Discussant's Comments on Ricardo Caballero: "On the Macroeconomics of Risk Intolerance" (abstract) and three "background studies"

by

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To a retired professor of monetary economics and its history, the topic of this session is irresistible. As a retiree, he is a member of a rentier class currently undergoing euthanasia by persistently low interest rates; as a monetary economist he is intellectually challenged by the efforts of economists like Ricardo Caballero to understand this phenomenon; and as a historian he is fascinated by certain similarities between the fruits of those efforts, and ideas that were current in earlier years.

Caballero's Message

Professor Caballero's central message is that a growing concern with "risk" and a concomitant rise in the demand for "safe" stores of value has been the main driver of the world-wide fall in interest rates on high quality bonds that began even in the 1990s, but gathered particular momentum after 2008. And this message has a corollary: that because growing antipathy to risk seems to be a structural phenomenon, and because rates have now reached rock bottom, other mechanisms – constricted aggregate demand for goods and services, sluggish output growth, or even outright contraction etc., - are replacing further interest rate falls as means of equilibrating a potentially ever-growing demand for safe assets with an inadequate supply. Or to put it in traditional terms: those "dark forces of time and ignorance" as John Maynard Keynes called them, with which economic agents must always cope as they plan for their future, having seemed to be manageable since the Great Depression and the war which followed it, have recently begun once again to wreak havoc with orderly economic progress.

Caballero's message is intriguing and plausible, and historians of monetary thought will find it particularly attractive because within it are embedded new variations on certain ideas left over from the literature generated by that Great Depression, something of a rarity in today's economics.

Here I am referring first of all to the insight that output variations might take over as equilibrating mechanisms when other variables become stuck, an idea that underpinned the Richard Kahn (1931) –Jens Warming (1932) – Keynes (1936) multiplier – See David Laidler (1999), pp. 172-177, 250-253 - and lay at the very heart of the so-called Keynesian Revolution; but second, and to my mind more importantly, to the significance which Caballero attaches to the interactions of the

supply and demand for a particular subset of available stores of value that have the capacity to help agents to deal with the challenges posed by those above-mentioned "dark forces", a focus that recalls the theory of what in the 1930s was often called "liquidity preference".

Safe Assets and Liquidity Preference

To be sure, Caballero's "safe" asset - "a simple debt instrument that is expected to preserve its value during adverse systemic events" - at first sight differs quite a bit from the currency and bank deposits whose capacities to provide protection against risk were analysed in the inter-war years by, among others, Frederick Lavington (1921), John Hicks (1935) and, once more Keynes (1930, 1936), - see Laidler (1999), pp. 139-142. The instruments which fit Caballero's definition best, high quality bonds, are less immediately negotiable and hence, in uncertain times are less useful to ordinary agents – firms households and the like - than currency and deposits, even if they are more likely to remain valuable in the face of shocks to the financial system overall. But Caballero's broader ideas about safety are easily extended to give some weight to immediate acceptability, while expectations about value preservation can never be held with certainty, as his own informal discussion makes clear. It is no surprise, then, that his story of how the demand for safe assets is prone to rise in uncertain times bears more than a passing resemblance to the above-mentioned older accounts of the role of "liquidity preference" (sometimes, in simplified discussions, but not always, synonymous with the "demand for money" – see Laidler (1999), pp. 283-287) in the mechanics of depression and stagnation.

Basically, agents hold stocks of safe assets to enable them to meet their "survival constraints" - to borrow Hyman Minsky's (1954) phrase - in the face of unforeseen adverse economic shocks. And the more agents fear such events, the larger will be the quantities of such assets that they wish to hold. As Caballero himself is careful to point out, these shocks take different forms at different times and for different agents, so fear of them gives rise to demands for assets with characteristics vis-à-vis price predictability, marketability, rate of return etc. that are also different. "Safety" is not just a matter of the objective characteristics possessed by an asset. It also has to do with how these characteristics match up to the specific risks that particular agents believe they face, and the availability to them of other means of dealing with them. Not all of these risks are systemic, but they all give rise to what are fundamentally precautionary demands for assets of various sorts. Which specific assets fill the bill best is a matter of particular situations.

So how do those safe securities issued by a select few governments on which Caballero focusses fit in to this broader picture? Large financial institutions

certainly like them, particularly those heavily engaged in international transactions, because their market is deep and active, and for large participants they are easily disposed of at short notice. Crucially, non-reserve currency central banks on whom domestic institutions rely to provide lender of last resort services, will also want to hold them, particularly in a world lacking a reliable international "central bankers' central bank" on which they can count for support when their own survival constraints start to bind. In short, because of the precautionary services they can provide to internationally significant private institutions and central banks, Caballero's safe securities contribute to the liquidity and stability of the international financial system, and hence, crucially, of the national financial systems that are linked to it.

