities $\times$ corresponding market industry hourly wage rate) $\times$ population over 15 years old

The value of unpaid care work as a proportion of GDP = The value of unpaid care work/GDP

Using the NBS wage data for 2008 and applying the above formulas, the calculation process of the specialist method is as follows:

The monetary value of unpaid care work = $[635.7(\text{hours}) \times 7.5(\text{yuan}) + (93.1 + 45.6 + 11.0 + 137.5)(\text{hours}) \times 8.9(\text{yuan})] \times 1\,076.4(\text{million people}) / 1000 = 7\,518.5(\text{billion yuan})$

The monetary value of unpaid care work as a proportion of GDP = $7\,518.5(\text{billion yuan}) / 31\,924.5(\text{billion yuan}) = 23.6\%$

Using this calculation process, the value of unpaid care work estimated by the specialist method and its share in GDP can be obtained. The estimation results are shown in Table 8.

TABLE 8

The value of unpaid care work (using the specialist method)

Data sources	Category	2008		2018	
		The value of unpaid care work (billion yuan)	% of GDP	The value of unpaid care work (billion yuan)	% of GDP
NBS	Total	7 518.5	23.6	24 013.0	26.1
CHIP	Total	9 492.0	29.8	26 405.7	28.7
	Male	2 704.3	8.5	8 385.0	9.1
	Female	6 787.7	21.3	18 020.7	19.6

The value of unpaid care work as a share of GDP in 2008 estimated using the specialist method was 23.6% (using NBS data) and 29.8% (using CHIP2008), while in 2018 the estimated value was 26.1% (NBS) and 28.7% (CHIP2018).

The specialist method subdivides the activities of unpaid care work, using wage rates from different industries to replace specific activities. However, the qualifications, efficiency and motivation of unpaid care workers and professional service personnel may differ. For example, the qualifications for taking care of children and the elderly are different from those in the health, social security and social welfare industries, so this method is likely to overestimate, but could potentially also underestimate, the value of unpaid care work.

4.2.3 Generalist method

In this part, we refer to Dong and An (2015) and use the wage rate of domestic household services and other services to replace the wage rate of unpaid care work. The population over the age of 15 and GDP used in the calculations are shown in Table 2 above, and the specific time spent on various unpaid care work is shown in Table 9.

TABLE 9

Wage rate used by generalist method

Data sources	Category	Wage of services to household and other services industry (yuan per hour)	
		2008	2018
NBS	Total	7.5	19.7
CHIP	Total	9.3	18.6
	Male	10.0	19.6
	Female	8.7	17.5

The calculation formula is as follows:

The value of unpaid care work= Hours spent in unpaid care work per capita × population over 15 years old × hourly wage rate of services to household and other services industry

The value of unpaid care work as a proportion of GDP = The value of unpaid care work/GDP

Using the data and formulas above and taking the value of unpaid care work from NBS 2008 data as an example, the calculation process of the generalist method is as follows:

The monetary value of unpaid care work = 922.2 (hours) × 1076.4 (million people) × 7.5 (yuan)/1 000 = 7 444.9 (billion yuan)

The monetary value of unpaid care work as a proportion of GDP = 7 444.9 (billion yuan)/ 31924.5 (billion yuan) = 23.3%

Using the same calculation process, the value of unpaid care work estimated by the generalist method and its share in GDP can be obtained. The estimation results are shown in Table 10.

TABLE 10

The value of unpaid care work using the generalist method

Data sources	Category	2008		2018	
		The value of unpaid care work (billion yuan)	% of GDP	The value of unpaid care work (billion yuan)	% of GDP
NBS	Total	7 444.9	23.3	22 982.0	25.0
CHIP	Total	7 140.5	27.9	20 730.4	22.6
	Male	2 611.5	8.2	6 574.9	7.2
	Female	6 276.0	19.7	14 155.6	15.4

The value of unpaid care work as a share of GDP in 2008 estimated using the generalist method was 23.3% (NBS data) and 27.9% (CHIP), while in 2018 it was 22.6% and 25.0% respectively.

The estimation results of the value of unpaid care labor and its share in GDP for 2008 and 2018 are summarized in Table 11. Combining two data sources

(NBS and CHIP) and the three estimation methods (opportunity cost, specialist and generalist), we can conclude that the value of unpaid care work as a share of GDP ranged from 23.3% to 30.3% in 2008, and between 22.6% and 30.1% in 2018, so the actual value of unpaid care work should fall within this range, which is approximately 25.0%.

TABLE 11

Summary of results for the value of unpaid care work and its share of GDP

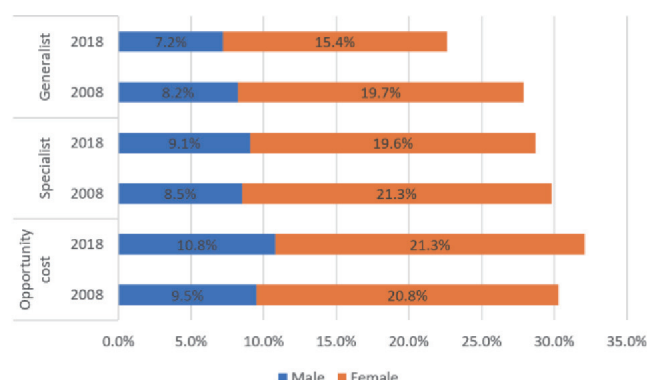
Methods	Data source	Category	2008		2018	
			The value of unpaid care work (billion yuan)	% of GDP	The value of unpaid care work (billion yuan)	% of GDP
Opportunity cost	NBS	Total	8 636.1	27.1	27 648.3	30.1
	CHIP	Total	9 665.9	30.3	29 470.9	32.1
		Male	3 029.3	9.5	9 895.8	10.8
		Female	6 636.6	20.8	19 575.1	21.3
Specialist	NBS	Total	7 518.5	23.6	24 013.0	26.1
	CHIP	Total	9 492.0	29.8	26 405.7	28.7
		Male	2 704.3	8.5	8 385.0	9.1
		Female	6 787.7	21.3	18 020.7	19.6
Generalist	NBS	Total	7 444.9	23.3	22 982.0	25.0
	CHIP	Total	7 140.5	27.9	20 730.4	22.6
		Male	2 611.5	8.2	6 574.9	7.2
		Female	6 276.0	19.7	14 155.6	15.4

Using the wage data from CHIP2008 and CHIP2018, we can see the difference in the value of unpaid care work as a share of GDP by gender. Using the opportunity cost method, we find women's contribution to be 20.8% in 2008, or 2.2 times that of men, while in 2018 it was 21.3% or 2.0 times that of men. Using the specialist method, the corresponding value of women's unpaid care work was estimated to be 21.3% of GDP in 2008 (2.5 times higher than for men), and 19.6% in 2018 (2.2 times that of men). Using the generalist method, the value of women's unpaid care work as a share of GDP was 19.7% in 2008 (2.4

times that of men), and 15.4% in 2018 (2.1 times that of men). Although wage rates for women are lower than for men³⁷, women spend more hours in unpaid care work (2.8 times that of men in 2008, and 2.5 times in 2018). Thus the value of women's unpaid care work is substantially higher, as illustrated in Figure 12 which shows the difference in the contribution to GDP of women's and men's unpaid care work.

