Published in final edited form as:

J Econ Ageing. 2019 May ; 13: 84–85. doi:10.1016/j.jeoa.2018.10.008.

Perspective piece on “Trends in health and retirement in Latin America: Are older workers healthy enough to extend their working lives?” by Laetitia De Souza, Bernardo Queiroz, and Vegard Skirbekk

David Lam

Department of Economics and Institute for Social Research, University of Michigan, USA

One of the fundamental issues in financing longevity is whether improved health and longer lives are associated with increases or decreases in the labor force participation of the elderly. It appeared for many decades that high-income countries were experiencing a paradox in which increased longevity was associated with earlier, rather than later, retirement, creating important challenges in the economics of ageing. More recently this trend reversed in many OECD countries, as demonstrated in Coile, Milligan, and Wise (2016). One very useful way of looking at this question is the approach developed by Milligan and Wise (2015) and used by Coile, Milligan, and Wise (2016) and a group of international collaborators in an important project on health capacity to work at older ages. The project shows that in many OECD countries there have been increases in the proportions working in some older age groups, but this increase would have been even higher if the proportion working at a given level of health (as proxied by mortality) had remained constant.

The interesting paper by Laetitia De Souza, Bernardo Queiroz, and Vegard Skirbekk uses the same approach to study 14 Latin American countries. This comparative analysis is an excellent idea, and it is interesting to see the same methodology applied to this group of middle-income countries at a different stage of economic development and with different institutions than the OECD countries analyzed in the Coile et al. study.

The key assumption in the Milligan and Wise approach is that the age-specific death rate is a good proxy for the overall health of people that age. This is hardly an innocuous assumption, since there has long been concern that lower mortality rates may have produced an increasingly frail elderly population. Milligan and Wise (2016) provide some evidence to support their assumption, but it is important to keep the issue in mind when interpreting any of these analyses. Based on this assumption, it can be argued that, for example, “72 is the new 60,” if the age-specific death rate at 72 in some given year is the same as the age-specific death rate at age 60 in some earlier comparison year. If the employment rate at age 60 had been 0.7 in the previous period and fell to 0.4 at age 72 in the later period, then the approach takes this as a 0.3 percentage point decline in the employment rate at that level of health, and thus evidence of “potential work capacity.”

This approach would arguably be most compelling if the age profile of participation in the initial period were heavily driven by changing health conditions associated with aging. To the extent that other factors are driving retirement, such as retirement incentives built into

national pension systems, we may not learn much about the relationship between health and participation from the age profile of participation. An interesting exercise in this regard would be to compare the rate of change in mortality across ages with the rate of change in employment. A simple model of the relationship between mortality and employment, for example, might be the following. If the proportion of the population that dies at age a is d , then the proportion that is experiencing debilitating health conditions that prevent them from working is $d \cdot k$. We might observe some proportion not working of $r > dk$, since there are other reasons unrelated to health not to work, so that k is unobservable. The Milligan-Wise approach is to assume that if we see the same d at an older age in some future year, then we could expect that at least r should be healthy enough to work at that age, with any departure from that indicating a loss of potential employment.

Using readily available data on Brazilian life tables for 2000 and employment data from the 2000 Brazilian census, it is interesting to compare the age profile of male mortality with the age profile of male employment. In the 30s and 40s, the proportion of men who are out of the labor force rises more slowly with age than does mortality. The death rate rises from 0.4% for 25–39 year-olds to 0.6% for 40–44 year olds, about 10% per year, while the proportion out of the labor force increases from about 7% to 8%, or about a 3% increase per year of age. In the 50s and 60s the pattern reverses, with non-employment rising considerably faster than mortality.

Because the methodology is directly comparable to the Milligan-Wise methodology used to analyze OECD countries, De Souza et al. are able to make some interesting comparisons between the Latin American and OECD patterns. The most striking of these is driven by the diverging trends in employment rates for older workers. An important development in OECD countries has been the reversal of what was previously a decline in the employment rates of older workers. After several decades of declining employment rates for workers aged 60–64, for example, Coile et al. (2016a) show that most OECD countries have had increasing employment rates since the 1990s. Most Latin American countries, on the other hand, continue to have declining employment rates of older workers, as shown in Figure 2 in De Souza et al.