It is thus possible to link traditional discussions of the monetary experiences of national economies to the issues that particularly concern Caballero, and he is right to note that, in the 1960s, debates about the role of the so-called Triffin dilemma in the workings of the Bretton Woods system, did precisely that; though I would argue that in this case he perhaps overemphasises the international element in the causes of the monetary problems of that time. In my view, the final demise of the gold exchange standard in the early 1970s had more to do with the destructive domestic fiscal and monetary policies pursued by the United States as it tried to finance two wars – one on poverty and the other in Vietnam - than with the stresses created within the Bretton Woods system by limits on the stock of monetary gold. In a similar vein I would also be inclined nowadays to put more stress than does Caballero on the effects of the domestic monetary policies pursued by, among others, the Fed., the ECB and the Bank of England on the economic performance of national economies, than on problems within the international financial system per se.

Further Issues

Even so, the currently high prices of Caballero's "safe" securities are a conspicuous feature of the financial landscape and they do pose questions that are intellectually interesting and policy relevant in their own right, so his analysis should certainly command careful attention. He argues that, without policy attention, rock-bottom interest rates are likely to persist because their underlying causes are structural. First, the demand for safe assets even in normal times grows roughly proportionally with the world economy - see in particular Caballero et al. (2017b); second, and crucially, agents in that economy have become, and continue to become, more risk averse, significantly exacerbating the effects of this normal growth in demand - see in particular Caballero et al (2017a); and, finally, these forces are at play in an economy where, if anything, the capacity of the supply of safe assets to respond to growing demand is seriously limited by various

institutional and political constraints. This case is well made and coherent, but it does raise a few further issues.

First, if I read Caballero et al. (2017b) correctly, some of its argument is based – either for analytical simplicity or because the authors believe it to be true - on the proposition that the demand for "safe" assets grows roughly proportionally with the overall level of activity in the world economy. I wonder about this, because if, as I have argued above, this demand is fundamentally precautionary, then surely one would expect it to be subject to economies of scale – see Francis Edgeworth (1888), Knut Wicksell (1898) and a myriad others. There are many obvious reasons why the precautionary demand for safe assets might have grown over the last couple of decades not just from movements along, but also upward shifts of, its demand function, so perhaps its upward trend in future might become more subdued than in the past as the economic environment becomes more stable, and thus lessen the stresses to which Caballero points.

Second, the analysis seems to neglect another important feature of certain older treatments of the demand for precautionary assets. The risks that matter for this demand are those that agents perceive, and these are not independent of the time, effort and other resources that they devote to gathering and processing relevant information about the likely future course of events. Holding stocks of precautionary assets is thus, on the margin, a substitute for engaging in such activities, because doing so reduces the costs incurred when adverse shocks are encountered. Interactions between risk and the demand for "safe" assets thus run in two directions, not one. This consideration too would tend to make the effects of constraints on the supply of safe assets less acute.

Two questions also arise concerning the evidence presented in Caballero et al. (2017a) about the intensity of risk aversion and its growth in recent years, findings that provides an important empirical basis for the rest of his analysis.

To begin with, the four series presented there on ex ante real yields on U. S. Treasury securities (90 day, 3 year, 5 year and 10 year) do not measure truly "safe" real interest rates. These data have been constructed by subtracting estimates of the expected inflation rate from ex ante *nominal* yields to maturity, and the estimates in question come from the Michigan Survey of Consumers, by way of FRED (See Caballero et al (2017a), fig. 1 panel a, fn.). Now the Michigan Survey itself provides data based on questions about inflation expectations over two time horizons, the next year, and the next five to ten years, but FRED publishes only the first of these. So: just how reliable, and hence safe, are estimates of *ex-ante* real rates over three months, three, five and ten years when they are constructed by subtracting inflation expectations over one year from the safe nominal yields to these various maturities? Furthermore, Michigan's published estimates of expected inflation are the *median* values of individual responses to their monthly

questionnaire. These responses are subject to a great deal of dispersion around measures of central tendency in any month, and to volatility in that dispersion over time too. So, just how risk-free are real interest rates that are estimated using such a series? And has the element of risk that remains attached to them been constant over time?

