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Working mothers around the world

Moderating effects of social position on mothers' paid work in middle- and high-income countries

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Chapter 6

Conclusions

6.1 The dissertation project

In this dissertation, I set out to examine the effect of motherhood on women's paid work in a global context. This project was motivated by observations of the societal and academic relevance of this question. Motherhood remains one of the largest impediments to women's labor market emancipation today, while parenthood simultaneously is an important life goal for the majority of young women and men. In the face of falling fertility rates and delayed childbirth, the incompatibility of work and family goals has been highly politicized in high-income countries. In developing countries, drives towards higher female labor force participation have encountered concerns that work is performed by the poorest women under precarious conditions, despite popular aversion towards working mothers and despite fertility in upper-middle-income countries having fallen below replacement rates already (De Giusti & Kambhampati, 2015; De Silva & Tenreyo, 2017; Kucera & Tejani, 2014; Mehrotra & Parida, 2017; UN, 2017).

Previous research has shown that the effect of motherhood on women's paid work differs between countries. Economic, policy, and cultural contexts influence the potential costs and gains from paid work, the extent to which paid work and unpaid care task can be combined, and the appropriateness of working or staying at home when children are small (Fortin, 2005; Hegewisch & Gornick, 2011; Pfau-Effinger, 2005; Rendall, 2013; Steiber & Haas, 2012; Stier, Lewin-Epstein, & Braun, 2001). Previous research has also shown that mothers in low compared to high social positions face diverse opportunities and constraints, as well as having different ways of dealing with time and role incompatibilities (Bhalla & Kaur, 2011; Goldin, 2006; Haas et al., 2006; Jacobs & Gerson, 2004; Mandel, 2011; Milkman, 2016; Nussbaum, 2001; Salway, Rahman, & Jesmin, 2003).

However, three major research gaps can be identified. First, most of our knowledge of motherhood effects on women's paid work is based on studies that test the effect of country-level contexts on a single labor market outcome, like employment (Hegewisch & Gornick, 2011; Steiber & Haas, 2012). Second, there is little academic consensus regarding the question how a mother's social position within a country moderates the effects of country contexts on labor market outcomes (Budig, Misra, & Boeckmann, 2016; Halldén, Levanon, & Kricheli-Katz, 2016; Todd, 2001; Tonoyan, Budig, & Strohmeier, 2010). Despite indications from scholars working on trade-offs that country contexts affect gender inequalities differently across labor market outcomes and social position, there is little evidence showing whether this is the case for motherhood effects too. Finally, the strict divide between studies into industrialized and developing countries means that it remains unclear whether theories and concepts developed in the contexts of high-income countries apply more broadly; and whether these

findings are specific to historically European and Anglo-Saxon contexts or to their level of economic development (Bloom et al., 2007; Lincove, 2008).

These are the research gaps I have attempted to address by asking: *How does women's social position moderate the way economic, policy, and cultural contexts influence motherhood effects in labor market outcomes in industrialized and developing countries?* I researched these heterogeneous effects by conducting four studies, presented in chapters two through five. The first study (Chapter 2) attempted to identify *which country-level indicators can explain differences in aggregate female labor force participation rates in 117 countries*. Analyses indicate that higher care burdens start being associated with lower labor force participation somewhere at the transition from lower- to upper-middle-income levels. In the remaining studies (Chapters 3-5), I therefore re-adjusted the scope to high- and middle-income countries for the sake of comparability. These studies also introduce the concept of social position and allow for the identification of motherhood, social position, and labor market outcomes on the individual level. I asked: *how does women's social position moderate the way country contexts influence the motherhood effect on (1) employment, (2) self-employment, and (3) wages in industrialized and developing countries?*

These findings were presented in four substantive chapters (chapters 2-5), which addressed one research question each; a brief reiteration of the main results can also be found in English summary at the end of this book. In this concluding chapter, I will attempt to answer the overarching research question by integrating the findings from the four studies and reflecting on their theoretical implications. I do so in the next section by returning to the schema from the introductory first chapter of this dissertation, which is displayed in Figure 6.1 (copy of Figure 1.2). In Section 6.3, I reflect on the contributions of the dissertation by returning to the original aims of the research project (see Section 1.1.2). Finally, in Section 6.4, I discuss the research gaps that have emerged from this project and set out a number of avenues for future research.

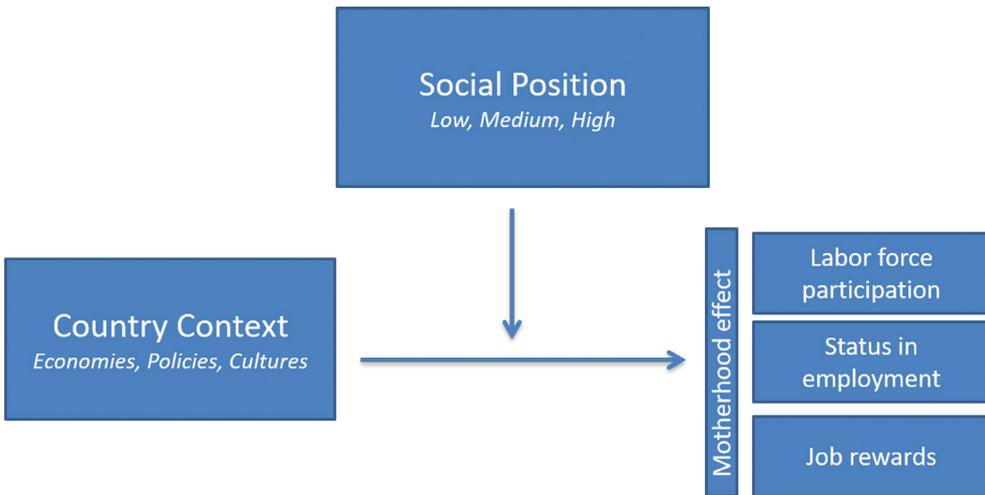
6.2 Main findings

6.2.1 Effect of motherhood on women's labor market outcomes

In this dissertation, I have studied the effect of motherhood, country contexts, and social position on women's labor market outcomes. In this section, I will discuss the main findings starting from the association between motherhood and women's labor market status per se, as displayed on the right side of Figure 6.1. This relationship is already well-established in the literature. Decades of research have demonstrated that motherhood is ordinarily associated with lower labor force participation (Agüero & Marks, 2010; Benería, 1992; Brewster & Rindfuss, 2000; Cruces & Galiani, 2007; Pettit & Hook, 2005; Uunk, Kalmijn, & Muffels, 2005)

and with lower job rewards (Abendroth, Huffman, & Treas, 2014; Aisenbrey, Evertsson, & Grunow, 2009; Bardasi & Gornick, 2008; Budig, Misra, & Boeckmann, 2012; Waldfogel, 1998). In consequence, I have not spent much attention to this primary relation in the dissertation. I only note here that previous findings have been confirmed in the third and fifth chapters: in most high- and middle-income countries, mothers are less likely to be employed and earn lower hourly wages than childless women.

Figure 6.1 Moderating effects of social position on the relation between country contexts and mothers' paid labor



This dissertation has also explored two less consensual, or less researched, themes regarding the relation between motherhood status and labor market outcomes. The first is whether this effect of motherhood is replicated for women's status in employment, measured as the motherhood effect on self-employment. Status in employment presents an interesting case for the study of motherhood effects because, like studies into part-time versus full-time employment, it is both possible to argue that the atypical labor relation is preferable to full-time dependent employment and that it is a penalty towards a more precarious labor market position. Furthermore, self-employment is the only labor market outcome studied here for which motherhood is effectively expected to yield a premium (McManus, 2001; Simoes, Crespo, & Moreira, 2016). The majority but not all existing studies indicate that motherhood is positively associated with women's probability of being self-employed (Campaña, Giménez-Nadal, & Molina, 2017). Studying 23 high- and middle-income countries in chapter

4, I find more mixed results. In only half (12) of the countries is the overall motherhood effect positive, and in fourteen countries at least one social position group experiences a motherhood premium. Negative effects of motherhood are found in seven countries. Taking into account only the overall effect of motherhood, I thus do not confirm a single dominant pattern of motherhood effects on self-employment. I return to these findings in Section 6.2.3, where I discuss recent work suggesting that mothers' self-employment is such a polarized phenomenon that the average country effect does not tell us much (Bjuggren & Henrekson, 2018; Ekinsmyth, 2014; Tonoyan, Budig, & Strohmeyer, 2010).

