Family Income and Young Children's Development

Christopher Wimer and Sharon Wolf

Summary

Is income during children's earliest years a key determinant of long-term child and adult success in the longer run? The research to date, Christopher Wimer and Sharon Wolf write, suggests that it is.

Wimer and Wolf review substantial descriptive evidence that income can enhance child development and later adult outcomes, and that it does so most strongly during children's earliest years. Next they wrestle with the question of whether this relationship is causal. After outlining the challenges in identifying such causal relationships, they describe a number of studies that purport to overcome these challenges through quasi- or natural experiments.

Among other topics, the authors examine how family income affects the outcomes of young children compared to those of older children, and how its effects vary among poor, low-income, and higher-income families. They also look at the evidence around other dimensions of income, including nonlinear relationships between income and key outcomes, instability in income versus the absolute level of income, and various forms of income, and they review the evidence for impacts of in-kind or near-cash income supports.

Finally, Wimer and Wolf highlight some recently launched studies that will shed further light on the relationship between income and development in children's earliest years, and they suggest how policy might better provide income support to low-income families and their children.

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As this issue of the *Future of Children* makes clear, the period from pregnancy to age three is a critical window for influencing children's long-term development. Many factors that affect children and families during this window matter, but in this article, we consider one of the more contested of these influences: the role of the income and economic resources that parents have at their disposal as they raise young children.

We have long known that children from higher-income families go on to achieve greater levels of academic and economic success later in life. A key question has always been whether income itself determines these later outcomes. Parents with higher incomes, for example, may have other assets such as more education, greater knowledge of effective parenting practices, and social capital that facilitates their children's development and wellbeing. If these factors are simply associated with income, it may be the case that income itself doesn't matter all that much and that these other factors are more significant in long-term developmental differences. If income itself leads to better outcomes for children and families, policy makers could facilitate change by bolstering the incomes of disadvantaged parents. But if income on its own doesn't lead to better outcomes for children, then it would make more sense to focus on improving the environments that children are exposed to early in life. Though these two approaches aren't mutually exclusive by any means, it's important to understand whether income during children's earliest years is indeed a key determinant of long-term child and adult success in the longer run. The research to date suggests that it is.

Given this research, the implications for policy are clear. Young children, especially the poorest young children, stand to benefit in both the short and long term through investments in family income. Yet many of our public policies exclude cash support to the neediest families. Major programs delivering cash to low-income families, such as the Earned Income Tax Credit (EITC) and the Child Tax Credit, require substantial earnings before full benefits are delivered. Cash welfare assistance, though still important for some families, has been largely dismantled for the poorest and also remains strictly tied to employment. The poorest families may be able to cobble together an existence using food stamps and other "near cash" benefits, but they don't have the cash necessary to function from day to day in modern society. A bipartisan National Academy of Sciences report recently provided a set of policy proposals that together would cut child poverty in the United States in half, and cash assistance is central to the recommendations. As our review shows, cash assistance is likely to have profound benefits for young children and improve their chances for long-term success.

Poverty and Family Income among Children

Poverty is defined as not having enough income to meet some specified definition of need. *Income* is typically defined as the total dollars that a person, family, or household receives from various sources over a specified time period. In the United States, the US Census Bureau defines income as a family's total cash income before taxes. Imagine a family of four, with two married parents and two biological children. The census would count this as

one household, made up of one family and four individuals. Now imagine that a second, unrelated married couple is living with this group of four. The census would still count this as one household but now made up of two families and six individuals. This is important, because the census determines how much income is at each individual's disposal, and therefore their poverty status, by aggregating income to the family level, not the individual or household level. The census also adds up a family's income across a calendar year to ascertain both that family's total income and its poverty status.

To calculate income poverty, the federal government compares families' pretax cash incomes to a poverty threshold (often referred to as a *poverty line*). For a family of four in the United States, the poverty line is a bit over $26,000 in 2020. Poverty lines vary with the number of adults and children in the family because larger families need more income to make ends meet and adults and children may have different needs. In the United States, official poverty statistics also treat the poverty line as absolute, meaning it is fixed and only changes from year to year based on inflation or on changes in the prices of goods and services. Other countries use a relative poverty line, which changes year to year relative to some point in the population's income distribution, usually its midpoint.