37 According to data of NBS, CHIP2008 and CHIP2018, the wage rates for women are lower than those of men. See Table 2, table 6 and table 8 for details.

FIGURE 12
Ratio of the value of unpaid care work of men and women as a contribution to GDP, 2008 and 2018



In conclusion, the analysis in this section shows that the value of unpaid care work in China is equivalent to approximately 25.0% of China's national economy, of which women's contribution is particularly significant: the value of unpaid care work created by women is about twice that of men.

In addition, it should be noted that the above estimates and conclusions are based on methods and approaches developed within the field of economics. The economic approach has certain limitations. Economics usually studies variables that can be observed and measured, such as money and material goods, while ignoring hidden or less visible and hard to measure variables, such as the emotional value of unpaid care work. Who does the care also creates other forms of value: psychological benefits to men or women or the empowerment of women can be considered intangible benefits. In addition, the classification and time estimates of unpaid care work do not cover all unpaid care. For example, the

management of domestic workers is often undertaken by women, and the labor cost of such household management is not counted, which may further underestimate the value of women's unpaid care work. Furthermore, the measurement of labor value in the labor market is not gender neutral. Due to the negative impact of the traditional gender division of labor, the economic value of care work mainly undertaken by women in the market is generally underestimated (Lu, 2021). For example, care jobs such as teaching, nursing and housekeeping are widely regarded as "women's work" and due to this gendered label are artificially given a low value by the market. Therefore, the use of the market wage "replacement method" is also likely to underestimate the economic value of unpaid care work.

The wage data used in this report, while widely used, also has some limitations. The first is the problem of occupational classification. For example, the existing public annual salary statistics in the NBS database are only classified by industry, enterprise type, etc., and not by occupation. For the purposes of this report, it was therefore difficult to obtain the wage rate of domestic workers. The second is a limitation of income surveys. It is generally difficult to collect information on high-income individuals when conducting household income surveys, which leads to the under-representation of high-income groups or underreporting of their income. However, since the groups of concern in this report for estimating replacement wages are paid care workers, most of whom are in middle- and low-income social groups, such as domestic workers, the impact of the under-representation of the high-income population should not be significant.

4.3

The impact of the COVID-19 pandemic on domestic service enterprises and workers

Care work in the household can be divided into two forms: one is unpaid care work discussed above, and the other is paid care work or domestic services that can be purchased in the market. Fluctuations in

the market price of domestic services will affect the household's demand for such services, resulting in changes in the duration and intensity of unpaid care work within the household.

A shock such as that caused by the Covid-19 pandemic and associated control measures could lead to a simultaneous decline in both the supply of and demand for domestic services. With a decline in the supply of care labor, the market equilibrium price should increase, while domestic workers in employment may also demand higher wages to compensate for Covid-related risks. As a result of pandemic measures and with the rising price of services, we would anticipate an economy-wide decrease in demand for market-purchased care work. As domestic service enterprises have fixed costs, even if both supply and demand decline, the price of services could still rise. The total amount of household care work, however, does not decline (and may even increase), leading to an inevitable increase in unpaid household care work. As most unpaid care work is done by women, this places a heavier burden on them. In addition to these real impacts, as both the quantity of unpaid care work and the wages for paid care work rise, the estimated value of the contribution of unpaid care work to the economy will also increase.

Since January 2020, the new coronavirus has significantly impacted all economies and societies, including China's. In the first quarter of 2020, China's GDP fell by 6.8% and the unemployment rate rose from 5.2% in December 2019 to 6.2% in February 2020. Many business operations were interrupted, and workers were unable to work. Some industries were able to resume operations in March, but the domestic service industry was not included in this list, and it was only in June that full resumption of work could begin. Some industries and occupations were able to use Internet technology to work remotely and buffer the impact of the pandemic, but the domestic service industry, given its characteristics as a "contact" economic activity, does not allow for any effective ways of remote working. Thus, the sector was more severely impacted than industry in general.

The rest of this section further analyses the impact of the COVID-19 pandemic on the domestic service industry and provides empirical evidence for the resulting changes in the value of unpaid care work. It first provides a brief overview of the labor market situation of China's domestic service industry. Through the analysis of online recruitment "big data", we describe the adverse impacts of the COVID-19 pandemic on the domestic service industry. Supported by data

from interviews and a questionnaire survey described above (Section 3), we discuss the basic characteristics of domestic service enterprises and workers and how the pandemic has affected them.

4.3.1 A general introduction to China's domestic service sector

In 2018, the value of China's domestic service sector grew to 576.2 billion yuan, an increase of 27.9 percent over the previous year³⁸. The total number of employees working in the sector reached about 30.7 million, with the majority being women. On the demand side, data from the China Domestic Service Association³⁹ showed there are currently about 190 million households in urban China, of which about 15% (or about 28.5 million households) demand domestic services. With the liberalization of China's family planning policy, and the intensification of population aging, imbalance between supply and demand could be expected in the coming years.

4.3.2 Changes in supply and demand of paid care labor under Covid-19: big data analysis

Using big data from the on-line recruitment platforms, 58. Com Inc., in this section we analyze the impact of the pandemic on China's domestic service industry, including the supply of and demand for workers in various occupations. We first present changes in China's "Blue Collar Index" which measures the competitiveness of the labor market for blue collar jobs.⁴⁰ According to the occupational classification used by 58. Com Inc., occupations in the domestic service industry include domestic help (comprehensive family services), cleaner, maternity nurse, nanny/childcare, hourly worker and carer (for the disabled or elderly),

38 *Research Report on The Market Prospect of Domestic Service Industry in China in 2019*, compiled by China Academy of Commerce, <https://wk.askci.com/details/053aboe366c64b68821be54ae5aee54/>

39 China Domestic Service Association (*Zhongguo jiating fuwuye xiehui*) is a self-regulating organization of domestic service industries.

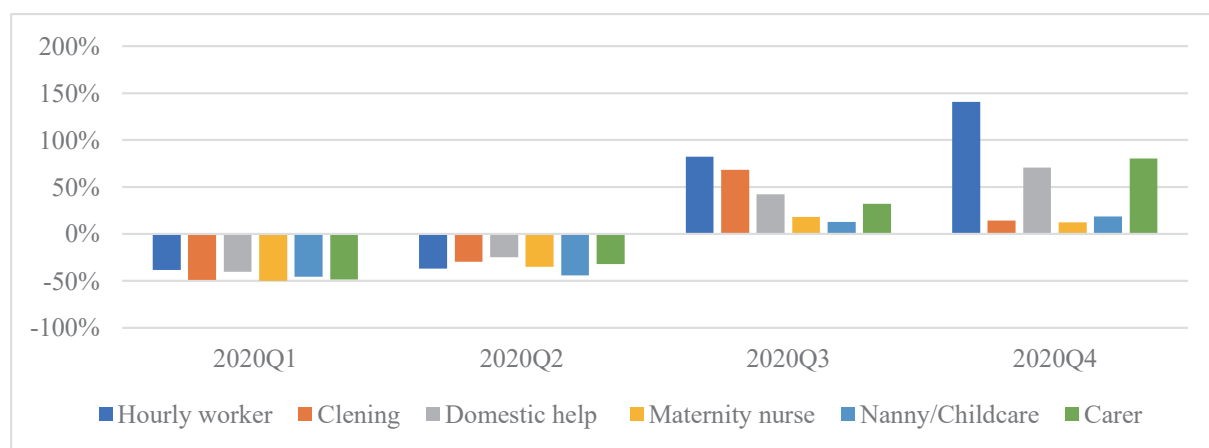
40 The blue-collar index is calculated using the data of 58. Com Inc.. It reflects the ratio of the number of requests for workers to the number of job applicants in China's blue-collar labor market. The higher the index, the less competition for each position, while the lower the index, the greater the competition for each position. The index mainly involves workers in China's manufacturing industry and manual workers in the service industry.

occupations which are traditionally viewed as more suited to women. Figures 13 to 15 use the *blue-collar index* to show the year-on-year changes for each

quarter of 2020 in demand for and supply of the main occupations in the domestic service industry.

