APPENDIX C: Progressive income taxes and economic growth literature review

The standard theory of optimal taxation argues that a tax system should maximize social welfare subject to a set of constraints. The goal should be to enact a tax system that maximizes households' welfare, given the knowledge that household members respond to whatever incentives the tax system provides.

Pioneering work on optimal taxation is the research of Frank Ramsey (1927), who suggested that if a social planner must raise a given amount of tax revenue, he must do so such that only commodities with inelastic demand are taxed.[i] Another important contribution on this topic is the work of James Mirrlees (1971), who posited that when a tax system aims to redistribute income to low-income individuals from high-income individuals, the tax system should provide sufficient incentive for high-income taxpayers to keep producing at the high levels that correspond to their ability, even though the social planner would like to target this group with higher taxes.[ii] This is because a higher tax on high-income individuals would discourage them from exerting as much effort to earn that income.

Altig, Auerbach, Kotlikoff, Smetters and Walliser (2001) found that moving away from a flat income tax to a progressive income tax results in aggregate output losses.[iii]

Bakija and Slemrod (2004) found that higher taxes on the wealthiest individuals have a significant effect on migration. High top tax rates encourage the wealthiest taxpayers to flee to states with lower top tax rates.[iv] This means enacting a progressive tax could exacerbate Illinois' existing outmigration crisis.

Conesa and Krueger (2006) found that the optimal tax code is a flat tax coupled with a fixed deduction. Lowering the top tax rates encourages work and saving, while the deduction ensures that lowest earners aren't taxed.[v] Peterman (2012) obtains a similar result in a closely related paper that takes into account human capital accumulation under alternative tax specifications.[vi]

Wenli and Sarte (2004) found that the decrease in progressivity from the 1986 Tax Reform Act helped raise U.S. per capita GDP growth by 0.12 to 0.34 percentage points, as individuals are encouraged to work more or accumulate more skills.[vii]

When analyzing the effects of the increase in the Medicare tax and its expansion to unearned income for high-income earners under the Patient Protection and Affordable Care Act of 2010, Carroll and Prante (2012) find that higher marginal tax rates on high-income taxpayers result in a smaller economy, fewer jobs, less investment and lower wages.[viii]

Echevarria (2012) similarly found that higher levels of progressivity give rise to lower long-run growth rates via a reduction in savings and capital accumulation.[ix]

And Rhee (2008) found that with a three-year lag, higher income tax progressivity has a significant negative effect on the economic growth.[x]

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[i] Frank P. Ramsey, "A Contribution to the Theory of Taxation," *The Economic Journal* 37.145 (1927): 47-61.
[ii] James A. Mirrlees, "An exploration in the theory of optimum income taxation," *The Review of Economic Studies* 38.2 (1971): 175-208.
[iii] David Altig et al., "Simulating fundamental tax reform in the United States," *American Economic Review* 91.3 (2001): 574-595.
[iv] Jon Bakija and Joel Slemrod, "Do the rich flee from high state taxes? Evidence from federal estate tax returns," *National Bureau of Economic Research*, No. w10645 (2004).
[v] Juan Carlos Conesa and Dirk Krueger, "On the Optimal Progressivity of the Income Tax Code," *Journal of Monetary Economics* 53 (7) (2006): 1425-1450. doi:10.1016/j.jmoneco.2005.03.016.
[vi] William Peterman, "An Extensive Look at Taxes: How does endogenous retirement affect optimal taxation?" Finance and Economics Discussion Series 2012-28, Board of Governors of the Federal Reserve System (2012)
[vii] Wenli Li and Pierre-Daniel Sarte, "Progressive taxation and long-run growth," *American Economic Review* 94.5 (2004): 1705-1716.
[viii] Robert Carroll and Gerald Prante, "Long-run macroeconomic impact of increasing tax rates on high-income taxpayers in 2013," Ernst & Young (2012).
[ix] Cruz Echevarría, "Income tax progressivity, physical capital, aggregate uncertainty and long-run growth in an OLG economy," *Journal of Macroeconomics* 34.4 (2012): 955-974.
[x] Tae-hwan Rhee, "Macroeconomic effects of progressive taxation," (2008), https://www.researchgate.net/publication/229053222_Macroeconomic_Effects_of_Progressive_Taxation.