Finally, we should be uncomfortable with the fact that an aggregate production function and estimates of the aggregate stock of capital play major inter-related roles in generating this paper's key empirical findings. To be sure, these are ubiquitous features of today's macroeconomics, not least in research on the determinants of that elusive variable r*, much discussed in other sessions of this conference, and much discussed in the older literature too - see Laidler (1999) pp. 29-31, 53-57. But we all know (or ought to know) that the conditions under which these entities exist are vanishingly unlikely. Joan Robinson (1953-4) was right about this point during the so-called "Cambridge controversies" – See Avi Cohen and Geoffrey Harcourt (2003) for a retrospective survey - and her arguments had the backing of many others, including Wicksell (1893), Gustav Cassel (1918), and their Swedish successors, as well as a pair of Fishers - Irving (1907) and Franklin (1969). But evidently economists can't do without these constructs and have mostly been inclined to ignore her.

In some respects this is fair enough: we do have to get on with our economics, and if our starting points are not always quite right, perhaps it is still permissible to assume that the world behaves more or less "as if" they were, and then proceed. But the "as if" defense can be treacherous: it might be reasonable to analyse the behaviour of Milton Friedman's "expert billiard player" at the pool table "as if" this person was indeed a competent mathematician – see Friedman (1953) - but I'm not so sure that I would have much confidence in predicting that same agent's performance in a calculus test using this assumption.

By analogy, analysis deploying an aggregate production function probably is adequate when, for example, pinning down the supply side of output gap measures in empirically based monetary policy models; it is surely better than fitting simple time trends as people used to do in the 1970s. But the basic theoretical issues with this particular construct stem from the dependence of the relative price weights used to construct an index of "capital" on the behaviour of the very rate of interest that we wish it to help us explain. Might this fact not render an exercise, which deploys an aggregate production function in analysing the reasons why the discrepancy between estimates of the productivity of capital in the aggregate and the economy-wide safe real rate of interest has increased over time, as problematic as one which confronts an expert billiard player with a calculus test?

In short the critical stylized facts around which Caballero's analysis is constructed, may not be quite as securely anchored in either careful measurement

of the variables concerned or sound microeconomic theory as they at first appear to be.

Errors of Optimism and Pessimism

Finally, even accepting Caballero's proposition that the world has become increasingly "risk intolerant" in recent years, questions about just what this signifies remain. Does it mean that agents' tastes for taking well-specified objective risks have been and perhaps still are on the move? This interpretation seems to underlie Caballero et al. (2017a), at least on my reading. If so, then indeed there is no particular reason to expect such a fundamental change in tastes to be reversed and future policy choices should take account of this consideration. Or does it mean that, though tastes vis-à-vis risk remain the same, the objective risks to which agents are exposed in today's economy are growing? This interpretation seems to fit better with some of the discussion of Caballero et al (2017b), once again on my reading. But perhaps this doesn't matter much since this phenomenon would be potentially complementary in its effects and policy implications to an increase in risk aversion *per se*.

But a third possibility puts in an appearance, yet again on my own reading, in Cabellero and Simsek (2017) where agents are divided between "optimists" and "pessimists" and the implications of such heterogeneity are analysed: namely, that we are dealing with fundamentally subjective expectations about the likely evolution of events. Expectations of this kind can and do systematically differ from their "objective" equivalents, if indeed the latter concept makes sense - a matter best not pursued further here! - and they can also differ across agents, as Caballero and Simsek stress. But they can change over time too, as individuals revise their views in the light of experience, their own and that of others. It was this possibility that Lavington (1922) and Arthur Pigou (1927) were prominent in stressing in the 1920s, and they accorded an important role in economic fluctuations to the influence of contagious and cumulative "errors of optimism and pessimism" – see Laidler (1999) pp. 84-86.

This way of looking things not only opens up the possibility that the increases in "risk intolerance" whose consequences we are now seeing might have arisen in a cumulative manner from recent painful experience, but also, and more importantly, that more favourable future experience could halt and then reverse them. Clearly, to take this possibility seriously would considerably change the view of recent history and of the future policy menu that Caballero embraces.

Hindsight reveals no shortage of "errors of optimism" before 2008: believing that low and stable inflation was sufficient to guarantee asset market stability; believing that the elimination of currency risk inherent in the arrival of the Euro also eliminated all those other risks that had long been inherent in the

borrowing practices of certain member governments; believing that the risks inherent in American NINJA mortgages could somehow be made to disappear by securitization; forgetting that the mere creation of new dot-com companies did not guarantee a market for their products, and, later, that the construction of new suburban and retirement housing did not guarantee its salability; etc., etc.

