Why is Huawei's Ownership So Strange?

A Case Study of the Chinese Corporate and Socio-political Ecosystem

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Abstract

One of China's best-known and most successful corporations is Huawei Technologies. Many view Huawei with suspicion, alleging that its opaque structure conceals ties with the Chinese government and Communist Party. However, Huawei claims to be a private corporation controlled by its employees and operating in a purely commercial way.

This paper demonstrates how Huawei's strange ownership structure evolved via a series of adaptive survival mechanisms within a state-dominated political and corporate ecosystem. These included profit sharing joint ventures with state-owned enterprises and officials, co-opting a Communist Party branch within the firm, and doing an end run around the *PRC Company Law* with "virtual" employee shares.

Placing Huawei within this Chinese ecosystem challenges simplistic accounts of top-down government or Party control over the firm. Yet the compromises that ensured Huawei's growth and protection from predation have become maladaptive within the global political ecosystem, where China is increasingly viewed as a threat.

Key Words: Huawei; employee shares; corporate ownership; China.

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1. Introduction

The Chinese firm Huawei Technologies claims to be a private corporation controlled by its employees and running its operations in a purely commercial way; it also claims that it has no ties to the Chinese military, and the Chinese government does not influence its management except in a normal regulatory fashion.[1] By contrast, a U.S. Congressional intelligence committee has expressed "deep concerns" that Huawei Technologies "appears simply unwilling to provide greater details that would explain its relationships with the Chinese government in a way that would alleviate security concerns."[2] Indeed, one of the few issues that has received bipartisan agreement among US lawmakers is that Huawei allegedly poses an actual or potential threat to US national security, due to its "close links" to the Chinese Communist Party and/or Chinese military.[3] Many other governments have followed the lead of the U.S. in expressing their suspicions about the company, banning it from bidding on network infrastructure contracts, and warning private telecom firms about the risks of purchasing Huawei's internet and telecom hardware.[4] The attacks on Huawei have become especially vociferous under the Trump administration, with export bans and restrictions on U.S. firms supplying components to

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[1] M. Rogers & D. Ruppersberger, "Investigative Report on the U.S. National Security Issues Posed by Chinese Telecommunications Companies Huawei and ZTE," US House of Representatives Permanent Select Committee on Intelligence (8 October 2012), pp. vi-vii, available online at https://intelligence.house.gov/news/documentsingle.aspx?DocumentID=96 (hereafter, "PSC Report"), pp.15, 21.
[2] PSC Report, p.22.
[3] The Permanent Select Committee that investigated Huawei in 2012 consisted of twenty congressmen, both Democrats and Republicans, and their report was unanimously approved.
[4] For Australia, see Stephen McDonell, "China criticizes Government's decision to uphold NBN ban on telco Huawei," ABC Lateline (30 Oct 2013), available at: http://www.abc.net.au/news/2013-10-29/china-angered-by-decision-uphold-nbn-ban-on-huawei/5056588; for India, see Mehal Srivastava & Mark Lee, "India Said to Block Orders for ZTE, Huawei Technologies Telecom Equipment" *Bloomberg* (30 April 2010), at: http://www.bloomberg.com/news/2010-04-30/india-said-to-block-china-s-huawei-zte-from-selling-phone-network-gear.html ; and for Canada, see Steven Chase, "Ottawa set to ban Chinese firm from telecommunications bid," *The Globe and Mail* (10 October 2012), at: http://www.theglobeandmail.com/news/politics/ottawa-set-to-ban-chinese-firm-from-telecommunications-bid/article4600199/

Huawei, and prohibitions on U.S. telecom firms receiving subsidies if they purchase Huawei's equipment, due to Huawei allegedly being a "security threat."[5]

Interestingly, a remarkably detailed April 2019 investigation of the company by the *Los Angeles Times* concluded:

> None of the U.S. intelligence officials interviewed over several months for this story have made information public that supports the most damning assertions about China's control over Huawei and about Ren's early ties to Chinese military intelligence. They have yet to provide hard evidence and, privately, these officials *admit they don't have any*. [6]

Yet despite this admission, and even without any concrete public evidence to support their claims, many lawmakers in the US and elsewhere still cannot shake off their suspicions that Huawei is a covert tool of a "hostile" Chinese regime. They are perplexed by Huawei's strange structure, an awkward hybrid between a corporation and an employee collective with no simple connection between ownership and control. They also cannot understand why Huawei is unable to provide more details about the role of its internal Communist Party Committee and the ways that the company interacts with different levels of the Chinese government.[7]

It is not just politicians who are perplexed by Huawei's ownership structure: even established China law specialists have been flummoxed. Balding and Clarke, in a recent article entitled "Who Owns Huawei?" tentatively suggest that, on the one hand, Huawei is not owned by its employees but possibly "state-owned", as 98.86% of its shares are held by the Huawei Investment and Holding Trade Union Committee, which they claim is technically a Chinese government organization; on the other hand, they state that the board of directors of Huawei is elected by an employee representative committee, and also that Huawei's founder and CEO Ren Zhengfei holds a veto over board resolutions, which implies that in fact at least some of the employees and/or Ren do collectively control the company.[8] We will resolve this apparent paradox below.

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[5] Jodi Xu Klein, "US telecoms regulator designates China's Huawei, ZTE as national security threats," *South China Morning Post* (1 July, 2020), at: https://www.scmp.com/news/china/article/3091285/us-telecoms-regulator-designates-chinas-huawei-zte-security-threats ; Bien Perez, "Inside China Tech: are the chips down for Huawei?" *South China Morning Post* (27 June 2020) at: https://www.scmp.com/tech/big-tech/article/3090768/inside-china-tech-are-chips-down-huawei.

[6] My emphasis. Norman Pearlstine et al, "The Man Behind Huawei," *Los Angeles Times* 10 April 2019, https://perma.cc/EQL3-W2RB . Even the 2012 U.S. Congressional investigation of Huawei and its Chinese competitor ZTE Corporation did not conclude that any breaches of national security had actually occurred, but only that the potential was there: "It appears that under Chinese law, ZTE and Huawei would be obligated to co-operate with any request by the Chinese government to use their systems or access them for malicious purposes under the guise of state security" (PSC Report, p.3).

[7] PSC Report, pp.13-14, 22-4.

[8] Christopher Balding and Donald C. Clarke, "Who Owns Huawei?" (April 2019) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3372669 , pp.8, 10-12. Clarke has more recently conceded that the suggestion of Huawei being "state-owned" was a hypothetical one based on the assumption that the

Huawei is certainly not alone among large multinationals in setting up a complex hybrid ownership structure. And the bold suggestion by U.S. lawmakers that Huawei needs to meet "American" or "international best practice" standards of corporate legality in order to gain the right to sell its products there is disingenuous, to say the least.[9]

Despite these important caveats, it is true that examining Huawei's ownership and behavior without a thorough understanding of its political and historical context raises more questions than it answers. By contrast, when we view Huawei as a co-evolving corporate organism within a rapidly changing Chinese sociopolitical and legal ecosystem over three decades, we can answer most of those questions, and in the process debunk some of the more lurid myths that have stoked Western governments' fears about Huawei's motives.

At the same time, this contextual analysis will also reveal why Huawei's on-the-fly, sometimes slapdash, innovations in corporate governance and incentive systems, and its attempts to negotiate the shifting sands of Chinese regulatory and political requirements, while essential to ensure its growth and protection from predation in the past, have become serious liabilities threatening its continued flourishing within the global political ecosystem.

Section 2 will first clarify Huawei's ownership structure, placing it within the broader context of corporate law reforms since the 1990s and explaining why Huawei has chosen to retain its unusual system of indirect ownership of shares through an employee shareholding committee right down to the present. While Section 2 concludes that there is no evidence of state ownership or control through Huawei's shareholding structure, Section 3 examines the thorny question of why Huawei has a Communist Party branch, and whether it is a conduit for Chinese government control over the company. Interestingly, the available evidence suggests that Huawei's Communist Party branch has effectively been co-opted by the company's management. However, this does not mean there is no Chinese government influence over Huawei. Quite the contrary: Section 4 traces the reasons for Huawei's meteoric rise from a small private technology supplier to a multinational telecom and internet hardware giant since the 1990s, finding that Huawei has consistently built strategic alliances and shared profits with the employees and managers of Chinese state-owned telecom firms, and with Chinese government/Party officials. It has also piggy-backed on the Chinese government's diplomatic and trade missions to expand its business to a broad range of countries in the developing world, including some nations hostile to the U.S. and its allies, as demonstrated in Section 5. While this does not prove that the Chinese government directly controls Huawei, or that its security services have already infiltrated the firm, it does underscore the ongoing need for Huawei to

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Huawei trade union was exercising independent control rights in the company, which as argued below, is not the case: personal communication with the author, February 2020.

[9] The PSC Report, p.13. For corporate misbehaviour and use of complex ownership structures elsewhere, including the United States, see Joseph E. Stiglitz, *Freefall: America, Free Markets, and the Sinking of the World Economy* (WW Norton: New York, 2010); Joel Bakan, *The Corporation: The Pathological Pursuit of Profit and Power* (Toronto: Penguin Books, 2004); Lawrence E Mitchell, *Corporate Irresponsibility: America's Newest Export* (Yale University Press: New Haven 2001).

maintain positive relations with the ruling Communist Party, which makes it vulnerable to political pressure. Section 5 discusses the negative impact of this real or perceived pressure on Huawei's international expansion, and the Conclusion argues that deep suspicion of Huawei's motives by the U.S. and its allies will not subside without major reforms to the Chinese political ecosystem.

This analysis is partly based on public filings and annual reports produced by Huawei over the past decade, as well as the investigative report of the US Congress Permanent Select Committee on Intelligence from 2012.[10] However, these sources are not sufficient to explain Huawei's earlier corporate evolution. Several detailed accounts of Huawei by Chinese business writers, published in the early 2000s, which were based on internal company documents and interviews with former Huawei managers and employees, provide extensive evidence on the crucial questions of how Huawei transformed from a small private seller of telephone exchange switches into a multinational leader in the fields of internet and telecom hardware, and why it was necessary for Huawei to adopt such a strange ownership structure.[11] We supplement these sources with relevant academic studies and Chinese policy documents relating to employee share ownership and privatization in China during the 1990s and early 2000s.

2. If Huawei is employee-owned, why don't the employees own Huawei's shares?

Most sources state that Huawei was formed in 1987 by six investors including Ren Zhengfei who together invested RMB 21,000 yuan as Huawei's initial capital, but Ren bought out the other five investors during the first decade, and he has clearly remained the leading figure in the firm ever since.[12]

The late 1980s were early days for private firms in China. A national company law statute was not introduced until 1994, but the *PRC Temporary Provisions on Private Enterprises* were approved in 1988 permitting private firms (*siying qiye*) to be established with more than seven employees. Smaller private businesses (*getihu*, roughly equivalent to sole proprietorships) had been encouraged as early as 1981, to provide a path for unemployed youth to make a living. In special economic zones like Shenzhen, Huawei's home base, local experiments with shareholding companies had been ongoing since the mid-1980s.[13]

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[10] PSC Report, *supra* n.1.

[11] The most detailed account is in Cheng Dongsheng and Liu Lili *Huawei zhenxiang* [The Truth about Huawei] (Beijing: Dangdai zhongguo chubanshe, 2003), section entitled "Capital Chain" (*zijin lian*). Cheng and Liu published a more detailed and updated edition of this book in 2016, *Huawei sanshi nian* [Huawei at Thirty] (Guiyang: Guizhou renmin chubanshe, 2016), which I have also cited when it provides further useful information not included in the first edition. Other sources are cited below.

[12] PSC Report, p.24-5; cf. Pearlstine et al (2019), who list the names and affiliations of the other five investors, as provided to them by Huawei.

[13] Ross Garnaut, Ligang Song, Yang Yao and Xiaolu Wang, *Private Enterprise in China* (Canberra: ANU Press 2012), pp.11-14; PRC State Council, 《中华人民共和国私营企业暂行条例》effective 1 July 1988.

However, as a small private business, Huawei experienced difficulties collecting payment from its customers, mainly hotels and other larger corporations that required its automated telephone exchange machines. To reduce this risk, Ren followed a common practice at the time by registering the firm as a "red cap" collectively owned enterprise (*jiti suoyouzhi qiye*). In other words, Ren and his partners paid a state enterprise, the Shenzhen Science and Technology Office Innovation Centre, to register Huawei as one of its "collective subsidiaries" so that those who dealt with the firm would assume Huawei was connected to the Shenzhen municipal government and pay their bills.[14]

The sale of such "red cap" business licenses by state enterprises occurred all over China during the 1980s and '90s. Various surveys conducted in the early 1990s found that between 50% and 80% of Chinese "collective enterprises" were actually private firms.[15] Reasons given for putting on a "red cap" included tax benefits, overcoming regulatory limits on private firms' business scope, seeking political protection, enhancing access to credit, facilitating transactions, and promoting their products.[16] The "red cap" phenomenon was a major peculiarity of the Chinese corporate ecosystem – one of many situations in China where surface appearances and underlying realities differ – and it led to serious confusion and disputes in subsequent years about who actually owned these business firms.[17] Huawei managed to avoid disputes with its nominal state parent enterprise, but its official designation as a Shenzhen municipal collective enterprise rather than a private firm did strongly influence the structure of its employee shareholder system, and led to a messy restructuring in the late 1990s.