FIGURE 13

Year-on-year change in demand for domestic service work by quarter, 2020 (%) ⁴¹

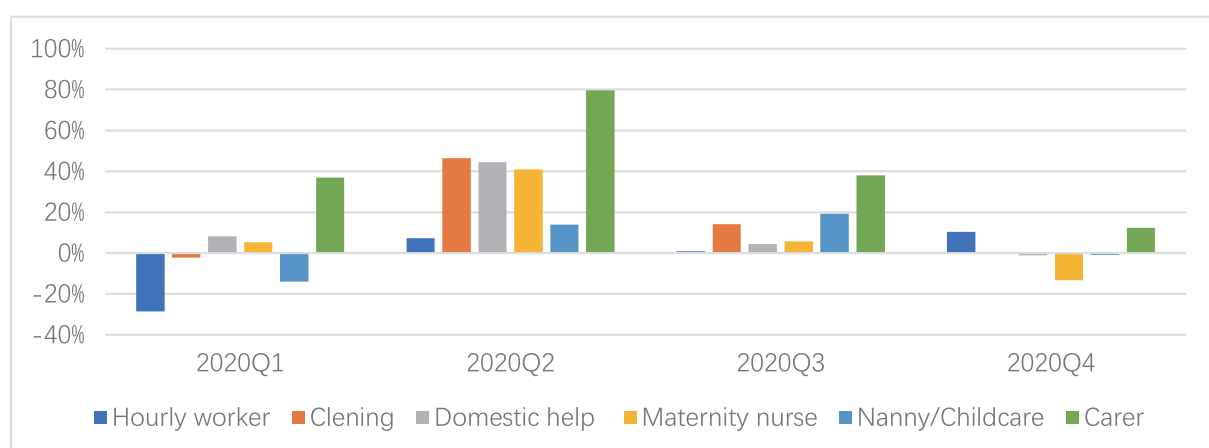


As can be seen from Figure 13, following the outbreak of the pandemic in early 2020, demand for all domestic service occupations dropped significantly compared with the previous year, and did not start to improve until the third quarter. In the third and fourth quarters, year-on-year recruitment demand increased for almost all occupations. The largest increase was for hourly workers, while the increase in demand for

maternity nurse and nannies was relatively small.⁴² When the pandemic started, domestic service enterprises suspended operations, leading to a fall in demand on the recruitment platforms. Once lockdown measures ended, enterprises increased their recruitment efforts via online platforms in an effort to recruit workers more quickly and resume business.

FIGURE 14

Year-on-year change in job applications for domestic service occupations by quarter, 2020 (%)



⁴¹ This is primarily household demand for domestic workers but includes a small share of demand by the hotel and catering industry.

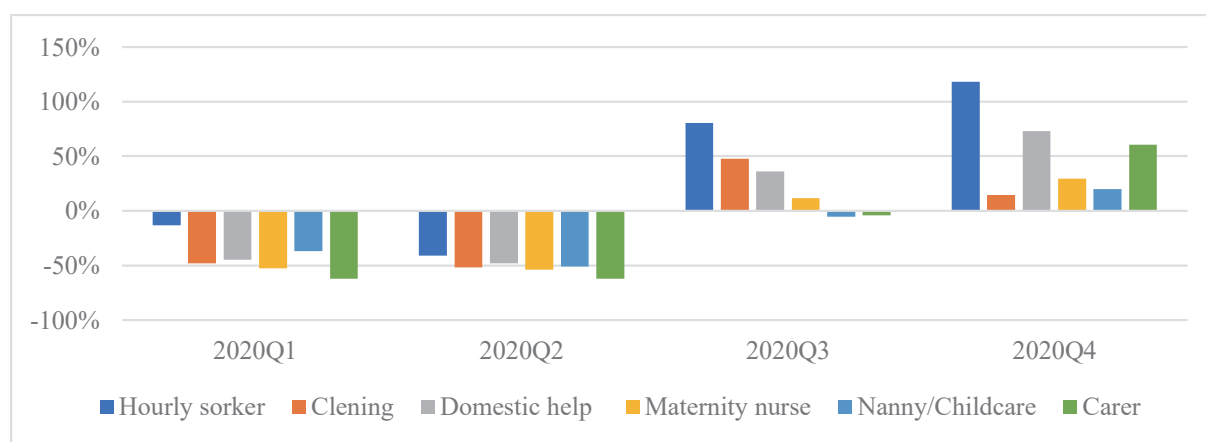
⁴² In China, a maternity or confinement nurse (*yuesao*) provides professional care for mothers and newborns during the first month after birth; a nanny or babysitter (*yuying yu'er shi*) mainly cares for 0–3-year-old babies.

Figure 14 reflects changes in the supply of domestic service labor. Following the introduction of restrictions on movement in February 2020, job applications for many domestic service occupations fell in the first quarter. Starting from the second quarter, applications for most occupations increased year-on-year. This can be explained by workers turning to internet

recruitment platforms to seek work given the increase in job search costs due to the pandemic.⁴³ By the fourth quarter of 2020, the restrictions on mobility caused by the pandemic were largely eliminated, and job applications across occupations saw little year-on-year change.

FIGURE 15

Year-on-year change in the Blue-Collar Index for domestic service occupations by quarter, 2020 (%)



Combining the changes in demand and supply, we see from Figure 15 that in the first half of 2020, due to the decrease in demand for labor and increase in supply, the competition for jobs being sought through the Internet recruitment platform increased (that is, the Blue-Collar Index fell). In the second half of the year, although the supply of labor continued to increase, demand rose more rapidly and exceeded supply (the index rose), and there were insufficient channels through which clients could recruit workers. Thus, we can see that during the Covid-19 pandemic, both domestic service workers and enterprises were indeed affected, only recovering with the resumption of work and production.

4.3.3 Domestic service enterprises: Basic characteristics and the impact of Covid-19

1. Basic characteristics of domestic service enterprises

The types of workers recruited by domestic service enterprises include maternity matrons, nannies, domestic workers (providing comprehensive family services), cleaners and carers (for the disabled and elderly), among others. From the interviews with enterprise managers, among the large domestic service enterprises, maternity matrons and nannies accounted for the highest proportion of workers (50%-60%), followed by domestic workers (30%); a smaller share were carers for the disabled and elderly (15%-20%); while cleaning also accounts for a certain percentage. Small enterprises recruit more hourly workers, followed by childcare, maternity matrons and nannies, with fewer carers for the disabled and elderly.

⁴³ From the survey, we find that Internet recruitment platforms are not generally the first choice of channels through which domestic service workers seek jobs.