This means that, in the United States, to be considered poor, a family of four would need to have less than roughly $26,000 over the course of calendar year 2020. The definition of income is also important here. Pretax cash income doesn't include cash income that families may receive after filing their taxes, such as tax credits like the EITC. Nor does it include the value of so-called in-kind benefits, or benefits that have monetary value but don't come in the form of cash. These may include, for example, benefits from the Supplemental Nutrition Assistance Program (SNAP)—formerly known as food stamps—or a housing voucher. Unlike official measures, the census's Supplemental Poverty Measure (SPM) does count these additional sources as income. It also subtracts nondiscretionary expenses like work, childcare, and medical costs from income to arrive at a figure closer to disposable income, or income available to meet basic needs. This expanded definition of income (or resources) is compared to a poverty line that is relative rather than absolute and tied to the distribution of families' spending on a core basket of necessities like food and shelter. In describing the income and poverty status of families with young children here, we use the SPM, given that it's a more comprehensive measure of families' economic situation.[1]

Poverty rates among young children (and children more generally) have declined substantially since the 1960s, at least according to the fuller picture of family income provided by the SPM.[2] Nevertheless, poverty rates among children are higher than those among working-aged adults and adults older than 65.[3] Young children have some of the highest poverty rates on record, second only to young adults ages 18–24.[4]

Table 1 shows SPM poverty rates for young children as well as select demographic characteristics. Overall, children zero to three years of age have an SPM poverty rate of 17.0 percent. But the rate varies dramatically by demographic characteristics. Young children in married families have a lower poverty rate (10.1 percent) than

Table 1. SPM Poverty Rates Among Young Children Ages Zero to Three

	Poverty Rate
All Young Children	17.0%
Family Structure	
Married	10.1%
Cohabiting	23.2%
Single	40.3%
Race (of child)	
White, Non-Hispanic	9.8%
Black, Non-Hispanic	28.6%
American Indian, Non-Hispanic	23.5%
Asian/Pacific Islander, Non-Hispanic	14.8%
Other, Multi-racial, Non-Hispanic	14.8%
Hispanic	25.0%
Highest Educated Adult in Family	
Less Than High School	47.1%
High School or Equivalent	30.2%
Some College, No Degree	19.9%
Associate Degree	13.8%
Bachelor's Degree	7.9%
Graduate Degree	4.5%

Source: Authors' calculations using the US Census Bureau's Annual Social and Economic Supplement. Data downloaded from the University of Minnesota's Integrated Public Use Microdata Series (IPUMS): Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren, *Integrated Public Use Microdata Series, Current Population Survey: Version 8.0* [dataset] (Minneapolis, MN: IPUMS, 2020), https://doi.org/10.18128/D030.V8.0.

young children in cohabiting or single-parent families (23.2 percent and 40.3 percent, respectively). Black non-Hispanic, American Indian, and Hispanic children all have an elevated poverty rate of roughly 25 percent, give or take; Asian, Pacific Islander, and other multiracial children have a poverty rate of nearly 15 percent; white non-Hispanic children have the lowest poverty rate at 9.8 percent. Lastly, poverty falls precipitously as adults' education levels rise. Nearly half of children in families where the highest educated adult has less than a high school education are living in poverty. But among families where the highest educated adult has a bachelor's or graduate degree, the poverty rate for children is well under 10 percent.

Table 2 reports the resources that children's families have at their disposal, providing descriptive evidence about the income levels, income components, and poverty rates of young children from birth to age three. We separate total family post-tax income into four components:

1. Pretransfer cash income (predominantly earnings from work but also dividends, alimony, rental income, etc.).

2. Cash transfers (Social Security, Supplemental Security Income [SSI], unemployment insurance [UI], and cash welfare);

3. In-kind transfers (SNAP, the Special Supplemental Nutrition Program for Women, Infants, and Children [WIC], the National School Lunch Program, the Low-Income Heating and Energy Assistance Program, and the value of government housing subsidies); and

4. Refundable tax credits (EITC, Child Tax Credit).

Importantly, total income isn't the same as disposable income. Families also face various nondiscretionary expenses such as medical care, childcare, and work-related expenses. So table 2 also shows average expenses in these three categories alongside income components.