The second question under debate is whether the association between motherhood and women's labor market outcomes is the same across levels of economic development. Findings from Chapter two, in which motherhood is not measured directly, indicate that higher average care burdens in a country are associated lower female labor force participation rates in upper-middle-income and high-income countries. This association is positive in low-income countries and mixed in lower-middle-income countries. Analyses from the third chapter do confirm that the *effect* of motherhood (Table 6.2b) is negative in lower-middle, upper-middle, and high income countries. Only four African countries reveal substantial motherhood premiums on employment, an issue I will reflect on at greater length in Section 6.3. As noted above, motherhood effects on self-employment show more mixed results, but these are not clearly linked to levels of economic development. The effect of motherhood on wages is negative in all middle-income and high-income countries, with the exception of Indonesia.

I thus conclude that, with a handful of exceptions the general relation between motherhood and women's labor market outcomes does not vary between high- and middle-income countries, but that it is substantially different in low-income countries. This is not to say that there are no differences in the dynamics or the extent of motherhood effects in high- and middle-income countries. Indeed, the rest of this section is dedicated to explaining differences between country contexts. However, general expectations from industrialized countries that motherhood status is associated with lower, more tenuous, and lower rewarded engagement in paid labor does hold in the large majority of middle-income countries.

6.2.2 Effects of country contexts on mothers' labor market outcomes

The second relationship I researched was between country contexts and motherhood effects on women's labor market outcomes, i.e. the horizontal arrow from left to right in Figure 6.1. In this section, I review the main findings regarding the influence of economic, policy, and cultural contexts on motherhood effects for the studied labor market outcomes: employment participation, status in employment, and job rewards. These results are also summed up in

Table 6.1, where indicators of country contexts are bolded and results are printed in red if their heterogeneous effects are discussed in the next section on the moderating effect of social position (Section 6.2.3).

6.2.2.1 *Economic contexts*

Economic contexts set the structural conditions in the labor market and economy that govern whether opportunities to work exist and whether they outweigh the associated costs. Previous literature has shown that economic contexts can affect how mothers balance the need to provide income to the family with the costs of outsourcing care tasks (Boeckmann, Misra, & Budig, 2015; Del Boca, Pasqua, & Pronzato, 2009; Gerson, 2010; Korpi, Ferrarini, & Englund, 2013). I measure economic contexts in a number of ways. First, as the level of economic development of the country, for which I use an indicator of counties' per capita GDP. In Chapter 2 the relation between economic development and women's labor force participation is found to be U-shaped, confirming decades of previous research (Goldin, 1995; Haghihat, 2002; Lincove, 2008; Pampel & Tanaka, 1986; Tam, 2011). In the third chapter, I find the same U-shaped relation using micro-data and confirm that the mean share of mothers in paid employment is slightly lower in upper-middle-income countries than in lower-middle-income countries (see Table 6.2a).

However, these findings must be qualified for several reasons. First, the U-shaped relation with aggregate female labor force participation appears to be driven by women under age 20 and over age 55 rather than by the age group of women most likely to be responsible for the care for dependent children. Second, aggregate female labor force participation rates are higher in countries with larger agricultural and services sectors and smaller in countries with large industrial sectors, which confirms that the U-shaped relationship is likely driven by work opportunities and other societal processes, as was posited as far back as the 1980s (Semyonov, 1980). Moreover, contrary to *levels* of maternal employment, the U-shaped relation with per capita GDP is not confirmed for motherhood *effects* on employment. Results from the third chapter indicate the size of motherhood effects on employment is negatively associated with per capita GDP. Motherhood effects on employment are effectively more negative in high-income countries, which suggests motherhood is *more* relevant to women's employment status at higher levels of per capita GDP and contrasts sharply with a view based on absolute levels of maternal employment. Finally, per capita GDP is negatively related to the share of mothers that is self-employed and positively to the level of wages earned, but unrelated to motherhood effects on self-employment or wages.

The second reason that economic contexts matter is that they can determine the extent to which mothers' income from paid labor is necessary to the family and whether earned incomes offset the cost of outsourcing childcare. In the third and fourth chapters, I measure

this mechanism by testing the effects of poverty rates and earnings inequality (GINI) in a country; earnings inequality is also included in the fifth chapter. This mechanism does not yield many results without taking into account mothers' social position in a country. The association of poverty rates and earnings inequality with the motherhood effect on self-employment is not significant, nor is the relation between earnings inequality and the motherhood effect on wages. Poverty rates and earnings inequality are positively related to motherhood effects on employment, indicating that the motherhood penalty on employment is estimated to be smaller in those countries.

The four studies of the dissertation thus indicate that motherhood penalties on employment are larger at higher levels of per capita GDP, although the overall share of mothers in paid employment is also larger. Net of per capita GDP, motherhood penalties are smaller in countries with higher poverty rates and earnings inequality. This is line with findings from many development scholars, who have suggested that mothers are less likely to be out of the labor force in countries where a large share of the population is forced to designate a second earner (Bhalla & Kaur, 2011; Boeri, 2018; Elson, 1999; Kucera & Tejani, 2014; Mehrotra & Parida, 2017). There is no evidence, however, that economic contexts can explain motherhood effects on self-employment or on wages.

6.2.2.2 *Policy contexts*

Policy contexts include public policies that facilitate or impede the participation and position of mothers in the labor market, be it by their presence or absence. Previous literature has shown that policy contexts can influence motherhood effects by reducing the incompatibility of work and care tasks (Gornick, Meyers, & Ross, 1997; Hegewish & Gornick, 2011; Korpi, 2000; Mandel, 2009; Mandel & Semyonov, 2006; Orloff, 2002; Pascall & Lewis, 2004; Pitt-Catsouphes, Kossek, & Sweet, 2015; Stier, Lewin-Epstein, & Braum, 2001). In the second chapter, I show that female labor force participation rates of women between ages 20 and 55 are higher in countries providing leaves of moderate length and at higher enrollment in pre-primary education.

These last findings are also confirmed in Chapter three, using micro-data. Higher enrollment in both pre-primary education and childcare for ages 0-2 as well as expenditure on pre-primary education are associated with higher levels of maternal employment. However, only higher pupil-teacher ratios are associated with smaller motherhood penalties on employment. The pupil-teacher ratio, as shown in Chapter four, is also associated with a larger motherhood premium on self-employment. No overall effect of childcare is found on the motherhood penalty on wages. Surprisingly, I also find very limited evidence of any association between motherhood effects and policy measures related to working time, such as maternity leaves and part-time work.

In summary, the most relevant associations between policy contexts and motherhood effects that I found are thus related to early childhood care and education. Effects of pre-primary enrollment and the pupil-teacher ratio on the motherhood premium on self-employment are as expected, given previous evidence that self-employed mothers organize their business activities around children's school times and locations in high- and middle-income countries alike (Annink & den Dulk, 2012; Boeri, 2018; Campaña, Giménez-Nadal, & Molina, 2017; Ekinsmyth, 2011). Additional analyses show that the effect of the pupil-teacher ratio has a larger positive effect in countries with high enrollment levels in pre-primary education (Figure 4.5, Chapter 4) and thus suggest the results can be interpreted as a sign that motherhood premiums on self-employment are larger when the quality of pre-primary education is lower.

However, the positive effect of the pupil-teacher ratio on the motherhood effect on employment is less intuitive, since it suggests that motherhood penalties are smaller when class sizes are larger. While being unable to test this directly, I suggest a possible explanation of this relationship might be that class sizes are larger in countries where pre-primary education is more integrated in the school curriculum. The null-findings regarding the association between childcare and the motherhood effect on wages are unexpected. I go deeper into the relationship in Section 6.1.3, which discusses the heterogeneous effects of childcare.

