

# Balkanising the World Wide Web



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It is a cliché to say that we live in a digital age, with many countries upgrading to become Knowledge Economies. There is supposedly a divide between

those who have access to digital knowledge and skills, and those who don't. But what has emerged with recent actions against Huawei suggests that the World Wide Web may be splintered into four or more digital networks that are firewalled against

each other. This situation stems from major geopolitical rivalry, mixed up with technological competition and seriously different governance values.

Lest we forget, the Internet or World Wide Web was invented by the US defence community and its technology was allowed to be developed by individuals through innovations in hardware, software, standards, databases, protocols and institutions. The Internet stakeholders (companies such as Google, as well as the non-profit Internet Engineering Task Force) collectively maintain what has become the critical infrastructure for social media and communications in the world. It is a complex network that does not have a single architect, but

grows through continuous tinkering by web participants that link massive domestic networks, today increasingly mobile smartphones. The Internet forms the basis for the growth of the worldwide Knowledge Economy through which knowledge is created and shared.

Globalisation took a long time to take off, but essentially there are three levels of networks that facilitated human exchange of goods, services/finance and knowledge. At the trade level, free trade of physical goods has enabled the globalisation of merchandise trade and commercial services, now valued at USD 46 trillion or 57 percent of 2017 world GDP. Because the Bretton Woods philosophy also encouraged free flow of finance, cross-border financial transactions amounted to 22 times that of physical trade in 2016. And since finance and knowledge are increasingly becoming digital and moving across the Internet, McKinsey Global Institute estimated that digital data increased 45 times in the decade to 2014 and will grow five times in the next five years.

What the trade war has revealed is that the US, which is the creator and major player in the Internet and of course global trade and finance, is re-thinking its game under the rubric of "America First". Specifically, it has weaponised tariffs, sanctions against trading with the enemy using the dollar, and with the actions against ZTE and Huawei, the threat to segregate the Internet and 5G into different networks.

Engineers have always systematically dealt with any system threatened by excessively volatile internal feedback shocks with two approaches: "sand-in-the-wheels" or "modularising" the system. The first keeps the speed in the system to a safe level and not

allowing an accelerating loose flywheel to shake the system to bits. In the 1970s, Nobel laureate economist James Tobin recommended a "Tobin tax" or financial transactions tax (FIT) in order to moderate or control volatile foreign exchange or capital flows. This idea has been officially adopted by the Europeans.

The second approach is to break the whole system into separate modules that can operate independently, but with gateways (or protocols and firewalls between different systems), so that failure of one module will not bring about failures in the others.

The remarkable rise of the Chinese tech platforms has been achieved through their capacity to operate at "speed x scale x scope". They innovate faster than their competitors, achieve critical mass in scale because of the size of the China market, and provide scope in consumer services that link markets that were previously segmented by regulation or habit. In other words, the platforms cut across and link markets such as logistics and finance (Alibaba) or consumer games and social networks (WeChat).

Two basic technology laws or observed trends define the impact of technology on social behavior and business models. Moore's Law says that "processing speed doubles every two years", thus speeding up and lowering costs of computing. Metcalfe's Law states that the value of a network is proportional to the square of the number of users, meaning value increases exponentially—the larger the scale, the more valuable the network.

Taken together, technology changes the rules of the game by winner-takes-all situations: whoever reaches a market size in terms of speed, cost and convenience becomes the dominant player. The winner in the Knowledge

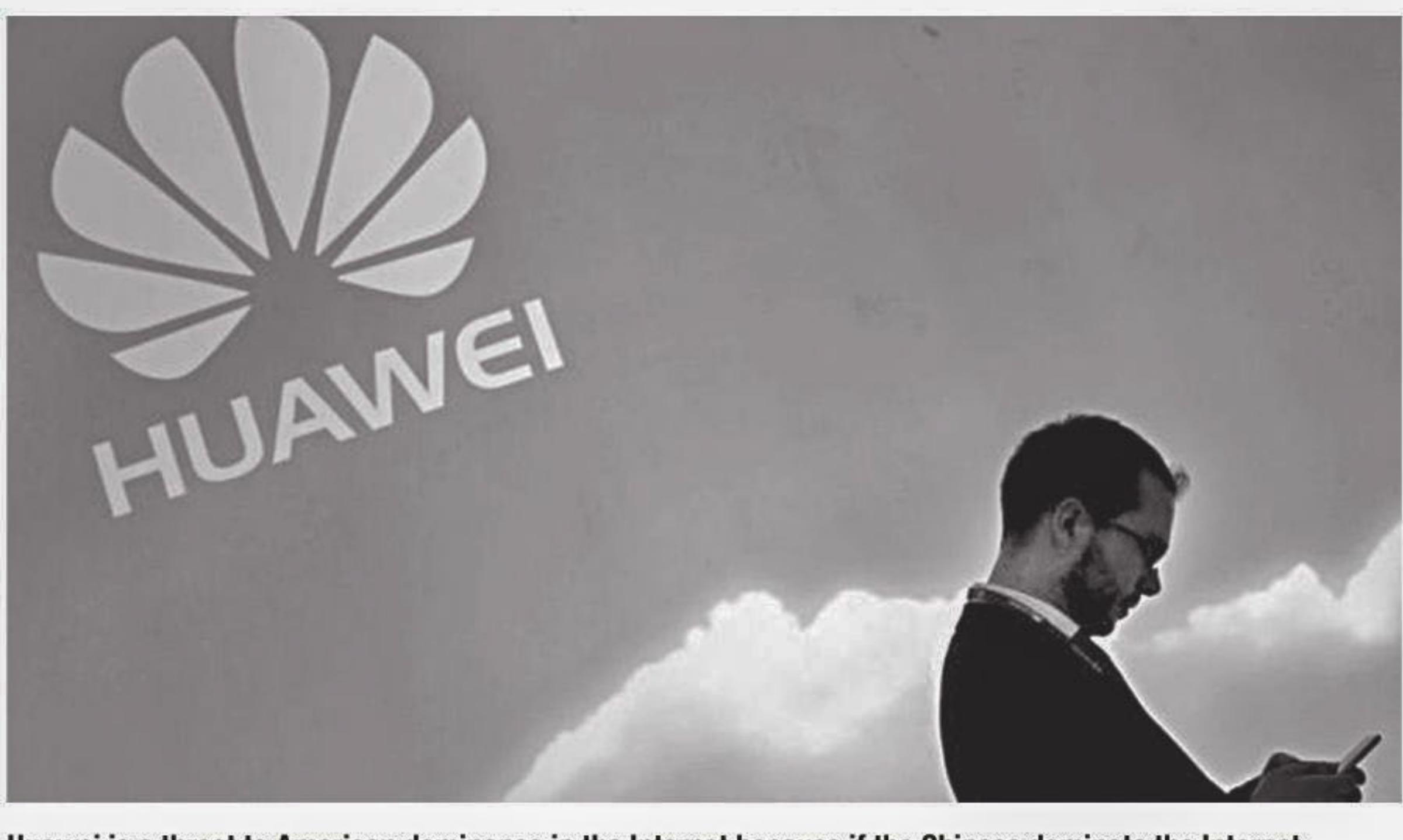
Economy has competitors achieving replication of digital knowledge at almost zero cost, but you have to invest heavily in generation of new knowledge through research and development. Hence, those companies and nations that reach critical mass and are willing to devote huge sums to R&D and education stand to be big winners in the Digital Economy.