The table, which reports information for the period 2014–18 and thereby provides a representative sample of children broken down by age, takes data from the Current

Table 2. Income and Expenses among Families of Children Ages Zero to Three, by Income to Needs Level

	Pretax/Pretransfer Income	Cash Transfers	In-Kind Transfers	Tax Credits	Medical Expenses	Care Expenses	Child Work Expenses
Mean Dollars							
Under 50%	$8,298	$886	$2,756	$1,332	$5,954	$733	$802
50–100%	$19,961	$2,168	$4,758	$3,712	$3,149	$1,035	$1,675
100–200%	$49,212	$1,650	$2,259	$3,228	$3,818	$1,455	$2,582
200–300%	$95,871	$1,454	$447	$730	$5,573	$2,781	$3,232
300% or more	$206,076	$1,110	$181	$179	$6,494	$4,506	$3,364
As Percent of Pretax/Pretransfer Income							
Under 50%		10.7%	33.2%	16.1%	71.8%	8.8%	9.7%
50–100%		10.9%	23.8%	18.6%	15.8%	5.2%	8.4%
100–200%		3.4%	4.6%	6.6%	7.8%	3.0%	5.2%
200–300%		1.5%	0.5%	0.8%	5.8%	2.9%	3.4%
300% or more		0.5%	0.1%	0.1%	3.2%	2.2%	1.6%

Source: Authors' calculations using the US Census Bureau's Annual Social and Economic Supplement. Data downloaded from the University of Minnesota's Integrated Public Use Microdata Series (IPUMS): Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren, *Integrated Public Use Microdata Series, Current Population Survey: Version 8.0* [dataset] (Minneapolis, MN: IPUMS, 2020), https://doi.org/10.18128/D030.V8.0.

Population Survey's Annual Social and Economic Supplement, a large household survey used to document annual changes in income and poverty, among other demographics. The table shows income components and expenses across the income distribution, including children in five groups: deep poverty (under 50 percent of the poverty threshold), nondeep poverty (50–100 percent of the poverty threshold), low income (100–200 percent of the poverty threshold), moderate income (200–300 percent of the poverty threshold), and higher income (over 300 percent of the poverty threshold). The top panel shows the average values of each income or expense component, and the bottom panel shows individual income and expense components as a percentage of pretax/pretransfer incomes.

The lowest-income families with young children have the lowest pretax/pretransfer incomes, at only about $8,300 per year. Among the next highest group, this figure more than doubles to nearly $20,000, and it rises substantially from there. The poorest families have substantial resources coming into their households from government transfers, which together amount to about 60 percent of the value of their pretax/pretransfer incomes. Transfer levels among the nondeep poor are much higher in absolute terms, over twice the value of that among the deep poor and sometimes nearly triple the value in the case of tax credits. Nevertheless, in percentage terms, transfers among deep poor families still constitute over half the value of their pretax/pretransfer incomes. From there, transfer amounts decline with income, as expected, and constitute a far smaller percentage value relative to pretax/pretransfer incomes. Among the low-income group, this stands at about 15 percent, and it declines to just

3 percent and less than 1 percent in the moderate- and higher-income groups.

Expenses also vary a lot by family income. The poorest group, the deep poor, face quite high medical expenses relative to their incomes. These high expenses are part of the reason these families are counted as living in deep poverty—in the SPM, these expenses are subtracted from income. Among the rest of the income groups, expenses rise with income, but they also constitute a smaller and smaller fraction of pretax/pretransfer incomes. Thus the lower-income groups are spending a greater fraction of their incomes on nondiscretionary expenses, which means that these families' budgets are stretched further and they have less of a cushion than their higher-income peers. The poorest families have very low incomes to begin with, and they rely much more than higher-income families on government transfers, much of which come in the form of in-kind assistance or once-a-year tax credits.

Why Income May Affect Young Children's Development

Poverty and the stresses that go along with it can shape children's development in powerful ways, which may lead directly to poorer outcomes later in life. Evidence from both human and animal studies highlights that early childhood is critically important for brain development and for setting in place the foundational structures that shape future cognitive, social, emotional, and health outcomes.[5] Research suggests that poverty experienced during early childhood has worse consequences on long-term outcomes than poverty experienced later in childhood and that children whose socioeconomic circumstances are difficult lag in health and cognitive development early in life.[6] For example, differences in children's language skills by income and poverty level have been identified as early as 18 months, and they grow larger between 18 and 24 months.[7] Why might these differences emerge so early in children's lives? Two primary ways through which income affects child development have been identified, both of which focus largely on the most immediate, family-based environments: family stress and family investments.