6.2.2.3 *Cultural contexts*

Cultural contexts are conceptualized as informal institutions that describe the cultural appropriateness of mothers' paid work. Previous literature has shown that cultural contexts can influence the size of motherhood effects by encouraging or discouraging paid work (Hegewish & Gornick, 2011; Pitt-Catsouphes, Kossek, & Sweet, 2015; Steiber & Haas, 2012). In this dissertation, I measure both the outcomes of cultural contexts, such as gender equality, as well as indicators reflecting attitudes or preferences. Results from the second chapter indicate that labor force participation rates of women between 20 and 55 are higher in countries with stronger political rights for women and where lower shares of the population adhere to a single religious denomination. Gender equality and supportive attitudes towards working mothers are also found to be positively associated with the share of mothers in paid employment (Chapter 3), but not with motherhood effects on employment (Chapter 3) or self-employment (Chapter 4).

These findings suggest that cultural contexts are associated with mothers' labor market outcomes, but not more so than with labor market outcomes of childless women. Regarding the effects of gender equality, this is in line with arguments that the benefits of gender equality move from the most advantaged top to the disadvantaged bottom, posited by Mandel and colleagues (Mandel, 2011; Mandel & Semyonov, 2005, 2006; Mandel & Shalev,

2009). Because childless women more closely resemble the ideal worker than mothers, advances in gender equality would not then be expected to close the gap between mothers and childless women (although they might, within the bounds of this argument, reduce mothers' disadvantage compared to men or to fathers).

The finding that the attitudinal variables are not associated with the motherhood effect on any labor market outcome is unexpected. Attitudes towards working mothers and housewives, after all, were hypothesized to revolve around beliefs about appropriate ways to balance good mother and good worker roles (Christopher, 2004; Cuddy, Fiske, & Glick, 2004; Pfau-Effinger, 2004; Ridgeway & Correll, 2004b; Zhou, 2017). Without going deeper into this issue, which is discussed at some length in the next section, I conclude here that average attitudes towards working mothers do not explain motherhood effects without reference to the moderating effect of social position.

6.2.3 The moderating effect of social position

Throughout this dissertation, I have studied how the relation between country level contexts and motherhood effects is moderated by social position. In this section, I will discuss the main findings regarding social position and its added value to our insights into the dynamics of mothers' labor market outcomes in high- and middle-income countries. First, I discuss which effects social position is found to have on motherhood effects per se. That is to say, how are motherhood effects expected to vary on the individual-level based solely on information regarding women's motherhood and social position status. Second, I will discuss how taking into account women's social position alters or deepens our understanding of the effects of country contexts. Since the intersection of social position and motherhood status is first introduced in the third chapter, findings in this section do not include results from the second chapter on aggregate female labor force participation.

Table 6.1 Main effects of country level contexts on motherhood effects

	Study 1	Study 2	Study 3	Study 4
	Female labor force participation	Employment	Self-employment	Wages
Motherhood	Negative effect of care burdens in high- and upper-middle-income countries	Negative effect of motherhood in all but four African lower-middle-income countries	Mixed effects of motherhood	Negative effects of motherhood in all countries, except Indonesia
Economic contexts	GDP is related to the FLPR in a U-shape, especially for the youngest and oldest age groups. Industrial sectors provide an alternative explanation.	GDP is related to maternal employment levels in a U-shape and negatively related to motherhood effects. Poverty and GINI are positively related to motherhood effects	GDP is negatively related to the share of mothers in self-employment and not related to motherhood effects. Poverty and GINI are not associated with the motherhood effect	GDP is positively related to level of wages earned and not related to motherhood effects. GINI is not associated with the size of the motherhood effect
Policy contexts	FLPRs are higher in countries with higher enrollment in pre-primary education and with paid maternity leave of moderate length.	Employment levels are higher in countries with higher enrollment in childcare and pre-primary education and with higher spending on pre-primary education. The pupil-teacher ratio in pre-primary education is positively related to motherhood effects	The motherhood premium on self-employment is larger in countries with higher enrollment in pre-primary education and higher pupil-teacher ratios .	The overall motherhood penalty on hourly wages is not associated with childcare enrollment.
Cultural contexts	FLPRs are higher in countries with more political rights for women and lower shares of the population adhere to the dominant religious denomination .	Gender equality and supportive attitudes towards working mothers are positively related to maternal employment levels and unrelated to motherhood effects.	Gender equality and attitudes towards working mothers and housewives are not associated with the overall motherhood premium on self-employment.	

Table 6.2 Overview of chapter results regarding the share of mothers that is employed or self-employed, median wages, and motherhood effects on employment, self-employment, and wages by social position and country income group

	Mothers'											
	Share in employment			Share in self-employment			Median wage (ppp)					
	Overall	Low	Medium	High	Overall	Low	Medium	High	Overall	Low	Medium	High
(a)												
Lower-middle-income	0.528	0.514	0.532	0.537	0.216	0.221	0.243	0.151	4.635	3.016	4.263	6.508
Upper-middle-income	0.470	0.362	0.455	0.652	0.060	0.053	0.067	0.067				
High-income	0.622	0.440	0.637	0.772	0.066	0.049	0.065	0.082	9.931	8.219	10.083	12.270
(b)												
	Motherhood effect on											
	Employment (AME)			Self-employment (AME)			Net Wages (%)					
	Overall	Low	Medium	High	Overall	Low	Medium	High	Overall	Low	Medium	High
Lower-middle-income	-0.0071	-0.0026	-0.0120	-0.0319	0.0322	0.0325	0.0287	0.0193	-0.1184	-0.1265	-0.1189	-0.0579
Upper-middle-income	-0.0559	-0.0319	-0.0578	-0.0481	0.0008	0.0007	0.0003	0.0003				
High-income	-0.0908	-0.0581	-0.0946	-0.0796	-0.0014	-0.0012	-0.0026	0.0030	-0.0725	-0.1257	-0.0599	-0.0380

Note: share in and motherhood effect on employment based on analyses from chapter 3; share in and motherhood effect on self-employment based on analyses from chapter 4; median wages and motherhood effect on wages based on analyses from chapter 5.

6.2.3.1 *Social position and motherhood effects*

While it is impossible to study the individual level relation between social position and motherhood effects in isolation from country context, there are a number of things to be said about the way social position affects the relationship between motherhood status and women's labor market outcomes. In this sub-section, I therefore discuss the country patterns found for motherhood effects on each of the labor market outcomes. Summary statistics of these results are shown in Table 6.2, which displays the average value for the three social position groups on each of these indicators in lower-middle-, upper-middle-, and high-income countries respectively. These dominant patterns of the moderating effect of social position are also relevant to the debate whether motherhood is a uniformly disruptive event to women's careers, or whether it reduces or compounds pre-existing inequalities between women in different social positions, which I return to in Section 6.3.3 (Budig, 2006a, 2006b; England et al., 2016; Halldén, Levanon, & Kricheli-Katz, 2016).

In the study on motherhood effects on employment, I find that mothers in high social positions are most likely and mothers in low social position least likely to be employed in high- and upper-middle income countries. These results confirm previous findings and have been linked to the better opportunities that mothers in high social positions have in the labor market, making careers more attractive and increasing the likelihood that earned incomes will offset the cost of outsourcing care tasks (Becker, 1991; England, Garcia-Beaulieu, & Ross, 2004). Differences in employment levels by social position are less marked in lower-middle-income countries, as shown in table 6.2a. As such, these findings neither confirm nor deny studies that have suggested that the relation between social position and mothers' paid employment works in the exact opposite way in middle-income countries (Goldin, 1995; Lokshin, Glinskaya, & Garcia, 2000; Mehrotra & Parida, 2017; Wejnert & Almagul, 2005). Rather, I conclude that social position affects maternal employment levels in similar ways in high- and upper-middle-income countries, while the social position effect is sometimes different but certainly not opposite in lower-middle-income countries. Mothers in low social positions are least likely to be employed across high- and middle-income countries, while the size of that gap widens at high levels of economic development.

Findings regarding the *effect* of motherhood on women's probability of being employed tell a different story. Here, it is effectively the medium social position group that experiences the largest motherhood effects on employment in upper middle- and high-income countries. As the results from Chapter 3 and Table 6.2b show, the higher maternal employment levels of medium compared to low social position mothers conceals their larger penalties on employment in 20 of the 31 countries studied. In two African countries, the penalties for medium social position mothers are large enough to drop their employment levels below those of the low social position women that their childless peers outperform.

