APPENDIX D: Progressive income taxes and income inequality literature review

The progressive income tax system is designed to reduce the tax burden of those with a lower ability to pay and shift the burden increasingly to those with a higher ability to pay. Thus, it is commonly believed that an increase in tax progressivity will shift the burden of taxation from the poor to the rich.

While most experts agree that higher progressivity reduces economic growth, they remain divided as to whether tax progressivity reduces inequality or has any effect on inequality whatsoever.

On one hand, some researchers found that by discouraging human capital investments, tax progressivity leads to higher inequality. Caucutt et al. (2003) show that reductions in the progressivity of labor income tax can positively affect growth and, furthermore, that "a less progressive tax system, which is rarely perceived as an egalitarian measure, gives rise to increased growth, decreased inequality, and greater mobility for the poor in the long run." This mobility up the ladder of success is caused by the increased incentive for human capital accumulation.[i]

Meanwhile, Heathcote, Storesletten, and Giovanni (2010) find that even if a progressive tax succeeds in reducing inequality, such policies can have a negative effect on welfare. For example, more progressive taxation dissuades individuals from acquiring additional education more than under a flat tax. This is because the expected income increase due to additional education would be taxed less, and therefore more valuable.[ii]

Gimenez and Pijoan-Mas (2006)[iii] find that more progressive tax reform reduces economic output by 2.6 percent but results in a more egalitarian after-tax income distribution. Ventura (1999) also concludes that changes from tax progressivity to a flat-tax regime can bring about large gains in output and productivity at the expense of significant increases in inequality.[iv] Erosa and Korkeshova (2007) also find that although progressive income taxes can reduce inequality, they have a negative effect on output.[v]

Others found that tax policy has little impact on inequality. Sarte (1997) highlights that since individuals are endowed with different rates of impatience, they face a different rate of return on both human and physical capital leading to income dispersion. It is because individuals have different rates of impatience that some states are more unequal than others and not necessarily because of their tax regime. As a result, higher top marginal tax rates seem more effective at reducing economic growth than at reducing the degree of long-run income inequality.[vi]

Kaymak and Poschke (2016) use 50 years of U.S. data from 1960 to 2010 to find that reductions in the progressivity of the U.S. tax code over this time can explain nearly half of the growth in wealth inequality, but that income inequality is attributable to skill-biased technological change and changes in the wage structure.[vii]

Making matters more unclear is the question of whether reductions in the progressivity of individual income taxes have reduced the progressivity of the tax code as a whole. Piketty and Sanz (2007) find the decline in top marginal individual income tax rates in the U.S. since the 1960s has contributed only moderately to the decline in tax progressivity.[viii]

And Roine, Vlachos, and Waldenstrom (2009) found a strong positive affect on lower earners associated with a high top marginal tax rate that suggests progressivity of income taxes has equalizing effects even beyond the direct impact of taxation.[ix]

Similarly, Guvenen, Kuruscu, and Ozkan (2014) found that progressive taxation was negatively correlated with a rise in wage inequality when studying the U.S. and countries in Europe.[x]

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[i] Caucutt, E. M., S. Imrohoroğlu, and K. B. Kumar. 2003. "Growth and Welfare Analysis of Tax Progressivity in a Heterogeneous-Agent Model." *Review of Economic Dynamics* 6 (3): 546-577. doi:10.1016/S1094-2025(03)00013-9.
[ii] Heathcote, Jonathan, Kjetil Storesletten, and Giovanni L. Violante. 2010. "The Macroeconomic Implications of Rising Wage Inequality in the United States." Journal of Political Economy 118, no. 4 (2010).
[iii] Díaz Giménez, Javier, and Josep Pijoan-Mas. "Flat tax reforms in the US: A boon for the income poor." (2006).
[iv] Ventura, Gustavo 1999. "Flat tax reform: A quantitative exploration1." Journal of Economic dynamics and Control 23, no. 9-10 (1999): 1425-1458.
[v] Erosa, Andres, and Tatyana Koreshkova. "Progressive taxation in a dynastic model of human capital." *Journal of Monetary Economics* 54.3 (2007): 667-685.
[vi] Sarte, Pierre-Daniel G. "Progressive taxation and income inequality in dynamic competitive equilibrium." *Journal of Public Economics* 66.1 (1997): 145-171.
[vii] Kaymak, Barış & Poschke, Markus, 2016. "The evolution of wealth inequality over half a century: The role of taxes, transfers and technology," Journal of Monetary Economics, Elsevier, vol. 77(C), pages 1-25.
[viii] Thomas Piketty & Emmanuel Saez, 2007. "How Progressive is the U.S. Federal Tax System? A Historical and International Perspective," Journal of Economic Perspectives, American Economic Association, vol. 21(1), pages 3-24, Winter.
[ix] Roine, J., J. Vlachos, and D. Waldenstrom (2008). 'The Long Run Determinants of Inequality: What Can we Learn from Top Income Data?', Discussion Paper.
[x] Guvenen, Fatih, Burhanettin Kuruscu, and Serdar Ozkan. "Taxation of human capital and wage inequality: A cross-country analysis." *Review of Economic Studies* 81.2 (2013): 818-850.ett