The main methods of recruitment are introduction by acquaintances and advertising, but also include WeChat and QQ groups established by labor intermediaries and used by domestic service sector workers, and employment activities organized by the government and by Internet recruitment platforms. Only a few high-quality enterprises adopt a “mentor” system for domestic workers helping them contact employers, providing training and solving difficulties.

At present, most domestic service enterprises in China operate an *intermediary* rather than a *labor contract* system. Enterprises operating as *intermediaries* provide a platform for matching domestic service workers with households who demand services and collect a commission for the service. By contrast, a labor contract system involves the enterprise taking on the workers as employees. Judging from the situation reflected in the interviews, no more than 10% of domestic service enterprises implement a labor contract system. The reason for this situation stems from the current business tax applicable to the domestic service industry. The tax is calculated and paid according to a fixed percentage (5%) of turnover. The domestic service industry is a low-profit industry, with an average profit margin of around 10% (Su et al., 2010). If workers were taken on as employees, all wages paid to workers by those demanding domestic services would become part of enterprise turnover, and enterprise costs would increase significantly. Businesses could only survive by increasing the price of domestic services or reducing the wages of workers, which would have a serious impact on the market for domestic services and the job market.

In addition to domestic service enterprises, many household enterprises (*getihu*) and self-employed individuals also provide domestic services. This informal section of the market is less specialized than the registered enterprises, and the quality of services provided is uneven. Most contracts with the client are signed in the name of an individual and can easily be broken, while the bargaining position of self-employed providers is also very weak, and their rights and interests are more likely to be violated. Moreover, the business model of such informal domestic service providers is to rely mainly on introductions by acquaintances, so job search costs are high while job stability is also very low.

From the above discussion of domestic service enterprises, we can see that they rarely recruit service personnel as employees, so the employment stability of domestic workers is very low and labor conditions are poor. In addition, self-employed domestic service workers face greater challenges in seeking employment.

2. The impact of Covid-19 on domestic service enterprises

- 1) **The pandemic had a significant negative impact on the demand and supply of domestic services and therefore on the enterprises.** Demand for domestic services dropped sharply, and many clients terminated their contracts.⁴⁴ One survey found that during the lockdown period, 78% of households surveyed had no demand for domestic services (Chen et al., 2020). The decline in demand was due both to the negative impact of the pandemic on clients’ incomes and to their concerns about infection. Although there was still some inflexibility in service demand, the restrictions on movement due to lockdowns meant that domestic workers were often unable to return to work, and even if there was a willingness to supply labor, it was difficult to meet demand. Enterprises thus faced not only a reduction in their incomes, but also higher recruitment and running costs, such that some companies chose to suspend business for a period. This supports the “big data” evidence presented above that showed a sharp fall in demand and supply of domestic workers in early 2020.
- 2) **Domestic service enterprises saw little benefit from preferential policies.** According to the data, more than 65% of small and medium-sized domestic service enterprises reported being unable to get information about the government’s policies towards such enterprises, and most of them said either they did not know about, or did not understand, the policies. Only about 22% of relatively large-scale enterprises reported knowing that there were local preferential policies for the resumption of work and activities of domestic

⁴⁴ The clients or customers in this report refer to those who need domestic services and pay the wages of domestic workers.

service enterprises.⁴⁵ Even with preferential policies, the outcome was poor. Among the enterprise leaders interviewed, some mentioned that because they had to close their business during the pandemic, there was no income, so the tax exemption policy had no effect. It was particularly difficult for national policies to provide substantial assistance for the self-employed or household enterprises in the sector - enterprises which generally have limited funds and may be vulnerable to collapse in the face of such a shock.

3) The price of domestic service provision increased.

In the interviews, most enterprise managers discussed the problem that pandemic control hindered the flow of workers and contributed to the slow recovery of business. Following the resumption of work and production, the number of orders for work in the domestic service industry gradually increased. However, because the labor market in the sector was experiencing a situation of excess demand for labor, companies still faced challenges in recruiting sufficient workers and faced difficulties in matching suitable workers to jobs. Thus, the total volume of transactions remained lower than a year earlier. Meanwhile, enterprises still had fixed costs after resuming business, while the government's policy support for the sector was limited. As a result, prices rose.

4) The pandemic promoted the digital transformation of domestic service enterprises.

For domestic service training enterprises and some intermediaries that also provide training, offline training was converted to online training, and fees were reduced, which caused a further substantial reduction in enterprise income. At the same time, the pandemic promoted enterprise innovation and accelerated the integration of offline and online training. The establishment of online digital platforms for domestic service enterprises is also more conducive to matching workers and clients, improving market efficiency, and helping workers find suitable jobs more quickly.

⁴⁵ Report on the resumption of work and production in the domestic service industry <https://www.ddcomingedu.com/xinwendongtai/798.html>

4.3.4 Domestic service workers: Basic characteristics and the impact of the pandemic

1. Basic characteristics of domestic service workers

Most domestic service workers are women. The interviews and questionnaire surveys show that women account for over 90% of workers in the sector (Kang et al. 2020). In terms of age, 21% of workers are aged over 50; 36% between 46-50 and 30% are 41-45, while the rest (13%) are 40 and under. The overall age structure is thus relatively high. Meanwhile, given that many younger women also take on unpaid care responsibilities for their own families, they often seek work that is more flexible such as domestic service.

In terms of educational level, workers with junior middle school education account for the highest proportion (about 50%), followed by high school and technical secondary school education (about 45%), so overall the educational level of workers is relatively low. In terms of vocational skills, more than 80% have some qualification related to domestic work, and the proportion of workers who have received domestic service training has reached 97%. However, the content of these trainings is mostly focused on specific job skills, while broader skills and knowledge is relatively limited, for example psychology training for nannies and maternity matrons or basic information about laws on labor protection.

In terms of hukou (that is, place of origin of migrant workers), most workers in the surveys came from Heilongjiang, Hubei, Shanxi, Hebei, Henan, and Shaanxi. Some also came from provinces Gansu, Sichuan, Jilin, Shandong, Jiangsu, and Inner Mongolia. However, due to differences in cultural customs across China, workers from certain areas may not be popular with employers in other areas.

In terms of contracts, 88.0% of workers have signed a service (*fuwu*) contract with an enterprise or client; 4.4% of workers have signed a labor service (*laowu*) contract; only 2.2% of workers have signed a labor (*laodong*) contract, while 3.3% of workers have not signed any contract.

For workers who are not employees, most enterprises or clients currently only purchase accidental injury

insurance. Among domestic workers (who are mainly migrants from rural areas), only 51.6% are self-enrolled in China's New Rural Pension program, 62.4% are enrolled in the government's rural medical insurance scheme, and the proportion that are covered by any of work-related injury, unemployment, maternity, and other insurance is extremely small (below 10%). These data indicate that workers face a low level of employment security. Once a worker is unemployed or unable to find employment due to work-related injuries or for other reasons, she risks losing her source of livelihood.

In the course of their work, 91% of workers reported experiencing no conflicts, disputes or infringement of rights by their employers; 2% of workers have quarreled with their employer, and 2% have experienced deductions or withholding of wages for unjustified reasons. In the event of such conflict, dispute, or violations, most workers turn to the enterprise for help. Some choose to terminate their contracts, a small proportion seek help from the Women's Federation or judicial organs, and a very small number seek help from family members. In addition, reports exist of cases of domestic workers suffering from sexual harassment: from the perspective of this research, some individual cases were mentioned during interviews, but in the absence of a larger scale study it is difficult to estimate the actual situation.