Social position is quintessential to current theories on motherhood effects on self-employment. In fact, one would be hard-pressed to find any sociological work on maternal self-employment since the 1990s that does not, implicitly or explicitly, acknowledge the existence of differences between mothers in high and low social positions (McManus, 2001). The two dominant theories that I test in the fourth chapter, then, also revolve around the intersection of motherhood and social position. I do not find a dominant social position effect across countries. Moreover, a substantial number of countries show that motherhood premiums on self-employment are driven either by both the high and low social position groups, or by the medium group. Therefore, I argued in Chapter four that the *mumpreneurship* and *disadvantaged worker* theses should not be conceived of as opposing theories regarding the effect of social position, but rather as two separate theories speaking to mothers in a high social position and in a low social position respectively.

Finally, in Chapter 5, we study the effect of social position on the motherhood wage penalty. In this last case, too, the expected effect of social position is still under debate and we therefore test three competing theories. In the study of 13 high- and middle-income countries, we find larger penalties for mothers in low social positions (19%) compared to those in medium (10%) and high (9%) social positions. Results from chapter 5 indicate that mothers in high social positions experience the smallest wage penalties, although employment breaks are associated with larger wage penalties. We also find evidence that motherhood wage penalties are smaller when mothers in low social positions have been promoted in their current firm, which suggests that the wage penalties of mothers in low social positions function primarily through their inability to retain jobs. The wage penalties experienced by women in medium social positions are comparable to those in high social positions only if they work in fulltime, 9 to 5 office jobs, whereas they are comparable to their low social position peers if they do not. The wage penalty for mothers in medium social positions is in fact only smaller than that of low social positions mothers after these factors are controlled for. Our findings thus support the *disadvantaged worker* thesis, which argues that women in the weakest bargaining position will be least able to mitigate work-family conflicts (Budig & Hodges, 2010; Todd, 2010). Results also provide partial support for the *time incompatibility* thesis, which posits that women in medium social positions will suffer the largest penalties because they work in low-autonomy office jobs which are least flexibly combined with care tasks (Anderson, Binder, & Krause, 2003; Hook & Pettit, 2016).

6.2.3.2 Social position and economic contexts

As reported in Section 6.2.2, economic contexts were found to be associated with motherhood effects on women's labor market outcomes in two ways. The first findings was that per capita GDP is associated with maternal employment *levels* in a U-shaped relation,

negatively related to the share of mothers in self-employment, and negatively related to motherhood effects on employment. Based on the findings from Chapter 3, I posit that the U-shaped relation between per capita GDP seems largely driven by the low and medium social position groups. Employment levels of mothers in low and medium social positions are lowest in upper middle-income countries, as shown in table 6.2(a). Employment levels of mothers in medium social positions in high-income countries exceed levels from lower-middle-income countries, while those of low social position mothers do not; in both cases this results in a U-shaped relationship. Notably, the U-shaped relation does not apply at all to mothers in high social positions, whose employment levels are higher at each subsequent income-level. No social position effects were found for the negative relation between motherhood effects on employment and per capita GDP. In the descriptive table 6.2 this also appears to apply to all social position groups. Nor did I find any evidence for a moderating effect of social position on the negative relation between per capita GDP and the share of mothers in self-employment.

The second finding on the relation between economic contexts and motherhood effects was that poverty rates and earnings inequality were positively related with the motherhood effect on employment, suggesting that motherhood penalties are smaller in countries with higher poverty rates and earnings inequality. However, these findings are not replicated across social position groups. Poverty rates were negatively related to the effect of being in a low social position, implying that the motherhood penalty on employment for women in low social positions is relatively large compared to their medium and high social position counterparts in countries with higher poverty rates (Chapter 3, Table 3.4). The positive effect of the GINI coefficient was confirmed for women in medium and high, but not in low social positions. High social position mothers experience smaller penalties on employment in countries with larger earnings inequality. While earnings inequality was not significantly associated with the overall motherhood effect on wages, it is associated with larger differences in wage penalties between social position groups. Earnings inequality does not appear to affect low social position mothers' employment or self-employment, but their wage penalties are more negative and larger compared to those of their peers in countries with higher GINI coefficients (see Figure 5.2). Thus, while the relation between economic contexts and motherhood effects on employment appeared to suggest that fewer mothers are out of paid labor in countries where a second income is more likely to be required, the introduction of social position as a moderating variable can show us that the opposite is true for mothers in low social position.

I therefore conclude that social position moderates the relation between economic contexts and motherhood effects on employment and wages. In fact, two theories arguing (1) that more mothers are forced into paid employment at higher levels of poverty and income

inequality (Boeri, 2018) and (2) that more mothers are forced out of paid employment at higher levels of poverty and income inequality (England, Garcia-Beaulieu, & Ross, 2004), are reconcilable when taking into account the moderating effect of social position. I found that motherhood penalties on employment are smaller in countries with higher income inequality and poverty, whereas penalties for the low social position group are larger compared to the medium and high social position groups.

6.2.3.3 *Social position and policy contexts*

As reported in Section 6.2.2, policy contexts were found to be associated with motherhood effects on women's labor market outcomes through the effects of early childhood care and education. Early childhood care and education was related to both the share of mothers in paid employment, motherhood effects on employment, and motherhood effects on self-employment. The relation with the motherhood effect on wages was not significant. Analyses that take account of women's social position, reveal a complex interrelationship that evidences the importance of childcare policies but also shows relevant null-effects.

In the models measuring the moderating effect of social position, the main effects of early childhood care and education presented in Section 6.2.2 are replicated for the medium social position group, as shown by the effect of the indicators on the main effect of motherhood in Table 6.3 (second column). However, findings from Chapters 3 through 5 also indicate that these results are not the same across social position. In the last two columns of Table 6.3, I show the findings regarding the moderating effect of being in a low or a high social position compared to being in a medium social position. In order to aid understanding of the dynamics of the moderating effects, I describe how social position affects the motherhood effects on the different labor market outcomes as found in previous sections. That is to say, I take into account here that we already know, for example, that the share of low social position mothers in paid employment is lower than those of the medium and high social position groups. In the table, a negative relation between enrollment in childcare and the size of the effect of being in a low social position is therefore described as implying that 'the share of low social position mothers in paid employment lags further behind the medium and high social position groups in countries with higher enrollment in childcare for ages 0-2'.

Table 6.3 Moderating effects of social position on the relation between four indicators for early childhood care and education and motherhood effects

	Main effect of motherhood	Effect of being in a low social position	Effect of being in a high social position
At higher childcare enrollment rates	Higher share of mothers in paid employment	Share of low social position mothers in paid employment lags behind more strongly	The motherhood penalty on wages for women in high social positions is closer to the medium group
At higher pre-primary enrollment rates	Higher share of mothers in paid employment; larger motherhood premium on self-employment	Share of low social position mothers in paid employment lags behind more strongly; The motherhood premium on self-employment is smaller for low social position mothers	
At a higher pupil-teacher ratios	Smaller motherhood penalty on employment; larger motherhood premium on self-employment	The motherhood penalty on employment is larger for low social position mothers; The motherhood premium on self-employment is smaller for low social position mothers	
At higher investment in pre-primary education	Higher share of mothers in paid employment	Share of low social position mothers in paid employment lags behind more strongly.	Share of high social position mothers in paid employment is closer to the medium group.

As summarized in Table 6.3, findings indicate that the share of low social position mothers in paid employment lags further behind the other groups in countries with higher enrollment in both childcare and pre-primary education and countries that invest more in pre-primary education. The motherhood penalty on employment is also relatively larger for women in low social positions in countries with higher pupil-teacher ratios in pre-primary education. This is not to say that childcare does not benefit the employment of mothers in low social positions, but that the effects on this group are smaller compared to the medium and high social position groups. Similar moderating effects of being in a low social position are found for the relation between the motherhood premium on self-employment and enrollment and the pupil-teacher ratio in pre-primary education. These findings, in turn, suggest that the overall motherhood premium on self-employment found in Chapter four is less likely to be driven by low social position mothers in countries with higher enrollment and pupil-teacher ratios in pre-primary education.

