

A SUSTAINABLE GOLDEN AGE COULD LIE AHEAD

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Learning from previous technological revolutions, a period of smart, green, fair and global growth could lie ahead. But only if governments unleash it by tilting the playing field in those directions.

Interest in technological revolutions has multiplied in recent decades, but this is not the first time in history. In fact, neo-Schumpeterians like myself see it as the fifth. This recurrence has allowed us to study their structure and pattern of diffusion, leading to the recognition of their regularities and uniqueness.

What we have found is that such major technological transformations only come together when the previous revolution is exhausted in terms of further productivity increases, new products and new markets. That is what happened in the 1970s leading to the impotence of the Keynesian recipes, the irruption of the microprocessor, inaugurating the ICT revolution, and the Thatcher-Reagan shift to minimal state and free markets. Finance then took over and it has held the reins ever since. Such have been the early decades of each revolution, in the 1830s-40s; 1870-90s; 1920s and 1980s-2000s.

Thus, the golden ages come to full fruition after decades of turbulent innovation. They are, in fact, the final period of full diffusion of a set of interconnected new technologies across the whole economy, bringing steady increases in productivity and improving the lives of successively larger portions of the population.

Such were the Victorian boom, from 1851, based on the full spread of the iron railways, the steam engine, the coal and iron industries and the further mechanisation of the textile industry, bringing an urban middle class to prosperity. The Belle Époque, from the turn of the century, flourished when steel replaced iron and became cheap enough to enable fast transcontinental railways, transoceanic telegraph cables and a massive fleet of steamships crisscrossing the globe for international trade, incorporating several countries into the global economy and lifting a layer of highly skilled workers into the good life. The post-war boom was based on the Fordist revolution. From the mid-1910s, the assembly line, the use of synthetic materials and the diffusion of electricity to the home, covering the whole territory, which roads and the automobile opened for habitation and trade. Military procurement during WWII had proven the astonishing productivity increases achievable with mass production as well as the importance of mass demand for making the best of that potential. The post-war policies, together with Cold War procurement, were [indeed](#) designed to facilitate mass consumption. The current digital revolution has not yet seen its golden years.

However, there is nothing automatic about golden ages happening each time, just as there is nothing deterministic about a technological revolution. [Hitler and Stalin used Fordism too](#). Without a set of policies giving clear directionality to markets, the needed synergies for innovation and investment cannot materialise. Without the Welfare State to guarantee the continuity of incomes for workers, we would not have seen widespread homeownership and the massive consumption of big-ticket items. Without strong unions protected by law, the increase of wages apace with productivity would not have happened, nor the explosion in consumption that this allowed.

Golden ages are times of positive-sum games between business and society, orchestrated by government. They are also the times when capitalism regains the legitimacy it loses due to the growing

inequality of the 'creative destruction' process of the early decades of each revolution. In fact, that initial exciting period of installation of the new, tends to end in a frenzy and a financial crash or two. The resulting recessions lead to anger, social unrest, and resentment, creating the conditions for populist leaders, for divisions within established parties and for the emergence of new movements.

It is precisely those alarm bells that call governments to action, as is happening now. Unfortunately, the crisis of 2008 was not dire enough to turn politicians towards shaping technology and the real economy; they saved finance instead. Golden ages cannot happen while it is still possible to make sizeable profits from short-term speculation within the financial world. Taxation and regulation have to be redesigned to block the casino activities and encourage long-term investment in the real economy. Further still, the context and relative costs – as well as taxes – must channel innovation towards those technologies that can create the maximum synergies and the greater benefits across society. Essentially it is a tilting of the playing field, based on the knowledge of what can be achieved with the new technologies.

The alarm bells are now ringing loudly. The pandemic brought to light the inequality and resentment that created a fertile ground for populism. It also revealed the strategic lack of resilience of cost-based globalisation as well as the strong interdependence of all countries. It taught us all about global catastrophes and the need to avoid them. Finally, it reminded business of how much it counted on government, beyond simple market failures, and it reminded governments of their leadership responsibility.

It is time to establish a set of policies aiming for **smart, green, fair, and global growth**, to confront the two most important problems being faced today: the environment and inequality (within and between countries).

The current information revolution has already shown its capacity to increase productivity and decrease prices in a whole range of products and services, but we are far from deploying its full potential throughout the whole economy and across the globe. Clear signals from policy, regulation, taxation, and major government projects — such as transformative 'missions' — can lead innovation and investment to converge in synergistic directions, benefitting from intense interactions and clear opportunities. With a redesign of the social safety net, of the distribution and predistribution systems, along with support for growth and development across the world, new demand would grow, and business opportunities would multiply. That is the nature of golden ages; a win-win game, making the best of an installed, but haphazardly developed technological potential gearing it towards the benefit of all. The short-term, easy-gain financial casino cannot last forever. The time for proactive state policies is back and not only society, but also business will be better off for it.