In terms of income, 98% of workers report that their economic condition has improved since engaging in domestic service work. A study of domestic service workers in Zhengzhou in 2018 found that the average monthly salary was 4,000 yuan; the monthly wages of higher-skilled workers (such as nannies and housekeepers) could exceed 6,000 yuan; the monthly wages of general domestic workers (such as cleaners) was 3,500-4,500 yuan (Kang et al., 2020). According to our interviews, in 2020, the monthly wage of nannies in Beijing was generally over 8,000 yuan, and that of ordinary domestic workers about 5,000 yuan. In the questionnaire survey, 62% of workers were satisfied or very satisfied with their current wages. Although the income of domestic service workers is relatively high in large cities or for certain types of shortage occupations, on average wages are low compared to other sectors, and the jobs lack stability.

From the characteristics of the domestic service workers described above, we see that this group is composed mostly of older women with a relatively low level of education. It also includes many rural women from less developed regions with low education who migrate to big cities to work. This population is in general socially disadvantaged. Most domestic service workers are contracted through the intermediary system rather than the employee system. Without a labor contract, they face unstable incomes, a lack of social security, and possibly more serious violations of their rights.

2. Covid-19 increased the vulnerability of domestic care workers in the job market

1) **Domestic service workers were unable to go to their place of work.** Covid-19 prevented workers from returning to work in areas other than their place of residence. Particularly in areas with strict pandemic prevention or control policies, domestic workers were unable to leave their homes, during which time they not only had no income but also had to cover their living costs. The pandemic lockdown meant that workers who were unable to return to their place of work, on the one hand, lacked information and might easily miss job recruitment information; on the other hand, periods of employment agreed before the pandemic might be postponed. During the interview, we found that some workers had had long-term stable employers before the outbreak, but as the pandemic prevented them from returning to work, employers had recruited new workers, so the workers had to seek new employment.

For domestic workers who were at their workplace at the time of the outbreak, and particularly those living with their employer, the impact of the pandemic was relatively small. For others, reduced customer demand made the possibility of finding suitable jobs more difficult. In addition, workers coming from areas with more severe outbreaks also faced discrimination in the labor market, as customers often refused to accept workers from such areas.

2) **The likelihood of finding a job and the wages of domestic workers have both been affected.** According to the survey findings, three-quarters of domestic workers were still working during the pandemic.

Due to the labor supply shortage, among those workers still employed during this period, the wages of 63% were not affected, 22% saw a wage increase, while for 15% their wage was reduced with an average decline of around 10%. There are three reasons for the decline in the wages of some workers. First, employers' incomes were affected by the pandemic, so their willingness to pay for domestic services declined, and demand for general-skilled domestic services fell. Second, some employers concerned about the spread of Covid-19 thought the risk of hiring domestic workers was too high, thereby also reducing demand. Third, some domestic service enterprises charged higher intermediary fees due to operating difficulties, and these fees were passed on to the workers, resulting in a decrease in their income.

- 3) **Domestic service workers with a low level of social security were severely affected by the pandemic.** Since the domestic service industry is a "contact" activity, and most workers do not have labor contracts, their ability to manage risk is very low. In the face of Covid-19, many lost their source of income, and without unemployment insurance they experienced livelihood difficulties as pandemic restrictions continued. Even once mobility restrictions were lifted, the recovery of domestic service employment was slow given concerns on the part of customers. Interviews found that some workers did not work for over a month during the pandemic which continued to have a significant impact from June to October 2020. Some customers also increased their requirements, such as demanding nucleic acid test results from workers when entering the house.
- 4) **Vulnerable groups among domestic workers have been most affected.** A high proportion of domestic service workers are women, aged between 40-55 years old with low education. This group has been more negatively affected by the pandemic. These middle-aged and older women face a disadvantage in the labor market and have limited ability to withstand shocks. Once they lose their jobs, they face difficulty in finding another. As one female worker from Jilin said, "I am a long-term live-in infants' nurse, and now I have finished working for my previous employer, but I find it extremely difficult to find another employer. I am 52 years old this year and many clients feel that I am too

old, and they are unwilling to hire me. They prefer to recruit younger workers to provide long-term services for them." When interviewed, the training director of a domestic service enterprise in Beijing also said, "Currently, there are many workers between 50 and 55 years of age, and it is difficult to match them with employers." Furthermore, these women who are engaged in domestic service work also undertake most of their own housework when they are not working. The pandemic has not only caused pressure on women's paid work, but also increased their household work burden.

From the preceding discussion, it is clear that the pandemic had a detrimental impact on both the supply and demand for labor in the domestic service sector. The transaction volume of domestic services in the market has decreased, and the price of domestic services has risen. Pandemic prevention and control measures have caused the total amount of housework to increase as family members spend more time at home, leading to a sharp increase in household chores such as cleaning and cooking. School-age children studying online at home resulted in a significant increase in the time parents spent tutoring children, thus increasing the total unpaid care work hours of parents. At the same time, the supply of paid housework and care services that can be outsourced (such as domestic service, takeaway, and express delivery services) decreased. Due to the reduced availability of market-based substitutes, family members had to increase their own housework to meet family needs. The statistics and analysis presented in this report show that women play a major role in housework and care work. Therefore, the effects of the pandemic increase have significantly increased the burden of women's care work and worsened the situation of women already overburdened by such work. This burden is even heavier for women who are also engaged in paid domestic work. Overall, most of the increased housework and care work has been passed on to women's shoulders, squeezing out women's time and energy for paid work, and affecting women's investment in and development of their careers.⁴⁶

⁴⁶ This has occurred across different sectors. For example, there are reports that during the pandemic, the number of academic papers submitted by female scholars declined steeply, while the output of male scholars was stable. Site: <https://www.thelily.com/women-academics-seem-to-be-submitting-fewer-papers-during-coronavirus-never-seen-anything-like-it-says-one-editor/>

CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1

Conclusions of the research

Against the background of China's population changes and policy adjustments such as the increase in life expectancy, population aging and the introduction of the "three-child policy", care work becomes increasingly important. Smaller family size, large-scale urban-rural migration, insufficient supply of public services and irregular market-based care services, the overburdening of families with care responsibilities and lack of care for disadvantaged groups, all pose huge challenges to China's system of care provision. In practice, most care providers – whether paid or unpaid – are women, but their contributions are not fully recognized. Furthermore, the conditions of paid care work and unpaid care work influence each other. The improvement of conditions of work in both will help increase women's income, promote gender equality and eliminate occupational segregation.

Based on a review of the literature and analysis of China's national time use survey data for 2008 and 2018, this report has analyzed the gender differences and changes in unpaid care work in China, and estimated the economic value created by unpaid care work. It has also used big data from China's largest recruitment platform to explore the impact of Covid-19 on paid care (that is, domestic service) workers. Based on these analyses we draw the following conclusions.

