

8.2 TEENAGE MOTHERHOOD AND THE LABOUR MARKET

ANNA ADAMECZ-VÖLGYI

Teenage motherhood is a crucial channel of the intergenerational transmission of poverty (*Bonell, 2004*). Mothers having their first child below age 20 reach lower educational attainment, are less likely to be employed and earn less throughout their life course, and have poorer health even in old age than those delaying motherhood beyond age 20. Education decreases the prevalence of teenage motherhood. *Adamecz-Völgyi–Scharle (2020)*, for example, found that increasing the school leaving age from 16 to 18 in Hungary decreased the probability of teenage motherhood among Roma women. While the literature documents the relationship between education and teenage motherhood, we know much less about how labour market conditions affect adolescent childbearing.

Teenage motherhood and unemployment

In human capital theory (*Becker, 1960*), the costs and benefits of childbearing would drive whether and when women decide to have children. Among others, one substantial cost of teenage motherhood is its negative effect on a mothers' future labour market possibilities. The magnitude of this alternative cost is different for everybody and might also change depending on the actual state of the labour market. When the labour market is in good shape, for example, in an economic boom, this alternative cost is higher as women would have more to lose. Besides alternative costs, however, labour market conditions might also influence childbearing through the income effect (*Kearney–Levine, 2012*). Favourable labour market conditions might increase income and make childbearing more affordable.

This subsection looks at how labour market conditions affect teenage motherhood in Hungary. We are interested in whether high unemployment would be accompanied by a high prevalence of teenage motherhood due to decreasing the alternative costs of childbearing, or the other way round, whether high unemployment would go together with a low prevalence of teenage motherhood due to the income (or in other words, the budget constraint) channel. We are also looking at whether this relationship is heterogeneous by regional development (income).

The existing literature on the relationship between unemployment and teenage motherhood is inconclusive and is limited to the United States. *Colen et al. (2006)* support the alternative cost hypothesis by finding that the economic boom of the 1990s was responsible for the sharp drop in teenage motherhood among Afro-American women. On the contrary, *Kearney–Levine (2012)* and

Bullinger (2017) concluded that higher unemployment would decrease teenage motherhood and hence supported the income effect theory.

As we will show, there is a positive correlation between teenage motherhood and local unemployment rate: the prevalence of adolescent childbearing is higher in regions characterized by high unemployment than in regions having low unemployment. This correlation might show the effect of unemployment on teenage childbearing, but it might also be due to a selection mechanism. Regions suffering from high unemployment differ from those with low unemployment over several other domains besides the unemployment rate, such as demographics, education levels and others, and these characteristics might also affect teenage childbearing.

Methods and data

This article aims at separating the effect of unemployment from the selection mechanism by controlling for regional differences. I use region (*kistérség*) – level data from Hungary. I construct data on the regional prevalence of giving birth among women aged 15–19 from vital statistics microdata and create regional unemployment rates (registered unemployed women as the share of working-age women) using municipality level data on unemployment (T-STAR) and regional data on demographics. Alongside region fixed effect (FE) panel models, I also estimate hybrid panel models (*Schunck*, 2013). Hybrid models allow to deconstruct the variation in the prevalence of teenage motherhood to a first part that comes from changes in the unemployment rate within regions over time (*within effects*), and, to a second part that is due to inherent, time-invariant differences in unemployment rates across regions (*between effects*).

Results and conclusions

Table 8.2.1 shows the effect of unemployment on teenage motherhood. As mentioned above, there is a positive correlation between teenage motherhood and unemployment (Model 1). The effect of unemployment on teenage childbearing within regions is close to zero when we are controlling for time-invariant differences across regions (Model 2). However, between-region differences have a large effect on the prevalence of teenage motherhood: if the average unemployment rate goes up by 1 percentage point in a region, the number of live births per a thousand women aged 15–19 increases by 4.42 (Model 3).

In model 4, we are also controlling for between-region time-invariant differences, as well as the economic development of regions (captured by the average income tax base per a working-age inhabitant in 1995–2015 as a proxy for long-term income). In this case, the between-region relationship prevails (2.93^{***}) but the within-region relationship turns to negative (–0.38[']). These results suggest that the income effect of unemployment is more important

than its impact on the alternative costs of childbearing, as higher unemployment decreases the probability of teenage motherhood. This is especially true in less-developed regions. We split the sample into two subsamples: regions where the average income tax base is below average (Model 4a) and where it is above average (Model 4b). We only find a significant negative relationship (-0.57^{**}) between the unemployment rate and teenage motherhood on the subsample of less-developed regions, where the income tax base is below average, while among more-developed regions, the relationship disappears.

Table 8.2.1: The effect of unemployment on teenage motherhood

	Model 1	Model 2	Model 3	Model 4	Model 4a	Model 4b
The interpretation of the models	Correlation	Within effects	Within and between effects			
Model	Linear model	Fixed effect panel model	Hybrid panel models			
Sample of regions	All regions				Income tax base	
					lower 50%	upper 50%
Estimated coefficients						
Unemployment rate (β_1)	3.74 ^{***} (0.230)	0.04 (0.144)	0.04 (0.144)	-0.38 [*] (0.213)	-0.57 ^{**} (0.276)	0.10 (0.327)
Average regional unemployment rate in 1995–2015 (β_2)			4.42 ^{***} (0.269)	2.93 ^{***} (0.403)	3.36 ^{***} (0.567)	1.22 ^{**} (0.477)
No. of observations	3675	3675	3675	3675	2016	1659
Control variables and region effects						
Region fixed effects (FE)		yes				
Region random effects (RE)			yes	yes	yes	yes
Year fixed effects	yes	yes	yes	yes	yes	yes
Other control variables				yes	yes	yes

Robust clustered standard errors in parenthesis. Significance on ^{***} 1%, ^{**} 5%, ^{*} 10% levels.

Unemployment rate: the share of registered unemployed women among working-age women. Hybrid panel model: $y_{it} = \beta_0 + \beta_1(x_{it} - \bar{x}_i) + \beta_2\bar{x}_i + \beta_3\bar{c}_i + \beta_4d_{it} + u_i + h_i + \varepsilon_{it}$, where y_{it} is the number of live births per a thousand women aged 15–19, x_{it} is the unemployment rate, \bar{c}_i is a vector of time-invariant regional characteristics, d_{it} is a vector of time-variant regional characteristics, u_i region random effect (RE), h_i year fixed effect, and ε_{it} is a usual error term. Interpretation of the estimated β_1 coefficients: how a 1-percentage point change in the local unemployment rate decreases the number of live births per a thousand women aged 15–19. Other time-variant control variables in Model 4, 4a and 4b: population, the share of those above 64 in the population, live birth rate among women ages 20–45, abortion rates, regional linear time trend. Other time-invariant control variables in Model 4, 4a and 4b: average income tax base per a working-age inhabitant.

Source: Own estimation using vital statistics, population statistics and municipal level (T-STAR) data from 1995–2015, on region-level aggregates.

These findings show that teenage motherhood is a long-term problem; it is less responsive to short-term labour market processes. We find no evidence for high unemployment to increase the prevalence of teenage motherhood through its effects on alternative costs; on the contrary, it seems to decrease

adolescent childbearing through its income channel, especially in less-developed regions.

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