(a) The Chinese employee shareholding ecosystem: 1980s to '90s

Experiments with employee shareholding had taken place among Chinese collective enterprises since the mid-1980s. The objective was to give employees a sense of ownership, a chance to participate in management, and a share in the profits of the business, which would in theory help to maximize their efficiency and performance, while still upholding the Communist ideal of equality.[18] However, until 1993 there was little regulation of the practice, leading to various abuses. In that year, the State Council temporarily prohibited the issuance of employee shares by all state and collective enterprises due to what it called "serious problems," including that some enterprises were issuing excessive amounts of shares, or advertising their so-called

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[14] G. Zhang (2007), p.135. Cheng and Liu (2016, p.489) date Huawei's registration as a red cap collective to 1991, noting that prior to this the business was registered in 1987 as a "privately-owned technology enterprise" (*minjian keji qiye*).

[15] Hongliang Zheng and Yang Yang, "Chinese Private Sector Development in the Past 30 Years: Retrospect and Prospect," University of Nottingham, China Policy Institute Paper No.45 (March 2009), pp.10-11, http://workspace.unpan.org/sites/internet/Documents/UNPAN92739.pdf

[16] Ibid. See also Bruce J. Dickson, *Wealth into Power*, p.37.

[17] Song, Ligang (2004), "Emerging Private Enterprise in China: Transitional Paths and Implications", in Ross Garnaut and Ligang Song (eds.), *China's Third Economic Transformation: The Rise of the Private Economy* (London and New York: Routledge), pp.29-47 at 33-4.

[18] Jiang Ping and Bian Yimin, "中国职工持股研究" (Research on Chinese Employee Share Ownership) *Bijiao fa yanjiu* vol.3-4 (1999), pp.399-410 at p.399.

"employee shares" to investors throughout the country; and some employees were secretly trading their shares with outsiders. The result was effectively to create unauthorized and unregulated public companies.[19]

The State Council then set strict limits on the kinds of rights that could be attached to employee shares: they could not be transferred to anyone outside the firm; firms were not permitted to print actual share certificates (*gupiao*); instead they should create "equity rights certificates" (*guquan zheng*) listing the names of every employee shareholder, and these certificates must be "strictly kept" within the firm.[20]

This regulation made it very clear that during the 1990s, the Chinese government viewed "internal employee shares"[21] within non-listed enterprises very differently from typical voting shares in Anglo-American corporations. They were designed as a vehicle for employees to share in the firm's profits, but without the kind of property rights that are generally bundled up with shares in common law jurisdictions. It may therefore be more accurate to call them "employee equity certificates."

Yet if employees are aware of these restrictions on their rights, there is nothing intrinsically misleading about calling them "shareholders." Many common law jurisdictions have also created various kinds of non-voting share classes, or hybrid securities such as "phantom shares" and "stock appreciation rights" that may be just as restrictive, allowing the controllers of corporations to share profits with employees or other designated investors, without giving them voting rights or permitting unrestricted transfers. Despite their restrictions, these variations still tend to be categorized under the rubric of "employee ownership."[22]

Highly relevant for Huawei, the State Council also directed local governments to issue detailed rules to properly regulate employee shareholding systems. Shenzhen's local rules for employee ownership (the "1997 Shenzhen Rules") required firms to set up an "employee shareholding committee" (*yuangong chiguhui*) to act as "custodian" of all the employee shares within the firm.[23] Shenzhen's rules also stated that because this committee did not have the status of a "legal person," the trade union (*gonghui*) within the firm – which was a "legal person" – should register as the "nominee" shareholder with the State Administration for Industry and Commerce (SAIC), using the name "trade union shareholding committee" (*gonghui chiguhui*).

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[19] See the prologue to 国务院办公厅转发体改委等部门关于立限制止发行内部职工股不规范做法意见的紧急通知, 1993 年 4 月 3 日国办发[1993]22 号. [hereafter "Temporary Prohibition"]. For more detailed critique of these early unregulated employee shareholder systems, see Jiang Ping and Bian Yimin (1999), pp.400-2.
[20] Temporary Prohibition, arts.1-2.
[21] In Chinese, *neibu zhigong gu.*
[22] See National Center for Employee Ownership (NCEO), "Phantom Stock and Stock Appreciation Rights (SARs)," 9 May 2018, https://www.nceo.org/articles/phantom-stock-appreciation-rights-sars ; NCEO, "A Detailed Overview of Employee Ownership Plan Alternatives," 10 April 2018, https://www.nceo.org/articles/comprehensive-overview-employee-ownership
[23] See Shenzhen Municipal Government, "深圳市国有企业内部员工持股试点暂行规定," issued 30 September 1997 [hereafter, "1997 Shenzhen Rules"], art. 30.

But the rules made it clear that the union was only holding those shares "on behalf of" the employees and had no decision-making powers of its own. In other words, it was the shareholder in name only, not in substance.[24]

The "employee shareholding committee" was to be elected by the employee shareholders, and the elected representatives were given all the powers to administer share rights, including representing employee shareholders at company general meetings, and electing company directors and supervisors according to the *PRC Company Law*.[25] However, while this new system helped to prevent unregulated share transfers, and gave employees a greater incentive to focus on the long-term development of the enterprise,[26] there was nothing in the *PRC Company Law* that set out the legal duties of shareholding committees or the trade unions that owned the shares, or remedies for employees if the nominal owners did not act in the best interests of the employee shareholders. This was particularly a problem when it came to buying back shares after employees left the firm, as they were at the mercy of the company when it came to valuation of their shareholding.[27]

Also very relevant for Huawei's case, the 1997 Shenzhen Rules required that the shareholding committee members be "employee shareholders with enterprise management and share management experience,"[28] which severely limited the pool of eligible committee members, and clearly demonstrates that this system was not intended to give rank-and-file employees the power to challenge management control.[29]

What we see here, in other words, is a pragmatic fudge by regulators aimed at reducing the "abuses" of the previous free-for-all system, where employees tended to sell off their shares on the black market at the earliest possible moment for a quick profit, removing the incentive for employees to work in the firm's long-term interests, which was, in the government's eyes, the whole purpose of employee shareholding systems. Yet the practical result was to create a

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[24] 1997 Shenzhen Rules, arts. 2, 31-2, 33-5. The trade union is given some book-keeping duties (Rules, art.12), but has no voting power.

[25] 1997 Shenzhen Rules, arts.33-5.

[26] Jiang and Bian (1999), p.405.

[27] Jiang and Bian (1999), p.405-6. Jiang and Bian pointed out that the system was like a kind of investment trust, with shareholder committees as trustees, but at the time China had no trust law to ensure trustees acted in the interests of the beneficiary employees. Balding and Clarke (2019: 6) also mention this problem when analysing Huawei's ownership. However, there have been many other situations where new Chinese rules have been introduced without a complete legal framework to support them. For example, the 1988 Interim Rules for Private Enterprises allowed private firms to establish companies (*gongsi*) some six years before the first PRC Company Law was approved, without setting out any of the specific rules for formation! For other analogous situations, see Donald C. Clarke, "How Do We Know When an Enterprise Exists? Unanswerable Questions and Legal Polycentricity in China," 19 *Columbia Journal of Asian Law* (2005-6), 51-71, esp. s.III; and for Chinese courts' creation of legal rules prior to any statutory basis, see Nicholas C. Howson, "The Doctrine That Dared Not Speak Its Name," ch.9 in H. Kanda, K. Kim, and C. J. Milhaupt, *Transforming Corporate Governance in East Asia* (New York: Routledge, 2008).

[28] 1997 Shenzhen Rules, art. 32.

[29] See 1997 Shenzhen Rules, arts. 33-5. The trade union is given some book-keeping duties (Rules, art.12), but has no voting power.

mutant hybrid governance structure with vague rules and limited employee rights that did not integrate smoothly with the *PRC Company Law*.

This should not be surprising, as the first *PRC Company Law* did not become effective until 1994, and as Donald Clarke has argued, it was designed more with SOEs in mind than private firms.[30] In 2006, a major *Company Law* amendment introduced some ownership flexibility for smaller firms with fewer than 50 shareholders, and clearer provisions on directors' duties and shareholder remedies, but for large private firms, even today the *Company Law* provides little room for the kinds of innovative shareholding systems that are available in other countries, such as super-voting shares and non-voting share classes, which would allow a similar level of employee ownership while maintaining management control.[31]

This was the evolving corporate ecosystem that Shenzhen companies like Huawei had to try and fit into. It was a time of experimentation and fluid rules, when businesses could easily fall through the gaps of regulation. Understanding this context goes a long way to explaining why Huawei's ownership system is so strange. It originated as the company's attempt to adapt to a rapidly changing regulatory framework while at the same time taking advantage of the idiosyncrasies and gaps in that system to maximize the company's performance and profits. Importantly, an examination of Huawei's hybrid employee ownership system within this broader context also directly challenges claims that the company is owned by the state, or that Huawei is seeking to conceal some kind of covert state/military control behind its "restricted phantom shares."[32]

(b) Huawei's employee shareholding system: 1990s

According to early Chinese accounts of Huawei's development, in its initial years Huawei's employees were all given the opportunity to buy "shares" in the firm, and after several lean years, the dividends became remarkably generous by the mid-1990s as Huawei expanded rapidly, soon making its employees the highest paid in the telecom industry.[33] However, Huawei's initial "employee shares" never had full share rights: those who worked at Huawei during the 1990s stated that their "shares" were not transferable, carried no votes, and could

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[30] Donald C. Clarke, "Corporate governance in China: An overview," *China Economic Review* 14 (2003) pp.494- 507 at 495.

[31] For a more detailed account of the development and provisions of the *PRC Company Law*, see Wang Jiangyu, *Company Law in China: Regulation of Business Organizations in a Socialist Market Economy* (Elgar 2015). The *Company Law* was amended further in 2014, to remove the requirement for limited liability companies to pay in a minimum amount of capital in order to register as a company, and in 2018, to slightly liberalize the rules surrounding share buy-backs. For a bilingual version of the current *Company Law*, see Lawinfochina, "Company Law of the People's Republic of China (2018 Amendment)," at http://lawinfochina.com/display.aspx?id=e797dd968c30e172bdfb&lib=law [accessed 5 July 2020].

[32] PSC Report, pp.13-15; Balding and Clarke, pp.2, 10-11.

[33] Wang Yongde, *Langxing guanli zai Huawei* [Wolf-style management at Huawei] (Hubei: Wuhan University Press, 2007), 100-1.

not be retained if employees ceased to work at the firm.[34] In fact, except for two years from 1995-96, the company did not even issue any share certificates to employees: it just told them each year how much “equity” they had and what their profit distribution was at the end of the year.[35] Control of Huawei’s management and finances remained with the incumbent CEO (Ren Zhengfei) and a small circle of senior managers, and there was no formal board of directors or supervisors, and no shareholders’ meetings.[36]

In other words, Huawei’s initial employee “shareholding” system in the early 1990s was more of an internal (and informal) profit-sharing incentive and employee retention system rather than a form of personal property ownership.[37] If employees worked hard and helped Huawei increase its profits, they would receive generous rewards through “dividend” payments and opportunities to buy more “shares”. If employees decided to leave the company, Huawei would redeem their “shares” at relatively low prices, and they would lose the chance to participate in any future profits. Ren Zhengfei did not refer to it as an employee ownership system either, but simply as an attempt to create a highly motivated “stakeholder community” within the firm:[38]

> Huawei advocates setting up a stakeholder community with its customers, partners and employees. We are working hard experimenting with dynamic internal mechanisms … that will rationalize the connection between the creation of wealth and distribution of wealth, creating a strong force that motivates everyone. … We are transforming what would normally be opposing forces into collaborative partnerships.