5.1.1 The gender gap in hours spent on unpaid care work remains large and reveals some new characteristics.

The gender gap in unpaid care work time decreased slightly between 2008 and 2018. While this might suggest a slight improvement in the unequal gender division of labor within households, it is possible that

Covid-19 will have reversed some of these gains, although insufficient data are available to confirm such a hypothesis. During the past decade, looking at components of unpaid care work, the gender gap in time spent on housework tasks (such as laundry and cooking) has narrowed, while the gender gap in childcare and child instruction has widened. Despite a narrowing of the gender gap in housework, this remains the unpaid care work category with the largest difference by gender. The overall time spent on childcare, child instruction and adult care have increased, which also means that women spend more time on affective and emotional labor than men.

5.1.2 The gender gap in unpaid care work is found in both urban and rural areas, and by education, marital status, age and monthly income.

Looking at urban and rural areas, the time use data for 2008 and 2018 show that the gender gap in unpaid care work time in rural areas is greater than in urban areas. In comparison with 2008, the time spent on childcare in 2018 increased in both rural and urban areas, for both men and women, but the increase was greater in urban areas, and the difference in hours worked between women and men also widened. In terms of the influence of education, women's unpaid care work time decreased as their education level improved, while men's unpaid care work time increased as their education level improved, thus suggesting that education plays a positive role in reducing the gender gap. In terms of marital status, no matter what their status, women undertake more unpaid care work than men. Among the unmarried population, women engage in more unpaid care work than men but the difference between unmarried men and

women is not very large. However, for married men and women the difference is significantly larger with women bearing most of the increase in care work on marriage. From the perspective of age, the unpaid care work time of women over 55 is significantly more than that of older men. Although women's unpaid care work time gradually decreases with the increase in their income, women's unpaid care work time in all income categories is much higher than that of men.

5.1.3 The value of unpaid care work accounts for a high share of GDP, of which women's contribution is particularly significant.

Using average wage data of urban private sector employees from NBS and household income surveys, we employed various methods for estimating the value of unpaid care work and its economic contribution as a share of GDP. Our estimates show that the value of unpaid labor accounted for 22.37% to 30.29% of GDP in 2008 and 20.94% to 29.78% in 2018. Considering the range of estimates, the share should not be less than 25%. Of this, women's contribution is particularly significant, with the value of their unpaid care work being approximately twice that of men. This conclusion is basically consistent with existing international research results.

This study has found that China's unpaid care work accounts for a large share of GDP, and that it contributes significantly both to the national economy and national well-being; in this, women's contribution stands out through their greater total work time and their unpaid care work time. This finding is significant for policy for a number of reasons. From an economic growth perspective, the service economy is increasingly becoming a driving force and engine for global growth. The care economy - as an important part of the service economy - is also critical for resolving social problems associated with the crisis of an aging population, childcare deficits, and work-family imbalance. The sector can also provide experience and ideas for promoting sustainable economic growth (Liu et al., 2019). As China's labor market undergoes major changes, with an aging population, a rising dependency ratio, and the decline in labor force participation becoming major challenges, the care economy can be an important source of employment. To date, Chinese government and society has not given sufficient recognition to the importance of unpaid

care work and has ignored its value - such lack of recognition is a barrier to addressing the challenges facing China's labor market, as well as for achieving the government's new objective of encouraging population growth. Furthermore, it is not conducive to achieving gender equality, promoting high quality economic growth or advancing the new strategic goal of common prosperity.

5.1.4 COVID-19 has had a relatively large adverse impact on the paid care (i.e. domestic service) industry.

Our analysis conducted using the 58.com platform's big data, supplemented by interviews and a questionnaire survey, shows that at the start of the new coronavirus outbreak, the domestic service industry was severely affected. The sector has a low level of social organization; enterprises provide little skills training to workers who face social discrimination and lack social security coverage. The low quality of jobs and limited capacity to cope with risk means that the sector does not attract young workers. This fragility in the domestic service industry impacts both enterprises and workers. Notable findings from the research are that both supply and demand in this segment of the labor market declined year-on-year, the volume of orders and the income of enterprises fell sharply, and workers were unable to work due to the impact of pandemic isolation policies. The labor market for domestic services gradually recovered following the resumption of work and production in March 2020, and due to a relative decline in those seeking work and an increase in demand for workers, the wages of those in employment increased rapidly. However, given that few paid care workers have labor contracts, that the work involves close "contact" with other people, and that most workers are older women with low education, unstable incomes and lacking in job security, workers in the sector are vulnerable to the negative impact of shocks such as the pandemic.

In China's current context, with the demand for child and elderly care substantially increasing, it is both necessary and increasingly urgent for government to support and standardize the development of domestic service enterprises, to establish or improve labor protection policies for paid care (domestic service) workers, and to attract qualified young people into the sector.

5.2

Policy recommendations

In order to address the enormous challenges raised by the increasing demand for care labor and its inadequate supply, and to reduce the paid and unpaid care burden on women, supportive actions need to be taken at national, enterprise and community levels. As discussed earlier, the nature of care means that the market will never ensure a sufficient and affordable supply of quality care services. To address market failures, the government must play a role in ensuring an adequate system that is accessible to all those in need of services, including through subsidies, incentives and other forms of support. Building a system that can ensure the provision of affordable and high-quality care services will require a holistic policy response that provides incentives for men to share care work, reduces discrimination in the labor market and strengthens other measures to support women with care responsibilities. Enterprises can be incentivized to develop more family-friendly policies, improve work arrangements, and provide care facilities. Community level facilities and services should also be strengthened and access to affordable services improved. A whole of society effort is required to challenge the norms of a patriarchal gender division of labor, raise public awareness that men are also obliged to take on unpaid care work, and promote the idea that men and women should share such work. Unless traditional mindsets are changed, measures such as increasing public services can only partially reduce women's burden of unpaid care work but will not fundamentally change gender inequality within the household or gender segregation in the market for paid care services. The recommendations elaborated below provide some specific ideas for responding to these challenges and together should contribute to promoting the sustainable and healthy development of China's care economy

5.2.1 Fully recognize the value of unpaid care work and incorporate it in the preparation of "household satellite accounts"

As argued above, the care sector is critical for economic growth and societal well-being, and women are disproportionately engaged in care work, both

paid and unpaid. The data show that women's total working hours are longer than men's when unpaid care work is accounted for but that this unpaid care work is not included in GDP as it has no direct economic return (or wage). This points to defects in the traditional System of National Accounts (SNA). It stands to reason that the SNA production scope should include all productive economic activities. By showing that care work is treated differently depending on whether it is paid or unpaid, we can see that the SNA's restrictions are narrower than the scope of all productive activity. Specifically, the SNA does not include "the production of household services and personal services for consumption within the same household, including cooking, caring for and raising children, cleaning, repairing, etc.", which results in the exclusion of economically meaningful activities undertaken within the household on an unpaid basis.

In order to recognize the economic value of unpaid care work, the key step is to expand the SNA's production scope, and to include activities that are economically meaningful within satellite accounts.⁴⁷ The national economic accounting system could then play a greater role in supporting the country's economic management. To this end, the government should support the academic community to carry out research on the compilation of household satellite accounts that fully account for the value of unpaid care work, and on the feasibility of their implementation. National research funds should support in-depth studies of the composition of unpaid care work, its gender distribution, and correlation with stages of economic development, culture and development trends, and promote both theoretical discussions and policy evaluations to support the marketization, specialization and professionalization of unpaid care work.