The *family stress model* focuses on the economic hardship that comes along with low income and poverty.[8] This hardship impairs family functioning, increasing parents' stress and undermining their mental health, family interactions, and ultimately children's development. Policies that increase family income can directly reduce stress and improve parents' wellbeing. For example, a study of the EITC found that it improved mothers' mental health and reduced risky levels of biomarkers related to inflammation.[9] For the youngest children, family stress affects development primarily through their relationships with parents, and stress can affect children even before birth. One study found that a drop in income during pregnancy increased mothers' levels of the stress hormone cortisol, which was then correlated with children's IQ and educational attainment at age seven. These associations were much larger for mothers with low education levels, suggesting that greater resources (in this case in the form of education) allow a mother to buffer her child from the adverse effects of stress.[10] Thus prenatal stress may play a role in the intergenerational persistence of poverty.

After birth, stress can interfere with the development of strong parent-child bonds and supportive parenting practices, leading to harsher, less warm parenting.[11] In addition, the stress associated with poverty has been linked to reduced mental bandwidth—that is, the cognitive power that would otherwise go to less pressing concerns, to planning ahead, and to problem solving—making parents more preoccupied with the stress at hand than with investments in their children.[12] Thus, income alone could reduce some forms of economic hardship, improve family functioning and parent-child relationships, and, as a result, narrow socioeconomic gaps in young children's development. Research has found broad support for the family stress model across different countries and among different racial and ethnic groups. Finally, family stress processes seem to better predict children's emotional and behavior outcomes than their achievement-related outcomes.[13]

The *family investment model* is rooted in economic principles of human development. It theorizes that limited economic and time resources restrict parents' ability to invest in their children.[14] Poor parents have less access to different forms of capital—including financial (for example, income), social (for example, status), and human (for example, education) capital—than wealthier parents do. The lack of capital often means a lack of investments in a range of things that support a young child's development, including learning materials, quality housing, quality childcare, and even health care. Families with greater economic resources can make significant investments in their children, whereas poor families must invest in more immediate family needs.[15] Other forms of capital are also consequential.[16] Social capital, often associated with greater income, may influence the ways that parents value and prioritize their parenting strategies, for example, increasing the time they spend in cognitively stimulating activities with their children.[17] Human capital and education, which are also associated with greater income, may lead parents to foster academic and social competence in an attempt to develop their children's own human capital.[18] Increasing a family's income could directly increase the amount of resources that parents have to invest in their children. Note that income may allow parents to purchase investments for children, but for those investments to pay off, studies (and common sense) suggest that actually using the materials is critical. Thus income alone may be insufficient for translating investments into positive child outcomes.

For such positive interactions to occur, parents must spend time with their children. There may also be a tradeoff between employment and time investments, particularly during the first year of a child's life, given the importance of this period in forming secure and positive attachments with caregivers. More mothers have joined the workforce over the past several decades, and with only 17 percent of civilian workers having access to paid parental leave, questions have been raised about how this affects children's development.[19] A review of relevant studies examined how mothers' employment in children's first year of life affected the children's cognitive and social-emotional development.[20] The reviewers found mixed results—for all children, there were no associations with children's later social-emotional outcomes, negative associations with behavior problems, and negative

associations with cognitive development for non-Hispanic white children later in childhood. The authors concluded that, on balance, the associations between mothers' employment in a child's first year and later child development were neutral, because negative effects were offset by positive ones. The detailed findings provide more nuance: the effects of mothers' employment depend on the type of childcare that children are exposed to and the type of job the mother has and her income level, among other factors.

Overall, the impact of these two processes—family stress and family time and material investments—on child development is backed up by a good deal of evidence from many studies that observed families and children over time. But whether increases in income per se actually cause changes in these processes and thereby improve children's health and development is more controversial. In the next section, we review the best evidence that researchers have established on this key question.

Causal Effects of Income for Infants and Toddlers

Many researchers have examined the associations between income and child development. This research was extensively covered in an earlier issue of the *Future of Children*.[21] Here we briefly summarize some of the key takeaways before examining the causal evidence on whether income matters. First, the evidence suggests that the *depth* of poverty matters. The scarcer the resources, the more detrimental it is for children's development. In fact, the relationship between income and most important child outcomes is nonlinear, meaning that income seems to matter most at the very bottom of the income distribution and much less if at all at higher levels of income. Second, the *duration* of poverty matters. The longer a child lives without the necessary income to make ends meet, the worse are the child's ultimate developmental outcomes. Third, the *timing* of poverty matters. Income seems especially important for developmental outcomes in early childhood, which is often defined as ages zero to five, compared to during older childhood or adolescence. This is not to say that income doesn't matter for older children, only that research suggests early childhood may be a particularly vulnerable time where scarcity of income is particularly problematic. Though the evidence for the importance of depth, duration, and timing of poverty is broadly consistent, it often comes from examining the associations between income and child outcomes, typically achievement or behavioral/emotional outcomes, as well as longer-term outcomes like educational attainment. A key question, therefore, is whether these associations are causal. That is, if you did nothing else but give a family more income, would you then see improvements in children's developmental outcomes?