Many Huawei employees referred to these “shares” in less complimentary fashion as “golden handcuffs,” making them rich but tying them to the firm. Yet the annual returns were exceptionally high, around 70% per year. This is why Huawei was able to attract thousands of excellent graduates from China’s top universities each year.[39] It is important to emphasize this point, as it contrasts starkly with the tendency of many privatizing state-owned enterprises (SOEs) during that period to reward only their manager/owners while exploiting rank and file employees, and it partly explains Huawei’s rapid growth and consistent profitability.[40]

By contrast, when they left Huawei during this first decade, many employees were dissatisfied with the low redemption price on their “shares.” Yet logically, this 1 yuan per share redemption

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[34] Cheng and Liu (2003), 116.
[35] For the lack of formality and failure to issue share certificates, see Cheng and Liu (2016), pp.183, 187-9, 490-1.
[36] Cheng and Liu (2016), 187-9.
[37] Anon, 全面解析华为的虚拟股权 (A complete analysis of Huawei’s virtual stock ownership), https://cj.sina.com.cn/article/detail/1198029974/260765 ; Cheng and Liu (2016), pp.183-4; and Xie Baiqing and Dong Yayu, 第一股权纠纷案原告败诉 华为员工持股谜团难解 *Yuegang xinxi bao*, 16 December 2003, http://business.sohu.com/2003/12/16/43/article216974356.shtml
[38] Ren Zhengfei, 华为的红旗到底能打多久” (How long can Huawei’s red flag fly?), collected in Wu Chunbo and Huang Weiwei 走出混沌 2nd ed. (Beijing: Renmin youdian chubanshe, 2001), pp.351-86.
[39] G. Zhang (2007), 21, 46, 233-4; Cheng and Liu (2016), pp.191-2.
[40] Dickson (2008), pp.206-7.

rule was another part of the firm's "motivating" mechanism, making it economically unattractive to leave.[41] In fact, Huawei went further by actively interfering with departing employees' attempts to set up their own competing technology firms, doubtless because they were no longer part of the "stakeholder community."[42]

In 1997, after the Shenzhen Rules came into force, Huawei somewhat formalized the structure of its employee shareholding system by setting up an employee shareholding committee and registering the Huawei Technologies Corporation Trade Union as the main registered shareholder.[43] This was also when Huawei finally removed its "red cap" and registered with SAIC as a private limited liability company (LLC: *youxian gongsi*) under the *PRC Company Law*, as opposed to a collective enterprise.[44]

(c) Huawei's current ownership structure

In 2001, the Shenzhen government issued a new set of rules for all employee shareholding schemes that allowed firms greater flexibility in choosing how to register these shares, but at the same time required more formal governance structures, greater transparency towards employees, and a clearer formula for share redemptions when employees left the firm.[45] Huawei's previous system was slapdash, with arbitrary governance and unfairly low share redemption prices. Few employee shareholders had been given share certificates recording how many Huawei shares they held, and even those employees who kept their own records had no idea how their proportion of shares corresponded to Huawei's total issued share capital.[46] Former employees have even claimed that they were told to sign blank sheets of paper, to which the firm later added the texts of shareholder resolutions![47]

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[41] For departing employees' dissatisfaction, see Cheng and Liu (2016), pp.186-7.
[42] G Zhang (2007), pp.246-50.
[43] See Balding & Clarke, p.6. Cheng and Liu (2016), p.185, note that for a short period after 1997, there were actually two different companies' trade unions holding Huawei's shares. One belonged to Huawei Technologies Corporation and the other was Huawei New Technologies Joint Stock Corporation Trade Union ("Huawei New Tech TU"), which owned around 33% of the shares. Cheng and Liu state that Huawei New Tech TU was one of the investment vehicles for Huawei's subsidiary JVs with telecom employees and officials, which is why it disappeared in the subsequent 2001-3 restructuring, as those external JV shareholders were bought out: see below for more details.
[44] G. Zhang (2007), 20, 135; and PSC Report, p.15.
[45] See Shenzhen Municipal Government, 《深圳市公司内部员工持股规定》深府〔2001〕8 号, 11 January 2001.
[46] G. Zhang (2007), 20.
[47] Cheng & Liu (2003), pp.112-113.

This opaque system was causing numerous employee complaints and negative media attention, which would come to a head when two former Huawei executives sued the firm in 2003.[48]

To deal with these various issues, and to make it clear that their employee shareholder rights were different from those attached to ordinary shares in the *PRC Company Law*, Huawei introduced a new "employee stock ownership program" ("ESOP") in 2003. Initially the company referred to the rights allocated to employees under this program as "restricted phantom shares" (*xuni shouxian gu*).[49] "Restricted" was clearly intended to alert employees to the limited rights attached to their shares, and "phantom" indicated that the employees were not actually the registered owners of the company's shares, but owned units in the employee shareholding fund that held those shares on their behalf.[50]

It is not clear from Huawei's website and annual reports whether the company still uses this term today, but based on the evidence provided by Huawei to the US Congressional Committee in 2012, there is a detailed set of Articles that govern the Restricted Phantom Shares ("RPS Articles"), including how they are administered by an employee shareholder "Representatives' Commission" (the "Rep Com"), how that Rep Com is elected by employees, and how it is integrated with the Board of Directors and other governing bodies of the corporation. The RPS Articles also set out the criteria for employees to buy or redeem RP shares, and how they will be priced based on Huawei's net asset value. The shares cannot be transferred or sold, but the company will redeem them when the employee leaves.[51]

Huawei's Rep Com initially consisted of 51 elected employee representatives, but since January 2019, this number has been increased to 115 representatives. They are elected for five-year terms by Huawei's 86,000-plus active employee shareholders, with a voting system based on one vote per "phantom share."[52]

[48] For the lawsuit, see Cheng and Liu (2016), pp.183-4; and Xie Baiqing and Dong Yayu (2003), "The first shareholder rights dispute."

[49] Sources note that this form of "phantom stock" structure, and Huawei's broader restructuring plan, was based on advice Huawei received from Hay Group, an international human resources consultancy firm between 1997 and 2000: Yongde Wang (2007) p.102; G. Zhang (2007), p.20.

[50] See PSC Report, pp.15-20. Huawei provided extensive documentation about this program to the Congressional Committee (as listed at PSC Report, p.16), only part of which was actually published in the PSC Report.

[51] PSC Report, pp.16-20. Cf. Huawei Technologies, "2018 Annual Report," p.131. Retiring employees can keep their shares and continue to receive dividends, but cannot purchase new shares: see PSC Report, p.17, 20; and Huawei Technologies, "Who Runs Huawei?" https://www.huawei.com/minisite/who-runs-huawei/en/ [accessed 3 November 2019], which states that currently 10.02% of the employee shareholders are "retired and restructured employees". Balding and Clarke (p.5, n15) cite a court case involving a Huawei employee in 2018 which refers to "restricted phantom shares," suggesting that the term is still in use.

[52] See Huawei Technologies, "Who Runs Huawei?" Huawei's total current workforce is around 194,000 employees, but very junior and low-performing Chinese employees cannot participate in the ESOP, and retired or restructured employees have no voting powers: PSC Report, pp.16-17. Likewise, non-Chinese employees of Huawei in other countries do not directly participate in the Chinese ESOP, but they are given units in employee investment funds managed by Huawei's regional divisions overseas and tied to the company's performance: author's conversation with a senior executive at Huawei's Australian subsidiary, Sydney 2015.

The 2003 ESOP is much more transparent towards Huawei's employee shareholders than the previous system and gives them a voice in how the governing bodies of the company are appointed. However, some features of the system are clearly designed to entrench control with more senior managers. First, among the 115 positions, 32 are "default" which presumably means that senior managers of the firm are automatically appointed to the Rep Com.[53] Second, one can assume that Huawei's senior employees own a greater proportion of the shares, as shares are partly allotted based on seniority, and therefore they will have more votes to cast for themselves or their favoured candidates.[54] Third, as mentioned earlier, Ren Zhengfei has a veto over certain "material" decisions of the Rep Com, the shareholders' meeting and the board of directors, giving him potentially ultimate control over the company.[55] The result is that the Rep Com itself is heavily weighted towards the more senior managers in the company.

Once the Rep Com is elected, its 115 members then attend the company's shareholder meetings and make decisions on behalf of the employee shareholders and elect the Board of Directors and the Supervisory Board. Members of these two boards serve for five-year renewable terms.[56] In practice, as with most large public companies elsewhere in the world, new candidates for Huawei's Board of Directors are nominated by the existing Board and then approved by the Rep Com.[57] All Huawei's Board members are long-serving employees, having joined Huawei during the 1980s or 1990s.[58] There has never been any credible evidence of involvement by external parties, whether government or otherwise, in the selection of Huawei's senior management or Board members, although as demonstrated below, there are other ways in which the Chinese government may have influenced the firm.

From this analysis, it is clear that while Huawei has only two formally registered shareholders, namely the Huawei Investment and Holding Corporation Trade Union Committee ("Huawei TUC," with approximately 99% of the equity), and Ren Zhengfei (with around 1%), the Trade

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[53] See Huawei Technologies, "The Shareholders' Meeting and the Representatives' Commission," https://www.huawei.com/en/about-huawei/corporate-governance/the-shareholders-meeting-and-the-representatives-commission. It is not clear from available information how the Representatives are nominated, or whether rank and file employees are given any choice of candidates.
[54] Huawei Technologies, "Who Runs Huawei," states that there is "one vote per [employee] share" in elections for the Rep Com.
[55] See Huawei Technologies, "Who Runs Huawei"; Pearlstine et al; PSC Report, p.20.
[56] Huawei Technologies, "2018 Annual Report," p.131; PSC Report, pp.18-19. The Supervisory Board theoretically monitors the Board of Directors and has powers to bring lawsuits for breach of directors' duties, but up to now the role of Supervisory Boards in most Chinese companies has been a passive one, due to the relatively low status of Supervisors as company employees compared to senior executives. See discussion in Colin Hawes & Grace Li, "Transparency and Opaqueness in the Chinese ICT Sector: A Critique of Chinese and International Corporate Governance Norms," *Asian Journal of Comparative Law* vol.12.1 (May 2017), 41-80; and Donald C. Clarke, "The Independent Director in Chinese Corporate Governance," *Delaware Journal of Corporate Law* 31 (2006), 125-228 at pp.173-5.
[57] PSC Report, p.16; for entrenchment of existing management in international firms through board nomination and share proxy practices, see Paul Redmond, *Companies and Securities Law* 5th ed. (Pyrmont, NSW: Thomson Reuters Lawbook Co. 2009), 2.185 and 6.85.
[58] Huawei Technologies, "2018 Annual Report," pp.135-9.

Union Committee is merely a nominee shareholder holding those shares on behalf of Huawei's employee shareholders, who exercise their powers through the Rep Com. Indeed, the Trade Union Committee has no members and no concrete existence except as a legal fiction conduit – in Chinese, a "community legal person" (*shetuan faren*) – whose sole purpose is to hold shares on behalf of others.[59]

For reasons that are not clear, some foreign lawmakers and legal commentators criticize the strong powers given to Huawei's management under this system – as if it somehow goes against Huawei's claim to be employee owned and controlled.[60] Yet this criticism is misleading, as it ignores the fact that Huawei's managers are themselves full-time employees and are also generally the largest shareholders in the company, so there is no reason why they should not have greater influence over the company's decision-making, especially if the voting rules are clearly set out in the RP Articles. The criticism also seems to be based on an incorrect assumption that "employee owned company" means every single Huawei employee must hold shares, whereas what Huawei means is that every shareholder of Huawei is either a current or retired Huawei employee, and only current Huawei employees have the right to buy RP shares and vote for Representatives.[61]

In fact, there is less contradiction in Huawei between the rights of the shareholders and employees than in most publicly listed international companies that only have a tiny proportion of employee shares. Likewise, many private companies internationally, and some publicly-listed ones, have set up structures that entrench management control among a minority of shareholders – or even one or two founders – for all time, through nomination powers or

[59] There is a slight complication pointed out by Balding and Clarke (pp.3-4) that in 2003, Huawei established a 100% holding company on top of Huawei Technologies, so the employee shareholding trade union committee referred to in the main text is actually holding around 99% of the shares of the holding company Huawei Investment and Holding Corporation, and this Holding Corporation owns 100% of the shares of Huawei Technologies Corporation. So, when we talk about the Rep Com above, it refers to the Holding Corporation, but all decisions of the Holding Corporation are presumably then duplicated by Huawei Technologies: for example, according to their corporate records, the Boards of Directors and Supervisors of Huawei Holding and Huawei Technologies are exactly the same people: see Baidu Enterprise Credit, 华为投资控股有限公司 https://xin.baidu.com/detail/compinfo?pid=xlTM-TogKuTwp4Istb5Hlq2s4pLs-uuwjwmd and 华为技术有限公司 https://xin.baidu.com/detail/compinfo?pid=xlTM-TogKuTwmQIdC%2A09kbLmkDAjgAlc1gmd&fl=1&castk=LTE%3D . This Holding Corporation structure was apparently set up to prepare the company for partial listing on a securities exchange: Huawei Technologies would have been split into four different subsidiary companies of the Holding Corporation, focusing on mobile equipment, technology, project investment, and property management, and one or more of these subsidiaries would have been listed in Hong Kong or Shanghai. However, the listing ultimately never occurred, as Huawei's management decided it wasn't necessary for raising capital: see Qiu Huihui, 华为技术一分为四 上市之路究竟还走多远? *21 Shiji Jingji Baodao* 14 June 2004 [copy on file with author]; and G. Zhang (2007), pp.92-4.

[60] PSC Report, p.14, states that Huawei is controlled by "an elite subset of its management," whatever that means; and Balding and Clarke, p.12, claim that employee shareholders have no "governance or control rights," which overlooks the fact that they do actually elect the Representatives, who then elect the Directors of the company.