And hindsight also suggests that, when history revealed these errors, the reaction was to act upon newly formed errors of pessimism: a hasty scramble out of real and now perceived to be risky assets into safe financial assets; a reluctance on the part of the authorities to provide the latter (including but not limited to those that figure in Caballero's story) in sufficient amounts to meet a jump in private demand for them; an accompanying reluctance on the part of too many economists who should have known better to question this hesitant response, on the grounds that what had already been grudgingly done along such lines threatened the imminent onset of hyper-inflation; etc. etc..

But, the passage of time has begun to reveal these errors too. So-called ultra-easy monetary policy did not create hyper-inflation. Indeed some of us would complain that over-emphasis on the level of nominal interest rates as indicators of the stance of monetary policy, and an almost willful propensity to ignore the messages being imparted by the growth rates of those safe assets included in broader measures of domestic money supplies – perhaps another error of pessimism - led to monetary policy remaining too tight for far too long, in the US and the UK, but even more notably in the Euro zone – See Tim Congdon (ed.) (2017) for a statement of this case.

Now that monetary policy has become easier, however, and economies are on the mend, perhaps expectations will shift towards optimism, and those ever present "dark forces of time and ignorance" will once again begin to seem less threatening than in recent years. If expectations do shift, then today's apparently chronic shortages in the supply of "safe" assets relative to demand will begin to slacken. And perhaps also those many and various, not to say popular, suggestions that the structure of the economy has changed permanently and for the worse, might themselves begin to look like errors of pessimism that helped perpetuate the very malaise that they sought to diagnose. But this is to indulge in foresight – always riskier than hindsight – so in the meanwhile readers are advised to pay careful attention to Professor Caballero's always stimulating research.

References

Caballero, R.J., E Farhi & P. Gourinchas (2017a) Rents, technical change, and risk premia. Accounting for secular trends in interest rates, returns on capital, earnings yields and factor shares *American Economic Review, Papers and Proceedings* 107, 614-620

---------- (2017b) The safe asset shortage conundrum *Journal of Economic Perspectives* 31 (Summer) 1-18
---------- & A. Simsek (2017) A risk-centric model of demand recessions and macroprudential regulation, MIT (mimeo)
Cassel G. (1918) *The Theory of Social Economy* (tr. 1923) London, Jonathan Cape
Cohen A & G Harcourt (2003) Retrospectives: Whatever happened to the Cambridge capital theory controversies? *Journal of Economic Perspectives* 17, (Winter) 199-214
Congdon, T. (ed.) (2017) *Money in the Great Recession,* Cheltenham, Edward Elgar
Edgeworth, F. Y. (1888) The mathematical theory of banking, *Journal of the Royal Statistical Society* 51 (March) 113-126
Fisher, F. (1969) The existence of aggregate production functions, *Econometrica* 37 (Oct.) 553-577
Fisher, I. (1907) *The Rate of Interest: Its Nature, Determination, and Relation to Economic Phenomena,* Hew York, Macmillan
Friedman M. (1953) The methodology of positive economics, in *Essays in Positive Economics,* Chicago, University of Chicago Press
Hicks J. R. (1935) A suggestion for simplifying the theory of money, *Economica NS* 2, 1-19
Kahn, R. F. (1931) The relation of home investment to unemployment, *Economic Journal* 41, (June) 173-198
Keynes, J. M. (1930) *A Treatise on Money* London Macmillan
---------- (1936) *The General Theory of employment Interest and Money,* London, Macmillan
Laidler, D. (1999) *Fabricating the Keynesian Revolution,* Cambridge, Cambridge University Press
Lavington, F. (1921) *The English Capital Market,* London, Macmillan
---------- (1922) *The Trade Cycle* London, P. S. King & Son
Minsky, H. P. (1984) *Induced Investment and the Trade Cycle,* Cambridge Mass., unpublished Ph. D. dissertation, Harvard University
Pigou, A. C. (1927) *Industrial Fluctuations* London, Macmillan (2nd ed. 1929)
Robinson, J. (1953-4) The production function and the theory of capital, *Review of Economic Studies* 21 81 - 106
Warming, J. (1932) International difficulties arising out of the financing of public works during depression, *Economic Journal* 42 (June) 211-224
Wicksell, K. (1893) *Value, Capital and Rent* (tr. S. W. Frowen, 1965) London, Allen & Unwin
---------- (1898) *Interest and Prices* (tr. R. F. Kahn, 1936) London, Macmillan, for the Royal Economic Society)