The depth, duration *and* timing *of poverty all matter.*

It's difficult to conclusively prove that income plays a causal role in promoting positive effects on children's short- and long-term development. Consider two families: the Joneses, who have a relatively

high income of $100,000 per year, and the Smiths, who are living in poverty with an income of $10,000 per year. We might observe that the Joneses' children enter kindergarten more ready to learn, score better on standardized tests, receive better grades, go on to a high-quality college or university, and begin careers that earn them high incomes themselves during adulthood. The Smiths' children struggle; they lag behind the Joneses' children on key markers of school readiness, score less well on tests, receive lower grades, and don't go to a college or university. Their incomes in adulthood remain lower than those of the Joneses' children. Did the Joneses' higher income play a causal role (and if so, how large?) in producing the better outcomes that we observe for their children later in childhood and adulthood? That is, would giving the Smiths more money when their children are young produce measurable improvements in their development and their wellbeing later in life?

We can't observe a world in which the Smiths have a higher income, so we can't directly answer the question. And any number of other things might differentiate the Joneses and the Smiths. Some of those we may observe—such as the Joneses' access to better schools and neighborhoods for their children—but many others we may not. This makes it very difficult to conclusively determine the answer to our key question about income and the role it played in how the Smiths' and Joneses' lives unfolded. Compounding this problem is the fact that many of the things we can observe might also be affected by changes in income, meaning that we can't simply "control them away," which would be the standard approach in many traditional studies.

To solve this problem, many social scientists would want to run a *social experiment*, where one group of families, for example, is randomly given more income than other families. A recent set of randomized experiments in New York City and Tennessee provided what's called *conditional cash transfers* to families.[22] These are cash payments tied to specific activities and behaviors by participating families and children, such as attending school regularly or engaging in activities that promote health. Though these programs boosted family incomes and reduced poverty, they did little to change other outcomes. But it's hard to disentangle the effects of cash income from the effects of the structure of the program and the conditional nature of the cash income, so we can't conclude too much from these experiments about the causal effects of income. Fortunately, researchers are currently conducting a new random assignment study, which we describe in our conclusion, that addresses the issue of cash income and early childhood development directly. But absent a social experiment, what some researchers do is look for situations in which families' incomes differ only because of some external factor outside of their control. We call these *natural experiments* or *quasi-experiments*. The change in income is not truly random or administered in a controlled manner, but it can still provide convincing evidence that the outcomes we see down the road for families and children are most likely driven by the change in income generated by the external factor outside of families' control. We know of a handful of such studies, which we describe next. Taken together, they do suggest that income itself matters during early childhood, especially for families in poverty or with low incomes

to begin with. Note that these causal studies don't exclusively focus on ages zero to three. Throughout the discussion, we attempt to note which age groups the underlying evidence comes from.

TheEITC has been among the most important policies aiming to reduce the risk of child poverty.

Perhaps one of the most exciting and compelling of these studies involves a comprehensive examination of the Mother's Pension Program, which was implemented in the early 20th century (1911–35) to provide a universal subsidy to families with dependent children and without an adult man's income.[23] It was the precursor to the Aid to Dependent Children program, which later became Aid to Families with Dependent Children (AFDC), commonly known as *cash welfare* or just *welfare*. The researchers conducting the study assembled a remarkable data set that links historical administrative records from the program with multiple sources containing information on male children of mothers who received income from the program (girls weren't included since changes to last names upon marriage make linking such data incredibly difficult). They then compared mothers who received income from the pensions to mothers who applied, were initially deemed eligible, but were then denied benefits following further review. Key here is that these mothers were ultimately rejected because they were somewhat more affluent. Despite these differences, boys in households who received income support from the program were born healthier, completed more education, earned more income, and wound up living a year longer on average than the boys of rejected applicants.