[61] See this rule in Huawei's "Articles for Restricted Phantom Shares," cited in PSC Report, p.17.

super-voting shares. To give just two high-profile examples, Mark Zuckerberg controls Facebook with over 57% of the voting power by means of his Class B super-voting shares carrying 10 votes per share; and Larry Page and Sergey Brin together control Google through super-voting shares in its parent company Alphabet Inc., giving them 51.3% of the votes, despite only owning 14% of the company's equity.[62]

Huawei does also appear to be gradually reducing the influence of Ren Zhengfei over company decision-making. In 2013, the company introduced another veto power in its RP Articles allowing employee shareholders with a combined 15% of votes to veto decisions relating to their RP shares, and other "material" decisions made by the Rep Com, the shareholders' meeting and the Board of Directors.[63] This provision, assuming it has been implemented as planned, gives a lot more influence to Huawei's minority shareholders than many overseas companies, where special resolutions can only be blocked with 25% or even 33% of the votes.[64]

Perhaps the most important question is not so much whether Huawei's ESOP gives certain rights to employee shareholders on paper, which it clearly does, but whether it allows them to exercise those rights in reality. Prior to 2003, there is plenty of evidence that Huawei's employee shareholder committee was simply a rubber stamp body with no influence over the composition of Huawei's senior management or over important company decisions affecting employee shareholders, as we noted earlier. More recently, especially since 2010, increased public scrutiny has impressed on the company the importance of following its formal corporate governance procedures to the letter, to ensure that decision-making in relation to shareholder rights is opened up to a broader range of employee stakeholders.[65]

In conclusion, the company is effectively owned by its employees as a collective group, with those employees who have reached the level of senior management, and especially Ren Zhengfei, exerting the most influence over decision-making. Allegations of some other external locus of control over Huawei's ownership, such as the Chinese government, lack any evidential basis.[66]

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[62] See Facebook Inc., "Proxy Statement," filed 12 April 2019, p.41, at https://investor.fb.com/annual-meeting/default.aspx ; Alphabet, Inc., "Proxy Statement," 30 April 2019, p.34, at https://abc.xyz/investor/other/annual-meeting/

[63] PSC Report, p.17.

[64] In the UK and Australia, the default rule is a 75% majority to approve shareholder special resolutions, and a simple majority for ordinary resolutions.

[65] Huawei's 2010 Annual Report was the first to give a more detailed description of the company's board of directors and shareholder voting procedures: see https://www.huawei.com/en/press-events/annual-report .

[66] For an example of such speculation, see PSC Report, p.14, 21-2.

(d) Why Does Huawei Maintain this Unique Indirect Shareholding Structure?

The reason Huawei still maintains this system today is that the current *PRC Company Law* is still quite inflexible when it comes to different share classes and employee shareholding.[67]

If Huawei wishes to continue as a limited liability company (LLC) rather than listing as a joint stock company (equivalent to a public listed company), the *PRC Company Law* places an upper limit of fifty shareholders. There are also limits on the proportion of shares that can be directly owned by employees in an LLC or joint stock company.[68] Using the convenient legal fiction of registering the trade union as a single nominal shareholder on behalf of thousands of Huawei employees, this limitation becomes moot. In fact, it allows for future exponential increases in the numbers of employee "shareholders" – more accurately, employee share fund unitholders – without any need to go through the burdensome process of registering each new shareholder with SAIC.

Without its hybrid ESOP structure, it is not clear how Huawei could create a "stakeholder community" among its employees unless it set up a more complicated offshore listed structure, like the variable interest entities (VIEs) utilized by Alibaba and numerous other private Chinese technology firms. And the VIE structure has its own highly problematic issues relating to the legality and enforceability of its underlying contracts.[69]

Huawei has also found its ESOP to be highly effective as both an incentive system, aligning employees' interests with those of the company, and a fund-raising vehicle, allowing the company to avoid relying excessively on external investors for its capital needs. The amount of money Huawei has raised internally from its employees continues to be remarkable: Cheng and Liu calculate that from 2004 to 2016 alone, the company's capital-raising from employees purchasing "virtual phantom shares" amounted to RMB 30 billion yuan (US$4.25 billion), which is an average of around 357,000 yuan (US$50,500) per virtual shareholding employee.[70]

What is most interesting is that Chinese regulators have been pragmatic enough to allow these kinds of corporate governance experiments to continue even though they go against the strict letter of the law.

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[67] This is particularly so for joint stock companies (also commonly translated as companies limited by shares), which Huawei would have to become if it registered over 50 shareholders: see *PRC Company Law*, art.24. Huawei gave this explanation for retaining its ESOP in materials cited in the PSC Report, pp.15-16.
[68] Jiang and Bian (1999), p.405.
[69] Li Guo, "Chinese Style VIEs: Continuing to Sneak under Smog?" 47 *Cornell Int'l Law Journal* (2014), 569-606; Paul Gillis and Fredrik Oqvist, "Variable Interest Entities in China," GMT Research Guest Series, 13 March 2019, available at https://www.chinaaccountingblog.com/weblog/2019-03-vie-gillis.pdf
[70] Cheng & Liu (2016), 192.

3. Why can't Huawei clearly explain its links with the Communist Party (CPC) and Chinese government?

We have shown that Huawei's corporate governance system does not provide for any formal government control or direct influence over Huawei's business or management decisions, and no present or former government officials sit on Huawei's Board or Supervisory Committee. And unlike Chinese state-owned enterprises, the selection of Huawei's senior managers does not go through the Communist Party's Central Organization Department.[71] However, we still need to address another key issue relating to potential government control of private Chinese firms, which is highly relevant to Huawei, influencing its current troubles in the United States and threatening its potential to expand to international markets in other developed countries.

The US Congressional Committee that investigated Huawei in 2012 expressed great concern about the Communist Party branch within Huawei, and its potential function as a conduit for Chinese government control, especially because Huawei failed to provide clear details of its membership and what the role of the Party branch entailed.[72] Huawei has downplayed its influence, both in its testimony to the Committee and more recently on its website, claiming that the Party branch has no involvement in operational or business decisions.[73]

Yet rather than just offering these vague denials, Huawei should explain more clearly what the Party branch actually does in the firm, who Huawei's leading Communist Party representatives are, and how they interact with the firm's senior management and employees. Presumably this information is not confidential. Other large private Chinese business firms include information about their CPC branches on their Chinese-language websites or in published profiles, including detailed descriptions of the CPC Committee's activities within the firm, and there is no reason why Huawei should not do likewise.[74] And it is easy to find detailed Chinese media interviews with present or former members of Huawei's CPC Committee describing its various activities within the firm, as demonstrated below.

The *PRC Company Law* and the *CPC Charter* require any private business in China to set up a Party branch where three or more CPC members who work at the business request it.[75] Huawei originally established its Party branch in 1995. One of Huawei's longstanding executives, Zhou Daiqi, has acted as the firm's Communist Party Secretary since 2009, in addition to his roles as

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[71] For appointment of SOE managers, see Dickson, *Wealth into Power*, p.60; Yukyung Yeo, 'Between Owner and Regulator: Governing the Business of China's Telecommunications Service Industry' (2009) 200 *The China Quarterly* 1013-32, p.1021; Richard McGregor, *The Party: The Secret World of China's Communist Leaders* (New York: Harper Collins, 2010), ch.3.

[72] PSC Report, pp.23-4.

[73] PSC Report, p.14, 23; and Huawei Technologies, "Huawei Facts."

[74] For example, the websites of Zhengtai Group (CHINT), "*Dangjian gaikuang*" (Party Building Overview), at: http://www.chint.com/zh/index.php/about/building.html ; and Wanda Group, "Party of Wanda Online," at http://party.wanda.cn/

[75] *PRC Company Law*, art.19, and the CPC Charter, arts. 30, 33, http://www.xinhuanet.com//english/download/Constitution_of_the_Communist_Party_of_China.pdf

Chief Ethics and Compliance Officer and member of Huawei's Supervisory Board. Zhou has been an employee of Huawei since 1994, starting as a product manager.[76] Prior to Zhou, Huawei's first Communist Party Secretary was Mme. Chen Zhufang, who joined Huawei in 1995 as a human resources manager, and served as the firm's Party Secretary until 2009. Though retired now, she is still active as one of Huawei's "thought mentors" (*sixiang daoshi*), an interesting Party branch program explained further below.[77] Ren Zhengfei is also a CPC member, but does not lead Huawei's Party branch.[78]

The exact number of CPC members within Huawei is not certain, but one article published in Huawei's in-house magazine stated that in 2000, Huawei had over 1800 Party members, divided into seven main branches and 38 sub-branches.[79] This would have been around 10% of Huawei's total workforce at that time. A 2007 report on Huawei's Party branch delegates meeting that year gave figures of 12,000 Party members, which was around 14% of Huawei's total workforce at that time.[80] More recent figures are not available, but with the current Chinese government emphasis on Party building in the private sector, we can assume that the proportions are at least as high today.

Despite the lack of information about the Party branch on Huawei's website, several interviews in the Chinese media and public presentations by Huawei's Party branch officials reveal that its Party branch is almost entirely focused on developing employees' ethical values and psychological resilience, to enable them to contribute better to Huawei's performance.[81]

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[76] Chen Simin, "华为 2012 年在美国听证关键问题上欺骗", 26 December 2018, http://www.epochtimes.com/gb/18/12/26/n10933427.htm ; Sun Jin, "Huawei dangwei shuji Zhou Daiqi: guojihua tui Shenqi tisheng jingzhengli" (Huawei's Party Secretary Zhou Daiqi declares: Internationalization has pushed Shenzhen's business firms to increase their competitiveness), *Shenzhen tequ bao*, 23 November 2011, at http://tech.southcn.com/t/2011-11/23/content_33696313.htm (accessed 4 November 2019); and Huawei Technologies, "Mr Zhou Daiqi," https://www.huawei.com/en/about-huawei/executives/supervisory-board/zhou-daiqi

[77] Chen (2018); and Anon, 华为首任人力资源部部长陈珠芳应邀为五华企业"授课" (Huawei's first human resources director Chen Zhufang invited to 'give a class' for Wuhua's enterprises), *Meizhou ribao*, 29 July 2019, http://www.sohu.com/a/330141152_689760

[78] PSC Report, p.23.

[79] Anon, 把过去的失误领回去 把明天的希望鼓起来华为公司党委举办研发体系自我批判反思交流活动 (Take back the errors of the past, and drum up hope for tomorrow: Huawei's Party Committee organizes self-criticism and reflective exchange meetings among the firm's R&D divisions), *Huawei People* vol. 109, 22 September 2000, available at http://app.huawei.com/paper/newspaper/newsBookCateInfo.do?method=showDigestInfo&infoId=13744&sortId=-1

[80] Ma Xuan, 华为创新民企党建经验值得重视推广 (Huawei's experience in innovative Party building within a private enterprise deserves to be taken seriously and publicized) *Shenzhen tequ bao*, 9 July 2007, http://news.sina.com.cn/o/2007-07-09/040012168279s.shtml

[81] See, for example, Anon, 潜能的开发——记华为党委书记陈珠芳老师在拉美的培训有感 (Developing potential: Moved by recollections of Huawei Party Committee Secretary Chen Zhufang's training sessions in Latin America), 13 August 2009, http://blog.sina.com.cn/s/blog_618b69f70100esha.html ; Anon (2000) "Take back the errors of the past"; Chen Zhufang, 任正非给陈珠芳及党委成员的一封信 (A letter from Ren Zhengfei to Chen

These various accounts show that while Huawei's Party branch does co-opt revolutionary language borrowed from former Chairman Mao's speeches and the CPC's revolutionary history, it has reinterpreted this language for the corporate context, and its various internal programs for Huawei's employees have no overt political content.

To give a couple of examples, several sources state that one of the first activities organized by Huawei's Party branch in the mid-1990s was a forum for inviting famous retired Chinese scientists, who had developed technologies in very difficult political and economic conditions, to act as mentors to Huawei's R&D staff.[82] The Party branch later expanded this mentoring program to the whole firm, so that every Huawei employee would have a so-called "thought mentor" throughout their career, and every employee would also act as a mentor to another Huawei employee.

What was the purpose of this mentoring? Huawei's former Party Secretary, Chen Zhufang, explained it as follows:[83]

> Every year, Huawei was recruiting several thousand graduates from the best universities, but the majority of these young cadres lacked competitive awareness and a spirit of teamwork, and their capacity to innovate and persist through difficulties was weak. … Scientific management, the rapid expansion of our overseas markets, and organizational restructuring were also increasing pressure on our managers at every level. … It was essential to introduce some humanistic elements into the scientific management process. … Huawei's 'thought mentoring' system was aimed at helping employees on a psychological level, addressing and correcting their negative thinking and guiding their careers so that any mental barriers holding them back would be totally uprooted.

In another interview, Chen noted that "thought mentors" would also engage in pre-emptive action to prevent the growth of "negative" psychological trends: [84]

> They will look out for factors affecting the mental attitude of the whole team. For example, when new employees join the firm, their initial work may involve only monotonous software programming, and they may start to think in negative terms – Am I going to be doing this for the rest of my life? How will this help me realize my potential? If

Zhufang and [Huawei's] Party Committee members), *IT Shidai Zhoukan* 10 April 2008, http://tech.sina.com.cn/roll/2008-04-10/1440629970.shtml ; Li Chuantao, 华为思想导师制出台始末 (A complete account of the origins of Huawei's thought mentor system), *iHeima wang*, 14 March 2014, http://www.iheima.com/article-59501.html.

