Chapter 6

Summary and Conclusions

Our research has focused on the pathways through which health and socioeconomic status influence each other through the life course and intergenerationally. This chapter summarizes the findings from the four studies.

In Chapter 2, our aim was to evaluate the relative effect of parental income and other parental characteristics on child health. Our hypothesis was that previous studies that found an effect of parental income on child health might had been driven by the fact that those parents who are low income also suffer from ill health. We control therefore for parental health and approach the problem of endogeneity in three ways. First, we attempt to capture as much unobserved heterogeneity as possible, exploiting the richness of our dataset and incorporating extensive information on parental background. Second, we use an instrumental variables approach to assess the determinants of health at birth. Finally, we remove unobserved individual fixed-effect that might be causing a correlation between income and the unobservables. In the basic model, without controlling for endogeneity, we find that parental income is associated with lower birthweight, but once we include maternal smoking during the pregnancy and/or parental own birthweight, the income coefficient becomes insignificant. These results seem to be in line with our original hypothesis of parents passing on poor health to their children through some behavioral or biological channel. Our instrumental variable results confirm this idea since they show that the only significant variable explaining birthweight is parental own birthweight. According to our estimates, parental income has no bearing on the birthweight of the child. The other measure of health, illness at birth, appears to be quite random and is only influenced by the child’s gender. We find that health at birth is an important predictor of later measures of child health and that there is a lot of state dependence in childhood health. This appears to confirm the theory that health is a function of previous health investments and endowments. For later child health outcomes, we similarly find limited evidence that parental financial status matters (once we have controlled for other parental characteristics). Although the results show some effect of parental behavior (especially during pregnancy) on children’s chronic conditions and anthropometric outcomes, parental own health appears to be the mayor factor explaining offspring child health status.

Our findings are therefore highlighting the importance of biology in the intergenerational transmission of disadvantage. Since both instrumental variables and fixed-effects are not without
problems, we test this assumption further in Chapter 3. Plausible reasons to why education could contribute to better health are that education improves knowledge and or the capacity to absorb new information and that parents become more efficient producers of health. We use a natural experiment, a policy initiative that raises the schooling of parents, and test the causal effects of additional education. The idea of identifying the causal impact of education is that we can compare children’s outcomes of the group that was not affected by the policy change to those of the group that was affected. We use an instrumental variables method whereby education is instrumented by whether the individual was affected by the reform or not based on their date of birth. Parental education has no effect on child health variables. We do check whether education may have favorable effects on parental health which could then be transmitted to their children but find no significant effect. One plausible explanation for this limited impact on health outcomes is that having only one additional year may not make a significant difference in health productivity. It also raises the question again of whether the correlation between education and health can attributed rather to third variables such as time preference or biological channels, as seen in Chapter 2. Another explanation for the modest impact is that the estimates are providing the causal effect of education for a particular group of individuals for which the reform is binding: those who wanted to stop school one year earlier. Since those individuals were probably not willing to stay in school longer and had one extra year of general education (not conditioned by ability), one might expect limited returns to education.

The second part of the analysis explores the impact of early childhood conditions and parental background on later adult outcomes in terms of health and work. Although our first results show that there is limited evidence of a direct effect of parental socioeconomic status on childhood health, it is possible that there long-run consequences of parental socioeconomic status are much greater. We investigate the different pathways through which where early childhood conditions affect health and labor market status in adulthood. In particular, we research whether their effect is felt through a more disadvantaged position in early adulthood (i.e. at the moment of leaving school), which would then result in a cumulative effect over adult life. We also check whether there can be a direct influence on late adulthood outcomes or whether childhood conditions trigger more health shocks which in turn influence health status and work outcomes. Because disability and work status are interrelated, we use health shocks to assess provide a source of variation and assess causality. In our model the causal identification does not require health shocks to be exogenous but relies on the assumption that the exact timing of health shocks is unanticipated. Childhood conditions do influence the probability of shocks: for instance maternal smoking during the pregnancy is related to a higher chance of health shocks. From the estimations, it emerges that a health shock increases the immediate probability of becoming disabled, the incidence of entering non-employment and the length of non-employment
spells. We perform some simulations to have more insight in the processes. We observe that if an individual receives a health shock and becomes disabled, this causes a long-lasting reduction in the probability of being employed. However, the occurrence of health shocks is a relatively rare event and the larger part of long standing disabilities appears through aging. Parental socioeconomic status appears to have an effect on initial conditions after school (health and work states), and on health shocks but the size of these effects is small. Most of the effect is a direct one on the rate of health deterioration and transition out of employment at adult ages. Birthweight and prenatal conditions affect disability and employment both directly and indirectly through and increased chance of entering the labor market with a disability. One additional possibility for the ways childhood circumstance influence adult health and earnings is through their effects on educational attainment. We test for this hypothesis and find, however, that the direct effects of early childhood variables remain important even after controlling for educational attainment, and the initial adult disability and work status.

After exploring the causal impact of disability on work outcomes, we turn in Chapter 5 to the other side of the equation: the effect of work on health. We focus on mental health and investigate work outcomes more in depth by looking at the specific effects of not only changes in work status but also work history. Furthermore, we disaggregate the analysis by occupational activity. In addition, we incorporate information on health behavior in adulthood (drinking and smoking habits). Most explanatory variables are choice variables of the model and are therefore endogenous to mental health. In our model we assume that there is an unobserved individual component that is fixed and captures the decisions made over the life course in terms of health and labor market. Panel data methods allow the consistent estimation of the model by removing the individual fixed-effects that may be correlated with mental health and labor market status. It is possible that some part of the correlation could be through some unobserved idiosyncratic component and we try to capture it by including variables reflecting shocks. Our results show that mental health deteriorates with age and it does so at a higher rate for males. Females have, however, higher malaise scores and hence worse levels of mental health. Working on the other hand, results in a lower rate of health depreciation. Health shocks have a strong negative effect on mental health. The occurrence of accidents differs by occupation and is lower for the professional and managerial occupations. Smoking is associated with worse mental health but only for females. We perform some calculations with the model to compare the mental health of individuals with different labor market histories and occupations. We observe that for females those in higher occupations start work with better mental health but their health deteriorates at a faster rate. For males, on the other hand, the differences in mental health by occupation are small but there is a large negative effect on mental health of being out-of-the-labor force.
We have shown that the production of child health appears to be driven more by inputs that might be fixed over time or that are biologically driven. For instance, the probability that a child is low birthweight is 36% higher if the mother was also low birthweight. The implication is that policies involving income transfers to parents are likely to result in only small improvements in child outcomes. Increasing parental education does not appear to be an alternative promising avenue since we do not find evidence of a causal improvement in child health. In addition, our results suggest that the effects of prenatal and early childhood conditions have a long-lasting impact for health and work outcomes. Using accidents as an instrument for the arrival of a new health event (disability), we observe that there are important feedbacks of health on labor supply. At the same time, we have seen that being out of work is associated with a substantial worsening of mental health. It is however important to keep in mind that our health variables may be proxies for a broader set of outcomes. Our results indicate nevertheless that intergenerational transmission of health status seems to be of prime importance in the determination of adult outcomes and this cannot be explained by diminished educational attainment. In addition, our findings confirm the existence two-way interaction between health and socioeconomic status in adulthood.