Being in a high social position is found to moderate the relation between early childhood care and education and motherhood effects in two ways. First, higher investment in pre-primary education is negatively associated with the size of the effect of being in a high social position on maternal employment *levels*. This indicates that the share of mothers in high social positions, who are generally much more likely to be in paid employment than their peers, is more similar to that of the medium social position group in countries that invest more in pre-primary education; from a policy perspective, one might argue investment in pre-primary education allows the medium social position group to catch up. Second, enrollment in childcare ages 0-2 is negatively related with the size of the effect of being in a high social position on the motherhood wage penalties. As shown in the fifth chapter, this does not imply that childcare enrollment leads to larger wages penalties for mothers in high social positions. Rather, these findings suggest that the positive overall effect of childcare is smaller for women in high social positions and that the gap between this group and the low and medium social position mothers is reduced (see Figure 5.3).

In conclusion, these findings thus suggest that enrollment in early childhood care and education primarily increases the share of medium and high social position mothers in employment, and reduces motherhood penalties on employment for these same groups. There is some tentative evidence that investments in pre-primary education raises the share of medium social position mothers in employment to a sufficient extent to reduce gaps between medium and high social position mothers. On the other hand, these same indicators suggest that the effects are smaller for the low social position group, which lags behind more. These findings contradict expectations that mothers in lower social positions will be more strongly affected by policy contexts due to their greater dependence on the provision of services. Nor do they directly support theories that women in higher social positions will reap the benefits from emancipatory opportunities (Mandel, 2011), because the effects are smaller for the high and the medium social position group. However, the results are in line with arguments that potential market earnings might not outweigh the cost of childcare for mothers in lower social positions (c.f. England et al., 2004).

Findings regarding the moderating effect of social position on motherhood effects on two other labor market outcomes, self-employment and wages, do show evidence of the greater dependence of low social position mothers on public policies. Results from the analyses of wage penalties indicate that the disadvantage of mothers in low social positions is worse in countries with lower enrollment in formal childcare institutions. Both low and medium social position mothers' penalties on wages are smaller compared to the high social position group in countries where childcare enrollment is higher. Results regarding the moderating effect of social position on the relation between early childhood care and education and motherhood premiums on self-employment, presented in the fourth chapter, also support

the dependence thesis. Findings suggests that the *disadvantaged worker* effect is stronger in countries with lower childcare and pre-primary enrollment, meaning that women in low social positions are more likely than the medium and high social position groups to be self-employed in countries where institutionalized childcare and pre-primary education are less accessible. On the other hand, women in high social positions where more likely than their peers in low and medium social positions to experience motherhood premiums on self-employment in countries where pre-primary education facilities have larger class sizes, particularly when combined with high enrollment levels.

6.2.3.4 *Social position and cultural contexts*

In the previous section, limited effects of cultural contexts were found. Gender equality was found to be positively associated with the share of mothers in paid employment. This positive effect of gender equality on the share of mothers in employment is replicated for medium and high social position mothers. However, results from the third chapter also indicate that the employment levels of mothers in low social position lag behind more in more gender equal countries. Recalling the debate on the benefits of gender equality, these findings are not unexpected (Mandel, 2011; Mandel & Semyonov, 2005, 2006; Mandel & Shalev, 2009).

More interestingly, social position appears to actively moderate the effect of the attitudinal indicators on mothers' labor market outcomes. In the analyses excluding considerations of social position, no associations were found between cultural contexts and motherhood *effects*. The positive association between supportive attitudes towards working mothers and the share of mothers in employment was the only evidence of any relation between mothers' paid work and attitudes towards working and non-working mothers. This relation is found to be driven by the medium social position group. Additionally, countries with more supportive attitudes towards working mothers showed a smaller penalty on employment for mothers in medium social positions compared to the low and high social position groups. These results confirm expectations that the stigmatization of mothers' paid work first and foremost concerns manual work and will affect medium social position mothers more than their low social position counterparts, because of their greater ability to forego income from paid work (Goldin, 1995; Mammen & Paxson, 2000).

The findings regarding attitudes towards non-working mothers deepen our understanding of how social position affects the relationship between motherhood effects and cultural contexts. While no overall results were found for attitudes towards housewives, social position acts as a moderating variable here too. More disapproving attitudes towards housewives are associated with smaller motherhood penalties on employment for the medium and high social position groups and with relatively larger penalties for women in low social positions (see Figure 3.6, Chapter 3). Moreover, the motherhood premium on

self-employment is larger for mothers in high social positions in countries where attitudes towards housewives are more negative (see Figure 4.6; Chapter 4).

These results suggest that social position moderates the relation between cultural contexts and motherhood effects in three ways. First, opportunities emanating from gender equality primarily benefit mothers in high social positions. Second, the stigmatization of working mothers affects mothers in medium social positions, whose jobs are more likely to be manual than those of the high social position groups and who are more likely to be able to forego the income from paid labor than the low social position group. Third, supportive attitudes towards housewives primarily affects those groups that are able to stay at home or become self-employed – mothers in high and to a lesser extent medium social positions.

6.3 Contributions to the field

6.3.1 The aims of the dissertation

In addition to the research questions, I formulated five aims that this dissertation would try to achieve. The first (1) was to disentangle motherhood effects by labor market outcome, social position and country context. This is the most concrete aim and has been discussed at length in Section 6.2. In this section, dedicated to the contributions of the dissertation, I reflect on the extent to which the remaining four aims were met. These aims were (2) to contribute to the work-family literature and the sociology of family and work by engaging with academic debates about the relative importance of policy for mothers' labor market outcomes; (3) to contribute to the stratification and intersectionality literatures by exploring which group of women experiences the largest motherhood effects; (4) to explore the geographical and developmental ranges of theories and concepts that are currently debated in sociological work covering industrialized countries; and (5) to critically review the state of scientific knowledge by examining the quality and reliability of both the data I used and my findings.

6.3.2 The importance of work-family policies

The second aim of the dissertation was to contribute to the work-family literature and the sociology of family and work by engaging with academic debates about the effectiveness of policy for mothers' labor market outcomes. I did so by examining the effect of policies aimed at improving the reconciliation of paid work and unpaid care tasks on female labor force participation and motherhood effects across countries and social positions in all four studies of the dissertation project. As described in Section 6.2, I found little evidence that policies allowing mothers to split their time between worker and mother roles (maternity leaves, part-time work, and maximum hours including overtime) influence the size of motherhood effects. Policies regarding early childhood care and education, on the other hand, were

shown to affect women in all social position groups and were related to the relative sizes of motherhood effects for the different social position groups. I argued that early childhood care and education helps mothers in medium social positions catch up with the high social position group by reducing their motherhood penalties on employment, reduced the disadvantage of the low social position group in terms of wage penalties, and is associated with increased motherhood premiums on self-employment for the high social position group.

These findings primarily speak to the work-family research debate on trade-offs. A group of scholars have argued that policies promoting better results for one social position group or on one particular labor market outcome are accompanied by setbacks for another (Korpi, Ferrarini, & Englund, 2013; Mandel, 2011; Mandel & Semyonov, 2009; Pettit & Hook, 2009). In the four studies, I find evidence that the associations of specific policies are regularly stronger for certain social groups, but I do not find directly opposite effects. I find very limited effects of work-family policies on the motherhood effects on employment or self-employment for women in low social positions. My results thus contribute to answering one of the major puzzles of work-family research: while most theories would suggest that mothers in low social positions should benefit more from childcare policies, since they lack the resources to outsource care, most studies have found the opposite (for an overview, see Del Boca, 2015).