[82] Li Chuantao (2014), "A complete account,"; Chen Simin (2012), "Huawei 2012 nian,"; Anon (2019), "Huawei's first human resources director".

[83] Anon, 任正非为什么找来老专家担任思想导师？(Why did Ren Zhengfei recruit retired experts to become thought mentors?) *Sohu.com*, 22 August 2018, https://www.sohu.com/a/249308778_205354

[84] Li Chuantao (2014), "A complete account."

> we find this kind of negative thinking emerging among a large group of employees, Huawei's Party Committee will organize some relevant classes to address the problem.

Another important activity organized by Huawei's Party branch has been regular "self-criticism" sessions, where the firm's various divisions can meet together and publicly reflect on the errors they have made, and how they should improve the effectiveness of the company's products and systems.[85] "Self-criticism" was a harsh revolutionary technique promoted during political campaigns by Chairman Mao, but Ren Zhengfei claimed that the company's version of self-criticism was much more "gentle." He likened it to "hitting employees a hundred times with a soft pillow." Even if the blows are soft, they will remind employees to keep improving their work.[86]

Huawei's Party branch introduced the self-criticism campaign back in 2000 as part of a "prize giving" ceremony for several thousand Huawei R&D employees. These prizes consisted of rejected products and other wasteful ideas that had cost the firm money without bringing any benefits. The Party branch awarded these "useless product awards" to several hundred managers who had supervised those projects to remind everyone that constant self-criticism is the only way to learn from such failures.[87]

These various accounts and speeches by Huawei's Party officials and Ren Zhengfei demonstrate that Huawei's Party branch has borrowed Communist-style techniques of self-criticism and thought supervision and creatively adapted them to deal with issues facing managers and employees in a contemporary business environment. The Party branch is also involved in Huawei's "operations" in the sense of ensuring that employees maintain a positive attitude towards their work. Yet despite the revolutionary terminology, the focus is exclusively on non-political issues, such as how the Party branch should assist employees to deal with stress and adjust their expectations, how employees can improve their relationships with colleagues and balance their work with social and cultural activities, and how they can realize their full potential within the firm.[88]

There does not appear to be any involvement of external CPC institutions in these activities, though like other Chinese private firms, Huawei's Party branch will certainly also promote broader CPC policies within the firm, such as Xi Jinping's anti-corruption campaign, and organize regular celebrations of Party anniversaries, such as National Day.[89] And like all other Chinese organizations, Huawei needs to ensure that its employees do not rock the political boat by

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[85] Anon (2000), "Take back the errors"; Zhao Jijun, "Ganwu Huawei wenhua" (My sudden realization about Huawei's culture), *Huawei People* 164 (10 June 2005); C. Luo, Chen, X., Xiao, C. and Guo, C. *Qiye wenhua jianshe ge'an pingxi* (Evaluation of case studies on corporate culture building) (Beijing: Tsinghua University Press 2006), pp.405-27. For the earlier Communist technique of self-criticism, see Mao Zedong, *Quotations from Chairman Mao Tse-tung* (Beijing: Foreign Languages Press 1967), section entitled "Criticism and Self-Criticism".
[86] Luo et al (2006), p.413.
[87] Anon (2000), "Take back the errors".
[88] For more details, see Colin Hawes, *The Chinese Transformation of Corporate Culture* (Routledge, UK: 2012), ch. 2.
[89] Ibid.

challenging the CPC's rule, something that Ren Zhengfei has emphasized in his speeches to employees.[90] The fact that the CPC is the only government party and does not tolerate dissent or challenges to its rule clearly influences the way that Huawei treats its employees and makes decisions about its investments.

Beyond Huawei's Party branch, and in stark contrast with state-owned enterprises, there is no revolving door between Huawei's senior employees – those who effectively control the company through their shareholding – and government institutions, that might lead to an inference of indirect control through personal relationships.[91] Looking at Huawei's management chart, all the current directors, senior executives and supervisors of the firm have worked at Huawei since at least the 1990s, and most joined the firm when they were recent university graduates, with no discernable government connections.[92] And though Ren Zhengfei served in the Chinese military construction corps during the 1970s and early '80s, he had already been demobilized for four years prior to setting up Huawei in 1988. Likewise, the often repeated claims that Huawei has been "backed" or financially subsidized by the Chinese military are based on very shaky evidential grounds.[93]

However, while Huawei's Party branch is apparently not utilized as a conduit for government contribution to management decisions, and there is no obvious Chinese government infiltration of Huawei's senior management, this does not mean that Huawei can somehow avoid maintaining close links with Chinese government institutions and officials. On the contrary, various nodes of the complex Chinese government ecosystem have continuously interacted with the company and significantly impacted the company's "business" in many and varied ways. This is a broader aspect of Huawei's corporate ecosystem to which we will now turn.

4. How did Huawei become so successful as a private firm in China? Building a "stakeholder community" with state enterprises and government officials

[90] Ren Zhengfei, "Jinqi zai canjia gongsi youxiu dangyuan zuotanhui shi fayan" (Speech given while participating in a recent symposium for Huawei's outstanding Party members), *Sina.com*, 13 June 2008 https://tech.sina.com.cn/t/2008-06-13/15252257028.shtml ; and Chen Zhufang (2008), "A letter from Ren Zhengfei."

[91] For the contrasting SOE/government connections, see Kjeld Erik Brødsgaard, "Politics and Business Group Formation in China: The Party in Control? *China Quarterly* vol. 211 (September 2012), pp. 624-648; and Wendy Leutert, "The Political Mobility of China's Central State-Owned Enterprise Leaders," *China Quarterly* vol. 233 (March 2018), pp. 1-21.
Print publication: September 2012

[92] Huawei Technologies, *Annual Report* (2018), pp.135-9.

[93] Huawei's alleged military links are discussed in detail in Colin Hawes, "Framing Chinese Hi-tech Firms: A Political and Legal Critique," *Australian Journal of Corporate Law* 30.1 (April 2015), pp. 34-57.

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If Huawei's ownership structure, management, and Party branch are not conduits for Chinese government control, how did this private firm become one of the leading internet/telecom hardware producers in China and internationally? Certainly, a partial explanation comes from the exponential growth of the telecommunications and internet sectors since the 1990s. The number of fixed line phone users in China grew from only 1.9 million to 340 million between 1978 and 2008. During the 1990s, thousands of Chinese conurbations from county-level towns upwards automated their telephone systems using exchange switches provided by firms like Huawei. Chinese mobile phone users also shot up from just 47,000 in 1991 to over 1.2 billion by late 2013; and the number of internet users grew from effectively zero in the early 1990s to around 854 million in 2019.[94]

The huge growth of global telecom and internet markets is also relevant, especially in the developing world where Huawei targeted most of its early international expansion efforts. For example, between 2005 and 2018, mobile phone users in developing countries jumped from around 1.2 billion to 6.5 billion people, and individual internet users rose from 407 million to 2.8 billion.[95] These immense and rapidly expanding new markets, both within China and overseas, provide a clear economic explanation for the correspondingly rapid growth of Chinese firms like Huawei that have serviced these markets with their equipment.

Nevertheless, these external factors are not sufficient to explain why a private firm like Huawei became the most successful telecom and internet hardware supplier in China despite fierce competition, including from firms with partial state ownership like ZTE, as well as SOE-foreign joint ventures like Shanghai Bell, and more technologically advanced foreign firms like Cisco.

To fully understand Huawei's success, we need to go back and trace how the company created a protected niche for itself within the broader corporate and government ecosystem, another crucial part of what Huawei's CEO Ren Zhengfei called building a "stakeholder community" or, more literally, a "community of mutual interests" (利益共同体 *liyi gongtongti*).[96]

Strangely, while the US and other governments have attempted without much success to find "covert" channels between the Chinese government/military and Huawei, they have ignored the open collaboration between the company and Chinese state-owned telecom firms and state officials in its early years. Huawei has made no secret of the fact that its massive growth

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[94] China Internet Watch, "Statistics: Internet Users," https://www.chinainternetwatch.com/statistics/china-internet-users/ ; and China Internet Network Information Center, "34th Statistical Survey on Internet Development in China" (July 2014), available at http://www1.cnnic.cn/IDR/ (accessed 15 January 2015); Xinhua, "China's Mobile Phone Users Hit 1.22 Billion" *Xinhua Online* (21 November 2013), http://news.xinhuanet.com/english/china/2013-11/21/c_132907784.htm ; and Central People's Government of the People's Republic of China, 新中国 60 年报告之十五：邮电通信业发展突飞猛进 (Sixty Years of New China Fifteenth Report: The exponential development of the postal and telecommunications sector), 24 September 2009, available at http://www.gov.cn/gzdt/2009-09/24/content_1425053.htm .
[95] International Telecommunication Union (ITU), "Statistics," https://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx (accessed 26 October 2019).
[96] *Huawei Basic Law* (1998), Art. 1.1.5. Copy on file with author. See detailed discussion below.

during the 1990s and early 2000s was greatly assisted by forming mutually profitable joint venture relationships with employees and officials at these state-owned firms and at government telecommunication ministries.

How did this process of building "stakeholder communities" work and when did it start? In the late 1980s, Ren Zhengfei had managed to acquire from a Hong Kong company the license to sell a telephone exchange switch (called a PBX), but Huawei faced stiff competition and there was a very limited range of clients.[97] In fact, prior to 1994, the only major "clients" for this equipment were the provincial and municipal offices of China Telecom, an SOE under the Ministry of Post and Telecommunications (MPT), which had a monopoly over telecom services. From 1994 onwards, a second SOE, China Unicom, was formed as part of a gradual move towards introducing competition into the telecom service provider market.[98]

This is where Ren Zhengfei came up with the idea of sharing profits with state telecom employees and their local government regulators.[99] The aim of this approach was two-fold: it created a long-term incentive for these telecom firms and officials to approve the purchase of Huawei's equipment; and it also solved most of Huawei's cash flow and capital raising difficulties. Rather than directly bribe state officials, which was too risky, the company set up numerous joint venture companies (JVs) with tertiary production firms (*sanchan qiye*) established by provincial and local state telecom offices and governments all over China, and "shares" in these Huawei JVs were distributed to thousands of telecom industry employees and relevant government officials. The first of these JVs was Mobeike Power Supply Company, which was established in 1993.[100]

Huawei focused its attention mainly on poorer regions in Western China and the North East rustbelt, where SOEs and foreign competitors were reluctant to venture due to the difficult working conditions, and where telecom employees and officials were more poorly paid. This was a Maoist-inspired strategy that Ren Zhengfei called "first taking the countryside, then laying siege to the cities."[101] Any profits from installation or maintenance of Huawei's telecommunication equipment in these JV regions would be divided up between Huawei and the local JV shareholders through distributions from the relevant JV subsidiary.[102]

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[97] Guanjing Zhang, *Huawei si zhang lian* (The four faces of Huawei) (Guangdong: Jingji chubanshe, 2007), 23-4, 135, 223-4. Due to space constraints, our account does not focus on Huawei's technological development or specific telecom and internet products: for a useful English summary, see Nathanael Ahrens, *China's Competitiveness: Myth, Reality, and Lessons for the United States and Japan, Case Study: Huawei*, CSIS Hills Program in Governance (February 2013), https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/130215_competitiveness_Huawei_casestudy_Web.pdf

[98] Harwit, ch.3; Scott Y. Guan, *China's Telecommunications Reforms: From Monopoly towards Competition* (New York: Nova Science Publishers, 2003) pp.18-39.

[99] Cheng and Liu (2003), pp.104-5; Cheng and Liu (2016), pp.177-8.

[100] Mobeike was later renamed Huawei Electric Power Corp. See Yongde Wang, *Langxing guanli zai Huawei* [Wolf-style management at Huawei] (Hubei: Wuhan University Press, 2007), pp.284-5.

[101] G. Chen 2007, 121-2

[102] Cheng and Liu (2003), 76-8, 104-9.

This experiment was so successful that Huawei expanded it, setting up other subsidiary JVs whenever it entered new domestic regional markets, allowing a broader range of telecom firm employees and local government ministry officials to invest. By the end of the 1990s, Huawei had established twenty-seven different joint venture entities with groups of shareholders from over 170 telecom branches and local governments throughout China, with investors probably numbering in the tens of thousands.[103]

Importantly, the officials and SOE employees never owned shares in Huawei's parent company; they only had ownership interests in the shareholding committees of joint venture companies set up by Huawei subsidiaries with relevant state enterprises. The joint ventures themselves were merely profit-sharing vehicles disguised as Huawei sales and servicing agencies, not separate businesses with their own decision-making organs.[104] This meant that Huawei could maintain control over its own management and business decisions.

Once they purchased these JV shares, the telecom officials, local Party officials, and employees obviously had a personal interest in assisting Huawei's business in their region over the long term by consistently buying Huawei's hardware products and upgrading them on a regular basis. Huawei's parent company would also guarantee to make up the difference if the JV subsidiaries did not earn a minimum rate of return for the investors, for example 15% per year in the case of Huawei's Shenyang JV subsidiary.[105] This made it a low-risk, high return investment for JV investors.