47 Beyond this, the limits of GDP as an indicator of well-being have also long been recognized and the current UN Secretary-General has called for a new indicator of a country's well-being (see for example, <https://www.iisd.org/publications/report/moving-beyond-gdp-achieve-sdgs>). See also the report of the Sarkozy Commission (Stiglitz, et al., 2009) <https://ec.europa.eu/eurostat/documents/8131721/8131772/Stiglitz-Sen-Fitoussi-Commission-report.pdf>.

5.2.2 Introduce and effectively implement policies to develop quality care services

In the process of China's transition from a planned economy to a market economy, market-oriented reforms have weakened the state's protection of workers with family responsibilities. Care functions once provided by the state and enterprises have been transferred to the family, and mainly to women. Enterprises or employers in general no longer provide childcare services such as nurseries or parenting facilities for female employees during pregnancy or breastfeeding; are unwilling to hire women of child-bearing age, while overtime work is common. In terms of childcare, there is an extreme shortage of high-quality and affordable childcare institutions for children under 3. In terms of old-age care, the country still has a low level of pension coverage, a serious shortage of high-quality and affordable old-age care institutions, a shortage of elder care service workers and a serious shortage of qualified elder care service professionals. The domestic service or housekeeping industry faces problems such as the poor quality of domestic service agencies, inadequate staff training, insufficient social security coverage or legal protection for domestic workers, and lack of professional standards across the sector.

In recent years, the Chinese government has issued a series of policies to address these problems⁴⁸. In the government work report of March 2019, Former Premier Li Keqiang announced that the government would support the expansion of preschool education through multiple channels, including both public and private kindergartens, as long as they met safety standards, charged reasonable fees, and created confidence among parents. Despite these policy intentions, there is still a huge gap between provision and need in this area and further measures are necessary not only to expand provision but also to maintain quality as services are scaled up. The following measures for example could be undertaken:

- All levels of government should increase investment in pre-school education and raise the number of government subsidized kindergartens,⁴⁹ in order to expand the supply of day care for children.
- The construction and supervision of childcare institutions should be strengthened, the management mechanism of kindergartens standardized, the quality of preschool education improved, and the inadequate supply of quality kindergartens addressed.
- Public subsidies should be available to enable workers with unpaid care responsibilities to access the national early childhood care and education program, with free public early childhood care and education services provided by professional educators available for all children under the age of 6 from poor families, and temporary childcare services provided for seasonal workers who are also unpaid caregivers.
- Access to social security for unpaid care workers should be improved. This could include for example a cash transfer payment or family tax reduction system for family members requiring care, and a cash transfer payment, access to social protection and reemployment support for caregivers who provide unpaid care work.
- Support should be provided for home-based and community care, and care in professional institutions also needs to be improved.
- The construction of barrier-free facilities in public places would help to facilitate more convenient access to services for the elderly and the disabled, improve their autonomy and reduce their need for care.

China can draw on lessons from international experience on the "5 Rs", to promote the improvement of relevant laws and policies, such as recognizing the economic contribution of unpaid care work in relevant social policies and taking into consideration

⁴⁸ These include for example, the 14th Five Year Plan, Decision of the CPC Central Committee and the State Council on optimizing the family planning policy and promoting the long-term balanced development of the population, and Guiding opinions on further improving and implementing active maternity support measures issued by 17 government departments.

⁴⁹ Government subsidized kindergartens refer to those that charge childcare fees and accommodation fees at government-guided prices, including kindergartens run by the education department, public kindergartens run by other departments, and state-subsidized private kindergartens (see <http://www.bjrd.gov.cn/>).

unpaid care work in the distribution of family property. For example, Article 1088 of the Civil Code, states that “If one spouse bears more obligations for raising children, caring for the elderly, assisting the other in work, etc., s/he has the right to request compensation from the other party and the other party shall give compensation when divorced”: judicial interpretations should be formulated and standards defined so that this clause can be effectively implemented.

5.2.3 Extend legal and social protections to workers in the domestic service industry, and improve the degree of organization and professionalization of the sector, including through improved training for the management and provision of services

While the development of an informal domestic service industry has created employment for urban labor force entrants, migrant workers and the rural labor force, informality has also contributed to the vulnerability of the domestic service industry. It has limited the capacity of the sector to withstand external shocks, hindered the specialization and professionalization of the industry, adversely impacted the healthy and sustainable development of the sector and thus adversely affected the care economy and efforts to alleviate women’s unpaid care work burden.

At present, most domestic service workers in China do not sign labor contracts with domestic service enterprises, many have no contract, and of those with a contract, most have service contracts with a domestic service agency or employer. Some domestic service enterprises register domestic service workers as self-employed and are thus not obliged to contribute to a pension, nor do they provide medical insurance, employment injury insurance or unemployment insurance for domestic service workers. Generally, only personal accident insurance is provided. For most domestic service workers, these social insurance schemes are too expensive, so workers lack coverage or only contribute to certain government programs such as China’s New Rural Pension or New Cooperative Medical Insurance. Given the lack of contracts and low degree of organization among domestic service workers, they also lack legal protections, and have limited recourse in the event of wage

arrears and unfair treatment by their employers. There are few successful cases of rights protection through legal channels, and workers often have no choice but to terminate the contract and find another job. The degree of organization and level of training of domestic service workers in China is low compared for example with other countries such as the Philippines, and thus the degree of specialization and professionalism is also low.

The following recommendations would improve legal and social protection for workers, strengthen the organization of workers and contribute to the development and regularization of domestic service enterprises:

- The government should issue relevant regulations or policies to improve the management standards and business incentives for domestic service enterprises, promoting specialization and professionalization of businesses and employees.
- A “Domestic Service Worker Employment Promotion Law” should be formulated which clarifies the government’s responsibility for tax and subsidies to support domestic service enterprises, and to increase training investments and subsidies to workers for training.
- Industry associations should establish a unified domestic service industry skills training standard and a code of conduct for domestic service enterprises operating under market conditions, setting minimum standards for domestic service workers’ wages, working hours and days of rest, and other benefits, and ensuring that domestic enterprises or employers purchase occupational injury insurance for domestic workers.
- The coverage of social insurance such as pension, medical care, work-related injury and unemployment should be extended to domestic service workers and the low-income housing plan extended to workers employed through domestic service enterprises. Trade union organizations should be set up in domestic service enterprises, and a mechanism should be established to resolve domestic service workers’ labor disputes and quickly respond to infringements of their rights.

Collectively, these measures would help promote the development of a high-quality domestic service industry and provide basic legal and social protections for workers in the paid care sector.

5.2.4 Ensure all enterprises take on their responsibilities as employers, implementing the state's policies to promote gender equality and introducing family-friendly measures in the workplace

With the introduction of China's "three-child policy", local governments are gradually introducing family-friendly policies, including extending maternity leave and increasing parental leave for men. Tencent, Huawei, Skyworth and other large companies are addressing the problem for parents of enrolment in childcare and education by building their own kindergartens or hosting schools, colleges and universities. This improves employee well-being, sense of belonging and loyalty to the enterprise, as well as meeting the need of families for quality childcare. Some Chinese companies provide flexible working time within one hour to allow for commuting.