The EITC provides another natural experiment to study how income affects child and family development in more recent times. The EITC has been among the most important policies aiming to reduce the risk of child poverty. It was created in the 1970s and was originally quite modest in size. But over the decades, the program has been expanded a number of times, sometimes quite substantially. In 2018, the maximum credit that a family could receive was $6,431, which provides a considerable boost to low-income families' total resources.[24] A study published in 2012 harnessed this variation in credit amounts, driven by changes in tax law, to examine changes in children's later math and reading test scores.[25] The researchers found that every $1,000 in income generated by changes in the EITC resulted in a modest increase in math and reading test scores over one year. If transfers were larger than $1,000 and occurred year after year, the effects of income on achievement could be quite substantial. A number of other studies have used similar approaches to understand the effects of income on other outcomes such as birth weight, child maltreatment, behavior problems, and home environments.[26]

A third approach harnesses multiple social experiments during the time of welfare reform that sought to promote employment among mothers receiving welfare and boost their earnings and

incomes. As we've noted, the AFDC program historically delivered cash assistance to low-income families with dependent children. In 1996, the Clinton administration and Congress passed a comprehensive welfare reform bill, which changed the name of the program to Temporary Assistance for Needy Families and essentially turned it into a block grant to the states, making cash assistance no longer a federal entitlement for low-income families. Around the same time, many states were testing similar ideas to promote "welfare-to-work"—trying to help mothers on welfare find paying jobs so that they could increase their earnings and income. Though the individual studies are too numerous to detail, a 2011 study led by Greg Duncan, an economist at the University of California, Irvine, made use of data from 16 experimental evaluations of these programs and took advantage of the fact that some of them targeted only employment and welfare use while others were also designed to boost incomes.[27] Looking at early childhood, the authors found that results for young children's academic achievement were quite similar to those found in the EITC study. Though the magnitude of the effect of $1,000 might seem small, the authors noted, interventions that have produced much larger effects also cost far more than $1,000 per family.

Another instructive set of studies don't use a policy analysis but what might be better described as a fortunate set of circumstances for researchers. The Great Smoky Mountains Study was in the midst of looking at changes in young people's mental health in certain portions of North Carolina, using both an American Indian and non-American Indian sample of families, when, about halfway through the study period, the tribal government opened a casino and made the decision to distribute its profits to all adult tribal members. This income transfer was thus independent of people's choices and applied only to the American Indian portion of the sample. A 2011 study exploited this development to trace the effects of this new income on children's later outcomes.[28] As with the other studies we've mentioned, the results were positive. Children whose families received extra income completed an additional year of schooling and were also less likely to engage in criminal activity later in life. And the effects were largest for the most disadvantaged. While increased income in this study didn't go exclusively to families with very young children, the findings are consistent with the other quasi- and natural experimental evidence we've described.

Another study in this vein comes from Canada, where the authors used variation in child benefits across provinces over time, which also varied by family type, to examine the effects on children's outcomes, such as test scores, mental and physical health, and material deprivation in the form of reported hunger.[29] And again, consistent with the other studies we've described, children showed improvements on a number of key outcomes. Another set of studies led by economist Katrine V. Løken from the Norwegian School of Economics used evidence from the Norwegian oil boom to examine the effects of income in that country, finding that income affected academic outcomes, though only for the most disadvantaged families. Taken together, the set of studies we've reviewed

in this section imply that income may indeed have positive causal effects on children's developmental outcomes and that these effects unfold over time. As we'll discuss later in this article, other social experiments now under way may provide further evidence on this point.

Experimental Evidence from Developing Countries

Although this issue of the *Future of Children* focuses on the United States, evaluations of income support experiments in developing countries offer additional insights into how income can affect families and young children. These studies generally haven't focused on parenting outcomes, but the results indicate that such programs can reduce parental stress and hardship, with measurable improvements in self-reported psychological wellbeing, select improvements in adult health, and reductions in economic hardship.[30] A meta-analysis of 21 studies across Africa, the Americas, and Southeast Asia found strong evidence that cash transfers improved adults' mental health, moderate evidence that they had a positive effect on children's school attendance, and suggestive but inconclusive evidence that they contributed to dietary diversity and food security.[31] One recent study in Burkino Faso looked at a program specifically for families with young children that provides unconditional cash transfers to pregnant mothers through their children's first two years of life; it found that the program improved dietary diversity among mothers and children but had mixed impacts on children's health, with improvements in some areas but not others.[32] Finally, a conditional cash transfer program in Honduras targeting health behaviors focused on families with children from birth to five years; it led to improved cognitive development for young children.[33] Taken together, the evidence from low- and middle-income countries indicates that income support alone can improve families' access to healthy and nutritious food, increase parents' wellbeing, and improve some elements of young children's cognitive and health outcomes. This jibes with the evidence we've outlined from the United States, Canada, and Norway: income does appear to directly improve young children's wellbeing.