Huawei benefited from these arrangements in several ways: it received plenty of new business from the SOEs with little required outlay of funds or bribes upfront; and it was paid promptly for its products and services – which was a major difficulty for privately-controlled corporations dealing with bureaucratic state institutions.[106] Perhaps most importantly, the JVs opened up Huawei's access to both indirect equity investment and credit financing from the state-owned telecom and banking systems, thus reducing its cash-flow problems and allowing for massive investment in R&D of new technologies.[107] In other words, Huawei's JV partners, being state-owned, were able to apply for buyers' credit financing from state banks at the lower interest rates charged to SOEs, rather than the extortionate shadow banking rates that most private

[103] Figures confirmed by Huawei's media spokesperson, Fu Jun, in 2004: see Anon, 华为上市先清历史旧账 揭开股权变迁谜团 (Huawei clears historical accounts prior to listing; unravelling the knot of its share restructuring), *Nanfang Zhoumo* 30 September 2004, http://tech.sina.com.cn/t/2004-09-30/1001434392.shtml . Cheng and Liu (2003), 76-8, 104-9, provide slightly lower numbers, but still estimated over one hundred different groups of investors; cf. Cheng and Liu (2016), pp.177-8. At that time in the 1990s, the two main telecom firms were China Telecom and China Unicom, and Huawei established JV arrangements with employees and officials in various regional offices of both firms.
[104] G. Zhang (2007), p.37.
[105] Cheng and Liu (2003), p.105; Cheng and Liu (2016), p.179.
[106] Wang (2007), p.286; Cheng and Liu (2016), p.127.
[107] Cheng and Liu (2003), 104-5.

borrowers (including Huawei in earlier years) had to pay.[108] The money was loaned from the banks to the state telecom firms, who funneled it through the JVs to purchase Huawei's products and installation services, and profits were then shared between Huawei and the other shareholders of the JVs, including the telecom firms' officials and employees.[109]

By all accounts, the returns on these JV investments during the 1990s were significantly higher than the minimum rates guaranteed by Huawei, reaching up to 70% in some years.[110] Such sky-high returns were sustainable due to the massive growth of telecom networks throughout China noted above.

How did the state telecom officials and employees get away with what was essentially a conflict between their personal interests and the interests of their SOE firms? First, the newly established state-owned telecom corporations were supposed to be run on commercial profit-making principles.[111] At the same time, the Chinese government also encouraged state institutions to reduce their excess employment – a legacy of the "iron rice bowl" – by helping their employees to set up so-called "tertiary production" (*sanchan*) service businesses, and to spin off diverse "non-core" services in collaboration with external suppliers.[112] There was no explicit prohibition on officials and employees (or their family members) investing in these affiliated businesses. The number of these "tertiary" businesses established by local state officials and departments was huge, encompassing a broad range of industries. One 1992 survey cited by Duckett estimates that "in some areas of China as many as 70% of state and party departments had set up such businesses, and that in Hunan province alone there were over 10,000 of them, employing over 40,000 people."[113]

Duckett argues that these businesses differed from corruption, as they generated "income for the state administration."[114] She calls the phenomenon "state entrepreneurialism," and notes that the central government tacitly permitted it to flourish for a few years, due to its positive

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[108] CEIC, "China Bank Lending Rate, 1988-2019," https://www.ceicdata.com/en/indicator/china/bank-lending-rate [accessed 28 October 2019]. For the broader difficulties of private firms accessing bank finance in the 1990s, see Adam Segal, *Digital Dragon: High-Technology Enterprises in China* (Ithaca: Cornell University Press 2003), ch.3, esp. pp.63-5.
[109] Cheng and Liu (2016), p.177-80.
[110] Wang (2007), 285-6.
[111] For example, 国务院办公厅关于印发邮电部职能配置、内设机构和人员编制方案的通知，国办发〔1994〕24 号，国务院办公厅 9 February 1994, which separated the regulation function of the Ministry of Post and Telecommunications from China Telecom, which became a commercial telecom services firm.
[112] PRC State Council, 国务院批转国家计委关于全国第三产业发展规划基本思路的通知 (Notice of the State Council approving the basic ideas and circulation of the State Planning Commission's national development plan for tertiary industries.) 国发[1993]20 号, 3 December 1993: "Telecom firms … should make a positive effort to raise funds from multiple different channels. They should introduce enterprise competition mechanisms, and promote experiments with shareholding systems" (section 2).
[113] Jane Duckett, "Bureaucrats in Business, Chinese-Style: The Lessons of Market Reform and State Entrepreneurialism in the People's Republic of China," *World Development* Vol. 29, No. 1 (2001), pp. 23-37, esp. p.25-6.
[114] Duckett, p.28.

function in providing employment and income for downsized public servants.[115] This "febrile business atmosphere" obviously left the door wide open for the kinds of JV experiments that we saw with Huawei.[116]

Thirdly, the government was anxious to rapidly modernize China's telecom system to provide the basic communications infrastructure for economic growth, so there was massive government spending channeled into expanding telecom networks nationwide, leading to demand for telecom hardware greatly outstripping supply.[117] The government was also keen to encourage qualified Chinese firms to compete with foreign telecom suppliers, for both economic and national security reasons.[118]

Finally, the fact that Huawei was a private firm made it much easier to disguise the ownership of JV shares by using a JV "trade union shareholding committee" as the registered owner of the shares – similar to that established by Huawei's parent company for its own employees, explained earlier. The telecom officials and employees who actually invested in those shares would only be recorded on an internal company list, not publicly disclosed to the State Administration for Industry and Commerce (SAIC), allowing for deniability if policies changed later.[119]

Why did Huawei call these arrangements "joint ventures," which was a term normally used only for Sino-foreign invested enterprises in China?[120] There was no foreign investment in Huawei's JVs, but fascinatingly it appears that Huawei got the idea from looking at some of its major competitors, which were in fact joint ventures between foreign telecom equipment manufacturers and Chinese state institutions. These Sino-foreign JVs had been established in the 1980s to import and subsequently manufacture advanced telecom equipment to modernize China's primitive communications networks.

By 1990, there were three Sino-foreign JVs producing telecom switches in China: Shanghai Bell (involving French firm Alcatel), BISC (in Beijing, involving the German company Siemens), and Tianjin NEC (Japan). Various government ministries and municipal corporations held shares in all these JVs, and therefore received profits from the sales of their equipment to affiliated telecom service providers.[121] As one Shanghai Bell official happily put it, "the Chinese [state-owned] partner was effectively the joint venture's customer"![122] Put another way, there were

[115] Duckett, p.27.
[116] Duckett, p.29; Jin, op.cit., p.27; G. Zhang (2007), p.36.
[117] Central People's Government, Sixty Years of New China Fifteenth Report (2009), op.cit.
[118] Harwit, pp.122-4.
[119] Cheng and Liu (2016), pp.179-80.
[120] The *PRC Chinese-Foreign Equity Joint Venture Law* and *PRC Chinese-Foreign Co-operative Joint Venture Law* were first promulgated in 1979 and 1988 respectively. I am not aware of any Chinese joint venture law that applies only to domestic Chinese JVs rather than Sino-foreign JVs.
[121] Harwit, pp.117-22.
[122] Ibid. 118.

already extremely close links between foreign telecom corporations and the Chinese government, with both sides profiting from the arrangement.

Clearly, in this public-private business free-for-all, Huawei would not have survived its early years without setting up similar kinds of profit-sharing JV investment vehicles with state-owned customers and government officials.

This strategy of forming "stakeholder communities" with telecom firms and officials was immensely successful for Huawei while it lasted. The company's revenues grew from around RMB 100 million yuan in 1992 to 4.1 billion yuan in 1997 and then 25.5 billion yuan in 2001, by which time Huawei had become the most profitable electronics firm in China.[123]

However, in the late 1990s, the government restructured the State telecom firms once again, prohibiting telecom officials from running tertiary businesses on the side and requiring open competitive tendering for supply contracts, so Huawei had to buy out or divest itself of all the telecom JVs and find more orthodox ways to attract customers. Most Chinese sources agree that from the early 2000s onwards, there were no longer any new shares issued by Huawei's JV subsidiaries, and the company was well on the way to buying out all the JVs and redeeming the outstanding shares.[124]

Fortunately, though it had suffered discrimination from state banks in its earlier years,[125] by the late 1990s Huawei's products were now advanced enough to find buyers among both the new Chinese telecom firms and overseas clients, without the need to offer any more JV shares to customers and regulators. The buy-out of the JVs also greatly reduced the pressure on Huawei to maintain such an unsustainably high level of profit distribution to such an eclectic range of state-led investors/stakeholders.[126]

5. Sowing Seeds of Geopolitical Conflict: Huawei's International Expansion and Firm/Government Stakeholder Communities

With the maturing of the Chinese telecom market in the late 1990s, Huawei began to expand overseas to continue increasing market returns. Since 2005, approximately half of Huawei's

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[123] Cheng and Liu (2016), pp.489, 492, 495.

[124] G. Zhang 2007, 8, 38, 55; and for Chinese officials' forays into business more broadly, and subsequent restriction by the government, see Dickson (2008), p.205. The Southern Weekend article cited earlier gives one example of a share redemption conducted by Huawei among telecom employees in Beihai City, Guangxi Province in 2004, which shows that the process was still ongoing at that stage: see Anon (2004), "Huawei clears accounts". Another report suggested that the redemption process was still ongoing in 2010, but the telecom employees whom they interviewed stated Huawei had already redeemed their JV shares. See Zhao Hejuan, 谁挡了华为的路 (Who is blocking Huawei's path?), *Xin shiji* 8 August 2010, available at: https://cn.reuters.com/article/idCNCHINA-2793920100809 .

[125] G. Zhang (2007), ch.7.

[126] Yongde Wang (2007), 102.

revenues have come from international sales.[127] Though the JV approach was not feasible overseas, Huawei adapted two other aspects from its Chinese strategy to build "stakeholder communities" with international telecom clients.

The first was to focus on telecom firms in poorer or less developed countries that could not afford higher priced hardware offered by multinationals like Cisco and Lucent-Alcatel. This was similar to Huawei's initial focus on rural and rustbelt regions in China. The second aspect was to take advantage of its relationships with Chinese banks to offer buyer's credit and loan guarantees to potential customers, so that little or no upfront payment was required. Huawei would send its employees overseas to install its equipment for the international client, and one or more Chinese banks would then transfer the loan funds directly to Huawei to pay for it. The international telecom firms would repay the bank loans using their operating revenues, once the equipment was up and running.[128]

Huawei's willingness to seek out international clients dovetailed nicely with Chinese government efforts to encourage Chinese firms to "go abroad" and become internationally competitive, as well as China's need to engage in diplomacy and gain political support from less developed nations in Africa, Asia and Central/South America. From the late 1990s, the state-owned commercial banks began to offer loans and guarantees to qualified Chinese firms for investing abroad, especially in developing countries with which China wished to cultivate relations.[129] Huawei initially benefited greatly from this convergence of interests, as the state-owned commercial banks provided the required credit for its overseas commercial customers. Because of its willingness to provide low-cost telecom equipment to developing countries, Huawei also became one of the first private firms to receive substantial lines of credit from the China Development Bank and China Exim Bank, whose mandate was to support infrastructure projects that aligned with the government's economic development policies, both domestically and overseas.[130] This combination of low-cost products, commercial bank credit and policy loans allowed Huawei to rapidly expand its overseas markets. By the early 2000s, Huawei already had customers in over eighty countries, and by 2012, this had grown to 140 countries, assisted by banking relationships with ten Chinese banks and twenty three international banks.[131]

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[127] Cheng and Liu (2016), p.497; and for recent figures, see Huawei Investment & Holding Co., Ltd., *2018 Annual Report*, https://www.huawei.com/en/press-events/annual-report/2018: "2018: Healthy Operating Results, Strong Financial Position."
[128] G. Zhang 2007, 84; Brautigam, D. (2009) *The Dragon's Gift: The Real Story of China in Africa*, Oxford University Press, pp.140-1.
[129] See Brautigam, ch.3; and Peter J. Buckley, L. Jeremy Clegg, Adam R. Cross, Xin Liu, Hinrich Voss, and Ping Zheng, "The Determinants of Chinese Outward Foreign Direct Investment," *Journal of International Business Studies* 38 (2007): pp.499-518.
[130] See G. Zhang (2007), pp.138-9; Cheng and Liu (2016), p.176; Wang (2007), p.284; Brautigam, p.140-2.
[131] G. Zhang (2007), p.27; Charles Ding, "Written Statement for Charles Ding," Permanent Select Committee on Intelligence, U.S. House Of Representatives, 13 September 2012, https://cryptome.org/2012/10/huawei-no-spy.pdf , p.8.

