Technology advancement continues to drive economic growth and, in some cases, unleash disruptive change. Economically disruptive technologies transform the way we live and work, enable new business models, and provide an opening for new players to upset the established order.

Policy makers, City and Business leaders will confront change on many fronts: in the way cities attract investment, in the way businesses organize themselves, how jobs are defined…. There will be disruptions to established norms, and there will be broad societal challenges.

To address challenges that the new technologies themselves will bring, policy makers can use some of those very technologies - for example, by creating new urban development instruments addressing an ever-increasing productivity imperative to deliver public services more efficiently and effectively.

Thus, the need to advance design options that would deliver a step change in the financial system’s effectiveness in mobilising capital towards a more innovative and inclusive city.

UNEP1 has identified five trends that are relevant to the design of a new inclusive financial system:

1. **Disintermediation of capital and payments**
   The use of technology combined with new business models is removing traditional intermediaries from financial transactions. Digital technology is enabling new disruptive business models for making payments and matching savers with borrowers. Alongside disintermediation of payments we are also seeing disintermediation of capital. Crowdfunding and P2P lending inverts the traditional model of intermediation. Both utilise internet platforms to match those seeking and offering finance without a financial institution acting as an intermediate party to the transaction. However, crowdfunding offers either rewards or equity participation in an enterprise, and P2P lending involves debt contracts and payment of interest. Instead of a small number of decision-makers allocating large sums of money, a large number of individuals each allocate a small sum of money.

2. **New forms of credit creation**
   Credit creation is of particular interest because how new purchasing power is created and first applied in the economy has a significant impact on economic, social, and environmental outcomes. It matters a great deal whether credit is created for the purchase of existing assets, for example land and existing buildings, or for the creation of new assets, for example construction of new buildings. It matters whether credit is created for the extraction of fossil fuels or the construction of renewable energy infrastructure.

---

The reduction in operating costs and increased scope of functionality enabled by advances in digital communication technology may be an enabling factor for new alternative credit systems to scale and proliferate (for example, Closed loop credit clearing systems).

3. Long-term environmental and social impacts
A range of related factors – resource constraints, climate impacts, falling labour productivity, stagnating real wages, demographic change, and unsustainable debt levels – has implications for long-term economic trends. These factors are important for long-term savings vehicles – in particular funded pension schemes – and for the insurance industry. The pensions industry is based on financial investments accumulating a fund over an individual’s lifetime that can provide some degree of security in old age. The introduction of greater uncertainty about potential returns might create pressure for pensions systems to directly underwrite basic essentials such as housing, energy, transport, health, and social services through collective vehicles, including state and mutual provision, rather than individualised financial investment vehicles.

Big data is a potential driver of systemic change for similar reasons. Advances in medical science combined with big data changes the nature of risk assessment at the individual level. The more that insurance products and premiums are tailored to the individual’s specific risk profile, the less like insurance and more like savings they will seem to customers.

4. Technological innovation
Two interlinked and overlapping technological trends – the increase in volume and variety of data ('big data'), and the move towards everyday devices being connected to networks (the 'Internet of Things') – are likely to require some aspects of the financial system to adjust their practices in order to remain relevant and profitable in the future. The Internet of Things refers to the unique identification and virtual representation of everyday objects in a global network infrastructure, enabling such objects to actively 'participate' in domestic and business transactions and enable the development of independent cooperative services and applications. This infrastructure includes existing and evolving Internet and network developments. Applications include waste management, transport, environmental sensing, social interaction gadgets, continuous care, emergency response, intelligent shopping, smart product management, smart meters, home automation and smart events.

5. Innovations in economics and financial Policy
Attempting to assess the impact of technological innovation on the financial system involves a double uncertainty: we cannot predict the impact on the real economy of disruptive innovations and we also cannot predict the impact on the financial system of such real economy changes.

Are these innovations likely to have a material impact? If so, will they improve, worsen, or have no impact on the financial performance of cities, and more largely on the financial system? Might they interact with other innovations in ways that enhance their impact? What should the policy response be, if any?

One common feature of these innovations is placing more market power in the hands of consumers, for example by allowing them to choose directly which projects and companies to invest in. This poses an intriguing question: Will the collective decisions of empowered individuals lead to more inclusive outcomes than the collective decisions of city leaders or of today’s financial market professionals? If we think they will, then we could be in the ideal position of regulation by central governments being redundant. If we are not sure, however, we need to
consider what instruments can encourage more sustainable outcomes within a much more decentralised financial system.