These specific measures set an example for ways to further alleviate the burden of women's unpaid care work. In addition to the government actively guiding or encouraging more companies to provide childcare services, which can also provide more job opportunities for women, enterprises should actively implement family-friendly policies, such as flexible working mechanisms, the establishment of child care centers, and encouragement of paternity and parental leave, remote working, and sharing of care responsibilities.

Government at all levels should enhance the implementation of existing policies and develop additional measures to support employers in providing such services for their employees - whether female or male. Key measures for consideration include preferential tax policies or similar incentives to private sector companies. Additional essential measures include support and incentives for men to take on more childcare and to reduce the burden on women including through family friendly policies in the workplace. These could include for example:

- The expansion of paid paternity leave, parental leave and other nursing leave, along with the promotion of men's acceptance of these benefits, in order to encourage men's take-up and their equal sharing of care responsibilities.
- The introduction of legislation that compels employers to provide flexible working hours and location arrangements for workers with care responsibilities, along with incentives (such as tax cuts or subsidies) to employers to introduce such arrangements.
- The establishment of a cost-sharing mechanism designed by the government as well as a system to track the implementation of such policies.
- Support for unpaid caregivers to enter the labor market, for example, vocational training and life-long learning opportunities for care givers, and tax reductions or other incentive mechanisms to encourage employers to hire care givers who re-enter the labor market.
- Expanding social security for unpaid care workers, including compensating for the interruption of employment due to child-rearing by increasing the pension contributions for mothers or fathers, and assisting low-income groups by providing care credits during periods of no income, including due to care-giving.
- For employees who leave employment to take care of their children or family members, government and enterprises should find an effective way to account for unpaid care work as part of the length of service in calculating social security benefits.

5.2.5 Foster a social environment that alleviates the double burden women face in their paid and unpaid family work and reduces gender segregation in the labor market for paid care services.

The key to changing the status quo by which women are principally responsible for unpaid care within the family, lies in a whole of society effort to challenge the norms of a patriarchal gender division of labor. This requires shifting the public perception to one that recognizes men's equal obligation to undertake and share care work in the family.

The comparison of data from 2008 and 2018 shows that, for both men and women, whether in rural or urban areas, time spent on childcare increased. In urban areas, the time spent on childcare and child instruction increased more than on other activities, and the gender gap widened. This shows that following the “second child” policy, the burden of childcare in urban families still falls more heavily on women’s shoulders. Therefore, as part of promoting higher fertility through the “three-child policy”, it is necessary to encourage men to share childcare responsibilities and effectively reduce the burden of childcare on women.

As employers, government departments and other public institutions should provide a model for promoting gender equality within their organizations. For example, employees with care responsibilities, whether women or men, should be given flexible working hours on an equal basis.

Efforts to encourage men to join the care, kindergarten and teaching professions, in particular attracting greater numbers of men to the preschool education sector, would help address the gender imbalance in this workforce and breakdown stereotypes around care and kindergarten teaching as female occupations.

The media and educational institutions should take on corresponding responsibilities, publicizing the idea of equal sharing of unpaid care work within the family. Gender education should be provided to practitioners, including journalists and teachers, so that educational institutions at all levels can introduce and teach high-quality courses on gender equality, challenging gender stereotypes and discrimination at the source.

Only through such holistic efforts across government, enterprise and society can the adequate provision of quality care services be assured to all those needing services, irrespective of income, and barriers to gender equality created by the unequal sharing of care responsibilities be overcome.

APPENDIX

Appendix Table 1 Time allocation and the gender gap in time use among Chinese residents, 2008 and 2018 (minutes per day)

Activities	2008				2018			
	Total	Women	Men	diff ⁵⁰	Total	Women	Men	diff
Paid Work	273.0	233.0	315.1	-82.1*	265.1	215.3	317.6	-102.3*
Unpaid Care Work	151.6	220.2	79.8	140.4*	165.3	233.6	93.3	140.3*
Housework	104.5	158.6	48.0	110.6 *	88.2	128.3	46.0	82.3*
Childcare	15.3	23.3	6.9	16.4*	37.6	56.1	18.0	38.1*
Child instruction	7.5	9.6	5.2	4.4*	9.2	12.1	6.1	6.0*
Adult care	1.8	2.0	1.6	0.4	10.0	11.7	8.3	3.4*
Other activities	22.6	27.0	18.0	9.0*	20.3	25.4	15.0	10.4*
Non-work	939.0	917.6	961.3	-43.7*	1024.7	1015.3	1034.7	-19.4*

Note: * p≤.05.

Appendix Table 2 Changes in time allocation and the gender gap in unpaid care work of rural and urban residents, 2008 and 2018 (minutes per day)

Activities	Rural						Urban					
	2008			2018			2008			2018		
	Women	Men	diff	Women	Men	diff	Women	Men	diff	Women	Men	diff
Housework	173.7	39.2	134.5*	146.0	49.6	96.4*	144.7	56.7	88.0*	116.8	43.6	73.2*
Childcare	30.6	6.5	24.1*	55.1	13.1	42.0*	16.6	7.3	9.3*	56.7	21.4	35.3*
Child instruction	6.1	2.9	3.2*	8.9	4.2	4.7*	12.7	7.5	5.2*	14.3	7.3	7.0*
Adult care	0.8	1.0	-0.2	8.1	6.3	1.8*	3.0	2.3	0.7	14.1	9.6	4.5*
Other activities	13.7	13.0	0.7	16.2	10.6	5.6*	39.2	23.0	16.2*	31.3	18.0	13.3*

Note: * p≤.05.

⁵⁰ Note for all tables: Diff is the difference in time spent by women minus the corresponding time spent by men.

Appendix Table 3 Time allocation and gender gap in unpaid care work among the working age population (age 25-55) by education level, 2018

Activities	Junior Middle School and Below			High School			College and above		
	Women	Men	diff	Women	Men	diff	Women	Men	diff
Unpaid Care Work	245.5	77.1	168.4*	241.3	84.2	157.1*	211.6	96.8	114.8*
Housework	138.5	39.3	99.2*	111.4	33.9	77.5*	76.3	31.0	45.3*
Childcare	59.8	13.7	46.1*	64.2	20.7	43.5*	78.5	31.3	47.2*
Child instruction	13.8	5.0	8.8*	18.2	7.4	10.8*	21.2	11.9	9.3*
Adult care	11.0	7.8	3.2*	16.1	8.2	7.9*	11.9	8.5	3.4*
Other activities	22.4	11.2	11.2*	31.5	14.0	17.5*	23.7	14.0	9.7*

Note: * $p \leq .05$.

Appendix Table 4 Changes in gender distribution of time in different activities among the older population (age over 55), 2008 and 2018 (minutes per day)

Activities	2008			2018		
	Women	Men	diff	Women	Men	diff
Paid Work	122.8	232.1	-109.3*	100.0	202.4	-102.4*
Unpaid care work	272.7	112.9	159.8*	260.4	126.8	133.6*
Housework	204.3	69.2	135.1*	167.9	72.6	95.3*
Child care	25.8	11.7	14.1*	42.9	18.1	24.8*
Child instruction	6.4	4.4	2.0*	6.4	5.1	1.3*
Adult care	3.6	2.6	1.0	13.1	10.1	3.0*
Other activities	32.6	25.1	7.5*	30.2	21.0	9.2*
Non-work	991.1	1025.0	-33.9*	1106.4	1126.7	-20.3*

Note: * $p \leq .05$.

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