U.S. lawmakers have frowned on Chinese state banks providing loans or guarantees to support companies like Huawei expanding overseas, as if it is further evidence of Chinese government control.[132] Yet the U.S. government provides billions of dollars each year in low-interest loans, guarantees and other generous subsidies through the U.S. Exim Bank and other channels, to promote U.S. private industries and manufacturers – especially Boeing Corporation – both domestically and abroad.[133] The U.S. government also heavily subsidizes its military contractors through military aid funding to allies, which is conditional on purchasing U.S. arms products made by private U.S. firms.[134] Many other countries have set up export development banks subsidizing their own industries, such as France, Canada, Japan and Australia.[135] This has included "soft loans" for firms like Alcatel in China (French government) and Ericsson in Africa (Swedish government), both direct competitors of Huawei.[136]

Moreover, Huawei's ability to compete with international competitors was not primarily based on bank financing – which its competitors could also access on international markets – but on significantly cheaper labour costs in China, coupled with its awareness that developing countries could not afford the most sophisticated telecom hardware, and a reputation for providing extremely efficient and ongoing customer service even in remote locations.[137] There was also a huge demand overseas for the cheaper, simpler and more robust equipment that Huawei had perfected in the domestic Chinese market. These basic economic facts are sufficient to explain Huawei's price advantage over international competitors, especially in its first ten years of international expansion from 1996 onwards. There is no convincing evidence

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[132] PSC Report, p.21, 28; 2011 U.S.-China Economic and Security Review Commission, *Report to Congress of the U.S.-China Economic and Security Review Commission* One Hundred Twelfth Congress First Session, November 2011, pp.60-1 (hereafter "2011 ESRC Report").

[133] James T Bennett, *Corporate welfare: crony capitalism that enriches the rich* (New Brunswick, New Jersey: Transaction Publishers 2015), ch.6.

[134] Andrew T.H. Tan, *The Global Arms Trade: A Handbook* (Abingdon, UK: Routledge 2014), p.205.

[135] Cheng & Liu (2003) 103, 284-7; Adrian Buckley, *Multinational Finance* (Harlow: Financial Times Prentice Hall, 2004), ch.30-1; Canada Export Development Corporation, http://www.edc.ca/EN/About-Exporting/Trade-Links/Pages/financing.aspx ; Efic (Australia), http://www.efic.gov.au/export-community/Pages/bankingandfinance.aspx .

[136] For French support of Alcatel's China JV in 1994: Harwit, p.121; for Ericsson's no interest loan in Ethiopia (1996): G. Zhang (2007), p.149.

[137] Even today, the average starting salary of IT developers in China is approximately RMB 67,200 yuan (US$9,550) per year, just one seventh of the average $74,000 per year salary for similarly qualified graduates in the U.S.: Chang Meng and Xie Chen, "2016 年应届生就业竞争力报告：专业与技能篇," BOSS Zhipin, 5 December 2016, https://www.zhipin.com/article/27.html?ka=article-list-title-detail4 ; Payscale.com, "Average Software Engineering Salary," https://www.payscale.com/research/US/Job=Software_Engineer/Salary#targetText=An%20entry%2Dlevel%20Software%20Engineer,%2473%2C866%20based%20on%207%2C207%20salaries; and Glassdoor.ca, "Huawei Technologies Software Engineer Monthly Pay," Updated Sep 27, 2019, https://www.glassdoor.ca/Salary/Huawei-Technologies-Software-Engineer-China-Salaries-EJI_IE9304.0,19_KO20,37_IL.38,43_IN48.htm .

that Huawei has received a higher proportion of government subsidies, bank loans, or tax breaks than its foreign competitors.[138]

However, Huawei's willingness to take advantage of Chinese development bank and diplomatic support and to sell its telecom hardware in several countries that have regularly been on U.S. watch lists and subject to international sanctions, such as Iran, Sudan, Syria, North Korea, and Libya from the late 1990s onwards, have come back to haunt the company years later.[139] Though Huawei's own interests may have been commercial, they were naïve about the future political repercussions. This is especially true because the convergence between Huawei's interests and those of the Chinese government means that Huawei's CEO has often been invited to join CPC leaders and other leading Chinese SOE and private firm executives on "team China" overseas trade missions.[140] This piggybacking gave Huawei market leverage in many developing countries, but reinforced suspicion in the minds of U.S. Congressmen that the company was just a tool of the Chinese government, seeking to undermine U.S. national interests.[141]

What we see here is a clash between the demands of the Chinese corporate ecosystem and the international political ecosystem with its most vocal gatekeeper, the United States. The former required a pragmatic ability to build alliances with state institutions and officials – "stakeholder communities" – to create hybrid legal forms in grey areas for mutual benefit, and to harmonize with and take advantage of broader, constantly shifting, Chinese government policy goals, whilst somehow maintaining management autonomy and avoiding charges of corruption. By contrast, the latter tends to view China's rise as a threat, expects Chinese firms to prove their independence from the government, and assumes that any lack of transparency is evidence of covert collaboration with the CPC and military, aimed at undermining the U.S. and its allies. We will conclude with a broader analysis of this geopolitical clash and its likely impact on the future development of private Chinese technology firms like Huawei.

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[138] In fact, one could argue there was reverse discrimination against Chinese firms like Huawei: many multinational telecom equipment firms were heavily subsidized during the 1980s and '90s to enter the Chinese market, both by receiving generous tax breaks from the Chinese government (which was anxious to modernize its networks), and in some cases, low interest loans from their own national governments. For example, Nortel Networks benefited from a several hundred-million-dollar foreign aid loan from the Canadian government to enter the Chinese market in 1988: See Cheng and Liu (2016), pp.58-9. Other firms benefiting from tax breaks in China included Ericsson, Alcatel, Lucent, Fujitsu, NEC, Siemens, and more recently Cisco Systems. Some of these tax breaks were removed in 1996, but others continue down to the present in certain research and technological development zones or hi-tech product sectors. See Harwit, pp.117-22, 132.

[139] See G. Zhang (2007), p.136.

[140] Cheng & Liu (2003), 285.

[141] PSC Report, p.29.

6. Conclusion: Incompatibilities between Chinese Private Firms and Western Political Ecosystems

Viewing Huawei as a living organism co-evolving within a rapidly changing Chinese corporate and political ecosystem solves most of the riddles about its strange ownership structure, and explains its remarkable rise as a private firm during a period when the economy was dominated by state-owned enterprises. In particular, Huawei's ingenious incentive systems for both employees and external stakeholders – especially state telecom customers and government officials – helped to level the playing field with better funded state-owned and Sino-foreign competitors, yet without giving up management control over its own business.

There is a clear convergence of interests between the policy goals of the central Chinese leadership in seeking to roll out telecom and internet networks to every Chinese citizen as efficiently and cost effectively as possible, and Huawei's desire to maximize profits by selling as much of its hardware as it can. If a Chinese private firm can do this better than an SOE or a foreign firm, the Chinese government will certainly remove the discriminatory barriers that prevent it from competing on a level playing field with SOEs. This has been demonstrated once again recently, with the government's selection of several private Chinese firms, including Huawei, as members of a national "AI Team," tasked with rapidly developing China's artificial intelligence infrastructure, which will likely mean receiving generous government subsidies.[142]

Likewise, the central government's diplomatic interests in gaining U.N. support and securing natural resources from developing nations around the world provided Huawei with enormous opportunities to expand its business overseas. Providing low-cost telecom systems and networks was one way to assist those nations while continuing to generate employment and tax revenues in China. If Huawei could do this efficiently and cost-effectively, the Chinese government would certainly smooth its way by encouraging Chinese banks to provide buyers' credit to its customers.

In this sense, Huawei's interests and those of the central Chinese government have converged, and there is no doubt that its business decisions have been influenced by the government's priorities, and in the process it has clearly built close links with Chinese state entities and institutions, and benefited from those links.

But this is very far from proving that Huawei is a state-controlled entity, and there are important areas where its own interests diverge sharply from certain elements of the Chinese state apparatus. For example, it would not be in Huawei's interest to allow so-called "back doors" for espionage in its equipment sold overseas, as the inevitable discovery of these would

[142] Sarah Dai, "China adds Huawei, Hikvision to expanded 'national team' spearheading country's AI efforts," *South China Morning Post* (30 August 2019), at https://www.scmp.com/tech/big-tech/article/3024966/china-adds-huawei-hikvision-expanded-national-team-spearheading

destroy its international market, which makes up around half of its total revenues, not to mention jeopardizing its supply of crucial advanced components such as semi-conductors.[143]

This is not to say that Huawei could refuse to assist China's security forces or secret services to improve their espionage capabilities, if ordered to do so.[144] Neither is it to deny that Huawei's equipment is currently used by Chinese public security, the military, and the Party to engage in surveillance and suppress dissent among the Chinese populace.[145] It is simply to note that the company would risk self destruction if it knowingly assisted the Chinese government to undermine the security of foreign powers, corporations or individuals – hence there is a strong potential tension between its own interests and those of the Chinese security establishment.

Moreover, a crucial point generally ignored by Western policymakers is that there are fiercely competing interests within the complex and multilayered Chinese state apparatus. As Duckett put it, "there is … a need to disaggregate 'the state' and to differentiate between, on the one hand, the aims, interests and policies of leaders, policy makers and officials in central government, and on the other, those of officials required to implement the policies at lower levels of the state system."[146] Even at the central government level there are numerous conflicts among rival ministries and political factions. As David Lampton put it:[147]

> On issues both foreign and domestic, interest groups have become increasingly vocal participants in the policy process. China's bureaucracy has adapted to the proliferation of interests by becoming more pluralized itself. Officials use forums called 'leading small groups' (*lingdao xiaozu*) to resolve fights among squabbling organizations and localities, and vice premiers and state councilors spend much of their time settling such disputes. Meanwhile, provinces, big cities such as Shanghai, and industrial and commercial associations increasingly rely on representatives in Beijing to promote their interests by lobbying national decision-makers.

These divergent interests allow for "a kind of tacit bargaining within the state system in which some kinds of unorthodox activities are permitted because they enable the achievement of other aims or mitigate other problems."[148]

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[143] Perez (2020).

[144] Clarke has argued convincingly that Huawei would have little option but to comply with such a request: Donald C. Clarke, "The Zhong Lun Declaration on the Obligations of Huawei and Other Chinese Companies under Chinese Law" (March 17, 2019), at SSRN: https://ssrn.com/abstract=3354211

[145] Nathan Vanderklipp, "Huawei's partnership with China on surveillance technology raises concerns for foreign users" *The Globe and Mail* (14 May 2018), at https://www.theglobeandmail.com/world/article-huaweis-partnership-with-china-on-surveillance-raises-concerns-for/ ; and for Huawei supplying the military with telecommunications equipment, see Huawei's testimony in the PSC Report, p.34.

[146] Duckett (2001), p.31.

[147] David M. Lampton, "How China Is Ruled: Why It's Getting Harder for Beijing to Govern," *Foreign Affairs*, Vol. 93, No. 1 (Jan/Feb 2014), pp. 74-84, at p.80.

[148] Ibid.

Private firms like Huawei have learned to co-operate with, or simply co-opt, those elements of the state that benefit them, while neutralizing or even attacking those elements that threaten their corporate interests and survival. It is a tricky balancing act that requires constant adjustment, as state institutions evolve and different priorities emerge at different levels of the political ecosystem. Milhaupt and Zheng call this phenomenon, which is common to many large privately-controlled Chinese enterprises, "capture" of the state through "growth potential," contrasting it with the kinds of capture through bribery that were more typical of private firms in post-socialist Europe and Russia.[149]

In terms of co-operative adaptation, we have seen how Huawei took advantage of the "state entrepreneurialism" of telecom officials and regulators during the 1990s, setting up subsidiary JVs to bind those stakeholders' personal interests up with the sale and regular upgrading of Huawei's hardware. This co-evolutionary strategy was also instrumental in providing Huawei with its initial channel to state-owned bank financing and external investment capital. Yet when Huawei outgrew the need for those JVs, and they started to become a financial burden rather than an essential survival mechanism, Huawei bought them out.

When it comes to co-opting elements of the Chinese state, a prime example is Huawei's use of its internal Party branch for its own corporate purposes. Far from being a site where the Party "exerts influence, pressure, and monitoring of corporate activities. … a shadow source of power and influence directing … the movement of economic resources in China,"[150] Huawei's Party branch is actually staffed by internal Huawei employees, and based on numerous accounts of its work, is focused almost entirely on improving employees' psychological resilience and their ability to adjust to the stress and demands of their careers. This is not an isolated case when it comes to so-called "Party building" within private firms, and numerous similar examples have led scholars like Bruce Dickson to conclude that "Party building in the private sector has been more successful at promoting the firms' interests than exerting Party leadership."[151]

In other words, Huawei can fulfill its legal duty to establish a Party branch, and gain political brownie points by appearing to support the Party's "leading role," yet in practice the Party branch is working for Huawei's own interests rather than acting as a site for Party control over the firm.

Even within the CPC itself, and more clearly within the Chinese government as a whole, there are numerous diverse individual and group interests, not to mention corrupt elements, that allow for a surprising amount of pragmatism – while paying lip service to sacred mantras such as Party loyalty and most recently Xi Jinping's "socialism with Chinese characteristics for a new

[149] Curtis J. Milhaupt & Wentong Zheng, "Beyond Ownership: State Capitalism and the Chinese Firm," *The Georgetown Law Journal* Vol. 103 (2015): 665-722, p. 694.
[150] PSC Report, p.23.
[151] Dickson 2008, 111.

era."[152] This diversity means that one group within the Party system might actively work to destroy a competing group rather than everyone working collectively in the national interest.

