



# Beyond the Basics: Guaranteed Livable Basic Income & Bill S-233

Senator Kim Pate  
Ontario

## The Cognitive Tax of Scarcity

### What Is Scarcity?

Scarcity is the condition of having insufficient resources to cope with the demand (e.g., having less money than you need). Most studies on scarcity focus on the shortage of money, but the same principles apply to other resources (e.g., scarcity of time, food, water, energy, social interactions; Zhao & Tamm, 2018).

### What Is the Cognitive Tax of Scarcity?

Studies have found that having insufficient money makes people focus on the money issue at hand (e.g., paying rent) while causing them to neglect other things in their life that also need attention (e.g., paying attention to their children; Mullainathan & Shafir, 2013; Zhao & Tamm, 2017, 2018).

The cognitive tax of scarcity comes in at least three forms.

#### 1. Having to Focus on Money Problems

First, having to focus on money problems is cognitively taxing because it requires people to think hard about how to solve the problem using their insufficient financial resources (Shah et al., 2012). An analogy is if you only have a small carry-on suitcase to pack for a week-long vacation, packing is a lot more difficult than if you have two large suitcases that you can check. Scarcity requires people to do trade-off thinking (e.g., if I spend money on this, what things do I have to give up?) which is mentally exhausting. Scarcity also highlights the monetary dimension of everyday experiences for people under scarcity (Shah et al., 2018). For example, hanging out with friends is a social experience for most, but for a low-income individual, it automatically raises the question of how much money it will cost.

## 2. Focusing on One Thing Means a Lack of Focus on Something Else

Second, focusing on one thing means a lack of focus on something else (Mani et al., 2013). Scarcity puts people in a firefighting mode in the present, causing them to neglect other important things in their life, such as long-term planning or taking care of their health. An even more detrimental effect of scarcity is that it can make people neglect beneficial opportunities (e.g., social assistance, job training opportunities) that can help them get out of scarcity (Tomm & Zhao, 2016). This is one reason that the take-up rate of many poverty-reduction programs is low. Scarcity can put people in a tunnel vision where they can only focus narrowly on something while losing sight of the bigger picture (Shah et al., 2012). Scarcity also reduces the mental bandwidth overall. For example, people under scarcity perform less well on a range of cognitive tests (Mani et al., 2013), are less able to control their impulses (Mani, et al., 2020), tend to forget more (Tomm & Zhao, 2017), and make more errors at work (Kaur et al., 2021). These behaviors can be particularly problematic because they can make people lose their jobs, incur larger fees or debts, which can make perpetuate the cycle of scarcity.

## 3. Social Environment

Third, money scarcity is often associated with a social environment characterized by discrimination, stereotypes, and stigma. For example, people with lower socio-economic status (SES) are typically seen by others as less competent (Durante, et al., 2017). These negative perceptions place a huge burden on the mind of people with lower SES (a term called stereotype threat). These threats make people self-monitor more and more concerned about others' views and behaviors, which take up mental bandwidth (Duquenois, 2022; Schmader et al., 2018).

## How to Remove the Cognitive Tax of Scarcity?

Studies have shown that cognitive training targeting the individual (e.g., cognitive training, teaching people to think differently) don't work (Sala & Gobet, 2019). But interventions targeting the scarcity situation (e.g., raising the income floor, providing income security) work the best (Ong et al., 2019). For example, a recent study (Dwyer et al., 2023) shows that providing a cash transfer to people experiencing homelessness not only provides cognitive benefits, but also a range of behavioural improvements for the long term that end up saving governments money. But providing these individuals with coaching and workshop had no impact whatsoever.

## References

- Duquenois, C. (2022) Fictional money, real costs: Impacts of financial salience on disadvantaged students. *American Economic Review* 112, 798-826.
- Durante et al. (2017) Poor but warm, rich but cold (and competent): Social classes in the stereotype content model. *Journal of Social Issues* 73, 138-157
- Dwyer et al. (2023). Unconditional cash transfers reduce homelessness. *Proceedings of the National Academy of Sciences*.
- Kaur et al. (2021) Do financial concerns make workers less productive? *National Bureau of Economic Research*. Published online July, 2021.
- Mani et al. (2013) Poverty impedes cognitive function. *Science* 341, 976-980.
- Mani et al. (2020) Scarcity and cognitive function around payday: A Conceptual and empirical analysis. *Scarcity and Consumer Decision Making* 5, 365-376.
- Mullainathan, S., & Shafir, E. (2013) Scarcity. *Social Policy* 46, 231-249.
- Ong et al. (2019) Reducing debt improves psychological functioning and changes decision-making in the poor. *Proceedings of the National Academy of Sciences* 116, 7244-7249.
- Sala, G., & Gobet, F. (2019). Cognitive training does not enhance general cognition. *Trends in Cognitive Sciences* 23, 9-20.
- Schmader et al. (2008) An integrated process model of stereotype threat effects on performance. *Psychological Review* 115, 336-356.
- Shah et al. (2018) Money in the mental lives of the poor. *Social Cognition* 36, 4-19.
- Shah et al. (2012) Some consequences of having too little. *Science* 338, 682-685.
- Tomm, B. & Zhao, J. (2016) Scarcity captures attention and induces neglect: Eyetracking and behavioral evidence. In A. Papafragou, D. Grodner, D. Mirman, & J.C. Trueswell (Eds.), *Proceedings of the 38th Annual Conference of the Cognitive Science Society* (pp. 1199-1204). Austin, TX: Cognitive Science Society.
- Tomm, B. & Zhao, J. (2017) Scarcity impairs online detection and prospective memory. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. J. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society*, (pp. 3350-3355). Austin, TX: Cognitive Science Society.
- Zhao, J., & Tomm, B. M. (2017) Attentional trade-offs under resource scarcity. *International Conference on Augmented Cognition* 78-97.
- Zhao, J. & Tomm, B. (2018) Psychological responses to scarcity. *Oxford Research Encyclopedia of Psychology*. New York: Oxford University Press.