The findings in this dissertation confirm earlier findings that the labor supply of mothers in higher social positions is more responsive to childcare policies. My findings, however, suggest that childcare policies will help mothers in low social positions in another way: by reducing wage penalties. Based on findings in Chapters 3 and 5, I would hypothesize that childcare is rarely subsidized to the level that offsets the utility curve for low wage earners, but it might make it easier for those already in the labor market to hold on to jobs, increase hours, and gain tenure. A number of studies of low-wage earners in a number of urban areas in the USA, have effectively pointed in this direction by showing childcare subsidies decreased childcare related work disruptions (Forry & Hofferth, 2011; Press, Fagan, & Laughlin's, 2006). Although these results speak to country level *patterns* of motherhood effects and interpretations about policy effects cannot be extended to include the effects on individual recipients, these findings indicate that policies do not affect social position groups in the same manner, nor are they always effective.

6.3.3 Motherhood effects and inequality structures

The third aim of the dissertation was to contribute to the sociology of stratification and the inequality literature by exploring which group of women experiences the largest motherhood effects. In Chapters 3 through 5, I therefore studied the moderating effect of social position on the size of motherhood effects and on the relation between country contexts and motherhood effects. I found that mothers in medium social positions pay the

largest motherhood penalties on employment, followed by mothers in low social positions. The low social position group also paid the largest penalties on wages, whereas countries differ in regard to the relative size and direction of the social position effect on motherhood premiums and penalties on self-employment. The negative effect of being in a medium social position on the motherhood penalty on employment was smaller in countries with higher enrollment and investment in childcare and pre-primary education. The disadvantage of mothers in low social positions was greater in countries with higher poverty rates and earnings inequality; enrollment in childcare was associated with a smaller motherhood penalty on wages.

These findings can contribute to the debate on stratification and motherhood penalties. In particular, scholars have asked whether motherhood entrenches pre-existing inequalities and leads to a kind of cumulative disadvantage, in which the women already in low social positions experience the largest motherhood effects, whether motherhood is a similarly disruptive event to the careers of all women, or might even affect those mothers most that had never diverged from good worker norms before childbirth (Budig & Hodges, 2010, 2014; England et al., 2016; Halldén, Levanon, & Kricheli, 2016). Based on the findings from this dissertation project, I argue that this question needs to be answered separately for different labor market outcomes. Results from the fifth chapter suggest that existing inequalities are exacerbated in relation to motherhood effects on job rewards: women in higher social positions, who earn the highest median hourly wages when childless, also experience the smallest motherhood penalties as a percentage of their wages.

As shown in the third chapter, however, motherhood has the most negative effect on women's probability of being employed for the medium social position group in 20 out of 31 cases. In two cases, this penalty is large enough to reduce their absolute employment *levels* to below those of the low social position group. These results are not easily explained as either reducing or compounding pre-existing inequalities between women. Findings that early childhood care and education and more supportive attitudes towards working mothers are associated with smaller penalties for the medium social position group in particular, suggest that this social position effect is driven by the extent to which mothers in different groups are able to mitigate role and time incompatibilities. This argument is supplemented by findings that poverty and earnings inequality increase the motherhood penalties on employment for women in low compared to medium social positions and that supportive attitudes towards non-working mothers reduce the motherhood penalties of high compared to medium social position mothers. The relative size of motherhood penalties for women in low, medium, and high social positions is even more context-specific in the case of self-employment.

The bigger question that comes up here, is whether motherhood effects signal the same thing across labor market outcomes. The most straightforward case is that of motherhood wage penalties, where being paid less for performing comparable work appears to have a fairly straightforward interpretation. The same might be said for other outcomes related to job rewards that were not studied in this dissertation, such as occupational status, access to social security and other benefits, or opportunities of being promoted. Motherhood effects on employment and self-employment, or other outcomes related to actors' labor *intensity*, however, do not provide such moral clarity. It is telling in this regard that the relative size of motherhood effects on employment and self-employment by social position appear to be much more context specific. Given the limitations of this study, I cannot answer questions regarding the (in)voluntary nature of individual level choices and preferences, but I will return to this issue in Sections 6.4.2 and 6.4.3.

6.3.4 Geographical and developmental boundaries of concepts

The fourth aim of this dissertation was to explore the developmental ranges of theories and concepts developed in industrialized country contexts. The dissertation broadens the scope of sociological research into motherhood effects to include both industrialized and developing countries. Chapter 2 discusses at some length at what level of development the relation between motherhood and labor force participation starts taking on a comparable shape to industrialized countries and concludes this is at the transition from lower-middle- to upper-middle-income countries. The analyses from Chapter 3 show that motherhood has a negative effect in all upper-middle and most lower-middle-income countries, including all countries with per capita GDP above \$3000 (i.e. at the level of countries like Armenia and Ecuador). In order to be able to fully explore the limits of comparability of concepts and measurements, I then chose to exclude low-income countries but include both lower- and upper-middle income countries.

In each of the studies, I start by exploring the issue of replicability. Although in the article-formatted Chapters 2 through 5 these analyses are often reported only as a paragraph on descriptive results or as robustness checks, the research does include questions of whether broadly conceded findings are replicated in a more diverse country sample. Findings indicate that patterns of mothers' absolute *levels* of employment, self-employment, and median wages do show considerable association with economic development. These analyses also show that in terms of mothers' absolute labor market outcomes, social position groups have a similar relation to each other in upper middle- and high-income countries. However, Chapters 3 through 5 show that motherhood *effects* are in fact much less or not at all related to economic development. What is more, the effect of per capita GDP on motherhood effects on self-employment and the shares of mothers in employment, self-employment, and median

wages, is sensitive to the inclusion of country level variables measuring economic, policy, and cultural contexts. Average responses on attitudinal items regarding working mothers and housewives, for example, are able to explain in which countries high social position women experience motherhood premium on self-employment compared to penalties in a way GDP cannot. Poverty rates and economic inequality are associated with the relative sizes of child penalties for women in high and low social positions, when GDP is not.

Nevertheless, the dissertation explores, and therefore occasionally encounters, the boundaries of comparability. Most notably, this happens in the observation of motherhood premiums and penalties. In Chapter 3, motherhood premiums on employment were found in four lower middle-income African countries when penalties were expected. Motherhood premiums on wages were found in Indonesia and for low social position mothers in Argentina. In the study on self-employment (Chapter 4), I found 13 countries with motherhood premiums, 8 with penalties, and 2 with no significant effects. Where indicators of the *level* of maternal labor market outcomes (like employment levels) form an easily interpretable scale from low to high values, it is not as clear that premiums are the opposite of penalties in the case motherhood *effects*; in fact, it is very well possible that the different behavior of mothers, whether lagging behind or exceeding that of women in general, should be considered a sign of disadvantage. While motherhood effects on employment, where premiums are found only in four African countries, suggest that the explanation might be sought in the limits to the comparability across contexts (although this does not explain why two other African countries and six other lower middle-income countries do conform to the country pattern), such developmental or geographical boundaries are not found in the case of motherhood penalties on self-employment.

In summary, I find that the patterns of mothers' paid work for women in three different social position groups are comparable in high- and middle-income countries on average, whereas this is not the case for low-income countries. Motherhood effects on women's paid work are found to be relevant for all country income groups and are more satisfactorily explained by economic, policy, and cultural contexts than economic development.

6.3.5 Limitations of data and findings

The fifth aim of this dissertation was to critically review the state of scientific knowledge by examining the quality and reliability of both the data I used and my findings. I have done so in three ways: (1) by studying the way social position moderates the effects of the same concepts of economic, policy, and cultural country context on three different indicators of mothers labor market position; (2) by including countries in the analyses that have been underrepresented in comparative research designs; and (3) by exploring which country level indicators are available to measure motherhood effects in a wide range of countries.

Empirically, these analyses have resulted in new insights into the dynamics of motherhood effects in middle-income countries and a number understudied high-income countries. Chapters 3 and 4 in particular, and to a lesser extent Chapter 5, provide a clear overview of countries that could be included in future research into specific dynamics of motherhood effects in the labor market. Next to providing insights into how a range of newly researched countries fit within international patterns of motherhood effects, these results can provide pointers for the selection of countries in future research that has the ambition to study social realities with a broader developmental scope. The analyses have also provided new insights into the country indicators that might be used to study motherhood effects from a broader developmental perspective. Results suggest that poverty levels and earnings inequality are strong indicators for labor market outcomes and motherhood effects for women in low social positions. Childcare was associated with motherhood effects in much stronger ways than work-family policies regulating how mothers split their time between paid and unpaid work. Interestingly, indicators of how societies think about stay-at-home wives proved to be at least as strong an indicator of mothers' involvement in paid labor and class of worker as attitudes towards working mothers.