For example, Huawei's success through its subsidiary JV alliances with telecom firms and regulatory officials led almost inexorably to the total failure or anemic performance of several state-owned competing telecom equipment manufacturers. Of the four "major players" in the Chinese telecom equipment sector identified in a 2005 RAND Corporation Report as members of an alleged well-coordinated "digital triangle" between the Chinese government, military and IT firms, one of them, Julong (Great Dragon) Group, was already on its way out when that report was published, and its assets had a market value of only RMB 4500 yuan when it collapsed in 2006.[153] Julong was an SOE amalgamated from companies owned by the former Ministry of Post and Telecommunications, the Ministry of Electronic Industry and the military.[154] Another firm, Datang Telecom Technology, has struggled to make any profit, and has only survived due to its status as an SOE receiving government contracts to build China's internet networks supported by massive loans from Chinese state banks. For the past two years it has made a net loss.[155] Datang was originally spun off from a state telecoms research institute in 1993, and that research institute still holds 33% of its shares, with the controlling interest held by the State-Owned Assets Supervision and Administration Commission (SASAC): in other words, it is a centrally-controlled SOE.[156]

As for Huawei's main Chinese competitor, ZTE Corporation, which is a mixed ownership firm – or more accurately, a privately-operated firm with partial state ownership – the ruthless competition between these two companies has become legendary in China, including numerous lawsuits and countersuits, with Huawei so far maintaining its market supremacy. Each of these firms would clearly be delighted to see the end of the other one, apparently preferring to destroy it first rather than any foreign competitors.[157]

This kind of vicious commercial conflict among domestic Chinese firms, leading to the collapse of SOEs like Julong, does not fit the prevailing narrative of a coordinated "Chinese" digital triangle working hand in glove to undermine Western national security. Instead, it demonstrates that the corporate and political ecosystem in China is highly complex and

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[152] Xi Jinping, 'Secure a decisive victory in building a moderately prosperous society in all respects and strive for the great success of socialism with Chinese characteristics for a new era', delivered at the 19th National Congress of the Communist Party of China, 18 October 2017, https://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm.

[153] Evan S. Medeiros, Roger Cliff, Keith Crane, James C. Mulvenon, "A New Direction for China's Defense Industry" (Arlington, VA.: RAND Corporation, 2005), pp.206 & 241. Harwit, pp.122-3; G. Zhang (2007), pp.189-92.

[154] Harwit, pp.122-3.

[155] Bloomberg, "Datang Telecom Technology Co. Ltd.," https://www.bloomberg.com/quote/600198:CH (accessed 15 November 2019); RAND Report, p.222-3.

[156] Datang Telecom Board of Directors, 大唐电信科技股份有限公司关于股东权益变动的提示性公告 issued 1 November 2018 http://static.sse.com.cn/disclosure/listedinfo/announcement/c/2018-11-01/600198_20181101_1.pdf ; and for other Chinese competitors defeated by Huawei, G. Zhang (2007), pp.221-9.

[157] G. Zhang (2007), pp.130-3.

fragmented, driven not by shared “Chinese government” values, but by narrow personal and departmental/corporate interests that are often mutually destructive. This is why the metaphor of an ecosystem is much more appropriate to describe this environment rather than a single organism – still less a simplified geometrical shape like a triangle.

Milhaupt and Zheng, in their account of Chinese “State capitalism,” correctly acknowledge that local governments have a great deal of autonomy and mutual competition, and that capture of state resources by privately-controlled firms like Huawei is a core feature of the Chinese form of capitalism – and even state-owned enterprises are surprisingly autonomous from the central government.[158] However, they do not follow this argument through to its logical conclusion, which is that there is no single “State” guiding this process with unified aims, and no monolithic Chinese government that “controls” business enterprises and their strategic decision-making.

Instead, we see a decentred business-government ecosystem involving constant internal struggles for survival, within a habitat where the boundaries are fluid and disparate organisms sometimes work together in mutually beneficial symbiosis, while other times they behave like parasites or simply destroy their rivals. Though individual organisms make decisions throughout the ecosystem, there is no clear central control mechanism, because what appears to be the centre is itself internally divided into numerous sub-centres with their own competing interests. This means that individual organisms within the ecosystem, such as private business firms, can carve out a niche for themselves to flourish, as long as they find ways to channel the energy controlled by other more powerful organisms to their own benefit while neutralizing threats to their existence.

When it comes to foreign policy, there are clearly competing interests too. Some elements in the Chinese military and security apparatus certainly view the U.S. as a hostile power that should be undermined wherever possible, including by cyber-hacking and stealing industrial secrets; whereas other elements see the greater benefits of increased co-operation and deeper ties with the U.S. and its allies.[159] The strong mainstream presence of the latter group within the Chinese government tends to be completely ignored by Western security establishments today.

Huawei’s own interest is to maximize its profits to benefit its employee and management shareholders as much as possible. To this end, it has managed successfully to trigger the self-interest of customers (especially state telecom firms in China as well as numerous private and state telecom firms elsewhere), and relevant government departments and financial institutions whose support it needs to keep expanding its business. It has played the game of being a good Chinese corporate citizen, and assisted Chinese diplomatic efforts by investing in countries with which China is developing relations. This includes some countries that the U.S.

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[158] Milhaupt & Zheng (2015), pp. 681-2, 688-99.

[159] Jianwei Wang, “Building a New Conceptual Framework for U.S.-China Relations,” ch.2 in Yufan Hao, C. X. George Wei, and Lowell Dittmer, *Challenges to Chinese Foreign Policy: Diplomacy, Globalization, and the Next World Power* (Lexington: The University Press of Kentucky 2009).

considers hostile, but that China relies on for maintaining a sustainable supply of natural resources, like Iran, Syria and Sudan. By making these kinds of concessions, Huawei has greatly assisted its survival and flourishing within the Chinese corporate ecosystem, yet without giving up its management independence or being absorbed as a tool of the political ecosystem.

At the same time, Huawei has not been satisfied with selling to the domestic Chinese market and developing nations. Since the early 2000s, it has expanded to richer nations in Europe and North America with remarkable success – except in the U.S. – selling network equipment to numerous leading telecom firms, and increasing its global market share of the network equipment market to double that of its closest competitors, Ericsson and Nokia.[160] This is where we see the influence of the clash of political ecosystems that has made Huawei a household name for all the wrong reasons.

The American political ecosystem has been most influential in criticizing Huawei. The US political regime has a longstanding bipartisan ideological opposition to Communism, especially the suppression of human rights by the CPC, and a fear that China's rise will undermine the American way of life.[161] It also has historical and ongoing tensions with countries like Iran, to the extent that most of its policymakers would view any trade with Iran as a betrayal of American interests. This is despite the fact that there are exceptions to U.S. and U.N. sanctions that allow for sales of specified products to Iran for civilian use, including internet equipment.[162]

This pre-existing fear overwhelms counter-evidence that China's rise has actually been greatly beneficial to many aspects of the American economy,[163] and that for all its continuing major faults, the Chinese government has since the 1970s significantly increased the standard of living

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[160] Brian Fung, "How China's Huawei took the lead on 5G," *Washington Post* 10 April 2019 https://www.washingtonpost.com/technology/2019/04/10/us-spat-with-huawei-explained/ ; and IEEE ComSoc, "Dell'Oro: #1 Huawei increased market share at the expense of Ericsson, Nokia and ZTE," 10 March 2019, https://techblog.comsoc.org/2019/03/10/delloro-1-huawei-increased-market-share-at-the-expense-of-ericsson-nokia-and-zte-capex-flat-5g-market-forecasts/

[161] Chengxin Pan, *Knowledge, Desire and Power in Global Politics: Western Representations of China's Rise* (Cheltenham, UK: Edward Elgar, 2012). Pan (pp.72-6) also notes that there are often links between the more hawkish "China threat" advocates and the American "military industrial complex," with some key U.S. foreign policy think tanks either funded by the military or headed by former military personnel. We saw this with the RAND Report cited earlier, which was commissioned by the U.S. Air Force.

[162] For example, s.103b(2) of the U.S. *Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010* prohibits exports from the US to Iran, but makes an exception for "hardware, software, or technology necessary for access to the Internet." Huawei's core business is in internet hardware and technology.

[163] See for example, a careful analysis of the net job impact on the U.S. of increased Chinese imports since the WTO, which found a net gain in U.S. jobs of 1.7 million jobs between 1995-2011: Robert C. Feenstra and Akira Sasahara, "The 'China shock,' exports and U.S. employment: A global input-output analysis," *Review of International Economics* 26 (2018): 1053-1083. A further study based on more recent years confirmed these findings, and noted that even U.S. manufacturing jobs, which in contrast to a huge gain in service sector jobs had been impacted negatively by Chinese imports between 1997 and 2007, recovered between 2008-14: see Adam Jakubik and Victor Stolzenburg, "The 'China Shock' revisited: Insights from value added trade flows," World Trade Organization Staff Working Paper ERSD-2018-10, 26 October 2018, pp.1-28.

of over a billion Chinese people, including transforming the previously obsolete physical and technological infrastructure that prevented them from improving their economic status.[164] A major part of this transformation occurred because the Chinese government was willing to allow private firms to fill the gaps that SOEs were ill-equipped to cover, especially in the areas of innovation and technology development.[165]

The pre-existing negative mind-frame towards China within the U.S. political ecosystem also meant that when American security analysts and policymakers started investigating the background and rise to prominence of Huawei, they were predisposed to view any "hidden links" with the Chinese government as evidence of Huawei's aim to undermine U.S. national security. In this respect, it is interesting that many European governments appear to be much less willing to institute wholesale bans on Huawei, despite the U.S. having shared its information and fears about the company, doubtless because there is not such a powerful in-built psychological tendency within the mainstream European political ecosystem to view China as a threat.[166]

This negative fixation on the Chinese threat is not just harmful for Huawei's international expansion. More seriously, the bans and sanctions that have resulted may give a false sense of security to American and international consumers by focusing their attention away from the actual behavior of cyber-hackers and spies.[167] Chinese and numerous other cyber-hackers have managed to infiltrate foreign government and corporate networks at the user end rather than the manufacturing end, and this has occurred in the U.S. despite the fact that the victims were not using Huawei's or ZTE's equipment or networks.[168]

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164 World Bank, *China 2030: Building a Modern, Harmonious, and Creative Society* (Washington, DC: International Bank for Reconstruction and Development, 2013), ch.1; and World Bank Group and PRC Development Research Center, *Innovative China: New Drivers of Growth* (Washington, DC: International Bank for Reconstruction and Development, 2019), ch.1.

165 Paul G. Clifford, *The China Paradox: At the Front Line of Economic Transformation* (Boston/Berlin: Walter de Gruyter, 2017); and Edward Tse, *China's Disruptors: How Alibaba, Xiaomi, Tencent, and Other Companies Are Changing the Rules of Business* (New York: Portfolio/Penguin, 2015).

166 Huawei's equipment is used by many European telecom firms. For the contrasting European attitude, which varies from country to country, see Jan-Peter Kleinhans, "Europe's 5G challenge and why there is no easy way out," *Technode* 25 June 2019, https://technode.com/2019/06/25/europes-5g-challenge-and-why-there-is-no-easy-way-out ; ChinaFile, "The Future of Huawei in Europe," 18 October 2019, http://www.chinafile.com/conversation/future-of-huawei-europe ; and Brian Fung, "How China's Huawei took the lead on 5G" *Washington Post* 10 April 2019, https://www.washingtonpost.com/technology/2019/04/10/us-spat-with-huawei-explained/ .

167 Jan-Peter Kleinhans, "Europe's 5G Challenge".

168 Kleinhans, ibid. For details of some cyber-attacks that allegedly originated from the Chinese military, see Department of Justice, "U.S. Charges Five Chinese Military Hackers for Cyber Espionage Against U.S. Corporations and a Labor Organization for Commercial Advantage" (19 May 2014), at: http://www.justice.gov/opa/pr/2014/May/14-ag-528.html; for other countries' cyber-attacks on the U.S., see Robert S. Mueller, III, "Report on the Investigation into Russian Interference in the 2016 Presidential Election," submitted Pursuant to 28 C.F.R. § 600.8(c), Washington, D.C., March 2019, vol.1, pp.36-50, https://www.justice.gov/storage/report.pdf; and for cyber-attacks by the U.S. on other countries, see Marouf

What this clash of political ecosystems means for Huawei, however, is that the adaptations and hybrid structures that were necessary for it to thrive within the Chinese corporate ecosystem have become maladaptive in some key markets overseas. Unfortunately, the solution to this problem can only come from changes to the broader political ecosystem. In other words, fears of China (and Huawei) amongst the U.S. and its allies will only subside if the Chinese government introduces some fundamental political changes itself.

Hasain Jr., Sean T. Lawson, and Megan McFarlane, *The Rhetorical Invention of America's National Security State* (Lanham, Maryland: Lexington Books 2015), ch.5.