Income Instability

So far, we've considered only research on average levels of income. In another vein, evidence is emerging that income instability may have distinct consequences for families and children.[34] The reality for most Americans is that economic life is dynamic. Household earnings and income, as well as eligibility for social assistance programs, fluctuate from month to month and year to year.[35] Disadvantaged families face this problem the most: they experience greater instability in economic resources than do higher-income families, and the degree to which they face instability has been increasing over the past 30 years.[36] Major income changes (or shocks, as economists call them), which many families experience, are related to poorer health among young children and even greater mortality among adults.[37] Though much of this emerging evidence isn't causal in nature, we describe it here because income instability is potentially quite important.

Unpredictable swings in household resources can interfere with planning for basic or future needs. This can contribute to stress and other negative outcomes. Income instability has been linked to both key pathways through which income affects young children—family stress and investments. Among parents, job loss is related to poorer mental health and depression, and drops in income are related to increased economic stress and poorer parenting quality.[38] And when their income drops, families make adjustments in their investments in children. Those who experience sharp decreases in income may change their spending habits and have trouble paying bills.[39] Job loss has been linked to loss of childcare subsidies and lowered use of health care.[40] It also constrains household budgets and increases the likelihood of food insecurity.[41]

The challenges posed by unpredictable, unstable income likely affect young children's wellbeing. Income instability has been linked to poorer educational and behavioral outcomes for children.[42] Evidence also suggests that economic instability adversely affects children's health—particularly young children of parents with less education.[43] Research finds that when families, particularly vulnerable immigrant families, go off welfare (and presumably see a sharp decrease in household resources because they're receiving fewer public benefits), their preschool-aged children are likely to experience poorer health.[44] Although substantial income increases may have opposing, beneficial effects, income volatility may contribute to poorer outcomes more than a stable low income would. Further, the experience of economic instability during childhood appears to have lasting detrimental effects into adulthood, specifically by lowering educational attainment.[45] However, the nature of economic instability, along with the fact that it often goes hand in hand with other phenomena like housing instability, material hardship, and family instability, makes it hard to draw causal inferences.

Near-Cash Benefits and Child Outcomes

This article focuses on family income, thus far treating income as synonymous with cash. But many families, particularly poor and low-income families, receive a substantial portion of their total resources in the form of what's called *near-cash* or *in-kind* benefits. Examples include food assistance through the Supplemental Nutrition Assistance Program (SNAP), formerly known as the Food Stamp Program. Under SNAP, families receive a monthly allotment of dollars on an electronic benefit transfer (EBT) card but can only use them to purchase food. Similarly, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) gives low-income pregnant women and their children checks or vouchers (and, increasingly, EBT cards) that cover specified food items and formula. Other families may receive vouchers through the Section 8 program to help pay for housing or to secure a reduced-rent apartment through public housing authorities. The Low-Income Home Energy Assistance Program helps some people pay for heating and cooling their homes. In fact, the United States has increasingly come to rely on in-kind programs to provide material assistance to young children in lieu of cash.[46] The reasons are complex and may partially be

attributable to paternalism—the idea that policy makers and elites know what's best for the poor.[47] Nevertheless, these programs do provide real material support to poor and low-income families with young children and thus may have effects on children's development that should be understood alongside those of cash.

The United States has increasingly come to rely on in-kind programs to provide material assistance to young children in lieu of cash.