The choice for a broad geographical and developmental scope does occasionally put the research project at odds with current trends of analytical inference in sociology, which has come to value the isolation of more and more detailed indicators across increasingly localized treatment units and longitudinal designs for the sake of isolating causal effects and counterfactuals (Gangl, 2010; Headström & Ylikoski, 2010; Norkus, 2005). Rather than prioritizing the detailed, longitudinal surveys, I have selected reliable cross-sectional data and indicators that are available for a large number of countries in order to explore the validity of concepts and theories in a broader sample of countries. In consequence, there are a number of limitations to the conclusions that can be drawn from these results. For one, the available data are cross-sectional in nature, making it impossible to make any causal claims regarding the mechanisms and phenomena that were studied. Second, while a body of research has shown the relevance of household perspectives as well as of individual update of policies and preferences on mothers' paid work, these dynamics could not be measured in this study (Baird & Renolds, 2004; Biersteker, 2010; Bruneforth, 2015; Gerson, 2010; Glauber, 2011; Jacobs & Gerson, 2004). This is a data issue without a quick fix. The *World Values Survey* and Demographic and Health Studies have traditionally covered more developing countries, but lack detailed labor market indicators. The second wave of the Gender and Generations Survey lost instead of gained middle-income countries and the ISSP has not yet planned another wave on family and gender roles since its 2012 edition.

A last limitation is that occasionally, cruder country level indicators had to be chosen over more detailed measures for similar reasons of data availability. Most obviously, this has

been the case for the measurement of early childhood care and education. I use a multitude of measures including enrollment in childcare and pre-primary education, the pupil-teacher ratio and spending on pre-primary education. Most of these indicators seem to reveal some relation between childhood care and mothers' labor market outcomes, yet none compare to the standard indicator in high-income countries: the share of children in publicly funded childcare institutions by age. Even less data is available on the cost of childcare to families, which would seem to be key to explaining why the indicators for early childhood care and education do not appear to affect the motherhood effect on employment for women in low social positions.

6.4 An agenda for future research

In studying motherhood effects across countries and labor market outcomes, I have confirmed dominant patterns of motherhood effects (like penalties on employment and wages and premiums on self-employment) across high- and middle-income countries. As noted in the introductory first chapter, these labor market outcomes were chosen to study the extent to which mothers enter paid employment, the way in which they do so (status in employment), and their position in the labor market (job rewards). Labor supply, employment, self-employment, and wages are necessarily proxies for three kinds of labor market outcomes, as to study all possible outcomes would be far beyond the scope of this dissertation. Having summarized the findings of four studies, however, there are a number of questions that could specifically benefit from more study.

6.4.1 Causality and longitudinal perspectives

The first and largest open question, which has re-emerged in every study, is how to ascertain whether the mechanisms described in this dissertation are causal. A number of factors in particular have prevented a causal interpretation so far. First, the data are cross-sectional and therefore do not measure transitions into motherhood statuses and employment outcomes or the effect of policy *changes* on aggregate patterns of mothers' paid labor. Second, only the WageIndicator survey contains a (limited) number of variables measuring individual use of policies like childcare, implying that in the other three studies I do not know whether individual mothers do or do not send their children to daycare, believe that being a housewife is less fulfilling than working for pay, and so on. Third, it is difficult to ascertain how representative the 13, 23, and 31 countries in the last three studies are of all high- and middle-income countries. For the advancement of knowledge on the moderating effect of social position on mothers' paid work globally it is crucial to take steps to overcome this uncertainty.

In order to do so, two viable options appear to be available. The first is to gather data for as many countries as possible for as many years as possible. The IPUMS census data center continues to release new samples every year, as has the Luxembourg Income Study in more recent years. While these datasets are cross-sectional, they could allow for the construction of pseudo-panels. Such models could follow cohorts of women, if not individuals, over decades and begin to answer questions about the effects of childcare reform, the introduction of paid maternity leave, or changing attitudes towards working women. Additionally, these models allow for some distinction between age and cohort effects. However, a major impediment to such efforts is the lack of global indicators. Even attempting to gather data for 23 or 31 countries for a single time point has proven challenging and at times impossible. As a pseudo-panel would have to start measurement no later than the 1990s, such studies would likely need to be limited to one or two specific policy instruments.

A second research strategy would be to reduce the number of countries and select only longitudinal datasets. These data would measure entry into different employment statuses as well as transitions to motherhood. As such, these analyses could address issues of selectivity as well as being able to measure whether women, for instance, effectively enter self-employment *after* the birth of the first child. This dissertation has been able to pinpoint a number of countries for each labor market outcome that are either good examples of patterns of social position effects or that go against an international trend – countries with motherhood premiums on employment or wages for example, or larger motherhood effects on self-employment for the medium social position group. These findings could inform a country selection for such in-depth longitudinal cases.

Longitudinal surveys, however, are even more scarce in middle-income countries and will likely pose harmonization problems. The UK-based Institute for Fiscal Studies has recently set up an ESRC funded Low and Middle Income Longitudinal Population Study Directory (LMIC LPS Directory). A search of the repository, however, shows that most surveys are limited to regions within countries or are not representative samples. In practice, a combination of studies covering more countries with cruder indicators and a sub-sample using longitudinal data might therefore be the most viable option.

6.4.2 The elusive middle: micro-macro interactions?

The second research gap in the literature on middle-income and high-income countries alike concerns the micro-macro interactions of motherhood effects by social position. This research gap is most evident in the analyses of the medium social position effect, which has stayed most elusive. Economic squeezes and the facilitation of work-family reconciliation appear to determine whether mothers in low social positions enter the labor market and hold on to jobs. Gender equality, cultural norms, and childcare are associated with the labor

market behavior of mothers in high social positions. Mothers in medium social positions, however, behave like one group in one instance and then like another. Being out-shone by the more extreme patterns of their lower and higher positioned peers in many studies, including this one, a clear perception of these women's behavior is still lacking.

It is conceivable, that this medium social position group simply consists of women that are closer to the high social position group while others resemble the lower social position group more closely – which would theorize the medium group as quite literally in the middle, being either almost-disadvantaged workers or moderately-privileged mothers. Robustness checks that redefined the boundaries of the social position groups or shifted between education-based and occupation-based operationalization, however, did not reveal any substantive sensitivities to composition effects. It is also quite possible, that medium social position groups either function according to their only logic, perhaps informed by strategies for upward social mobility and adaptation to adverse circumstances (Connelly, DeGraff & Levison, 1996; Lokshin, Glinskaya & Garcia, 2000; Paskov; Salway, Rahman & Jesmin, 2003; Wejnert & Amalgul, 2006). Results from Chapter 5, which reveals large differences in the size of the motherhood effect on wages between women in medium social positions that did or did not work in regular schedule, full-time office jobs would support this notion.

Comparative microdata on mothers' individual uptake of policies and attitudes or schedules, such as provided in some household surveys, time-use surveys or social surveys, could shed more light on the specific micro-macro interactions. Such studies would likely be limited to OECD countries. This course would leave most of Africa (with the exception of South Africa) unstudied, but has better prospects for including Latin American and Asian countries in the analyses. Available international surveys, like the ISSP, have started to extend their coverage to Latin American and Asian OECD member states. Recent efforts made by the Luxembourg Income Study to harmonize datasets from Latin America and Eastern Europe will probably be the first opportunity to examine motherhood effects on working hours in middle-income countries.

Some of these datasets would also allow for the inclusion of household perspectives, which is a question this dissertation has not sufficiently addressed and another potential explanation for the different behaviors within the group of medium social position mothers. Lacking detailed indicators on respondents' spouses and parents, two studies include controls for spouse's social position, one for spouse's or parents' self-employment status, and the study on motherhood effect on wages does not include any spousal controls. Surveys including either detailed spousal characteristics, or at least household income, could help clarify these issues.

