4.3 THE IMPACTS OF ABORTION RESTRICTIONS ON BIRTH OUTCOMES

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In-utero shocks have a long-term impact on human capital, which determines future labour market performance. This study investigates the effects of the abortion ban introduced in Hungary in 1974, relying on the birth database of the Central Statistical Office (CSO), with preliminary findings presented below.

In countries where there is a strict abortion ban, the number of unsafe abortions is much higher (*Ganatra et al.* 2017). As a result of unsafe abortions, 13 per cent of mothers die globally and a quarter of the women undergoing such a procedure suffer permanent damage to their health (*Haddad–Nour,* 2009). This obviously has a negative impact on their future pregnancies.

After some of the unsafe abortion attempts children are nevertheless born. We exploit a natural experiment to investigate the impact of abortion restrictions on the health of the newborn children: on 1 January 1974 in Hungary, the previous relatively permissive abortion regulation was tightened, abortion committees were established and abortion was only allowed in specific cases. Restricting access to abortion may have a negative effect on the health of new-born children. On the one hand, in the early stage of pregnancy, when mothers are not aware of being pregnant and the foetus is the most vulnerable, mothers' behaviour during unplanned pregnancies may be different from how they would behave in a planned pregnancy. On the other hand, restricting access to abortion may lead to choosing alternative ways of terminating the pregnancy, which in many cases do not succeed but are however harmful to both the foetus and the mother.

Such effects of the restrictions introduced in 1974 in Hungary have already been studied by medical research. It is well-documented that, after the restrictions, in cases when an abortion was not permitted by the abortion committee, doctors tried to induce miscarriages with high-dose oestrogen injections if requested by women (*Czeizel et al.* 2014). This practice continued until 1978, when it became apparent that as a result of unsuccessful attempts, there was a dramatic upsurge in the number of children born with limb reduction defects. This was only one of the methods; other detrimental practices might also had existed.

This study explores whether the restrictions had an impact on the health of children at birth, and if this impact differed for girls and boys. The causal impact of the restrictions is challenging to measure because of several other

changes that happened in this period: contraceptive pills became cheaper and more accessible, while family allowance, parental leave benefits and other benefits related to child rearing increased. We identify the impact of the restrictions making use of the fact that until the end of 1978 the restrictions did not apply to women aged 35 and above; they had the same access to abortion as earlier. Our empirical strategy consists of comparing the children of mothers aged 34 and 36.[1] Even before the restriction, women aged 34 gave birth to more children than women aged 36. In 1974, the number of births increased further among women aged 34 but not among women aged 36, and we assume that this difference is the result of the restrictions as women aged 34 became less likely to have an opportunity for an abortion. Since the two age groups are very close to one another, it is reasonable to think that the growing gap in births in 1974 was not caused by any other changes (for example the increase in the family allowance) because those were not linked to age.

We evaluate whether the share of children with birth defects also increased as a result of the restrictions using a 'difference in differences' approach. This assumes that in the absence of restrictions on abortion, the difference in the share of children with birth defects between the two maternal age groups would have remained the same. If the share of children with birth defects increased among mothers aged 34 but not among mothers aged 36, the difference would be interpreted as the impact of the restrictions. Our findings are shown in the third row of *Table 4.3.1*. The restrictions increased the share of children with birth defects in 1974 by 1 percentage point (Column 1), due to a decrease in the group aged 36 and an increase in the group aged 34. This impact is robust to the inclusion of several control variables (Column 2) and is statistically significant in both models.[2] This 1-percentage-point impact means that the share of children born with birth defects increased nearly fourfold due to the restrictions.

If we are looking at the data of more years before and after the restrictions, trade-offs emerge. On the one hand, this allows us to control for the variability of the share of children with birth defects within a year. On the other hand, the distance from the cut-off year, 1974, when the restrictions were introduced, increases. The larger the distance from the cut-off, the more opportunities women had for adapting to the new regulation. The impact we have found in 1974 is still robust looking at 1973–1975 but becomes small and insignificant looking at 1972–1976; thus, further investigations are needed in this respect.[3]

We have also looked at whether the effects differ between boys and girls; these findings are not presented here in details. We find suggestive evidence that the negative impacts might have been larger for boys, which is consistent with the relevant literature indicating that boys are more sensitive to in-utero negative shocks (see for example *Catalano et al.* 2013, *Eriksson et al.* 2010).

1 It is not known how permissive abortion committees were with mothers aged 35, therefore the age group of 34 was chosen as the treatment group and the age group of 36 as the control group. If in actual practice there were mothers aged 36, whose abortion was not permitted for reasons unknown to us, in spite of their age but mothers aged 34 were more likely to be denied, it does not create a problem for the identification strategy adopted.

2 It has a probability of less than 5 per cent that such or a larger impact would be seen due to random fluctuation, if in fact there were no impacts

3 Limitations of the study include the very small number of children with birth defects in the sample: in the longest period examined, fewer than 20 children per year on average were born with birth defects altogether in the two age groups, thus a few children born with a birth defect may substantially affect our estimates.

Table 4.3.1: The impact of restrictions on access to abortion in 1974 on the share of children born with birth defects

	(1)	(2)	(3)	(4)	(5)	(6)
	1974		1973–1975		1972–1976	
Born to a mother aged 34	–0.006*	–0.007*	–0.006***	–0.006***	–0.003*	–0.002*
	(0.004)	(0.004)	(0.002)	(0.002)	(0.001)	(0.001)
Born after June 1974	–0.004	–0.005	–0.002	–0.005	–0.0003	–0.0007
	(0.004)	(0.005)	(0.002)	(0.005)	(0.002)	(0.004)
The effect of restrictions	0.009**	0.011**	0.007**	0.007**	0.003	0.003
	(0.005)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)
Constant	0.009***	0.012*	0.008***	0.012***	0.005***	0.005
	(0.003)	(0.006)	(0.002)	(0.004)	(0.001)	(0.003)
Controls	no	yes	no	yes	no	yes
N	4,512	4,358	12,651	12,196	20,359	19,607
R^2	0.001	0.006	0.001	0.003	0.000	0.003

Notes: Sample of live births of women aged 34 and 36. Linear probability models. The coefficients of all columns were estimated by separate regressions. Robust standard errors in brackets. Control variables: educational attainment, proxy for income, county of residence, type of settlement, quarter of year fixed effects.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

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