Though none of these in-kind programs deliver cash to families, they all clearly provide families with resources that could improve children's health and development and thus their longer-term outcomes. They therefore operate like cash in many ways. And as with cash income, many researchers are seeking to understand whether these programs have a causal effect on childhood and later adult outcomes. A series of studies uses the fact that the Food Stamp Program was rolled out gradually across the country as a way to assess its impacts on children whose families participated in the program. This means that some Americans received food stamps and others did not based solely on when the program arrived in their community, thus providing the conditions for a sort of quasi-experiment that allowed researchers to assess the program's impact. These studies generally find a host of positive short- and long-term benefits to children who received resources from the program, including in the areas of health, educational attainment, economic self-sufficiency, and even longevity.[48] A similarly designed study of WIC found that the program measurably improves birth outcomes.[49] (Marianne Bitler, an economist from the University of California, Davis, has reviewed these and other studies comprehensively.[50]) With regard to government housing assistance, we are aware of very few high-quality causal estimates, though those that exist show either mixed results or no benefits for children's development.[51]

Conclusions and Implications for Policy

It's indisputable that children from middle- and upper-income families fare better than those from low-income families in nearly every domain. A number of high-quality studies suggest that income itself is the cause of some of these disparities. Recent advances in developmental neurobiology have taught us much about the developing brain, including that early childhood is a period when the brain is particularly sensitive and responsive to the environment. The stress and deprivation associated with lack of income and with income volatility are likely to have a particular impact during children's first few years of life. These facts support the idea of creating and designing income support policies for families, particularly during early childhood.[52]

In this article, we reviewed the evidence of how income and poverty affect young children and their families. We showed that during these first few years of a child's life, family income is the lowest and expenses are highest (as a proportion of total income). We saw that for young

children who are fully dependent on their caregivers, the effects of income and poverty are felt primarily through family processes such as stress and investments. This reality suggests that families most need income support during this period of their lives. Though we have ample evidence that income directly impacts family stress and families' ability to invest in the resources that support children's development, there is less evidence on the direct causal effects of income on infants and toddlers. However, the limited empirical evidence suggests that income can, in fact, directly impact both mothers' and children's health, as well as children's early cognitive outcomes and even some of their longer-run adult outcomes.

Given the evidence, a recent panel assembled by the National Academy of Sciences and Medicine recommended that income-transfer policies, such as the Child Tax Credit and the EITC, be expanded to more families with children and that the benefits be larger for families with young children. Furthermore, the panel recommended modifications to childcare subsidies, changes in the federal minimum wage, and a scale-up of promising training and employment programs. The panel also proposed two new programs that come from other countries: a child allowance as an extension of the federal child tax credit and a child support assistance program.[53] Based on a review of the evidence from other industrialized countries, others have proposed an unconditional child allowance, positing that an allowance of between $250 and $300 per month for families with children under the age of five would reduce child poverty by 40 percent and deep poverty by 50 percent.[54] Such a universal child benefit would be available to all families, regardless of income level, and could help them weather the spells of income instability that are associated with so much disruption and harm.

Another step might be to redesign some features of public assistance, such as income limit cutoffs and recertification periods, that may currently increase income instability and uncertainty for families, particularly for families on the margin of eligibility. The extent to which these policy design features mitigate or aggravate income instability, loss of resources, and family stress is not well understood, but it's an area to consider for supporting families with young children.

Despite all the evidence we have, a central policy-relevant question remains untested: Is providing cash more effective than providing and expanding direct services to poor families? For example, would we see similar or larger effects on family wellbeing and early child development by providing the same dollar amount of resources such as food or high-quality childcare and education? These are important questions that have yet to be tested but deserve further scrutiny. Importantly, both types of programs (cash and services) may produce benefits to both children and families. For example, income transfer programs could reduce parents' stress and also improve children's health and safety. Quality childcare programs could permit parents to work, thereby increasing their families' economic status while their children simultaneously receive early education. Nor do we necessarily have to choose one type of program over another. Income transfer programs and high-quality services might build on each other to produce large

benefits for low-income children and their families.

Supporting families with young children should not come at the expense of investing in families later in children's lives. But we see compelling evidence that income support during the early years may be a particularly cost-effective investment, and so it is an element that should be considered for any government policy. As noted, the first random assignment causal study of the impacts of income on families with newborn children in the United States is currently under way; it will directly examine questions of how income support, with no strings attached, affects young children and their families.[55] Among 1,000 mothers recruited to the study, 400 will receive $4,000 per year while the remaining 600 receive a token amount. This study will hopefully give us a more definitive estimate of how income impacts the youngest children in our society—and their families—across a range of outcomes so that we can better design cash assistance programs.

Evidence is growing that income matters and is a key ingredient for supporting the healthy development of our nation's youngest children. At the same time, if income can help young children and their families, then removing sources of income and resources (for example, through cuts to social safety net programs) will very likely have negative consequences for these same families. We suggest that policy makers consider this evidence seriously, as an investment in the youngest of our population would likely more than pay for itself in the outcomes of the next generation.

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