6.4.3 Push and pull factors: additional labor market outcomes

Third, the dissertation chapters have shown clear differences between motherhood effects on employment and self-employment, both related to (the form of) mothers' engagement in paid employment, and those on wages, which are more related to mothers' position within in the labor market. The relationship between motherhood effects and social position is most clearly positive for wages. Results from Chapter 5 indicate that mothers in higher social positions are better able to avoid wage penalties, compounding pre-existing privileges and vulnerabilities. The moderating effect of social position on the motherhood effect on self-employment in particular, shows more variability between countries. Chapter 4 suggests that women in different social positions enter self-employment under different circumstances. The same kind of push-pull consideration has been posited to exist for entry into full-time and part-time employment (Bardasi & Gornick, 2008; Epstein et al., 2014; Kauhanen & Nätti, 2015; López Bóo, Madrigal, & Pagés, 2010; Matteazzi, Pailhé & Solaz, 2014). Full-time and part-time modes of employment, could also be expected to intersect with entry into self-employment. Research into motherhood effects on entry into full-time versus part-time dependent and self-employment could illuminate the question of how social position moderates the motherhood effect on status in employment. It would be worthwhile to study more labor market outcomes that in some way measure the labor relation or intensity, such as working hours, as well as further exploring the motives for entering the labor market under different types of labor relations. The former question could also be explored quantitatively. Given the recent expansion to middle-income countries, the Luxembourg Income Study would provide opportunities. Due to the small share of female workers that is self-employed, however, analyses of part-time versus full-time dependent and self-employment are likely to encounter problems of small area estimation.

6.4.4 Better indicators

This project has encountered a number of data limitations. Those limitations concerning the lack of detailed micro-data have been discussed at some length in the previous sections. Critical to any research agenda that seeks to study motherhood effects in industrialized and developing countries from a longitudinal perspective or across even more countries, however, are the gaps in available data on country indicators. Data investments that would greatly facilitate international comparisons are indicators of the share of two-earner and breadwinner households, part-time employment by educational or occupations categories and, remarkably, indicators that measure poverty rates and informal sector employment consistently across industrialized and developing countries.

Finally, the four studies in the dissertation find that early childhood care and education is of relevance to all labor market outcomes of mothers across social positions. The analyses,

however, also reveal remarkable heterogeneity in these effects: care has different effects depending on the ages of pupils, the social position of their mothers, the labor market outcome studied, as well as whether enrollment or quality indicators are used. Recent effects by the OECD and several work-family scholars (Boeckmann, Budig, & Misra, 2012c; Hegewish & Gornick, 2010; OECD, 2017c) have been made to qualify childcare facilities in countries in much more nuanced ways, like including the synchronization of childcare hours and working days or the quality versus affordability of care. These kind of detailed indicators, when combined with data on the individual use of childcare facilities, could reveal the extent to which childcare effectively facilitates entry into work and work-family reconciliation in work for workers in different social positions.

Next to the need to develop these childcare policy indicators for more countries, datasets with more detailed individual level indicators as well as qualitative interviewing techniques, could address questions of how childcare scheduling relates to work scheduling in typical and atypical work under different childcare availability and affordability. Relevant dimensions include the number of days that children are cared for in formal institutions, by parents, grandparents and hired help; how much families spend on childcare; at what time children are dropped and picked up from school and childcare.

6.5 Appendices

Table 6.4 Overview of country level effects on maternal employment levels and the motherhood effect on employment

	Bivariate			Controlled for GDP		
	Motherhood effect	Low social position	High social position	Motherhood effect	Low social position	High social position
Per capita GDP	-0.021**	0.007	0.001	-0.021**	0.007	0.001
GDP squared	-0.002	-0.010	-0.004	-0.002	-0.010	-0.004
Poverty levels	0.003	-0.033*	-0.006	0.009	-0.031**	-0.004
Poverty Squared	0.014	0.009	-0.006	0.005	0.014	-0.011
GINI	0.002*	-0.001	0.002*	0.002*	-0.002*	0.002
Collective bargaining coverage	0.000	0.000	0.001	0.001	-0.001	0.001
Working time policies	-0.012	0.014	0.024	-0.011	0.011	0.023
Paid maternity leave (weeks)	0.001	0.000	0.000	0.000	-0.001	0.000
Maternity leave squared	0.000	0.000	0.000	0.000	0.000	0.000
Part time	-0.001	0.000	0.003	0.000	-0.001	0.005*
Childcare scale	-0.017	0.000	0.010	0.016	-0.010	0.021
Childcare enrollment 0-2	-0.001	0.000	0.000	0.001	-0.001	0.001
Pre-primary enrollment	0.000	0.000	0.000	0.000	0.000	0.000
Pupil-teacher ratio	0.003*	-0.003	0.001	0.002**	-0.003*	0.001
Expenditure on pre-primary	-0.028	0.026	-0.033	-0.006	0.019	-0.031
Gender equality in society	-0.028**	0.020	0.009	-0.009	0.028	0.016
Gender equality in the labor market	-0.065	0.021	-0.043	0.037	0.002	-0.050
Support for working mothers	0.009	-0.014	-0.015	0.094	-0.031	-0.052
Stigma against housewives	0.091*	-0.051*	0.057	0.073	-0.053**	0.046

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, $t < 1$.

Note: each cell represents the coefficient of the country level indicator in a regression of the AME of motherhood and CPMS of low and high social position bivariate (left) or controlled for per capita GDP (right).

Table 6.5 Overview of country level and social position effects on the motherhood effect on self-employment

	Bivariate		Controlled for per capita GDP				
	N	Main effect of motherhood (AME) Full sample	Low social position mother (CPM)	High social position mother (CPM)	Main effect of motherhood (AME) Full sample	Low social position mother (CPM)	High social position mother (CPM)
Economic contexts							
GDP	23	0.0005	-0.0003	0.0001	0.0001	-0.0002	0.0001
Poverty	23	0.0002	-0.0003	0.0001	0.0001	-0.0003	0.0003
Gini coefficient	23	0.0003	-0.0004	0.0003	0.0001	-0.0003	0.0003
Collective bargaining coverage	11	0.0000	-0.0001	-0.0001	0.0000	-0.0001*	0.0000
Policy contexts							
Weeks of paid maternity leave	23	0.0000	0.0000	-0.0001	0.0000	0.0000	-0.0001
Part-time (% of female employment)	23	0.0000	0.0001	0.0003	0.0001	0.0001	0.0004
Childcare 0-2 enrollment	23	-0.0003	0.0001	-0.0001	0.0001	-0.0002	0.0000
Pre-primary enrollment	23	0.0001	-0.0001	0.0000	0.0003	-0.0001	0.0000
Pupil-teacher ratio	20	0.0024**	-0.0010**	0.0004	0.0023**	-0.0010**	0.0004
Investment in pre-primary education	23	-0.0034	-0.0022	-0.0094	-0.0014	0.0018	-0.0091
Cultural contexts							
Gender equality in the labor market	23	0.0501	-0.0161	-0.0367	0.0809	-0.0321	-0.0332
Stigma against working mothers	18	0.0244	-0.0142†	0.0144†	-0.0438	0.0141	0.0040
Stigma against housewives	18	-0.0177	-0.0126	0.0054	0.0198	-0.0120	0.0133

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < .1$.

Note: each cell represents the coefficient of the country level indicator in a regression of the AME of motherhood and CPMs of low and high social position bivariate (left) or controlled for per capita GDP (right).

Table 6.6 Overview of country level and social position effects on the motherhood effect on wages

	Nj	Main effect of motherhood	Medium social position mother	High social position mother
Poverty	13	-0.015†	0.010	0.012*
Gini coefficient	13	-0.003	0.005†	0.006*
Collective bargaining coverage	13	0.001	-0.001	-0.001
Childcare 0-2 enrollment	13	0.001	-0.002	-0.003*
Pre-primary enrollment	13	-0.002	0.002	0.001
Pupil-teacher ratio	11	-0.004	0.010†	0.007
Investment in pre-primary education	13	-0.213	0.085	0.081
Gender equality in the labor market	13	-1.676*	1.268†	0.845

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, † $p < .1$.

Note: each row represents the coefficient of a three-way interaction with the country level indicator in a hierarchical linear model. All individual-level control variables from chapter 5 are added.