An important implication of these divergent trends can be seen in reference to Figure 6 in De Souza et al., which shows the change in the employment rate at a given death rate between the 1970s and 2010s in Brazil. As the authors show, the point corresponding to a given age moves down and to the left in the figure. This causes the entire curve to shift down, so that the employment corresponding to a given mortality rate is lower in the later period. This gap between the two curves generates the “potential work capacity” that is the key point of this paper and the Milligan-Wise approach in general. The shift down and to the left for a given age, say age 65 in Figure 6, comes from two sources. The leftward shift results from the decline in mortality at age 65, with the age-specific death rate falling from almost 4% in the 1970s to about 2% in the 2010s. The downward shift comes from the fact that employment rates of 65 year-olds also fell between the two periods, falling from around 68% to 46%.

The fact that employment at a given mortality rate is so much lower in the 2010s than the 1970s in Brazil is due to very large movements in both the leftward and downward direction.

Although the authors do not formally decompose the “downward” and “leftward” shifts that generate the gap between the two curves, visual inspection suggests that it was roughly 50/50 in Brazil. Most other Latin American countries also exhibit both downward and leftward shifts of the curves. This was also the pattern seen in most OECD countries in the earlier period analyzed by Milligan and Wise. For the more recent period, however, many countries move “leftward” but “upward.” In other words, while we can expect that almost every country will have experienced a decline in the mortality rate associated with a given age, the source of the leftward shift, OECD countries actually experienced increasing employment rates at older ages in recent decades, generating an upward shift that to some extent offsets the leftward shift. For example, in their comparison of US 1977 and US 2000 in Figure 4–1 of Milligan and Wise (2016), increasing employment rates starting around age 62 cause an upward shift of the curve, but this is vastly overwhelmed by an enormous shift to the left driven by the big declines in mortality at those ages. If we decomposed the two components, the decline in age-specific mortality accounts for more than 100% of the increased capacity in the US, while it accounts for closer to 50% in Brazil.

The important question for Latin American countries, then, is whether they will follow the OECD pattern of reversing the decline in employment rates of older workers. The reversal in OECD countries is analyzed in detail by Gruber and Wise (2007), and appears to be clearly related to pension reforms in some countries but less obviously so in others. The OECD evidence is encouraging that it may be possible to reverse the decline in employment rates of older workers that is exacerbating the already serious challenges to pension systems in Latin America. The de Souza et al. paper provides important new evidence showing that there is substantial capacity for increasing employment at older ages given the improving health of older workers.

References

- Coile C, Milligan K, and Wise D (2016a). Social Security and Retirement Programs Around the World: The Capacity to Work at Older Ages—Introduction and Summary. No. w21939. National Bureau of Economic Research.
- Coile C, Milligan K, and Wise D (2016b). Health Capacity to Work at Older Ages: Evidence from the US. No. w21940. National Bureau of Economic Research.
- Souza De, Laetitia R, Queiroz Bernardo L., and Skirbekk Vegard F., (2018) Trends in health and retirement in Latin America: Are older workers healthy enough to extend their working lives? *Journal of the Economics of Ageing*, 10.1016/j.jeo.2018.03.008.
- Gruber Jonathan; Wise David A. (2007) *Social Security Programs Around the World: Fiscal Implications of Reform*. Chicago and London: University of Chicago Press; 2007.
- Milligan Kevin and Wise David A. (2015). “Health and Work at Older Ages: Using Mortality to Assess the Capacity to Work Across Countries,” *Journal of Population Ageing*, Vol. 8, No. 1–2, pp. 27–50 10.3386/w18229. [PubMed: 26120372]
- Minnesota Population Center (MPC). Integrated Public Use Microdata Series, International: Version 6.5 [dataset]. Minneapolis: University of Minnesota, 2017 10.18128/D020.V6.5.