This is why Huawei is such a threat to the American dominance in the Internet, because if the Chinese dominate the Internet infrastructure with 5G speed, scale and scope, then all American systems can be marginalised, or worse, crippled through cyber-attacks. The recent shutdown in Russian power networks by a reported US cyber-attack shows the reality of such threats.

How to address such a threat is clearly a watershed moment in the globalisation of knowledge and electronic commerce. Modularisation would definitely reduce the scale and distribution of knowledge, creating higher costs and ability to innovate. The Japanese will attempt to introduce their proposal of Data Free Flow with Trust (DFFT) at the forthcoming G20 summit in Osaka later this month. This proposal draws upon the electronic commerce chapter of Trans-Pacific Partnership, which the US unfortunately rejected.

With measures against Huawei, a digital "divorce" has effectively been announced, with unpredictable outcomes like Brexit. Will the Internet become the Splinternet—a balkanised world of protectionism under America First? How this evolves will show whether we live in an Age of Artificial Intelligence or Human Stupidity.

Andrew Sheng writes on global issues from an Asian perspective.  
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Huawei is a threat to American dominance in the Internet because if the Chinese dominate the Internet infrastructure with 5G speed, scale and scope, then all American systems can be marginalised.

PHOTO: AFP

## Homes for equality in a changing world



WHAT'S a family? Classically, we think of a mother, a father and the children. The father goes out to work, the mother takes care of the children, maybe she works

part time, at home or close to home so she can be there when the children get back from school. It's a common formula in advertising, movies and the media. It's the pattern of romance plots, the story of song lyrics, the image for illustrations in schoolbooks. It's comforting, stable, predictable. And it's wrong, for the majority of families in the world.

All governments recognise the importance of families, and their role as the building blocks of societies and economies. But these findings pose a burning question for policymakers: do their policies sufficiently respond to the realities of how families live today? The answer in many cases must be "no". That matters deeply, because it means that families are not receiving the support they need, and within those families, it is women and girls that are most disadvantaged by this failure.

Let's take one example: the chronic policy neglect of childcare services for women who go out to work. One of the big shifts of the past half century has been the entry of women from all walks of life into the labour force. It has changed our workplaces and economies beyond recognition, yet the male breadwinner model dominates policy design—despite the reality that most families need two earners. This matters for all families, but it has particularly harsh financial outcomes for lone-mother families who have to do the earning and the caring on their own. Data from 40 countries tells us that lone mothers are twice as likely to live in poverty as "couple" families.

The other reality check for policymakers in considering how to



A woman shops with her daughter at a Walmart Supercenter.

PHOTO: RICK WILKING/REUTERS

view the family is the evidence that home is where women and girls often meet lethal violence and their first experience of discrimination that normalises it for a lifetime. Although globally, rates are declining, some 12 million girls are married in childhood every year. In 2017, every single day, 137 women were killed by a family member. Around one third of married women in developing countries report having little or no say over their own healthcare. Families can be places of love, caring and sharing, but they can also fail girls and women. While

cherishing families, we must also see them clearly for what they are.

We now know the family to be richly diverse in composition across the world. Yet that variety is not accommodated in family laws and policies, which urgently need reform. This means amendments to ensure that women can make choices about marriage and motherhood. It means laws that prohibit harmful practices like child marriage and other forms of violence, including marital rape, as well as services to enable women to leave violent relationships if they

need to. And it means a package of social policies, including not only care services, but also family benefits, delivered directly into women's pockets.

With this report, UN Women is calling on governments, civil society and the private sector to recognise the important diversity of families. We must implement the policies needed to make households a home for equality and justice for women, and for all.

Phumzile Mlambo-Ngcuka is the under-secretary-general of the United Nations and executive director of UN Women.

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